VNIVERSITAT DE VALÈNCIA
Facultad de Psicología y Logopedia

Programa de Doctorado: Investigación en Psicología 3133 RD 99/2011

Digital Experiences in Adolescence:

A Multiple-Methods Approach to Digital Media Use in Everyday Life and Sport

TESIS DOCTORAL



Presentado por:
Alfredo Zarco Alpuente

Dirigido por:
Dra. Paula Samper García

Junio, 2026



FACULTAD DE PSICOLOGÍA Y LOGOPEDIA

Programa de Doctorado: Investigación en Psicología 3133RD 99/2011

Digital Experiences in Adolescence: A Multiple-Methods Approach to Digital Media Use in Everyday Life and Sport

TESIS DOCTORAL

Presentada por:

ALFREDO ZARCO ALPUENTE

Dirigida por:

Dra. PAULA SAMPER GARCÍA

Junio, 2026

The completion of this Doctoral Thesis has been made possible thanks to the FPU22/01588 grant, funded by the Spanish Ministry of Science, Innovation, and Universities.

Illustrations by Irene Blanco Monteagudo

A la curiosidad

Y a todos los que la cultivan día a día

AGRADECIMIENTOS

Caminante, son tus huellas
el camino y nada más;
Caminante, no hay camino,
se hace camino al andar.
Al andar se hace el camino,
y al volver la vista atrás
se ve la senda que nunca
se ha de volver a pisar.
Caminante no hay camino
sino estelas en la mar —

Antonio Machado

Decía Isaac Newton que, si había podido mirar tan lejos, era porque se había subido a hombros de gigantes. Este apartado quiero dedicárselo a todas y todos esos gigantes que me han levantado durante mi tesis doctoral.

Mis primeras palabras no pueden ir a otra persona que a mi directora de tesis, **Paula Samper**. No puedo imaginar cómo de distinto habría sido el camino si no lo hubiéramos recorrido juntos. Porque eres una madre para todos en el departamento, por eso eres la CEO de Psicología Básica, pero, sobre todo, lo has sido para mí. Como buena madre con un estilo autoritativo, has sabido guiarme sin control, pero con dirección. Soy consciente de que te he puesto en una posición difícil. Te he sacado de tu temática. Te he sacado de la metodología a la que estabas acostumbrada. He movido y removido la tesis una y otra vez, sin parar. Y, como solo tú sabes hacerlo, has sabido acompañarme sin que me pierda, pero dejándome elegir mi propia senda confiando en que, de una forma u otra, llegaríamos a buen puerto. Muchísimas gracias.

Gracias a todo el equipo EVAIN. Gracias, **Eli**, por ofrecerme tu sonrisa y amabilidad todos y cada uno de los días desde que trabajo en la Universidad. Gracias a todas las personas que han pasado por el despachito y han hecho los días más amenos. Gracias, **Lydia**, **Marta**, **Dani**, **Sergio**, **Claudia** y **Maša**. Y también a **Pepe**, por no fallar ningún día en pasarte por el despacho, sacarnos una sonrisa y hablar un poco de running.

Pero, especialmente, gracias **Lucas**, mi Mestre. Escribo estas líneas con cierta nostalgia, sabiendo que el camino está llegando a su fin. Has hecho de esta tesis, y de ir a trabajar cada día una experiencia completamente diferente. Gracias por las risas y por toda la ayuda que me has dado estos años. Pero bueno, si algo hemos aprendido del nano, es que no hay que perder la fe. Confío en la 33 y confío en que nuestros caminos sigan yendo juntos.

Mis andaduras en la universidad no habrían sido las mismas si no me hubiera cruzado con **Víctor**. A las veces amigo y codirector de tesis. Entraste en el doctorado siendo catedrático y eres el mejor regalo que podría recibir cualquier joven investigador. Si existiera la posibilidad de entregar una tesis conjunta, estaría encantado de añadir nuestro ya común "Both authors are willing to share first authorship". Porque, sin ti, esta tesis sencillamente no sería. Gracias de todo corazón por ofrecerme tu genio estadístico y tu amistad todos estos años.

Mi agradecimiento a todos los centros escolares y a las personas que han hecho posible el reclutamiento durante esta tesis. En especial, gracias a **Vicente** y al Juan Comenius por su inestimable ayuda. Si las conclusiones de esta tesis son pertinentes en algún contexto, es en su centro. Gracias, **Tamara**, por poner tu incansable personalidad al servicio de que Víctor y yo tengamos la muestra que tenemos. Gracias al IES Abastos, al IES Lluís Vives de Sueca, al Colegio Helios, al Colegio María Inmaculada, al IES Rascanya-Antonio Cañuelo, al IES l'Eliana, al IES Arabista Ribera, al IES José María Parra, a MEDAC Valencia, al IES Gran Capitán, al IES El Lago, al IES Ítaca y al Colegio Trinitarios de Alcorcón.

Pero mi deuda está con todas y todos esos adolescentes que nos han ofrecido su tiempo, ideas, opiniones y experiencias en los diferentes estudios de la tesis. En especial, gracias a mis 20 participantes de los grupos de discusión. No sois conscientes del grado de intimidad que se genera cuando se escuchan y se leen una y otra vez las entrevistas, ni del efecto que tenéis en mí. Me habéis pegado expresiones, ofrecido reflexiones e inspirado en muchas de las ideas que componen esta tesis. Muchas gracias.

My thesis, my life, and my thinking would not be the same without my stay in Leuven. I am grateful to **Laura Vandenbosch** for making it possible and for allowing me to be part of the Media Psychology Lab (formerly the School for Mass Communication Research). Thank you, **Jasmina**, for everything. For being my supervisor during my stay. For looking after me every single day, academically, but above all personally. And for sharing your time and your experience with me (I promise I have not forgotten about the pending paper). Thank you to everyone in the Department of Communication Sciences who made such an effort to make my stay such a positive experience. In particular, thank you to **Lucie**, **Cas,** and **Anaëlle**. But without a doubt, my stay would have been very different without my International Leuven Team: **Ignasi**, **Silva**, and **Olivia**. Thank you for being my comfort zone, for making me feel at home, and for opening the doors of your lives to me.

En investigación, como en la vida, muchas de las cosas pasan sin ser planificadas. Por puro azar. Y la Universidad de Valencia me ha brindado muchos maestros de esta manera.

Gracias a todos ellos por compartir conmigo su experiencia, su brillantez y sus reflexiones, y por escucharme y ayudarme a crecer. Gracias a **Jesús Castro, Rafa García, Isabel Castillo, Octavio Álvarez** y **Javier Monforte**. Mi agradecimiento también a todos los revisores anónimos de los artículos de esta tesis por su feedback, ofrecido de manera altruista y que me han ayudado a ver más lejos.

Dicen que el individuo es una mezcla de *nature & nurture*, así que soy lo que soy, y esta tesis es lo que es gracias a mi familia. Y mi familia no es una cualquiera. Somos los Zarco Alpuente. Muchísimas gracias, **Mami**, por ser como eres y como has sido conmigo siempre. No recuerdo un solo día de mi vida en el que no me haya sentido querido por ti. Ese es el regalo más grande que tenemos todos. **Papá**, de ti creo que el efecto en la tesis no está tanto en mi trabajo, sino en lo que hago fuera de él. Gracias por enseñarme a disfrutar de la vida, de mis amigos y del fútbol. Y, por supuesto, gracias a mis dos hermanos, **Mario** e **Irene**. Gracias, tete, por todas esas horas en las librerías de Valencia que han dado luz, agua y tierra a mis ideas. Gracias, teta, por enseñarme el valor de la familia y por estar siempre dispuesta a darlo todo por mí. Y gracias también a mis tíos, **David** y **Yolanda**, y a mi prima **Ángela** y a **Pablo** (no tengo ninguna duda de que, si te lo hubiera pedido, también me habrías ayudado), por dejarme usaros como banco de pruebas para todos los estudios.

De mis amigos no voy a vender una visión idealizada de cómo han influido en las ideas de esta tesis, porque pocos sabrían decir exactamente de qué va más allá de "lo del movilito". Pero me habéis ofrecido algo mucho más importante. Me habéis dado la felicidad, el sentido de pertenencia y la desconexión sin las que nada de esto sería posible. Gracias **Carlos** por preocuparte todos los días por saber cómo estoy y cómo me puedes ayudar. Gracias, **Irene**, por dar forma a esta tesis y a mi piel. Y a todos los Impresentables, **Asen, Héctor, Abel, Pablo** y **Raúl**, por haber estado a mi lado todos estos años de penas y glorias.

Gracias al deporte y al fútbol, porque sin él esta tesis sería de algo muy distinto, y por el regalo de los valores y las personas que en él he conocido. En especial, gracias, **Mendi**, mi presidente, entrenador, capitán, compañero, cuñado y amigo, por todas las horas de coche, fútbol, running y divagaciones que hemos compartido. Y a la mujer de verde, **Mapi**, por acudir al rescate.

Y, por último, quiero darle las gracias a la persona más importante en mi vida y en esta tesis, **Mara**. Como insistes en negar esta última parte, voy a intentarlo (de nuevo) recorriendo algunos recuerdos de este camino. Cuando pienso en el inicio de la tesis, lo primero que me viene a la memoria es mi intento de interrumpirte una entrevista para decirte que me habían

concedido la beca. Cuando pienso en mis primeras clases, recuerdo que ya tenía a la alumna más exigente en casa. Cuando pienso en la estancia, la siento a tu lado (🦔 🌳). También recuerdo tu incansable empeño por evitar que metiera la SDT, o cualesquiera que fuera mi obsesión en ese momento, con calzador en mis análisis, tu pensamiento práctico cuando la teoría me engullía, tu esfuerzo por escucharme todas y cada una de las veces que lo he necesitado, y por leerte la tesis cuando ya te la sabes de memoria. Gracias por sostenerme en los momentos de duda, por levantarme cuando he estado en el suelo, y por llenar este proceso de amor, cariño y alegría. Así que sí, aunque sigas negándolo, este camino lo hemos recorrido juntos.

The system may well not stand up to any final canons of scientific procedure. But I do not much care. I have liked to think about psychology in ways that have proved congenial to me. Since all the sciences, and especially psychology, are still immersed in such tremendous realms of the uncertain and the unknown, the best that any individual scientist, especially any psychologist, can do seems to be to follow his own gleam and his own bent, however inadequate they may be. In fact, I suppose that actually this is what we all do. In the end, the only sure criterion is to have fun.

And I have had fun.

— Edward Chace Tolman (1959, p. 152)

TABLE OF CONTENTS

ACKNOWLEDGMENTS/AGRADECIMIENTOS IX

CHAPTER 1. Background 1

1.1. Digital Media Use 3

1.2. Adolescence 7

1.3. Digital Life in Adolescence 9

1.3.1. Adolescents' Digital Media Use 9

1.3.2. Digital Media Effects on Adolescents 11

1.4. Conceptualising Adolescents' Digital Experiences 14

1.4.1. Problematic Social Media Use 15

1.4.2. Positive Digital Media Use: Digital Flourishing and Digital Well-Being 19

1.4.3. Digital Disconnection 24

1.5. Digital Experiences of Adolescent Athletes 26

1.6. Key Challenges and Remaining Gaps in the Field 29

1.7. Objectives 32

CHAPTER 2. Methodological Considerations 35

2.1. Objective 1. Paradigmatic Assumptions Throughout the Thesis 37

2.2. Objective 2. Methodological Trajectory 40

2.3. Objective 3. Quality Criteria Considerations 49

2.3.1. Methodological Quality in the Quantitative Studies 49

2.3.2. Quality Criteria in the Interpretive Studies 50

2.3.3. Quality Criteria in the Integration of Quantitative and Interpretive Findings 51

CHAPTER 3. Study 1 53

3.1. Introduction 57

3.2. Method 60

3.2.1. Participants 60

3.2.2. Procedure 61

3.2.3. Instruments 61

3.2.4. Analysis 63

3.3. Results 65

3.4. Discussion 77

3.4.1. Limitations and Future Directions 81

3.4.2. Practical Implications 83
3.5. References 86

CHAPTER 4. Study 2 ..... **93**
4.1. Introduction 97
4.2. Study 1: Pilot Survey and Cognitive Interviews 102
4.2.1. Method 102
4.2.2. Results 103
4.3. Study 2: Cross-Sectional Study 103
4.3.1. Method 103
4.3.2. Results 106
4.4. Study 3: A Longitudinal Survey 115
4.4.1. Method 115
4.4.2. Results 116
4.5. Discussion 117
4.6. References 122

CHAPTER 5. Study 3 ..... **127**
5.1. Introduction 131
5.2. Methodology 134
5.2.1. Participants 134
5.2.2. Procedure 135
5.2.3. Data Analysis 137
5.2.4. Reflexivity 138
5.3. Analysis 139
5.3.1. Integrating the Digital as Part of Being an Athlete 140
5.3.2. When Connection Becomes a Burden 145
5.4. Reflections 148
5.4.1. Practical Implications 150
5.4.2. Limitations and Future Studies 150
5.4.3. Conclusions 151
5.5. References 153

CHAPTER 6. Study 4 ..... **157**
6.1. Introduction 160
6.2. Methodology 163
6.2.1. Participants 164

6.2.2. Procedure 165
6.2.3. Data Analysis 167
6.3. Analysis 171
6.3.1. When the Smartphone Ceases to be a Viable Option During Sporting Practice 171
6.3.2. When Smartphone Use is no Longer Socially Appropriate in the Sporting Context 172
6.3.3. When the Smartphone Loses its Centrality due to Engagement in Sporting Practice 174
6.4. Reflections Derived From the Study 175
6.4.1. Practical Implications 178
6.4.2. Limitations and Future Research 179
6.4.3. Conclusions 180
6.5. References 182

CHAPTER 7. General Discussion 187
7.1. Main Findings 189
7.2. Practical Implications 199
7.3. Critical Appraisal of the Thesis 203
7.4. Future Directions 207
7.5. Conclusion 210

CHAPTER 8. Summary in Spanish | Resumen en castellano 213
8.1. Introducción 215
8.2. Consideraciones Metodológicas 220
8.3. Resultados de la tesis 224
8.3.1. Estudio 1. Perfiles de Uso Problemático de las Redes Sociales en Adolescentes Españoles 224
8.3.2. Estudio 2. Validación Española de la Escala de Florecimiento Digital para Adolescentes 226
8.3.3. Estudio 3. Experiencias Digitales Ambivalentes en Adolescentes Deportistas 228
8.3.4. Estudio 4. Desconexión Digital en el Deporte Adolescente 229
8.4. Discusión general 232
8.4.1. Principales hallazgos 233
8.4.2. Implicaciones Prácticas 237
8.4.3. Valoración Crítica de la Tesis 239
8.4.4. Futuras Direcciones 241
8.4.5. Conclusión 242

REFERENCES 245

ANNEXES.....271

Annexes. 1 Ethics Committee Approval.....273
Annexes. 2 Summary of Evidence on Digital Media Use in Adolescent Athletes.....278
Annexes. 3 Explanation of the First Approach to the Qualitative Studies.....282
Annexes. 4 DFSA scale.....288
Annexes. 5 Supplementary Material of Chapter 3.....293
Annexes. 6 Supplementary Materials of Chapter 4.....310
Annexes. 7 Supplementary Materials of Chapter 5.....344
Annexes. 8 Supplementary Materials of Chapter 6.....353
Annexes. 9 Supplementary Materials of Chapter 1 and 7.....361

LIST OF FIGURES

Figure 1. Psychology Publications by Media Type per Decade (1900–2025) 4
Figure 2. Historical Convergence into Contemporary Digital Media Use 6
Figure 3. Conceptual Framework of the Digital Constructs Analysed in Relation to Adolescent Well-Being 14
Figure 4. A Non-Exhaustive Overview of Meta-Analytic Associations Between Problematic Social Media Use and Related Variables 18
Figure 5. Overview of the Dissertation Structure: Objectives, Studies, and Methodological Approaches 34
Figure 6. Probability of Scoring Negatively on Each Criterion for Each Latent Class 68
Figure 7. Measurement Model of the DFSA 111
Figure 8. Spearman Correlation Matrix Among Variables 114
Figure 9. Example of Timeline Drawing by FG5M3–futsal 167
Figure 10. Iterative Process of Reflexive Thematic Analysis Throughout the Study 170
Figure 11. Visión General de la Estructura de la Tesis: Objetivos, Estudios y Enfoques Metodológicos 220
Figure 12. Probabilidad de Puntuar Negativamente en Cada uno de los Criterios Para Cada una de las Clases Latentes 225
Figure 13. Proceso iterativo del Análisis Temático Reflexivo a lo largo del estudio 231
Figure S1. Fit Index Values for the Latent Class Models 309
Figure S2. Example of the Initial Organisation of Codes During the Reflexive Thematic Analysis 351
Figure S3. Example of the Development of Provisional Thematic Areas From Coded Data 352
Figure S4. Setting in Which Focus Group 5 Was Conducted 354
Figure S5. Original Illustration of the Timelines of (Dis)connection During Training Sessions and Matches 356
Figure S6. Example of Manual Coding During the Second Phase of the Reflexive Thematic Analysis 360
Figure S7. Spearman Correlation Matrix Among DFSA Dimensions and SMD-S 363

LIST OF TABLES

Table 1. Overview of the Objectives, Paradigms, Methodologies, Methods, and Participants Across the Four Studies 47
Table 2. Summary of the Latent Class Models Evaluated 66
Table 3. Probability of Scoring Negatively on Each Item According to Class 69
Table 4. Characterisation of Each Latent Class 71
Table 5. One-Way ANOVA for Psychological and Academic Variables, with Latent Class as the Independent Variable 72
Table 6. Post Hoc Tests for Psychological and Educational Variables with Latent Class as the Independent Variable 75
Table 7. Descriptive Statistics and Validity Evidence Based on Relationships with Other Variables 107
Table 8. Descriptive Statistics and Discrimination Indices for Individual Items of the Digital Flourishing Scale 108
Table 9. Confirmatory Factor Analyses Models 110
Table 10. Confirmatory Factor Models Assessing Gender Invariance 112
Table 11. Confirmatory Factor Models Assessing Age Invariance 113
Table 12. Sociodemographic Characteristics of Participants in the Longitudinal Study 115
Table 13. Intraclass Correlation Coefficients and Confidence Intervals 116
Table 14. Longitudinal Invariance Models 117
Table 15. Sociodemographic, Sporting, and Digital Profile of Participants in Study 3 135
Table 16. Thematic Structure and Analytic Narrative of Themes and Subthemes 139
Table 17. Sociodemographic, Sporting, and Digital Profile of Participants in Study 4 164
Table 18. Resumen de los Objetivos, Paradigmas, Metodologías, Métodos y Participantes en los Cuatro Estudios 222
Table S1. Synthesis of Quantitative and Qualitative Evidence on the Impact of Digital Use in Athletes 278
Table S2. Digital and Sporting Characteristics of the Sample 287
Table S3. Variables Included in the Study and Empirical Evidence on Their Relationship with PSMU 293
Table S4. Sample Description 300
Table S5. Estabilidad de las soluciones y replicación del mejor log likelihood 302
Table S6. Mean Posterior Probabilities in the Three-Class Solution 302

Table S7. Distribution of Latent Profiles by Educational Stage and Adjusted Standardised Residuals 303
Table S8. Comparison Between Unconditional Models and Models With Concomitant Covariates 304
Table S9. Stability of the Unconditional Solution and of the Models With Concomitant Covariates 305
Table S10. Comparison Between Modal Means and Means Weighted by Posterior Probabilities in External Variables 306
Table S11. Sociodemographic Data of the Cognitive Interview Sample 314
Table S12. Adaptation and Validation Process According to ITC Guidelines 327
Table S13. Comprehensibility of the Spanish Translation of the Items 336
Table S14. Sociodemographic Data of Study Sample 2 338
Table S15. Confirmatory Factor Analyses of the Autonomy, Competence, Relatedness Subscales 340
Table S16. Standardised Factor Loadings (β) for the Three-Factor Model 340
Table S17. Latent-Factor Covariances (Standardised) 341
Table S18. Sociodemographic Data of Study Sample 3 342
Table S19. Composition of Participants in the Pilot Study and Focus Groups for Study 3 344
Table S20. Composition of Participants in the Pilot Study and Focus Groups for Study 4 353
Table S21. Number of Publications by Media Type Within Psychology per Decade (1900–2025) 361
Table S22. Descriptive Statistics for DFSA Dimensions and SMD 362
Table S23. Associations Between DFSA Dimensions and SMD 363

LIST OF ABBREVIATIONS

AIC	Akaike Information Criterion
ANOVA	Analysis of Variance
APA	American Psychological Association
AUT	Subjective Authenticity of Positive Self-Content on Social Media
BCH	Bolck-Croon-Hagenaars
BIC	Bayesian Information Criterion
BPNS	Brief Scale Measuring Basic Psychological Needs Satisfaction
BPNS-A	Basic Psychological Needs Satisfaction: Autonomy
BPNS-C	Basic Psychological Needs Satisfaction: Competence
BPNS-R	Basic Psychological Needs Satisfaction: Relatedness
CAIC	Consistent Akaike Information Criterion
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CI	Confidence Interval
DFSA	Digital Flourishing Scale for Adolescents
DFS	Digital Flourishing Scale
DSM-5-TR	Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision
EMA	Ecological Momentary Assessment
ESO	Educación Secundaria Obligatoria (Compulsory Secondary Education)
FoMO	Fear of Missing Out
GAD-7	Generalized Anxiety Disorder-7
GPA	Grade Point Average
IAS	Internet Aggression Scale
ICC	Intraclass Correlation Coefficient
ICD-11	International Classification of Diseases, 11th Revision
ITC	International Test Commission
LCA	Latent Class Analysis
MAD	Median Absolute Deviation
MLR	Maximum Likelihood with Robust Correction
OSF	Open Science Framework
PHQ-9	Patient Health Questionnaire-9
PIU	Problematic Internet Use

PSMU	Problematic Social Media Use
RAS	Resilience Appraisals Scale
RESE	Regulatory Emotional Self-Efficacy Scale
RMSEA	Root Mean Square Error of Approximation
RSE	Rosenberg Self-Esteem Scale
RTA	Reflexive Thematic Analysis
SABIC	Sample-Size Adjusted Bayesian Information Criterion
SD	Standard Deviation
SDQ	Self-Description Questionnaire
SDQ-II-S	Self-Description Questionnaire II–Short Form
SBI	School Burnout Inventory
SDT	Self-Determination Theory
SMD	Social Media Disorder
SMD-S	Social Media Disorder Scale
SMII	Social Media-Induced Inspiration Scale
SRMR	Standardised Root Mean Square Residual
SWL	Satisfaction With Life
SWLS-3	Satisfaction With Life Scale–3
TILS	Three-Item Loneliness Scale
TLI	Tucker-Lewis Index
TV	Television
UNICEF	United Nations International Children's Emergency Fund
UWES	Utrecht Work Engagement Scale
UWES-3-SF	Utrecht Work Engagement Scale, 3-Item Short Form

PREFACE

This Doctoral Thesis is based on the following studies:

Zarco-Alpuente, A., Vásquez-Calderón, H. D., Ciudad-Fernández, V., Serrano-Pastor, L., Malonda-Vidal, E., García-Ros, R., & Samper-García, P. (under review). *Beyond the dichotomy: Functional, at-risk, and problematic social media use profiles in Spanish adolescents and their associations with mental health and school adjustment*. Manuscript submitted for publication in Adicciones **(Study 1)**.

Zarco-Alpuente, A., Ciudad Fernández, V., Rosič, J., Janicke-Bowles, S., Escrivà-Martínez, T., & Samper-García, P. (2026). Assessing positive digital experiences: A Spanish validation of the Digital Flourishing Scale for Adolescents. *Psicothema, 38*(1), 23–35. https://doi.org/10.70478/psicothema.2026.38.03 **(Study 2)**.

Zarco-Alpuente, A., Ciudad-Fernández, V., Serrano-Pastor, L., Malonda Vidal, E., & Samper García, P. (under review). *Ambivalent digital experiences of adolescent athletes: A qualitative study*. Manuscript submitted for publication in Current Psychology **(Study 3)**.

Zarco-Alpuente, A., Álvarez, O., Castillo, I., & Samper-García, P. (2026). Digital disconnection in adolescent sport: A reflexive thematic analysis of athletes' experiences. *Psychology of Sport & Exercise, 85*, 103098. https://doi.org/10.1016/j.psychsport.2026.103098 **(Study 4)**.

CHAPTER 1

Background



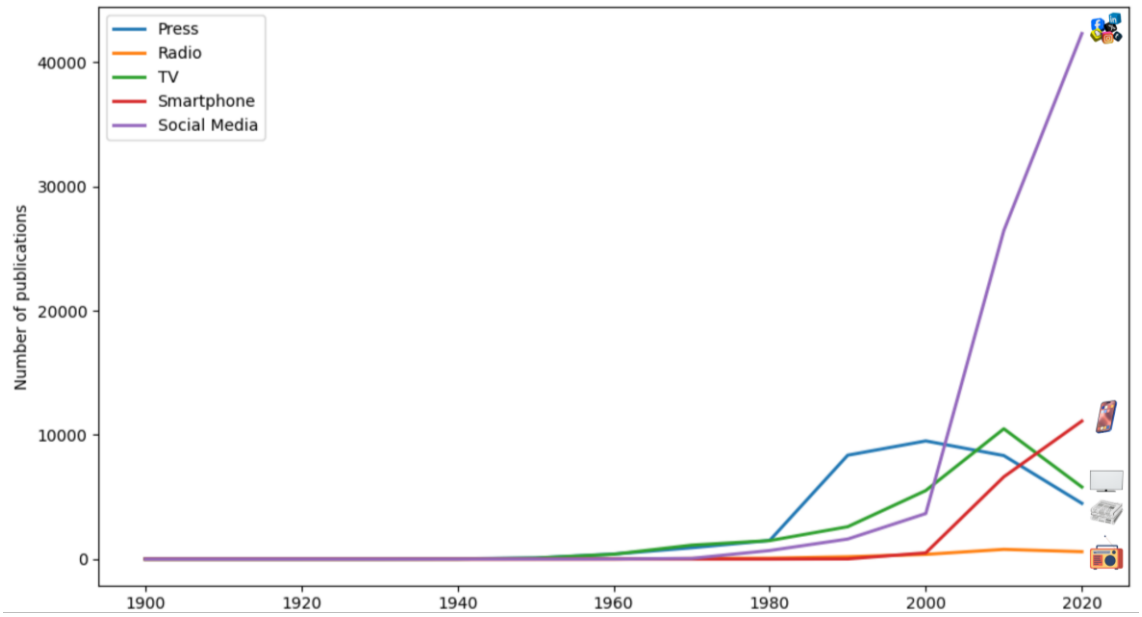
1.1. Digital Media Use

The use of digital media has become a defining feature of contemporary life. In broad terms, digital media refer to the set of contents, practices, and forms of interaction that are created, distributed, and consumed through digital devices (Liebherr et al., 2025). This notion encompasses a wide range of devices, such as smartphones, tablets, and computers, through which diverse activities are carried out via specific applications and services, including the use of social media, email, streaming content consumption, or video games (Liebherr et al., 2025; Meier & Reinecke, 2021). Therefore, the use of digital media refers to a network of technologically mediated activities that is integrated transversally into everyday life (Meier & Reinecke, 2021). In Spain, the magnitude of this presence is evident in recent data: by the end of 2025, 46.1 million individuals were using the internet out of a total population of approximately 47.9 million. In addition, 56.1 million cellular mobile connections were active, and Spain was home to 39.0 million social media user identities (Kemp, 2025).

The study of the relationship between people and digital media is situated within the field of media psychology, a subdiscipline of psychology that analyses how the use of media and the technologies associated with them relates to human thoughts, emotions, and behaviours (Raney et al., 2020). Although the American Psychological Association (APA) formally recognised media psychology with the creation of Division 46 in 1987 (Society for Media Psychology and Technology [Division 46], 2026), scientific interest in media effects dates back to the very origins of the first mass media in the early decades of the twentieth century (Wartella & Reeves, 1985). During its early stages, media psychology was closely linked to radio, television, and the press (Ferguson, 2016). However, the expansion of the internet gave rise to a new stage, referred to by some authors as Media Psychology 2.0 (Broder, 2024), in which the development of the web, the proliferation of websites, alternatives to traditional publishing, social media, and, more recently, artificial intelligence, have transformed both the ways in which content is produced and circulated and the psychological experience of users (Broder, 2024). To illustrate this development of the field, Figure 1 offers an illustrative overview of publication trends in psychology related to selected media types over time.

Figure 1

Psychology Publications by Media Type per Decade (1900–2025)



Note. Evolution of scientific publications on different media types within the field of psychology (1900–2025). Data were retrieved from the Web of Science database as of March 24, 2026. The search was restricted to the psychology research area and conducted using the following terms: ("radio" OR "radio broadcasting"), ("newspaper" OR "press"), ("television" OR "TV"), ("smartphone" OR "mobile phone"), and ("social media" OR "social network*"). Publication counts were aggregated by decade. The full dataset and search results are provided in Annex 9. For a broader analysis of the evolution of scientific publications, see Bornmann et al. (2021).

The breadth of the digital ecosystem poses an important conceptual challenge: delimiting the object of study precisely while preserving the complexity of the phenomenon as a whole. What is broadly referred to as “digital use” may in fact correspond to different analytical levels, depending on whether the focus is placed on the access device, the type of application used, a specific platform, particular functionalities, or the forms of interaction and messages exchanged (Orben & Przybylski, 2019). Throughout this thesis, different manifestations of digital life are examined, including problematic social media use (PSMU), digitally mediated positive experiences, and digital disconnection.

Within this digital ecosystem, social media and the smartphone have become two of the most widely studied objects (see Figure 1). Both refer to different but complementary levels of analysis: social media as platform-based communicative environments, and the smartphone as a mobile access device (Meier & Reinecke, 2021).

Social media can be defined as internet-based platforms or services that enable users to create profiles, connect with others, produce, share, and consume content, and participate in

networked forms of interaction (Bishop, 2019). The development of social media is usually traced back to the first social media services that appeared in the late 1990s. The first recognisable social network site was SixDegrees, launched in 1997, which was the first platform to combine these features by allowing users to create profiles, list their friends and, from 1998 onwards, navigate their friends' lists. Although this platform closed in 2000, it marked the beginning of a new type of digital environment organised around visible personal networks rather than only around topics or communities of interest. Subsequently, the expansion of platforms such as Facebook, launched in 2004 and opened to the general public in 2006, consolidated this communicative model based on socially mediated interaction, user participation, and user-generated content (Boyd & Ellison, 2007; Ciudad-Fernández, 2025). Currently, in Spain, the social media platforms with the largest number of user identities are YouTube (39.0 M), Instagram (26.4 M), LinkedIn (24.0 M), TikTok (20.9 M), Facebook (20.3 M), Reddit (11.6 M), Pinterest (10.3 M), X (9.75 M), Messenger (7.20 M), and Snapchat (6.43 M) (Kemp, 2025).

In their early stages, however, the use of these platforms was conditioned by access through personal computers, which limited their temporal and spatial availability. This scenario changed substantially with the expansion of the smartphone, whose popularisation profoundly transformed the way users access and engage with social media (Dainow, 2017). In particular, the launch of the iPhone in 2007 and the subsequent emergence of similar devices introduced technological improvements such as high-speed mobile connectivity, integrated cameras, and touch interfaces, facilitating continuous access to social platforms from portable devices (Ciudad-Fernández, 2025; Dainow, 2017).

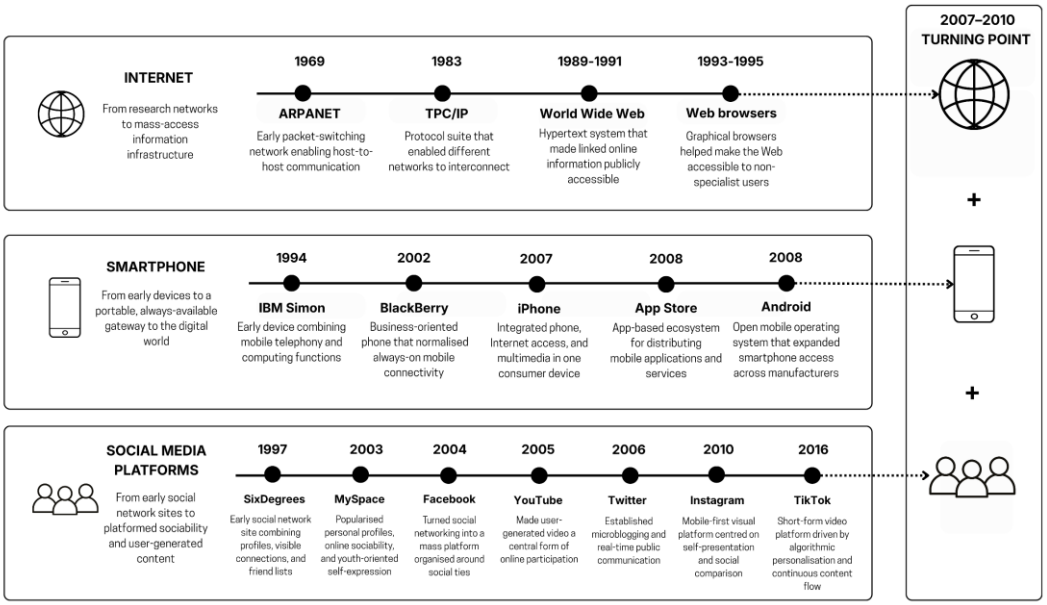
From a theoretical perspective, the smartphone can be conceptualised as a metamedium: a technological environment that integrates multiple media and services into a single device, allowing functions that were previously distributed across different media to coexist within one platform (Jensen, 2016). In the case of the smartphone, this implies that activities traditionally associated with separate media, such as telephony, photography, video, messaging, web browsing, or audiovisual content consumption, are integrated into a single device and can be activated through specific applications. In this way, the smartphone operates as a portable convergence device and access point through which different communicative formats can be combined and recombined (Humphreys et al., 2018).

Therefore, the expansion of contemporary digital media use has taken shape through the convergence of social media with the smartphone as a portable, personal, and everyday

access infrastructure (Boyd & Ellison, 2007; Dainow, 2017). The smartphone then transformed the conditions of access to these platforms by integrating internet connectivity, multimedia functions, touch interfaces, cameras, and app-based services into a single mobile device (Jensen, 2022). In this mutually reinforcing development, social media increased the relevance of constant mobile access, while the smartphone enabled social platforms to become progressively embedded in everyday routines, places, and interactions (Dainow, 2017; Jensen, 2022). Figure 2 illustrates this historical convergence between internet, smartphone, and social media platforms.

Figure 2

Historical Convergence into Contemporary Digital Media Use



Note. Selected milestones illustrate the development and convergence of internet infrastructure, smartphone technology and social media platforms. The timeline is conceptual and not exhaustive. Principal sources: Dainow, 2017; Isaacson, 2014.

In this context, contemporary communication is increasingly characterised by a state of 'permanently online, permanently connected', in which individuals can remain simultaneously linked to mediated content and interactions while engaging in face-to-face or offline activities (Vorderer et al., 2017). This mobile connectivity favours a logic of perpetual contact, facilitating brief, frequent, and distributed exchanges throughout the day that sustain a form of connected presence, in which others may not be physically present but remain virtually available, thereby restructuring everyday routines and blurring the boundaries between times, spaces, and contexts of human interaction (Vanden Abeele et al., 2018). Within this scenario of permanent connectivity, adolescents constitute one of the groups most intensely involved in these

dynamics of mediated interaction, to the extent that recent U.S. data show that nearly all adolescents aged 13 to 17 use the internet daily, and that four in ten report being online "almost constantly" (Pew Research Center, 2025).

This thesis focuses specifically on understanding how digital experience is articulated during adolescence. Adolescent digital experience can be understood as the set of practices, interactions, perceptions, evaluations, and meanings that emerge from adolescents' relationship with digitally mediated devices, platforms, and content. This definition is situated within a social constructivist perspective, according to which media experiences are subjective and socially constructed (Fulk et al., 1990; Wolfers, 2024). From this approach, knowledge and meanings are configured through interaction with others (Vygotsky, 1978), such that proximal social factors, including the attitudes, discourses, and behaviours of people in the surrounding environment, contribute to shaping how adolescents use and interpret digital media (Campbell & Russo, 2003; Fulk et al., 1990). Consequently, adolescent digital experience refers both to digitally mediated practices and to the ways in which these are interpreted, incorporated into everyday life, and linked to well-being and functioning across different life contexts (Hansen, 1991; Wolfers, 2024). As will be further developed in Chapter 2, this definition was progressively adopted in response to the methodological evolution of the thesis. For this reason, it aligns most directly with Studies 3 and 4.

1.2. Adolescence

Adolescence constitutes a developmental stage situated between childhood and adulthood, characterised by a profound biological, cognitive, emotional, and social reorganisation that progressively reshapes the way adolescents think, experience their emotions, and relate to others, with lasting implications for their life trajectory (Papalia & Martorell, 2021). Although it has traditionally been delimited between the ages of 10 and 19, its boundaries are not entirely fixed, as biological maturation, the assumption of adult roles, and the consolidation of social independence do not always occur simultaneously nor conclude at the end of the second decade of life (Blakemore, 2019; Sawyer et al., 2018).

Specifically, adolescence involves a profound psychological and social reorganisation. During these years, there is an increase in the capacity for abstract thinking, self-reflection, anticipation of future consequences, and planning, alongside advances in metacognition, self-evaluation, and other functions linked to self-regulation (Berk, 2022; Papalia & Martorell, 2021; Steinberg, 2005; Subrahmanyam & Smahel, 2011). However, these developments coexist with heightened affective reactivity, sensitivity to reward, and motivational changes, such that the

coordination between cognitive control processes and emotional and motivational systems remains under development (Steinberg, 2005). Thus, adolescents may become increasingly capable of reasoning, planning, and reflecting on their internal states, while still finding it difficult to sustain regulation under conditions of intense emotional or social activation (Berk, 2022; Papalia & Martorell, 2021; Steinberg, 2005, 2020). At the same time, the relational world is reorganised: peers acquire increasing centrality as sources of support, recognition, belonging, and social comparison; friendships become more intimate, reciprocal, and based on trust; and, although the family continues to play a relevant role, relationships with parents become increasingly structured around the negotiation of limits, privacy, and autonomy (Berk, 2022; Laursen & Faur, 2022; Leggett-James et al., 2026; Malonda et al., 2019; Papalia & Martorell, 2021; Subrahmanyam & Smahel, 2011).

In this context of increasing psychological and relational complexity, adolescence is organised around several central developmental tasks. Among these, identity construction, increasing autonomy, and the development of intimacy stand out (Papalia & Martorell, 2021; Steinberg, 2020). First, identity construction acquires a new level of complexity. In contrast to the childhood tendency to define oneself through concrete and relatively isolated traits, adolescents begin to integrate more abstract attributes, to define their values and beliefs more clearly, and to recognise that the same person may present themselves differently depending on the context (Berk, 2022). The opinion of peers also acquires particular weight in the formation of the self-concept, such that belonging, acceptance, and social recognition become especially salient. This process favours the development of a more organised and differentiated identity, while also increasing sensitivity to external evaluation and vulnerability to social comparison (Berk, 2022; Papalia & Martorell, 2021). Second, increasing autonomy builds on the progressive differentiation from parental figures described above. This process involves a gradual reorganisation of dependence, control, and self-direction, through which adolescents seek greater participation in decisions that affect their own lives while continuing to rely on adults as sources of support and guidance (Berk, 2022; Papalia & Martorell, 2021). Autonomy is reflected in a growing capacity to make decisions, evaluate alternatives, regulate emotions and behaviour, and manage one's own life across increasingly complex social contexts (Papalia & Martorell, 2021; Steinberg, 2020). Finally, intimacy develops as relationships with peers become more reciprocal, deeper, and emotionally meaningful. During adolescence, friendships and early romantic relationships progressively incorporate higher levels of trust, self-disclosure, and mutual support, placing peers in an increasingly central position in the satisfaction of needs for emotional closeness and intimacy (Brown, 2004; Papalia & Martorell, 2021).

Taken together, these biological, cognitive, emotional, and relational changes make adolescence a period of particular plasticity and contextual sensitivity. It has been proposed as a second window of opportunity in development, given the high malleability of processes related to learning, social adaptation, and stress response (Fuhrmann et al., 2015). Importantly, well-being may fluctuate significantly throughout this period (Maciejewski et al., 2019), and epidemiological evidence places these ages at the centre of the onset of many mental health problems. For example, in the meta-analysis by Solmi et al. (2022) one third of disorders began before the age of 14, almost half before the age of 18, and approximately two thirds before the age of 25. Consequently, adolescence represents a particularly relevant period in which opportunities for growth and personal reorganisation converge with a particular sensitivity to contextual factors, making it a key stage for understanding the psychological and social experience of development.

1.3. Digital Life in Adolescence

Nowadays, the developmental tasks characteristic of adolescence take place within a deeply digitalised environment, where digital media constitute a structural part of adolescents' everyday experience (Schnauber-Stockmann et al., 2021). In the Spanish context, this centrality is clearly reflected in recent data: 82.4% of adolescents have their own mobile phone, with a mean age of first access to a smartphone of 10.8 years; in addition, 92.5% are registered on at least one social media platform and 75.8% on three or more (Márquez et al., 2025). Consequently, digital environments constitute part of the social context in which the central developmental tasks of this stage unfold (Charmaraman et al., 2025; Nesi et al., 2021; Subrahmanyam & Michikyan, 2022; Subrahmanyam & Smahel, 2011). Moreover, contemporary adolescence may also be understood as a stage embedded in a specific digital culture, in which participation in connected environments is deeply normalised and articulated through shared norms, expectations, and practices that shape how adolescents present themselves, relate to others, and negotiate their place in relation to others (Boyd, 2014; Reyero et al., 2021; Tsaliki, 2022).

1.3.1. Adolescents' Digital Media Use

Within this framework, adolescent use of digital media includes diverse platforms and activities, such as the use of social media, video games, information seeking, audiovisual content consumption, and different school-related or instrumental uses (Márquez et al., 2025). Among these activities, communication with peers, through modalities such as direct messaging, group chats, video chat, or gaming-related communication, occupies a particularly central place, as it

constitutes one of the most frequent and meaningful uses of technology at these ages (Antons et al., 2025; Ciudad-Fernández et al., 2024). This priority is consistent with the developmental tasks of adolescence discussed above, in which belonging, social validation, intimacy with peers, and self-disclosure acquire particular relevance (Schnauber-Stockmann et al., 2021; Uhls et al., 2025). Digital platforms therefore function as spaces for extending already existing relationships, maintaining everyday contact, exchanging support, and exploring ways of presenting oneself to others, often with the same peers with whom adolescents already interact in face-to-face contexts (Leggett-James et al., 2026; Subrahmanyam & Smahel, 2011).

These uses take place across a heterogeneous digital environment: platforms differ in privacy, visibility, anonymity, and degree of connection with known others, and therefore offer distinct relational possibilities, ranging from more private and reciprocal interactions to more public spaces based on exposure to content (Uhls et al., 2025; Van der Wal et al., 2026). Thus, adolescents select platforms and modalities of interaction according to their relational goals, actively contributing to the co-construction of the digital context itself (Subrahmanyam & Michikyan, 2022). More broadly, digital media are embedded in a youth media ecology in which sociability, learning, play, self-expression, and participation form part of everyday cultural practices (Ito et al., 2010). Within this ecology, online environments operate as networked publics where adolescents gather, manage visibility, and participate in peer culture (Boyd, 2008, 2014), while social media also provide spaces for entertainment, humour, information seeking, and informal learning (National Academies of Sciences, Engineering, and Medicine et al., 2024; Throuvala et al., 2019). From this perspective, digital communication can be understood as a social and cultural context that shapes how peer relationships are maintained and transformed (Nesi et al., 2018), how identity work is explored in digitally mediated environments (Granic et al., 2020), and how digital media become embedded in the ordinary organisation of adolescents' everyday lives (Sanchez & Jenkins, 2024).

Moreover, some affordances of digital media, understood as the possibilities for action perceived by users on the basis of the characteristics of a medium, may be especially relevant to the developmental tasks of adolescence (Schnauber-Stockmann et al., 2021; Valkenburg & Peter, 2013; Vanden Abeele, 2021). The possibility of integrating multiple activities within a single device, of accessing content and people anytime and anywhere, of communicating in relatively private spaces, and of editing or modulating self-presentation facilitates the transformation of these technologies into especially functional tools for identity exploration, everyday social coordination, maintaining contact with peers, and negotiating autonomy (Moreno & Uhls, 2019; Van der Wal et al., 2026).

1.3.2. Digital Media Effects on Adolescents

Far from constituting a mere backdrop to adolescent life, digital media form part of a network of experiences with the potential to affect development and well-being. For this reason, beyond describing what uses adolescents engage in or what place these environments occupy in their everyday lives, it is also necessary to examine their potential psychological effects. This task falls within the study of media effects, a subfield of media psychology focused on exploring the short- or long-term intraindividual changes in cognitions, emotions, attitudes, beliefs, physiology, and behaviour that derive from interaction with media (Valkenburg & Peter, 2013).

The available literature suggests that these effects are plural, and difficult to reduce to a single evaluative direction. Although for years the field has been strongly marked by risk-centred approaches, the available evidence shows that digital media may be associated both with functional and potentially beneficial experiences and with problematic outcomes or forms of distress, depending on the type of use, the content, the context, and the characteristics of the adolescent themselves (Appel et al., 2020; Janicke-Bowles et al., 2023; Liebherr et al., 2025; Liu & Marciano, 2024; Raney et al., 2020; Valkenburg, 2022). Thus, certain forms of use may foster processes such as learning, creativity, identity exploration, self-expression, maintaining contact with peers, or access to social support, all of which, as discussed above, are especially relevant during this developmental stage (Appel et al., 2020; Janicke-Bowles et al., 2023; Odgers & Jensen, 2020; Raney et al., 2020). At the same time, another part of the literature has documented associations between digital media use and several indicators of distress, including symptoms of anxiety and depression, lower subjective well-being, sleep problems, poorer body image, and attentional difficulties (Ivie et al., 2020; Piteo & Ward, 2020; Shannon et al., 2022; Sharma & Vidal, 2023). These associations appear especially relevant when digital media use takes intensive or problematic forms, involving patterns of dysregulated use, loss of control, functional interference, or compulsive engagement with smartphones, social media, gaming, or the internet more broadly (Bonfanti et al., 2025; Camerini et al., 2020; Fineberg et al., 2025; Montag et al., 2021). In addition, specific contents and platform dynamics may contribute to risk, including repeated exposure to body ideals and appearance-based social comparison, cyberbullying victimisation, violent or traumatic content, misinformation, and design features oriented towards attentional capture and the deliberate prolongation of use time (Flayelle et al., 2023; Montag & Elhai, 2023).

The complexity of this picture is also reflected in the available empirical evidence. In quantitative studies, the associations between digital use and variables relevant to adolescent well-being tend to be small, inconsistent, or highly dependent on how both use and its possible

consequences are conceptualised and operationalised (Appel et al., 2020; Meier & Reinecke, 2021; Odgers & Jensen, 2020; Orben, 2020; Singh et al., 2026; Valkenburg, 2022). Accordingly, the amount of use cannot be treated as a simple linear indicator of risk. One empirical expression of this complexity is the digital Goldilocks hypothesis, which suggests that moderate levels of digital engagement may be compatible with, or even linked to, better well-being, whereas very high levels of use may be associated with poorer outcomes (Przybylski & Weinstein, 2017). This pattern has been observed across different forms of digital and social media use, although the effects reported are generally small and depend on the specific indicators analysed (Boniel-Nissim et al., 2022; Nennstiel & Ullrich, 2026; Przybylski & Weinstein, 2017).

This interpretation is consistent with a cautious reading increasingly defended in the field: the available associations do not justify a reading in which digital media would themselves constitute a major or sufficient cause of mental disorder in adolescence (Ferguson et al., 2025). This discussion also requires the direction of the link between digital use and psychological distress to be qualified. Beyond the widespread interpretation that greater use directly leads to poorer mental health, different theoretical models have long suggested that prior distress may also drive intensive or dysregulated use of the internet and social media, as these environments may function as strategies for emotional regulation, compensation, or relief from negative affect (Brand et al., 2025; Caplan, 2010; Davis, 2001; Kardefelt-Winther, 2014). This interpretation is also more consistent with decades of research in psychiatric epidemiology, which situates mental disorders within broader developmental, social, biological, and contextual determinants rather than attributing them to a single behavioural exposure (Arango et al., 2021; Kirkbride et al., 2024). From this perspective, dysregulated patterns of use may often reflect a response to pre-existing emotional difficulties, while certain digital uses can also exacerbate symptoms or intensify existing vulnerabilities, highlighting the need to move beyond linear and monocausal interpretations of the phenomenon (Elhai et al., 2026. in press).

Alongside quantitative evidence, qualitative research has enriched the field by foregrounding adolescents' own experiences and interpretations of how they use digital media and how they perceive its repercussions in everyday life (Van der Wal et al., 2024; Weinstein, 2018). This form of inquiry is especially relevant from a social constructivist perspective because, as discussed earlier, media experience is shaped by the ways in which digital use is interpreted, evaluated, and endowed with meaning through interaction with others (Campbell & Russo, 2003; Fulk et al., 1990; Vygotsky, 1978; Wolfers, 2024). From this perspective, adolescents' digital experiences are configured in relation to the contexts and the people around them, whose norms, expectations, discourses, and behaviours may influence the way adolescents

perceive and live their digital practices (Wolfers, 2024). In general, qualitative studies suggest that adolescents often describe their digital experiences as emotionally and relationally significant, combining benefits, tensions, and conflicts within the same connected environments (Throuvala et al., 2019; Toh et al., 2019). These subjective accounts can help explain why the same amount of use may have different meanings across adolescents, and why quantitative indicators of exposure often produce small, inconsistent, or heterogeneous associations with well-being (Lee & Hancock, 2023).

More specifically, studies focused on digital experience show that adolescent responses follow a diverse and, often, ambivalent pattern (Throuvala et al., 2019; Van der Wal et al., 2024; Vaterlaus et al., 2021; Weinstein, 2018). Their accounts include negative experiences such as the pressure to present themselves in an interesting, pleasant, or attractive way, the effort involved in managing one's own image, frequent checking, difficulty interrupting use, distraction, or a feeling of loss of control (Ciudad-Fernández et al., 2024; Toh et al., 2019; Yau & Reich, 2019). Studies also report benefits such as entertainment, learning, inspiration, access to information, exploration of interests, greater connection with friends and family, a sense of social belonging, among others (Van der Wal et al., 2024; Vaterlaus et al., 2021; Weinstein, 2018). Perhaps one of the most relevant findings in this literature is that the same digital practice, or even the same interaction, may be experienced as simultaneously beneficial and costly. Social media may connect and exhaust, entertain and bore, inspire and generate distress, or facilitate self-expression while simultaneously intensifying concern about others' judgement (Van der Wal et al., 2024; Vaterlaus et al., 2021; Weinstein, 2018).

In this sense, the coexistence of ambivalent effects appears to constitute a central characteristic of adolescents' digital experience. Recent studies, both quantitative and qualitative, have underlined that different adolescents respond differently to similar uses, and that even the same adolescent may experience different effects depending on the moment, the content, the platform, or the relational context in which use occurs (Parry et al., 2022; Pouwels et al., 2024; Singh et al., 2026; Valkenburg et al., 2021; Van der Wal et al., 2026). This variability also reflects unequal starting points from which adolescents engage with digital environments (Rosič, 2025). Factors such as prior mental health, the quality of social relationships, gender, socioeconomic status, digital competences, and the opportunities available in the offline environment seem to modulate to an important extent the risks and benefits associated with the use of digital media (Bohnert & Gracia, 2023; Odgers & Jensen, 2020; Rosič, 2025). For this reason, the study of digital media effects increasingly requires moving from general questions about whether digital media are beneficial or harmful towards more specific questions about

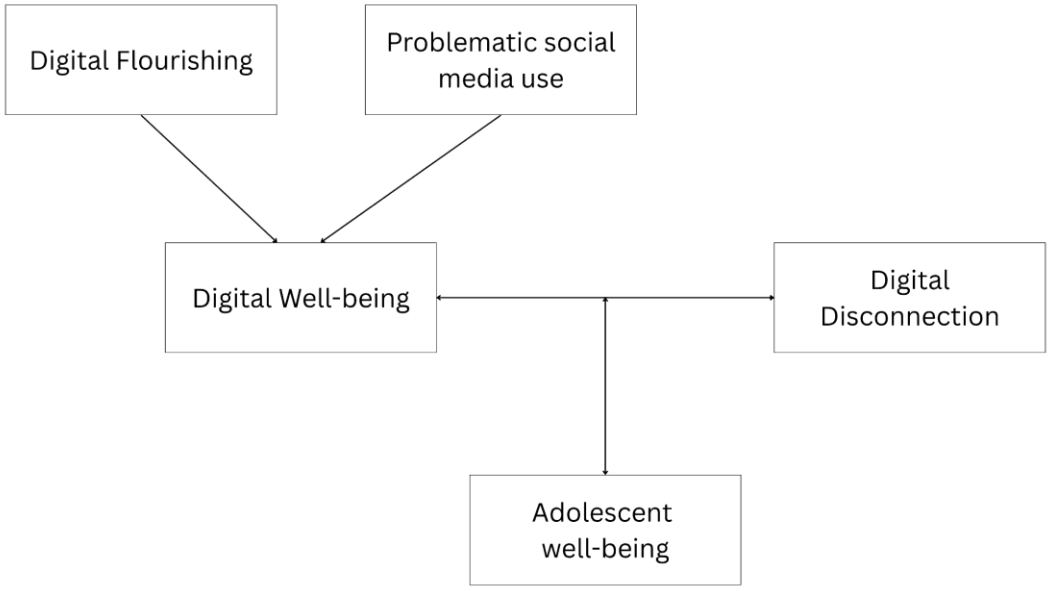
for whom, under what circumstances, through what uses, contents, and designs, and in what contexts these effects emerge.

1.4. Conceptualising Adolescents' Digital Experiences

Taken together, this overview shows that adolescents' digital experience is best understood as a network of processes in which risks, opportunities, and ambivalences coexist. On this basis, the thesis is organised around four complementary concepts that capture different dimensions of adolescents' digital experiences. First, PSMU captures dysregulated and functionally impairing patterns of social media use (Cataldo et al., 2022). Second, digital flourishing directs attention towards positive digital communication experiences (Janicke-Bowles et al., 2023; Rosič et al., 2022). Third, digital well-being offers an integrative framework by focusing on how adolescents perceive the balance between the benefits and costs of their connected lives (Rosič et al., 2024a; Vanden Abeele, 2021). Finally, digital disconnection incorporates the equally necessary dimension of limits, pauses, and forms of distancing from constant connectivity (Vanden Abeele & Syvertsen, 2025). Considered jointly, these concepts constitute interrelated analytical lenses for understanding how digital experiences may be linked to adolescent well-being. As summarised in Figure 3, these concepts provide the common thread linking the sections and studies that make up this doctoral thesis.

Figure 3

Conceptual Framework of the Digital Constructs Analysed in Relation to Adolescent Well-Being



Note. The conceptual framework presented does not correspond to a model that has been tested empirically. It is used in order to present the concepts employed in this thesis in a more integrated way.

1.4.1. Problematic Social Media Use

Within the negative end of the possible effects of these digital environments, the literature has documented the emergence of patterns of dysregulated or problematic engagement with smartphones, social media, and other internet-related activities (Griffiths, 2005; Kuss & Griffiths, 2011). Although a large proportion of users make reasonable, functional, and appropriate use of social media, part of the population shows difficulties in regulating their behaviour, with negative consequences in different areas of life (Fineberg et al., 2025). PSMU is usually conceptualised as excessive social media use associated with negative consequences or significant functional impairment in the personal, social, academic, or occupational domain (Cataldo et al., 2022). Its defining feature lies in the loss of control and the functional interference that this use generates in everyday life, rather than in the mere frequency or intensity of use per se (Kardefelt-Winther et al., 2017; Moretta et al., 2022).

This conceptual precision is especially important in a field in which there has often been a tendency to pathologise common or intense behaviours without adequately distinguishing between high involvement and genuinely problematic behaviour (Billieux et al., 2015). In this sense, various authors have insisted that functional impairment constitutes the central feature that makes it possible to differentiate PSMU from other forms of high but not necessarily maladaptive use (Fournier et al., 2023; Moretta et al., 2022). At present, neither the DSM-5-TR nor the ICD-11 formally recognise PSMU within the section on addictive behaviours, largely because the available empirical basis has not yet reached the degree of robustness and consensus that exists for entities such as gambling disorder or gaming disorder (Brand et al., 2025). This is further supported by recent experimental evidence questioning the assumption that PSMU is neurobiologically analogous to established addictions. In two preregistered within-subjects experiments using an effort-based decision-making framework, Gunschera et al. (2026) tested whether TikTok use showed three established neurocognitive signatures of addiction: elevated wanting, wanting-liking dissociation, and devaluation insensitivity. Across a general population sample and a sample stratified by self-reported TikTok addiction, the authors found no evidence of elevated wanting, no addiction-consistent wanting-liking dissociation, and no devaluation insensitivity among those reporting TikTok addiction. These findings challenge the assumption that such experiences are best understood through a conventional addiction model. Therefore, PSMU remains in an area of conceptual debate that is still open (Elhai et al., 2026, in press). Even so, the growing volume of research on this phenomenon has highlighted both its relevance and the difficulties involved in delimiting and measuring it precisely.

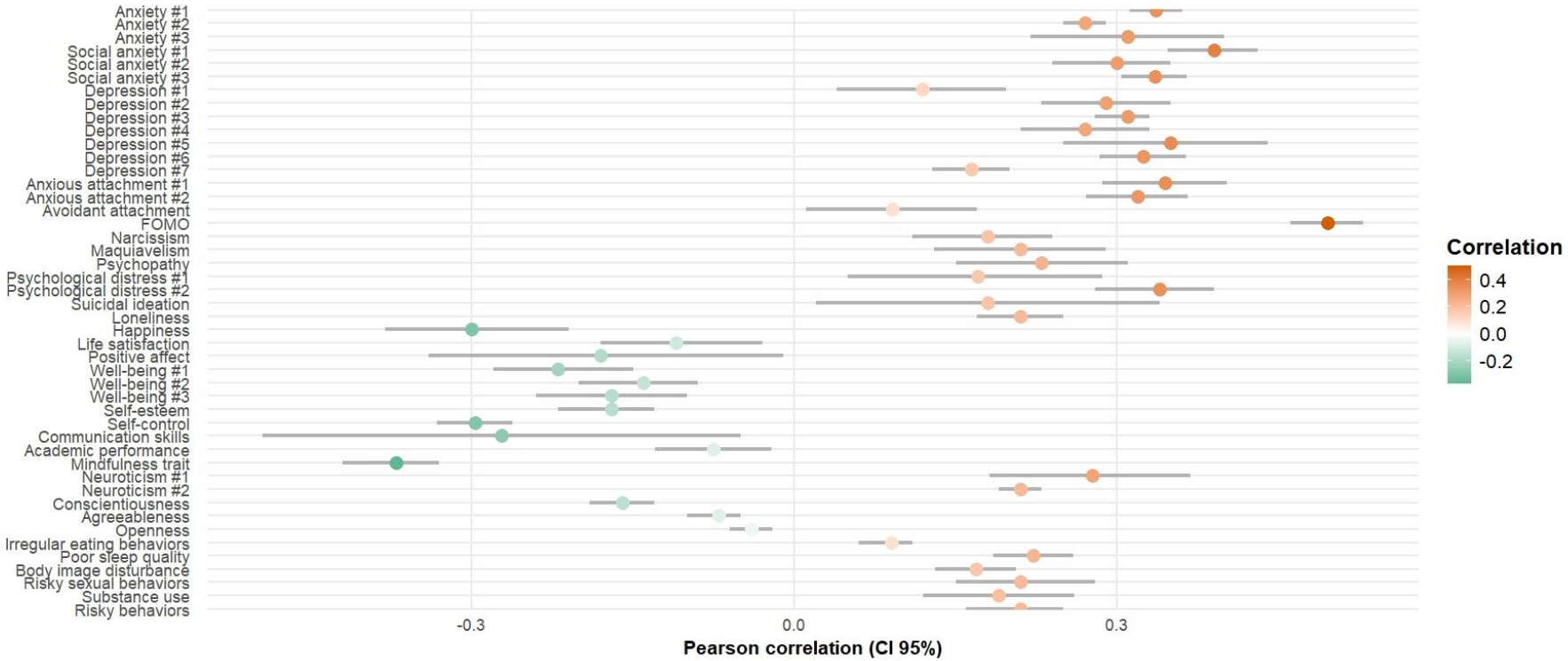
One of the clearest indicators of these difficulties is the extraordinary variability observed in prevalence estimates. Figures differ widely across studies, populations, and instruments. In the meta-analysis by Cheng et al. (2021), which synthesised 63 independent samples including 34,798 participants from 32 countries across seven world regions, a pooled global prevalence of 24% was estimated, but individual estimates were found to range from 0% to 82%, reflecting the lack of standardised criteria and the notable diversity of assessment tools. In addition, these authors showed that prevalence depends to a considerable extent on the classification system employed: monothetic approaches, which require that all criteria be met, produce much lower estimates, close to 5%, whereas polythetic systems, which are more flexible, raise prevalence to around 16% (Cheng et al., 2021). Convergently, other meta-analyses have placed global prevalence at around 17% or 18%, with higher figures in certain regions, such as Asia (Meng et al., 2022; Salari et al., 2025). In Spanish adolescent populations, according to the UNICEF Spain report, the estimated prevalence of problematic social media use in adolescence stands at 5.7%. This estimate is based on a large, nationwide survey of 75,329 students aged 10 to 20 years, conducted through a stratified cluster sampling design by autonomous community, educational level, and school ownership, with subsequent weighting to adjust the data to the original sampling design (Márquez et al., 2025).

This variability in prevalence often relies on cut-off scores that turn variation in reported symptoms into a dichotomous distinction between problematic and non-problematic users. Yet, more broadly in psychological research, this practice has long been questioned because dichotomization discards information about individual differences, reduces effect sizes and statistical power, and may yield misleading results, while also inviting researchers to treat categories as if they reflected a real underlying structure that has not actually been demonstrated (MacCallum et al., 2002). In the specific case of PSMU, recent work further suggests that prevalence estimates may vary substantially depending on how symptoms are scored and where thresholds are set, and that different scoring strategies do not necessarily identify equivalent groups (Connolly et al., 2021). At the same time, evidence from the validation of the Social Media Disorder Scale (a dichotomous 9-item instrument based on core behavioural addiction criteria such as preoccupation, tolerance, withdrawal, persistence, displacement, problems, deception, escape, and conflict), suggests that adolescents may be better described as falling into normative, risky, and problematic groups, with even the intermediate group already showing elevated probabilities of mental health, school, and sleep problems, thereby questioning whether the problematic pole is best represented through a single binary split (Boer et al., 2022).

Beyond the problems of definition and measurement, one of the arguments that justifies interest in PSMU is its consistent association with a wide variety of psychological, behavioural, and adjustment difficulties (Ciudad-Fernández, 2025). The meta-analytic literature and systematic reviews show with notable clarity that, in cross-sectional studies, higher PSMU scores are related to higher levels of depression, stress, anxiety, social anxiety, loneliness, anxious attachment, suicidal ideation, self-harming behaviours, body dissatisfaction, eating disorders, Fear of Missing Out (FoMO), neuroticism, narcissism, psychopathy, Machiavellianism, risky sexual behaviours, substance use, poorer diet, and different forms of psychological distress (Ansari et al., 2024; Casale & Banchi, 2020; Chen et al., 2026; Cunningham et al., 2021; Du et al., 2024; Fioravanti et al., 2022; Huang, 2018, 2022; Huang et al., 2025; Ivie et al., 2020; Kaya, 2024; Liu et al., 2017; Marciano et al., 2020; Marino et al., 2018; Nesi et al., 2021; Ryding & Kuss, 2020; Shannon et al., 2022; Vahedi & Zannella, 2021; Wu et al., 2024; Yigiter et al., 2024; Zhang et al., 2021). In turn, PSMU is negatively associated with variables such as self-esteem, positive affect, happiness, life satisfaction, trait mindfulness, self-control, communication skills, online social support, sleep quality, academic performance, openness, agreeableness, and conscientiousness (Casale & Banchi, 2020; Du et al., 2024; Huang, 2022; Kucharczuk et al., 2022; Ma et al., 2025; Meynadier et al., 2024a, 2024b; Polat, 2023; Saiphoo et al., 2020; Saiphoo & Vahedi, 2019; Sepas et al., 2024; Simsir-Gokalp & Akyurek, 2024). To illustrate these findings, Figure 4 presents a summary of effect sizes (Pearson correlations) derived from a range of meta-analytical studies reprinted from Ciudad-Fernández (2025).

Figure 4

A Non-Exhaustive Overview of Meta-Analytic Associations Between Problematic Social Media Use and Related Variables



Note. Reprinted with permission from *Advancing the Understanding of Problematic Social Media Use: A Psychometric and Process-Based Perspective* (p. 25), by V. Ciudad-Fernández, 2025, Universitat de València (https://hdl.handle.net/10550/116503). Correlation coefficients are presented alongside their respective 95% confidence intervals (CIs). Orange indicates positive correlations, whereas green indicates negative correlations. More intense colours represent correlations of greater magnitude. Variables with additional numbering (e.g., #2 or #3) indicate that they come from different meta-analyses analysing the same variable. All associations reported in this figure are statistically significant at the $p < .05$ level.

However, and in line with what has already been discussed in the previous section regarding the complexity and non-linear directionality of digital effects, it should be underlined that much of the evidence on PSMU comes from cross-sectional studies. Consequently, it remains uncertain whether PSMU precedes psychological distress, emerges as a response to prior difficulties, or whether both directions coexist in reciprocal processes (Elhai et al., 2026, in press). In fact, the few longitudinal studies currently available continue to offer mixed results: some find bidirectional relationships with psychological distress, others suggest that prior distress predicts PSMU, and others find no clear longitudinal effects (Di Blasi et al., 2022; Raudsepp & Kais, 2019; Zhou et al., 2023).

1.4.2. Positive Digital Media Use: Digital Flourishing and Digital Well-Being

As discussed earlier, research on the effects of digital media on adolescents has for years been clearly marked by a logic focused on the negative pole (Raney et al., 2020). This orientation has been reinforced by a broad social climate of concern about the impact of technology on childhood and adolescence, often presented as a threat to young people's psychological well-being, social development, or capacity for attention (Haidt, 2024; Twenge, 2017), while in educational, family, and political spheres, discourses and initiatives aimed at limiting, controlling, or restricting its use have proliferated, such as child protection policies, smartphone bans in school contexts, or parental practices of supervision and control (Cervantes González et al., 2025; Generalitat Valenciana, 2024; Gobierno de España, 2026). In this context, it is unsurprising that much of the scientific production has concentrated on identifying possible adverse effects, dysregulated uses, or vulnerability factors associated with digital environments (Odgers & Jensen, 2020; Raney et al., 2020).

However, this centrality of risk has tended to relegate another equally relevant question: to what extent digital media may form part of valuable, functional, or enriching experiences for adolescents. This underdevelopment is especially relevant at a developmental stage in which, as discussed previously, tasks such as identity exploration, self-expression, belonging, autonomy, and the maintenance of ties with peers, all unfolding in a digitalised environment (Berk, 2022; Brown, 2004; Papalia & Martorell, 2021; Steinberg, 2020; Subrahmanyam & Smahel, 2011). From this perspective, various authors have argued for the need to broaden the analytical focus and also attend to the possibilities for growth, connection, learning, support, and participation that these media may offer during adolescence (Raney et al., 2020). Within this broader shift, two concepts are particularly useful for the purposes of this thesis: digital flourishing and digital well-being.

Digital Flourishing. The concept of digital flourishing is best understood by first situating it within the broader psychological study of well-being. This starting point has an important precedent in the World Health Organization's classic definition of health, which incorporated well-being into the very meaning of health by describing it as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (World Health Organization, 1948). This broad view was later specified in the field of mental health through an emphasis on people's ability to realise their capacities, cope with everyday demands, work productively, and contribute to their communities (World Health Organization, 2022). In psychology, this understanding of well-being has often been organised around two major traditions. The hedonic tradition focuses on happiness, pleasure, positive affect, low negative affect, and life satisfaction, whereas the eudaimonic tradition focuses on meaning, self-realisation, personal growth, authenticity, and optimal functioning (Ryan & Deci, 2001). Therefore, well-being has been conceptualised as a complex construct concerned with both optimal experience and optimal functioning (Ryan & Deci, 2001).

The emergence of positive psychology consolidated well-being and flourishing as explicit objects of psychological inquiry. Seligman and Csikszentmihalyi (2000) presented positive psychology as a scientific field concerned with positive subjective experience, positive individual traits, and positive institutions, with the broader aim of understanding and building the factors that allow individuals, communities, and societies to flourish. Shortly afterwards, Keyes (2002) developed the mental health continuum as an empirical framework for distinguishing different levels of positive mental health, ranging from languishing to flourishing. In this framework, flourishing represents a complete state of mental health characterised by the presence of positive feelings and positive functioning in psychological and social life. Emotional well-being includes positive affect and life satisfaction; psychological well-being includes self-acceptance, personal growth, purpose in life, autonomy, environmental mastery, and positive relations with others; and social well-being includes social integration, social contribution, social coherence, social actualization, and social acceptance (Keyes, 2002). Seligman (2011) later proposed well-being theory, in which flourishing becomes the goal of positive psychology and is organised around five measurable elements: positive emotion, engagement, relationships, meaning, and accomplishment, summarised in the PERMA model.

The application of this tradition to media environments has been developed through positive media psychology. This field applies the questions of positive psychology to media use by examining how media experiences can contribute to positive emotional, cognitive, social, and behavioural outcomes, including well-being, connectedness, compassion, inspiration, meaning,

and prosocial action (Raney et al., 2020). In the specific field of children, adolescents, and media, De Leeuw and Buijzen (2016) argued that positive media psychology can be used to study how media help young people thrive and flourish, an approach that is particularly relevant for contemporary adolescence, where many developmental processes linked to well-being, such as relationship maintenance, identity exploration, self-expression, social comparison, participation, and self-regulation, are now partly organised through digital communication.

Building on this background, digital flourishing was developed to address the need for a comprehensive construct focused on the positive side of digital communication. Janicke-Bowles et al. (2023) define digital flourishing as individuals' positive perceptions of their experiences and behaviours in mediated social interactions. This definition is important because it places the analytical focus on how users interpret the quality and meaning of their digitally mediated interactions, rather than on a specific device, application, platform, feature, or amount of screen time. In this sense, digital flourishing follows a communication-centred approach: it examines positive perceptions that can emerge across different forms of digital communication, including active exchanges, such as messaging or posting, and more passive forms of social attention, such as browsing through social media (Janicke-Bowles et al., 2023; Meier & Reinecke, 2021; Rosič et al., 2022). This approach is particularly relevant for adolescence, where digital communication is closely embedded in everyday processes of peer connection, self-expression, social comparison, participation, and regulation of one's own online engagement (Rosič et al., 2022).

Theoretically, this approach is grounded in Self-Determination Theory (SDT), an organismic theory of human motivation and personality development centrally concerned with the social conditions that support human flourishing (Ryan & Deci, 2017). Within SDT, well-being depends on the satisfaction of three basic psychological needs: autonomy, competence, and relatedness. These needs are defined as psychological nutrients that are essential for growth, integrity, and well-being, whose satisfaction supports optimal functioning across developmental periods and cultural contexts (Ryan & Deci, 2017). Autonomy refers to the experience of volition, self-endorsement, and congruence between one's actions and personal values. Competence refers to the experience of effectiveness, mastery, and being able to act successfully within important life contexts. Relatedness refers to feeling socially connected, cared for, significant to others, and integrated within meaningful relationships or groups (Ryan & Deci, 2017).

From this perspective, digital flourishing is operationalised in five dimensions that capture different forms of positive experience in the digital environment that may contribute to the satisfaction of basic psychological needs and, with this, to adolescent well-being:

connectedness, referring to the feeling of connection and support in online communication; authentic self-presentation, referring to the possibility of presenting oneself in a genuine way; positive social comparison, capturing comparisons experienced as inspiring; civil participation, linked to respectful and constructive participation; and self-control, referring to the capacity to regulate one's own involvement in these environments (Janicke-Bowles et al., 2023, 2024; Rosič et al., 2022).

Digital Well-being. For its part, the digital well-being framework places at the centre the coexistence of benefits and drawbacks derived from digital connectivity, understood as the possibility of connecting with people, content, and services without the restrictions of time and place (Vanden Abeele et al., 2018; see Figure 2). This approach draws, in part, on two prior theoretical traditions. On the one hand, one of the theoretical traditions that has informed the study of digital media use is uses and gratifications theory. This approach emerged within mass communication research as an attempt to understand the social and psychological origins of media use, the needs that lead individuals to select particular media, and the gratifications and consequences that may follow from such use (Katz et al., 1973). In contrast to perspectives that treat audiences as passive recipients of media influence, uses and gratifications theory conceives users as active agents who select media in relation to their goals, needs, and expectations (Katz et al., 1973; Ruggiero, 2000). This framework has been particularly influential in the study of new and digital media because interactive technologies make user choice, participation, and goal-directed engagement especially salient (Ruggiero, 2000). Applied to smartphones and social media, this perspective helps explain why adolescents may turn to digital media for social connection, information seeking, entertainment, emotional regulation, identity exploration, or participation in peer culture (Reid, 2018). On the other hand, the second major tradition underlying digital well-being is the media effects perspective, discussed previously, which has focused on the possible consequences of digital use for well-being (Orben, 2020).

In this context, digital well-being takes a further step by integrating the interest of uses and gratifications theory in the benefits sought through media use with the concern of media effects research for the consequences of such use. Vanden Abeele (2021) defines digital well-being as a subjective individual experience of optimal balance between the benefits and drawbacks obtained from mobile connectivity. This experiential state is composed of affective and cognitive appraisals of how digital connectivity is integrated into ordinary life and is achieved when individuals experience maximal controlled pleasure and functional support together with minimal loss of control and functional impairment (Vanden Abeele, 2021). This conceptualisation has recently been further specified by distinguishing between two broad

types of appraisals: perceived benefits, which include hedonic experiences such as controlled pleasure and entertainment, and eudaimonic experiences such as functional support, meaning, and support for everyday life; and perceived drawbacks, which include loss of control, distraction, stress, conflict, and functional impairment (Vanden Abeele et al., 2026).

In adolescence, this framework has been further developed through the concept of perceived digital well-being in adolescence, which focuses on how young people evaluate the positive and negative implications of smartphone use in their everyday lives (Rosič et al., 2024a). This approach assumes that digital well-being experiences are subjective and socially constructed through interactions with others, public discourses, and the meanings adolescents attribute to their own smartphone use (Fulk et al., 1990; Rosič et al., 2024a). These appraisals are especially relevant in three domains that are central to adolescent development and smartphone use: the social domain, where smartphone use may support or hinder communication, friendship quality, social connectedness, and loneliness; the cognitive domain, where smartphone use may contribute to learning, informedness, schoolwork, productivity, or distraction; and the emotional domain, where smartphone use may be related to entertainment, relaxation, mood, anxiety, self-esteem, and broader emotional experience (Orben, 2020; Reid, 2018; Rosič et al., 2024a; Valkenburg et al., 2021). This approach is therefore especially useful for the present thesis, as it allows digital well-being to be understood as the way adolescents live, interpret, and negotiate the balance between benefits and drawbacks in the digital environment (Rosič et al., 2024a; Vanden Abeele & Syvertsen, 2025).

Regarding the relationship between both constructs, Rosič (2025) argues that digital flourishing and digital well-being stem from different theoretical traditions and, for this reason, place the emphasis on different aspects of digital experience, but can be understood as closely related positive digital experiences. On the one hand, digital flourishing develops from positive media psychology and Self-Determination Theory, as explained previously (De Leeuw & Buijzen, 2016; Deci & Ryan, 2000; Janicke-Bowles et al., 2023; Raney et al., 2020; Rosič et al., 2022). On the other hand, perceived digital well-being draws on the media effects literature, uses and gratifications theory, and social constructivism, and attends to how adolescents perceive the balance between the benefits and costs of digital use in relevant areas of their everyday lives (Appel et al., 2020; Fulk & Steinfield, 1990; Hansen, 1991; Katz et al., 1973; Rosič et al., 2024a; Vanden Abeele, 2021; Vaterlaus et al., 2021; Wolfers, 2024). From this perspective, Rosič (2025) suggests that both concepts may be understood as complementary: digital flourishing describes more empowered and constructive forms of digital participation, whereas perceived digital well-being refers to the broader evaluation adolescents make of whether their digital life brings them

more benefits than drawbacks. Thus, adolescents who feel connected through digital communication, present themselves authentically, engage in inspiring forms of social comparison, participate respectfully, and regulate their online involvement may be more likely to perceive digital media as beneficial rather than disruptive in their everyday lives. Conversely, adolescents who perceive their digital use as balanced, supportive, and manageable may have more favourable conditions for experiencing digital communication as a space for connection, authenticity, participation, inspiration, and self-control. In this sense, digital flourishing and perceived digital well-being can be seen as mutually related dimensions of positive digital experience: the former focuses on how adolescents participate and communicate in digital environments, whereas the latter focuses on how they evaluate the place of digital connectivity in their lives. On this basis, Rosič (2025) proposes an integrative model in which both constructs are connected and may also be linked to other related processes, such as media literacy, susceptibility factors, and different offline outcomes related to adolescents' social adjustment, cognitive functioning, and mental health.

1.4.3. Digital Disconnection

In turn, understanding digital experience as a whole requires attention to moments of connection and to those in which people interrupt, limit, or suspend their relationship with digital media. In other words, if digital well-being refers to the way individuals seek a viable balance in their connected lives, digital disconnection constitutes one of the ways through which that balance is negotiated, readjusted, or restored in practice (Vanden Abeele, 2021; Vanden Abeele & Syvertsen, 2025). From this perspective, disconnection can be understood as a complementary dimension of digital experience, especially in societies in which mobile connectivity has become a taken-for-granted condition of everyday communication, social coordination, information access, entertainment, and self-presentation (Vanden Abeele et al., 2018; Vorderer et al., 2017).

Digital disconnection has become consolidated as a growing area of research focused on the ways in which people set limits to their involvement with digital devices, platforms, features, interactions, or messages after having previously incorporated them into their lives (Kuntsman & Miyake, 2019; Nassen et al., 2023; Vanden Abeele & Syvertsen, 2025). The literature has used several related terms, such as digital detox, unplugging, media refusal, opting out, taking a break, limiting use, or intentional non-use, which reflects the conceptual plurality of a still developing field (Nassen et al., 2023). Despite this terminological diversity, recent reviews identify several recurrent elements: digital disconnection usually refers to a deliberate form of non-use, it takes place after prior adoption, it may occur at different levels of the digital

ecosystem, and it may vary in duration, frequency, and intensity (Nassen et al., 2023; Ross et al., 2024). Thus, disconnection may involve putting away the smartphone during a specific activity, turning off notifications, deleting or avoiding a particular application, taking a temporary break from a platform, limiting certain interactions, or reducing exposure to specific types of messages or content (Light & Cassidy, 2014; Mannell, 2019; Nassen et al., 2023; Nguyen, 2021).

This understanding is especially useful because it prevents digital disconnection from being reduced to exceptional or total forms of withdrawal. In contemporary digitalised societies, long periods of complete non-use may be difficult, undesirable, or incompatible with everyday responsibilities, given that digital media have become embedded in social, educational, professional, and administrative life (Geber et al., 2024; Nassen et al., 2023; Syvertsen, 2020). This idea is consistent with the Goldilocks hypothesis discussed earlier (Przybylski & Weinstein, 2017). For this reason, many disconnection practices are partial, temporary, selective, and integrated into ordinary routines. People may remain connected for some purposes while distancing themselves from others, use the smartphone instrumentally while avoiding social media, or preserve some channels of availability while restricting others (Geber et al., 2024; Nassen et al., 2023; Vanden Abeele & Syvertsen, 2025).

However, one of the most relevant contributions of the recent literature is that "voluntary" disconnection is configured by more than individual will or simple self-control. Digital disconnection is often presented in public discourse as an individual strategy of self-care, self-optimisation, or digital hygiene, especially through expressions such as digital detox or digital minimalism (Syvertsen, 2020; Vanden Abeele & Syvertsen, 2025). This framing is useful to understand why disconnection has become culturally meaningful, but it also risks placing the burden of regulation exclusively on the individual. Syvertsen (2020) situates digital detox within broader historical trajectories, including the attention economy, the pressure towards digitalisation, and contemporary cultures of self-optimisation. From this view, people are encouraged to manage their own digital overload while the social, technological, and economic conditions that promote permanent connectivity often remain in place.

For this reason, a growing part of the literature understands digital disconnection as a situated practice shaped by the interaction between material, social, and individual conditions (Van Bruyssel et al., 2024; Vanden Abeele & Syvertsen, 2025). Material conditions include devices, infrastructures, notifications, platform designs, spatial arrangements, and the physical accessibility of digital media. Social conditions include relationships, expectations of availability, shared norms, responsibilities, and the legitimacy of being unreachable in a given context.

Individual conditions include habits, goals, preferences, self-regulatory resources, and the meanings through which users interpret their own digital practices (Van Bruyssel et al., 2024).

The role of social norms is particularly relevant. Geber et al. (2024) show that digital disconnection takes place within a complex normative environment in which expectations of disconnection coexist with expectations of availability. On the one hand, certain contexts and relationships may support disconnection by valuing presence, attention, or conscious media use. On the other hand, the same individuals may experience pressure to remain reachable, respond quickly, or sustain mediated contact with others. This tension is especially salient among younger users, who may perceive both disconnection and availability as important expectations within their social environment (Geber et al., 2024).

1.5. Digital Experiences of Adolescent Athletes

In this context, particular attention should be paid to the everyday settings that structure adolescents' possibilities for connection and disconnection, as well as the consequences derived from them, such as the family, the school, or, in the case of this doctoral thesis, sport. Adolescent athletes constitute a particularly relevant case, as they are in a life stage marked by the centrality of the smartphone and digital platforms, while at the same time having to reconcile academic, sporting, social, and family demands, often under conditions of pressure and high performance (Gould et al., 2020; Walton et al., 2022). This accumulation of demands configures a particularly demanding context, which may hinder personal balance and increase vulnerability to physical and psychological distress (Van Slingerland et al., 2019). It is therefore unsurprising that smartphone use has become a growing concern among coaches and other sport professionals (Durand-Bush & DesClouds, 2018; Gould et al., 2020).

From a quantitative perspective, research in sport has focused mainly on potential risks associated with digital use. In general, this literature has concentrated on sleep, mental fatigue and sport performance, psychosocial outcomes, and some physical correlates (Ong & Chua, 2024). Overall, the clearest evidence concerns mental fatigue and some aspects of sport-specific performance, with several experimental studies showing that pre-task smartphone or social media use may impair decision-making and performance in some sports (Fortes et al., 2019, 2020, 2021a, 2021b, 2022a, 2022b, 2023; Greco et al., 2017), although these effects are not uniform across all tasks or disciplines (Faro et al., 2025; Fortes et al., 2021a, 2021b; Quagliarotti et al., 2023). Evidence on sleep appears more mixed, with some studies reporting null effects and others pointing to poorer sleep, recovery, or sleep-related pathways of distress (Dridi et al., 2026; Dunican et al., 2017; Fiedler et al., 2024; Harris et al., 2015; Jones et al., 2018, 2019a,

2019b; Knufinke et al., 2019; Lin et al., 2025). Additional studies have also linked digital use to concentration disruption, anxiety, poorer mental well-being in some athletes, lower team cohesion, musculoskeletal pain, and higher fat mass (Encel et al., 2017; Fiedler et al., 2024; Gao et al., 2021; Júdice et al., 2022; Lin et al., 2025; Sekiguchi et al., 2018; Zhang et al., 2022). However, these findings should not be interpreted as evidence of a simple dose-response relationship between amount of smartphone use and poorer functioning. In an exploratory in vivo longitudinal study with student-athletes, DesClouds et al. (2022) found no clear overall psychosocial differences between heavier and lighter smartphone users, and that changes in both usage and psychosocial outcomes were highly nuanced over time.

Complementing this quantitative evidence, qualitative research has examined how athletes integrate and interpret smartphones within their everyday sporting routines. Rather than portraying the smartphone only as a source of distraction or risk, this work shows that digital technologies are embedded in athletes' everyday routines and in the management of demands across sport, school, and personal life (DesClouds & Durand-Bush, 2021). In a systematic review of 33 studies published between 2015 and 2024 and conducted across 13 countries, covering different sports, competitive levels, and types of electronic device use, Ong and Chua (2024) concluded that the qualitative literature, which comprised 7 of the 33 studies analysed, points to both debilitative and facilitative effects. On the negative side, studies have highlighted distraction, disengagement, time displacement, pressure to remain available, and stress linked to messages, notifications, branding demands, and competitor-related content (DesClouds & Durand-Bush, 2021; Hayes et al., 2019, 2020; Ong et al., 2024). On the positive side, qualitative studies have also shown that smartphones and social media may support communication, social connectedness, moral support, team cohesion, planning, preparation, and self-regulatory functions (Camiré et al., 2022; David et al., 2018; DesClouds & Durand-Bush, 2021; Hayes et al., 2020). In Annex 2, a summary table of the body of evidence is synthesised.

This ambivalent pattern is especially clear in DesClouds and Durand-Bush's (2021) study with varsity athletes. Their findings showed that smartphones were embedded in athletes' lives across sport, school, and home, and were used to manage multiple demands at once. Importantly, the study also showed that athletes' relationship with their smartphones was complex and paradoxical. Smartphones were associated with negative experiences such as stress, distraction, and disengagement, but also with positive functions such as self-regulation and social connectedness. The authors argued that these implications should be understood along a continuum rather than through distinct categories of "good" and "bad," with the value

of smartphone use depending on time, purpose, and context of use (DesClouds, 2022; Ong & Chua, 2024).

Building on these findings, the digital well-being framework can be especially useful for understanding the ambivalence that characterises the digital experience of adolescent athletes, as it makes it possible to analyse jointly the benefits and burdens associated with mobile connectivity as part of the same experience (Vanden Abeele, 2021; Vanden Abeele & Syvertsen, 2025). In this sense, it offers an appropriate lens through which to interpret both the relational, emotional, and instrumental functions that athletes attribute to the smartphone and the tensions, interferences, and costs that they also link to its use (Vanden Abeele, 2021). Thus, benefits and drawbacks may be understood as interdependent dimensions of a connected digital experience, whose meaning depends on how connectivity is articulated with the concrete demands of adolescent everyday and sporting life (Vanden Abeele & Syvertsen, 2025).

However, as discussed previously, understanding this digital experience requires attending not only to practices of connection, but also to digital disconnection as a closely related response to the demands of ubiquitous connectivity (Vanden Abeele & Syvertsen, 2025). In this sense, much of the existing research has tended to locate digital disconnection in leisure and consumption contexts, where it is usually interpreted as a means of rest, recovery, or the pursuit of well-being (Fast, 2021). However, in performance-oriented environments, the possibilities for disconnection are reconfigured by demands for attention, productivity, and constant availability, which means that disconnection must be negotiated under more restrictive conditions (Schaefer, 2018). Sport shares part of this performance logic, while also adding specific bodily, social, and normative conditions that may reorganise the place of the smartphone during practice (Van Bruyssel et al., 2024).

Although digital disconnection has not been addressed as a main research focus in adolescent sport, some studies suggest that this context may generate situated forms of digital distancing. For example, DesClouds and Durand-Bush (2021), in their qualitative study with varsity athletes, found that smartphone restrictions in sport were often self-imposed, coach-imposed, or based on unwritten team norms related to respect and appropriate behaviour. Athletes described, for instance, unwritten rules limiting phone use before games, negative reactions to teammates checking their phones in team spaces at inappropriate moments, and self-imposed limits on social smartphone use before competition in order to focus on training and performance. They also reported that, in some situations, the sporting context created a form of natural separation from the device, as phones were kept away in a bag, locker, or

changing room. Similarly, Ong et al. (2024), in their study with Singaporean youth athletes, reported that some participants proposed making mobile phone access more difficult by hiding the phone, placing it in an inconvenient location, limiting Wi-Fi or mobile data access, or using a non-smartphone device.

1.6. Key Challenges and Remaining Gaps in the Field

The previous sections have highlighted the centrality of digital media in adolescent life and the complexity of their implications for well-being. They have also shown that adolescents' digital experience is configured by a heterogeneous and dynamic interaction of risks, opportunities, ambivalences, and practices of regulating (dis)connection across different everyday contexts. Despite the important advances in the field, at the beginning of this thesis several conceptual, methodological, and contextual gaps remained that this work has sought to address.

Gap 1. Need for a More Nuanced Understanding of PSMU Beyond Dichotomous Classifications

A first important gap concerns the way in which PSMU has been delimited through total scores, symptom counts, or cut-off points. Although these procedures can be useful for screening, prevalence estimation, or group comparison purposes, the resulting thresholds should not be interpreted as natural or definitive boundaries between problematic and non-problematic adolescents (Boer et al., 2022; Cheng et al., 2021). In fact, the literature itself has underlined that such classifications require additional validation and that problematic use may be better understood as a heterogeneous phenomenon, including intermediate profiles and differentiated patterns of involvement that are not well captured by an exclusively dichotomous logic (Boer et al., 2022; Lu, 2026; Zarco-Alpuente et al., 2025). However, many studies still rely on total scores, offering only a partial picture of how the problematic pole of digital experience is empirically organised within adolescent populations and how its different manifestations relate to adolescent adjustment (Cataldo et al., 2022; Cheng et al., 2021). To the best of our knowledge, at the beginning of this thesis no studies had been conducted with the aim of identifying differentiated profiles of PSMU in Spanish adolescents.

Addressing this gap is essential in order to: a) complement the usefulness of cut-off points with approaches that are more sensitive to the heterogeneity of the phenomenon; b) identify differentiated profiles of problematic involvement; c) analyse how these profiles relate to relevant indicators of adolescent adjustment; and d) provide specific evidence in Spanish adolescent populations on the empirical organisation of PSMU.

Gap 2. Need for Culturally Adapted Instruments to Assess Positive Digital Experiences in Adolescence

A second important gap concerns the assessment of positive digital communication experiences in adolescence. Although the field has long been dominated by risk-centred approaches, recent developments in positive media psychology and digital flourishing research have highlighted the importance of examining how digital communication may also be experienced as meaningful, supportive, or beneficial in adolescents' lives (De Leeuw & Buijzen, 2016; Janicke-Bowles et al., 2023; Raney et al., 2020). However, this emerging line of research remains considerably less developed than research on problematic use (Odgers & Jensen, 2020; Raney et al., 2020). In particular, at the beginning of this thesis, culturally adapted and psychometrically validated instruments for assessing digital flourishing in adolescent populations were still scarce and available only in a limited number of linguistic and cultural contexts (Janicke-Bowles et al., 2023; Rosič et al., 2022). This limitation is especially relevant in the Spanish context, where, to the best of our knowledge, no validated instrument was available at the beginning of this thesis to assess digital flourishing in adolescence.

Addressing this gap is essential in order to: a) complement problem-centred approaches with a rigorous assessment of positive and potentially enriching forms of digital communication; b) strengthen the empirical study of digital flourishing in adolescence; and c) provide a culturally adapted and psychometrically validated instrument for assessing digital flourishing in Spanish adolescents.

Gap 3. Need to Understand Adolescent Athletes' Digital Experiences as a Situated and Ambivalent Phenomenon

A third gap concerns the limited attention paid to how adolescents' digital experience is shaped by specific everyday contexts. Much of the literature has examined digital media use in adolescence in broad or decontextualised terms. However, digital experience is negotiated within concrete contexts that differentially organise routines, relationships, expectations, and demands (Meier & Reinecke, 2021; Parry et al., 2022; Van der Wal et al., 2026). In this sense, research has focused mainly on educational and family environments, whereas sport has received much more limited attention as a relevant context for understanding these dynamics. For adolescent athletes, smartphone use is integrated into a demanding everyday ecology (Goodyear & Bundon, 2021). Nevertheless, despite growing interest in technology in sport, the quantitative literature has tended to prioritise risk-related outcomes, whereas qualitative studies have shown a more ambivalent picture of athletes' digital practices (DesClouds &

Durand-Bush, 2021; Ong et al., 2024; Ong & Chua, 2024). In this regard, the concept of digital well-being offers an especially relevant approach, as it makes it possible to understand smartphone use as a dynamic balance between positive or negative effects (Rosič et al., 2024a; Vanden Abeele, 2021). However, the concept of digital well-being in adolescence has tended to focus on the school context (Rosič, 2025).

Addressing this gap is essential in order to: a) move beyond broad or decontextualised approaches by examining sport as a concrete context of adolescent digital experience; b) analyse, through the lens of digital well-being, how adolescent athletes perceive and negotiate the coexistence of benefits and drawbacks associated with smartphone use; and c) expand the study of adolescent digital well-being beyond school contexts through a more situated and conceptually informed understanding of digital life in adolescent sport.

Gap 4. Need to Examine Digital Disconnection as a Context-Dependent Process in Adolescent Sport

A fourth and final gap concerns digital disconnection. Although research on digital disconnection has grown in recent years, it has often examined disconnection in relation to leisure, consumption, well-being, or everyday attempts to rest, recover, and manage the demands of constant connectivity (Fast, 2021; Kuntsman & Miyake, 2019; Nassen et al., 2023). Much less attention has been paid to performance-oriented environments, where the possibilities for disconnection are conditioned by different demands and restrictions (Fast, 2021). This limitation is particularly relevant in adolescent sport. Although some studies have suggested that sporting practice may generate temporary forms of reduced smartphone use, digital disconnection has rarely been addressed as a central object of analysis in this context. Instead, it has tended to appear only peripherally within broader discussions on the use of technology in sport (DesClouds & Durand-Bush, 2021; Ong et al., 2024). This leaves an important question unresolved: how digital disconnection is produced and experienced in adolescent sport, and how adolescents make sense of smartphone use and non-use within this context (Van Bruyssel et al., 2024; Vanden Abeele & Syvertsen, 2025).

Addressing this gap is essential in order to: a) expand the study of digital disconnection beyond leisure and everyday recovery contexts by examining it in a performance-oriented environment; b) position digital disconnection as a central dimension of adolescents' digital experience in sport; and c) analyse how smartphone use and non-use are produced, experienced, and given meaning within sporting practice.

1.7. Objectives

This doctoral thesis addresses the four gaps identified above through a multi-method design that combines quantitative and qualitative studies. More specifically, it seeks to contribute to a more nuanced understanding of adolescents' digital experiences in Spain by examining both patterns of problematic social media use and perceived positive digital experiences (O1), and by analysing how these experiences are situated and made sense of in the specific everyday context of sport (O2). These two general objectives are addressed through four specific objectives.

General Objective 1 (O1). Advance the assessment and characterisation of problematic use and positive digital experiences in Spanish adolescents.

SO1. Identify differentiated profiles of PSMU in Spanish adolescents and analyse their associations with relevant indicators of mental health and school adjustment (Study 1).

SO2. Adapt and validate a measure of digital flourishing in Spanish adolescents, in order to provide a culturally appropriate instrument for assessing positive digital communication experiences in this population (Study 2).

General Objective 2 (O2). Explore how adolescent athletes make sense of their digital experiences within the sporting context.

SO3. Explore adolescent athletes' perceptions of the benefits and drawbacks of smartphone use in their everyday and sporting lives (Study 3).

SO4. Examine how digital disconnection is produced and experienced by adolescent athletes within the sporting context (Study 4).

The thesis is composed of four studies that seek to respond to the proposed objectives. The first study of this doctoral thesis (Chapter 3) is *"Beyond the dichotomy: Functional, at-risk, and problematic social media use profiles in Spanish adolescents and their associations with mental health and school adjustment."* This study responds to the first specific objective of the thesis. Through latent class analysis, it identifies different profiles of problematic social media use in Spanish adolescents and examines their association with indicators of psychological and academic adjustment. By going beyond a dichotomous classification between problematic and non-problematic use, this study provides a more nuanced quantitative understanding of adolescent social media use and makes it possible to better delimit the heterogeneity of the problematic pole of digital experience. This study is currently under review in *Adicciones*.

The second study of this doctoral thesis (Chapter 4) is *"Assessing Positive Digital Experiences: A Spanish Validation of the Digital Flourishing Scale for Adolescents."* This study responds to the second specific objective of the thesis. Its aim is to adapt and validate the Digital Flourishing Scale for Adolescents in a Spanish adolescent population, providing a psychometrically supported instrument for assessing the positive pole of digital experience. In this way, it complements the previous study by making it possible to analyse adolescent digital life not only in terms of problematicity, but also in terms of positive and potentially beneficial experiences. This study was published in *Psicothema*.

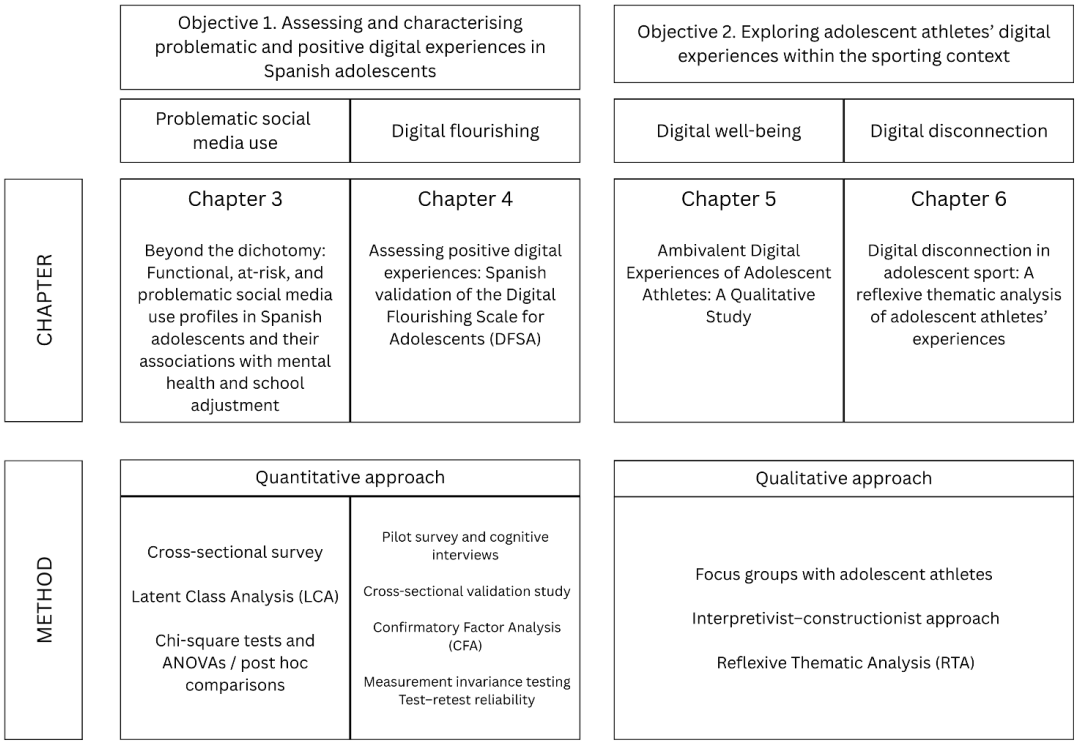
The third study of this doctoral thesis (Chapter 5) is *"Ambivalent Digital Experiences of Adolescent Athletes: A Qualitative Study."* This study responds to the third specific objective of the thesis. Drawing on a qualitative approach, it explores how adolescent athletes perceive the coexistence of benefits and burdens associated with smartphone use in their everyday and sporting lives. Framed within the concept of digital well-being, this study offers a situated understanding of adolescents' digital experience as an inherently ambivalent reality, showing how the smartphone may be integrated simultaneously as a meaningful resource and as a source of tension. This study is currently under review in *Current Psychology*.

The fourth study of this doctoral thesis (Chapter 6) is *"Digital disconnection in adolescent sport: A reflexive thematic analysis of athletes' experiences."* This study responds to the fourth specific objective of the thesis. Through a qualitative approach, it examines how digital disconnection emerges in the sporting context of adolescent athletes. In this way, it provides a situated understanding of digital disconnection by analysing how this experience is configured in a specific everyday context such as sport. This study was published in *Psychology of Sport & Exercise*.

Figure 5 presents an integrated overview of the structure of the thesis, including the objectives, the studies of which it is composed, and the methodological approaches employed.

Figure 5

Overview of the Dissertation Structure: Objectives, Studies, and Methodological Approaches



CHAPTER 2

Methodological Considerations



This chapter aims to make visible the methodological journey through which this thesis took shape. It starts from an understanding of methodology that goes beyond its technical dimension and places it as a space in which assumptions about reality, knowledge, evidence, rigour, and the role of the researcher are made explicit and brought into relation with the research process. From this perspective, methodological decisions constitute a central part of the construction of the thesis. In this sense, the chapter offers a reflexive opening onto what happens "behind the scenes" in the research process, including changes of direction, false starts, evolving assumptions, and the conditions through which knowledge is produced (Braun & Clarke, 2025).

The chapter is organised around three subobjectives. The first makes explicit the paradigmatic assumptions that shaped the thesis at different moments. The second reconstructs the methodological trajectory of the four studies, paying attention to the paradigmatic shift. The third proposes the quality criteria from which this doctoral thesis can be assessed.

2.1. Objective 1. Paradigmatic Assumptions Throughout the Thesis

A useful starting point is to clarify the concepts of paradigm, methodology, and method, since these terms are often used interchangeably, although they refer to different levels of the research process. Following Sparkes and Smith (2014), a paradigm can be understood as a set of basic beliefs, assumptions, and metaphysical commitments through which researchers define the nature of the world, their place within it, and the possible relationships with that world. Paradigms matter because they delimit what counts as knowledge, how the relationship between the researcher and that which is researched is conceived, and what place values occupy in the process of inquiry (Lincoln, 2010). If they remain implicit, they continue to guide decisions without being opened to scrutiny. For this reason, I consider paradigmatic positioning to be a methodological responsibility of all research. As Sparkes (2015) describes,

> even if researchers do not acknowledge (or know) the philosophical assumptions that underlie their work, 'this does not mean that they have no philosophical assumptions. It merely means that they are operating with unexamined assumptions' (p. 9; Mertens, 2010)

Paradigms are composed, at least, of four interconnected dimensions: ontology, epistemology, axiology, and methodology (Monforte, 2024). Ontology refers to assumptions about the nature of reality. Epistemology concerns how knowledge about that reality may be produced and what relationship exists between the knower and that which is known. Axiology refers to the role of values and ethics in research. Methodology refers to the general approach

or design logic through which the research process is organised. It should not be confused with methods, which are the concrete techniques used to collect and analyse data. Thus, whereas approaches such as ethnography or case study constitute methodologies, tools such as interviews or thematic analysis operate at the level of methods.

Coherence between these dimensions, understood as the fit between theory, research questions, methodology, analytical practices, language, and knowledge claims, is essential for developing high-quality research (Braun & Clarke, 2025). When I began to take this idea seriously, I stopped thinking about methods as separable tools, chosen only because they were available or familiar to me, and I began to ask myself: from what assumptions about reality and knowledge am I working? And, from there, are my methods really coherent with those assumptions?

The Paradigmatic Location of This Thesis

A central consideration of this thesis is that it did not emerge from the outset from a single fully articulated paradigm. Rather, it took shape through two paradigmatic logics that coexisted during much of the process and whose tensions gradually became visible to me, and continue to accompany me in the present.

A Postpositivist Inheritance. At the beginning of my doctoral trajectory, I did not make an explicit reflexive decision about the paradigm that would guide the thesis. In retrospect, that absence of positioning meant inheriting, without examination, a series of assumptions that had structured my academic training up to that point (Murris & Bozalek, 2021). My training in Psychology and in General Health Psychology at the University of Valencia had been predominantly quantitative and was therefore largely shaped by postpositivist assumptions about research, such as the value of measurement, the search for variables and associations, the aspiration to produce reliable and valid instruments, the tendency to conceive rigour in terms of standardisation and procedural control, and the relative invisibility of the researcher as a constitutive presence in the production of knowledge. These assumptions were also part of the research culture in which I was trained, including the positioning of my supervisor, Dr Paula Samper García, and of the EVAIN research group, within which I developed as a researcher. It was not an anti-qualitative context, but it was clearly one that was more familiar with quantitative research logics.

In Sparkes and Smith's (2014) terms, I had been socialised into a paradigm that already defined what counted as legitimate research, which questions were considered relevant, and how one was supposed to proceed. Precisely because of this normative dimension, many of

those assumptions were not visible to me at first. I was therefore working within the horizon delimited by my training, my experience, and the paths that, as a researcher, I knew how to follow (Gill, 2011).

The Emergence of an Interpretivist-Constructivist Orientation. The second paradigmatic logic that shaped this thesis appeared later and did so gradually. As I became more deeply involved in qualitative work, I began to encounter another way of understanding both research and the digital phenomena I was studying. Instead of assuming that social reality was simply there to be measured with greater precision, I began to recognise that adolescents' digital experiences are always interpreted, situated, and context dependent. Instead of asking only how much, how often, or with what intensity certain patterns appear, I began to be interested in how adolescents make sense of what digital media do in their lives, how those meanings are negotiated in context, and how contradictory experiences may coexist.

The new position I adopted could be situated within an interpretivist and social constructionist orientation. The interpretivist dimension refers to my interest in understanding how adolescent athletes make sense of their digital experiences, rather than treating these experiences as self-evident objects available for neutral description from the outside. The social constructionist dimension further specifies this position by assuming that such meanings are produced, negotiated, and sustained through social interaction, language, shared norms, and historically and culturally situated ways of understanding, in this case, digital media use (Burr, 1995). In this sense, experiences such as connection, distraction, burden, or disconnection were approached not as fixed properties of the smartphone or as purely private psychological states, but as situated meanings that take shape within everyday relationships, sporting practices, and the research encounter itself. From this perspective, knowledge is produced through a situated and interactional process of interpretation, and the researcher occupies the position of an involved interpreter whose subjectivity, questions, theoretical resources, and interaction with participants form part of the production of knowledge and must therefore be worked through reflexively (Burr, 1995; Monforte, 2024; Sparkes & Smith, 2014).

This shift began to take place when I decided to study the digital experiences of adolescent athletes through focus groups. At that point, the types of questions I was formulating, the role I occupied in the research, and the nature of the knowledge I was seeking were no longer adequately captured by the postpositivist assumptions with which I had begun. It was then that I began to understand more clearly what Braun and Clarke (2025) point to when they warn about methodological incongruence, that is, the problem that appears when a certain

epistemological position is claimed, but one continues to speak and act from another. Importantly, moving from the assumptions that had shaped my training towards an interpretivist and social constructionist way of thinking has required, and continues to require, time, reading, uncertainty, and a progressive reworking of my own research habits. Paradigmatic shifts cannot be reduced to adopting new terminology, but involve a slow and demanding process of learning to think otherwise (Monforte & Smith, 2023, 2025).

In summary, the positioning of this thesis is articulated through the coexistence of a postpositivist and quantitative logic in Studies 1 and 2, and an interpretivist-constructivist and qualitative orientation in Studies 3 and 4.

2.2. Objective 2. Methodological Trajectory

The Beginning of the Thesis: Looking for Problematic Use

From the outset, the thesis did not follow a completely closed itinerary. Beyond the general intention of undertaking the doctorate, there was no fully mapped trajectory or clearly anticipated methodological endpoint. The direction of the project was defined progressively, as certain findings, readings, formative encounters, and analytical tensions compelled me to reformulate what I was seeing and the questions that seemed worth continuing to ask.

Initially, the thesis began with a specific interest in PSMU in adolescence. That starting point was shaped both by the broader scientific and social climate surrounding digital media and by my own biographical experience. As I analyse in the background chapter, research on digital media use in adolescents has long been marked by a strong logic of risk and by a tendency to frame the digital environment through concern, alarm, and, at times, moral panic (Odgers, 2018). In that context, PSMU became consolidated as one of the most visible and urgent research topics, while positive or beneficial experiences were often left in a more peripheral position (Raney et al., 2020).

My interest in this topic also had a personal dimension. During adolescence, I experienced my own difficulties in regulating digital use. That experience, together with a curiosity to understand the phenomenon better, shaped my first research questions, and Study 1 emerged directly from it.

After my first contact with this field while still an undergraduate student (see Zarco-Alpuente et al., 2021), I began to feel dissatisfied with the predominant tendency to divide adolescents into a simple dichotomy between problematic and non-problematic users. My impression was that this classification was too coarse and that the phenomenon must be

distributed in a more nuanced way. The objective of Study 1 was therefore to identify different patterns of PSMU from the data themselves, rather than imposing from the outset a binary distinction based on a previously established cut-off point (Boer et al., 2022).

The main findings of Study 1 are discussed later, but here I am interested in highlighting the effect they had on the trajectory of the thesis. The most striking finding was the distribution of adolescents across the three profiles. More than half of the sample was classified in the functional class, characterised by an almost total absence of problematic symptoms. An additional third was classified in an at-risk group in which some symptoms were present, but the more severe indicators, especially those linked to conflict and negative consequences, were largely absent. Taken together, this meant that around 93% of the sample fell outside the range that could reasonably be considered problematic. Contrary to my expectation of a more worrying picture, the data showed a less alarming reality.

This finding altered my own expectations and shifted the focus of the thesis. The question expanded from the identification of problematic use to another complementary issue: what does it mean to fall outside that problematic range? Does it simply mean not having a problem? Or does it also imply that many adolescents may be obtaining something valuable, meaningful, or beneficial from their digital lives? This change in question marked the movement from studying the problematic pole towards an interest in positive digital experiences.

Turning Towards Positive Digital Experience

From that point onwards, the second study of the thesis emerged. Understanding adolescents' digital lives also required examining which forms of digital participation might be perceived as positive or beneficial. At that moment, I began to look for instruments that would make it possible to capture that pole of digital experience in adolescence. I did not find a validated measure in Spain that adequately responded to that need. This search eventually led me to contact Dr Rosič, who had just published the Digital Flourishing Scale for Adolescents (DFSA), and that contact ultimately became the basis of Study 2 (see Annex 4 for the final version of the DFSA), as well as of a research stay at the Media Psychology Lab, Department of Communication Sciences, KU Leuven, Leuven, Belgium. Study 2 therefore emerged both from an identified empirical gap and from a conceptual turn.

At this stage, the thesis remained clearly situated within a quantitative and psychometric logic. The questions had broadened, but the methodological logic of the project had not changed in any fundamental way. That change began to occur when I started to ask myself whether these constructs could be explored in a more specific context.

Sport as Context, and the First Naive Move Towards Qualitative Research

It was at this point that my personal and research trajectories crossed again in a decisive way. My supervisor suggested that it might be valuable to examine these concepts within a specific context, given the expansion of the broader literature on adolescents and digital media. That suggestion immediately resonated with my own biography. I had been a federated athlete since the age of five and remain involved in competitive sport at the time of writing this thesis. For that reason, focusing on adolescent athletes seemed to me a relevant decision both intellectually and personally.

Once I immersed myself in the literature on sport and digital media, I discovered that, although some international studies had examined PSMU in sporting populations (Ong & Chua, 2024), neither digital flourishing nor other closely related positive constructs had been applied within the sporting context. And there was little or nothing in the Spanish context. This seemed to offer a promising and novel path for the thesis.

As part of Study 2, and following Dr Rosič's recommendation, we carried out cognitive interviews with adolescents to assess how the items of the scale were understood and interpreted. At the same time, I had participated in another project that used focus groups as its main method (Ciudad-Fernández et al., 2024). Both experiences were especially appealing to me because of the possibility of interacting directly with participants, contrasting my own questions with their responses, and learning from their experiences in a way different from what questionnaires allow.

At that moment, I thought: why not explore these phenomena qualitatively through focus groups? But at that point I still did not understand clearly what adopting a qualitative approach implied in paradigmatic terms. I was thinking more in terms of incorporating a new method.

That moment changed the course of the thesis, and in many ways also the course of my academic development. This decision occurred precisely when I had to present the progress of my doctoral work before the academic committee as part of the doctoral training activity (50038). In that presentation, Dr Ausias Cebolla told me that he was glad to see how the thesis was evolving on the basis of the results of the previous studies, but he also asked me whether I was really aware of what it meant to use a qualitative approach and whether I was sure. From where I stand now, the answer is clear: no, I was not.

When the Data Resisted My Initial Framework

The initial qualitative plan consisted of exploring, through focus groups, two previous findings of the thesis within the sporting context. On the one hand, the aim was to explore the presence or absence of PSMU in adolescent athletes, especially the symptoms that Study 1 had identified as the most discriminative of the problematic group. On the other hand, the aim was to explore digital flourishing, as it had been worked on in Study 2. This orientation can be seen in the title of the ethical approval prior to the conduct of Studies 3 and 4, where the project appeared formulated as *"Exploring Digital Flourishing in Adolescent Athletes"* (see Annex 1). A more detailed explanation of the initial approach to this study can be found in Annex 3.

However, from the pilot group onwards, I began to perceive that the framework I had brought with me was not adequately capturing what adolescents were actually telling me. When I tried to explore some of the dimensions of digital flourishing as I had learned to conceptualise them, the discussion often did not progress very far. Certain dimensions, such as civil participation, did not seem to resonate as meaningful or relevant for athletes. Likewise, with regard to PSMU, I was not finding in their accounts the patterns I had expected to identify. The symptoms that had guided my initial approach did not appear clearly, nor was it possible to recognise functional, at-risk, or problematic profiles in a clear way within their experiences. Adolescents were not narrating their digital lives in the terms for which I had prepared myself.

What did emerge, repeatedly, was something else: account after account of the simultaneous coexistence of benefits and disadvantages, of attempts to set limits, of difficulties in sustaining those limits, of tensions between usefulness and burden, between use and non-use, all of this unfolding across different everyday and sporting contexts. The material was not organised around a clear contrast between problematicity and flourishing, but around ambivalence, negotiation, and the complexity of digital experience in the everyday lives of adolescent athletes.

At that point, the concept of digital well-being (Vanden Abeele, 2021) helped me to see the material differently. It did not resolve the analytical problem completely, but it did offer a more appropriate lens through which to understand the coexistence of positive and negative experiences that adolescents were describing. More importantly, this was the moment when I began to understand in practice what it means not to force ideas onto the data when they do not fit. This was a crucial methodological lesson. It showed me that qualitative research requires openness to the possibility that the research question itself may need to change (Braun & Clarke,

2023a). That lesson would deepen later as a result of the methodological criticism we received during the review process of Study 3.

The Methodological Rupture: Critique, Reconsideration, and Disidentification

The study continued. After conducting the initial focus groups, I deepened my reading of work on Reflexive Thematic Analysis (RTA), especially *Thematic Analysis: A Practical Guide* (Braun & Clarke, 2021), and we attempted to shape a first manuscript that organised the findings around three themes anchored in digital well-being as I had operationalised it on the basis of Rosič et al. (2024a), together with a fourth theme, developed in a more inductive way, focused on how a non-deliberate digital disconnection seemed to occur in sport. At that moment, this structure seemed reasonable to me because it allowed me to maintain a certain link with the theoretical framework of digital well-being while also making room for a finding that was "emerging" in the data.

However, the critique from the associate editor of the Journal of *Psychology of Sport and Exercise* marked the most important methodological turning point of the thesis. The main observation focused on the onto-epistemological and methodological coherence of the manuscript. More specifically, it pointed out an incongruence between the interpretivist and relativist framework claimed in the manuscript and the postpositivist logic that still appeared in key aspects of the study: in the literature review, in the way the analysis was described, in the use of "themes" as categorical summaries, and in the limited reflexivity regarding how theoretical positioning shaped the research process. That critique led me to reconsider each stage of the study very carefully. It pushed me to consult colleagues, scientific articles, and methodological handbooks, and it substantially broadened my understanding of qualitative practices, and of the production of scientific knowledge in a broader sense. Over time, I came to understand that this observation made visible a deeper incongruence between the interpretive approach I believed I was adopting and the assumptions from which, in practice, I was still reading, analysing, and writing.

This recognition initiated a process that I described in Study 4 as a gradual disidentification from the assumptions inherited from my quantitative training (Braidotti, 2019). More specifically, this means that I began to take critical distance from certain assumptions that I had previously treated as self-evident: assumptions about neutrality, about rigour understood as procedural control, about analysis as something that can be made more objective through tools, about preregistration as something intrinsically desirable, and about research questions as something fixed from the outset.

This process was decisively strengthened by my participation in the course *The Practice of Interpretive Research: Reflexivity, Methods and Debates*, taught by Javier Monforte at the University of Valencia. That course, together with sustained reading of Braun and Clarke (2019, 2023a, 2023b, 2025), Sparkes and Smith (2014), and other qualitative works that explore what "happens behind the scenes" (for example, Trainor & Bundon, 2021), opened up another way of understanding research. I began to rethink what it means to produce knowledge, what kind of reality is investigated in qualitative studies, and how it is accessed. I began to understand more deeply that qualitative research is not defined simply by using interviews or focus groups, but by a different set of assumptions about reality, meaning, interpretation, and the role of the researcher.

This turn had concrete methodological consequences. I reformulated the research question. I reoriented the analytical focus. I stopped trying to organise the material through theoretical domains from non-interpretive models. I abandoned software-centred analysis. I removed references to preregistration that no longer made sense within an iterative and reflexive qualitative logic. I treated theory as a sensitising resource (Blumer, 1954; Bowen, 2019) rather than as an explanatory grid to impose on the data. And, most importantly, I began to understand reflexivity not as a paragraph in an article about my trajectory, but as a continuous interrogation of how my training, my familiarity with sport, my immersion in the topic, and my interpretive preferences were shaping the study.

The result of that transformation was the progressive division of that initial project into two differentiated studies. What had originally been conceived as a single qualitative exploration of the digital experiences of adolescent athletes gradually revealed two analytically distinct lines of inquiry. On the one hand, the material pointed towards the broader coexistence of benefits and disadvantages associated with smartphone use in the everyday and sporting lives of adolescent athletes (now Study 3). On the other hand, digital disconnection seemed to require focused attention in its own right (now Study 4).

This process ultimately led me to separate digital disconnection into an independent article. To do so, it was necessary, in many respects, to return to the starting point of the study. I had to go back to the original material, reconsider the research question, re-enter the literature, and ask myself whether the existing corpus of data was sufficient to sustain a study specifically focused on disconnection in sport. That rereading made it clear that it was not. As a result, I resumed data generation, collected additional material, and developed a second analytical process specifically oriented towards understanding how digital disconnection was

experienced, structured, and negotiated in adolescent sport. I explain this process in detail in Study 4.

Final Reflection on the Methodological Trajectory

The final form of the thesis was therefore deeply marked by the methodological trajectory described in the previous pages. The fact that it ultimately explores several facets of adolescents' digital experience, rather than developing a single conceptual line continuously from beginning to end, responds to the very way in which the inquiry progressed. As the empirical work and the analytical process opened up new questions, the thesis moved from an interest more narrowly focused on constructs built within a postpositivist logic towards a broader understanding of adolescents' digital experience from a more socio-constructivist framework. As I will develop in more detail in the section on the critical appraisal of the thesis, it is likely that a more explicit paradigmatic positioning from the beginning, a more systematic reading of the literature, and a more structured methodological planning would have allowed me to construct a thesis more clearly delimited around one of the possible lenses.

However, this trajectory should not be read as a criticism of quantitative methodology or of the digital flourishing framework. Nor does it suggest that adolescents' digital experiences cannot be studied rigorously from that logic. Rather, what it highlights is that, with my initial approach, with the decisions adopted in the early stages of the doctorate, and with the theoretical, methodological, and interpretive resources available to me at that time, I was not yet in a position to sustain that same conceptual lens with sufficient coherence and depth in the qualitative work that I set out to conduct.

At a personal level, this methodological trajectory has transformed me. It has made me more cautious in the face of methodological certainty, more attentive to the assumptions from which knowledge is produced, more willing to reformulate the question when the material requires it, and more aware that researching does not consist only in answering questions, but also in learning how to formulate them better. If paradigms matter because they shape what we are able to see and what we are prepared to value, one of the main contributions of this thesis to my development as a researcher has been precisely that: it has taught me to see more than I was able to see when I began.

Table 1 summarises the main objectives, paradigms, methodologies, methods, and participant characteristics of the studies included in the present thesis.

Table 1

Overview of the Objectives, Paradigms, Methodologies, Methods, and Participants Across the Four Studies

	Study 1	Study 2	Study 3	Study 4
Objective	Identify latent profiles of PSMU in Spanish adolescents and examine their associations with psychological and academic adjustment	Adapt and validate the Spanish version of the Digital Flourishing Scale for Adolescents	Explore how adolescent athletes perceive the coexistence of benefits and drawbacks associated with smartphone use in their everyday and sporting lives	Examine how digital disconnection emerges in adolescent sport and how it is shaped by material conditions, social norms, and the dynamics of sporting practice
Paradigm	Postpositivist	Postpositivist	Interpretivist–constructionist	Interpretivist–constructionist
Methodology	Quantitative survey research	Quantitative psychometric test adaptation and validation	Qualitative interpretive inquiry	Qualitative interpretive inquiry
Method	Online questionnaire Latent Class Analysis, chi-square tests, ANOVA, post hoc comparisons	Online and paper-based questionnaires Pilot survey, cognitive interviews, psychometric validation (CFA, invariance, reliability, validity)	Focus groups Reflexive Thematic Analysis	Focus groups Reflexive Thematic Analysis

	Study 1	Study 2	Study 3	Study 4
Participants	902 adolescents aged 11–19 years	Pilot survey: 13 adolescents; cognitive interviews: 10 adolescents; cross-sectional study: 1,786 adolescents; longitudinal follow-up: 289 adolescents	20 federated adolescent athletes in four focus groups	Initially based on four focus groups with 20 adolescent athletes, later expanded through an additional focus group to deepen the analysis of digital disconnection

Note. ANOVA = analysis of variance; CFA = confirmatory factor analysis.

2.3. Objective 3. Quality Criteria Considerations

> If a piece of research is to be evaluated, it needs to be evaluated on its own terms.
>
> — Finlay (2006)

The third objective of this chapter is to make explicit the quality criteria from which the present doctoral thesis may be assessed. Such considerations regarding rigour, validity, or the quality of scientific research must be formulated in a paradigmatically situated way, attending to the methodology, the objectives of the study, and the specific logic of knowledge production that guides each study (Smith & McGannon, 2018; Sparkes, 2015). In this thesis, this issue requires a clarification because the studies are articulated from different paradigmatic traditions. Therefore, the quality considerations presented below are organised into three blocks: the quality of the quantitative studies, the quality of the interpretive studies, and the coherence of the integration between both sets of findings.

2.3.1. Methodological Quality in the Quantitative Studies

In the first two studies of this thesis, the methodological quality of the quantitative studies is usually assessed through criteria such as objectivity, reliability, validity, and generalisability. More specifically, in the present thesis I propose attending to the quality of the design, the robustness of the measurement, the scope of generalisation, and the transparency with which the research process is reported (Appelbaum et al., 2018; Plonsky & Gass, 2011).

A first level concerns the quality of the design, understood as the adequacy of the fit between the research question, the chosen design, and the type of inferences that may be sustained from it (Goodwin, 2009). In this sense, cross-sectional and correlational designs may provide relevant evidence for describing phenomena, examining associations between variables, and detecting differences between groups, but they present clear limits for causal inference, as they do not by themselves resolve problems such as the directionality of effects or the intervention of third variables. Longitudinal designs, by contrast, provide a stronger basis for examining stability and temporal sequence (Goodwin, 2009).

A second level refers to the quality of measurement. At this point, the literature agrees that rigour depends to a great extent on the reliability and validity of the instruments used (Appelbaum et al., 2018; Plonsky & Gass, 2011). Reliability refers to the consistency of measurement, whereas validity refers to the degree to which an instrument adequately measures the construct it is intended to measure and allows interpretable inferences to be sustained from its scores (Heale & Twycross, 2015). Consequently, the methodological

evaluation of questionnaire based studies requires attention to internal consistency, construct structure, and relationships with theoretically relevant external variables. This dimension becomes even more important in adaptation and validation studies, where methodological quality also depends on the linguistic and conceptual equivalence of the instrument, which may be evaluated through guidelines such as the *ITC Guidelines for Translating and Adapting Tests* (Hernández et al., 2020).

A third level refers to the generalisability of the findings. This criterion refers both to sample size and to the definition of the target population, the way in which participants were selected, and the correspondence between the sample obtained and the scope of the conclusions formulated. For this reason, the evaluation of methodological quality must attend to how many participants were included, who they were, from which contexts they came, and to what extent it is legitimate to extend the findings to other populations or subgroups (Goodwin, 2009; Plonsky & Gass, 2011).

Finally, the methodological quality of quantitative studies requires consideration of analytical transparency and scientific openness. Contemporary reporting standards insist that quantitative manuscripts should describe with sufficient clarity the sample, procedure, measures, design, and analyses, so that the reader may assess the methodological adequacy of the study and the scope of its conclusions (Appelbaum et al., 2018). To this are added practices of scientific openness, such as preregistration and the sharing of materials, data, or code whenever possible, since these strategies reinforce the traceability of the research process and facilitate the external evaluation of the findings (Hales et al., 2019; Nosek et al., 2015).

2.3.2. Quality Criteria in the Interpretive Studies

In Studies 3 and 4, quality criteria must be assessed in a way that is congruent with the paradigmatic assumptions of interpretive qualitative research. Various authors have proposed frameworks for thinking about quality in qualitative research, for example, Smith and McGannon (2018), Tracy (2010) or Yardley (2017). However, within an interpretive or constructionist logic, these criteria are better understood as open orientations whose relevance depends on the way in which the research is configured and developed (Braun & Clarke, 2025).

For this reason, for Studies 3 and 4 a quality appraisal is proposed based on the following four criteria: worthiness of the topic, commitment and rigor, transparency, and coherence. First, worthiness of the topic refers to the substantive, conceptual, and methodological relevance of the phenomenon under study and to the justification of why it deserves to be investigated. Second, commitment and rigor refers to the depth, care, and consistency with which the

research process is developed, from the generation of the material to the analytical work. Third, transparency refers to the degree to which the decisions, movements, and conditions through which knowledge is produced are made visible, including both the development of the design and the role of the researcher. Finally, coherence points to the degree of fit between the different elements of the study, that is, between the paradigmatic assumptions, the research questions, the methodological logic, the methods employed, the analysis, and the way in which the findings are presented.

2.3.3. Quality Criteria in the Integration of Quantitative and Interpretive Findings

The evaluation of the quality of this thesis as a whole also requires attention to the project's capacity to articulate the quantitative and interpretive findings in such a way that they illuminate one another. In this sense, the decision has been made to consider this thesis as a multiple method study (Johnson et al., 2007), since it combines studies developed from different methods, designs, and paradigms, but without starting from a completely closed integration plan from the outset. Although in the final discussion an explicit effort has been made to connect both blocks and offer a joint reading of the phenomenon, I prefer not to assume automatically the label of mixed methods study.

CHAPTER 3

STUDY 1:

Beyond the dichotomy: Functional, at-risk, and problematic social media use profiles in Spanish adolescents and their associations with mental health and school adjustment



Abstract

This study aimed to identify latent profiles of problematic social media use (PSMU) among Spanish adolescents and to examine their association with psychological and academic indicators. A total of 902 students aged 11 to 19 years (*M* = 13.99; *SD* = 2.05) from different educational stages participated. Latent class analysis models with two to six classes were estimated using the items of the Social Media Disorder Scale, and the classes were compared in anxiety, depression, self-esteem, resilience, emotional self-efficacy, perceived academic performance, academic burnout, academic engagement, and academic self-concept. Three profiles were identified: functional (59.98%), with a low probability of presenting PSMU criteria; at-risk (33.49%), with a higher presence of criteria related to the centrality of use and difficulties in self-regulation (salience, unsuccessful attempts to reduce time spent on social media, and displacement of other activities); and problematic (6.54%), with a higher overall probability of criteria and, distinctively, indicators of interpersonal interference. The functional profile showed better psychological and academic adjustment. In contrast, the at-risk and problematic profiles showed similar levels to each other, with higher anxiety and depression, lower self-esteem, resilience, and emotional self-efficacy, and a more unfavourable academic pattern. These results challenge generalised interpretations of the problem by showing that most adolescents fall within a functional profile of social media use. They also suggest that the problematic profile is distinguished especially by interpersonal interference and concealment of use, whereas the at-risk profile already shows similar psychological and academic vulnerability. The findings suggest the value of also considering adolescents with intermediate signs of dysregulated use when designing preventive strategies.

Keywords: Adolescents; Social Media; Problematic Social Media Use; Latent Class Analysis; Mental Health; Academic Adjustment.

This paper is under review in Adicciones.

3.1. Introduction

Social media may be defined as any online resource designed to facilitate interaction between people and includes a wide variety of platforms and applications, such as Instagram, TikTok, Snapchat, Facebook, or X, which allow users to create, share, and consume user-generated content (Bishop, 2019). Over the last decade, their integration into everyday life has profoundly transformed processes of communication, social coordination, and access to information, especially among adolescents, for whom the digital environment constitutes a central space of socialisation (Orben, 2020). Although this use may be adaptive and functional (Rosič et al., 2022), the literature has documented the emergence of patterns characterised by persistent and dysregulated involvement associated with negative consequences in different areas of personal, academic, and social functioning (Cataldo et al., 2022). Problematic social media use (PSMU) is conceptualised as excessive social media use associated with negative consequences or significant functional impairment (Cataldo et al., 2022). From this perspective, the defining element is not the frequency or intensity of use per se, but the presence of negative consequences and difficulty in exercising control over the behaviour (Moretta et al., 2022).

Understanding this phenomenon is especially relevant during adolescence, a developmental stage in which social media use becomes particularly prevalent (Orben, 2020). During this period, profound biological, cognitive, and socioemotional changes take place, involving important adaptive demands (Berk, 2018). In this context, social media occupy a central place in everyday life, becoming a structural space of interaction and socialisation intertwined with core developmental processes of this stage, such as identity exploration and the search for acceptance from the peer group (Murciano-Hueso et al., 2022; Orben, 2020). Indeed, the most recent data on childhood, adolescence, and digital well-being show the strong presence of electronic devices in young people's daily lives. According to the 2025 report conducted by UNICEF in Spain, 92.5% are registered on at least one social media platform. As regards problematic social media use, the estimated prevalence based on validated instruments stands at 5.7% (Márquez et al., 2025). In addition, this report shows differences by educational stage, with lower prevalence in Primary Education and higher values in Compulsory Secondary Education and upper secondary education, suggesting that the interpretation of PSMU should consider the developmental and school stage in which adolescents are situated (Márquez et al., 2025).

However, the interpretation of prevalence figures requires caution. The literature has pointed out that estimates of PSMU show high variability across studies, reflecting important

conceptual and methodological challenges in its measurement. In their meta-analysis, Cheng et al. (2021) estimated a pooled global prevalence of 24%, although individual figures ranged from 0% to 82%, highlighting the absence of standardised criteria and the heterogeneity of the instruments employed, which makes it difficult to estimate the magnitude of the phenomenon precisely and limits comparability across studies. Traditionally, the assessment of PSMU has been based on Griffiths' (2005) components model of addiction, which includes criteria originally derived from the field of substance addictions, such as salience, mood modification, tolerance, withdrawal, conflict, and relapse. However, recent work has emphasised that not all these components carry the same clinical weight, underlining the centrality of functional impairment as the distinguishing element of problematic behaviour (Ciudad-Fernández et al., 2025; Fournier et al., 2023). In this context, the Social Media Disorder Scale (SMD-S; Van den Eijnden et al., 2016) was developed with the aim of specifically assessing symptoms associated with interference and conflict derived from social media use, incorporating several items focused on this dimension.

In line with the need to delimit PSMU more precisely, it is pertinent to distinguish the different subtypes of users who may present this problem, given that they do not all share the same symptomatic pattern or the same associated variables. Latent Class Analysis (LCA) constitutes a statistical strategy focused on identifying unobserved subgroups within a population on the basis of response patterns, making it possible to capture heterogeneity beyond approaches based exclusively on total scores (Collins & Lanza, 2010). Applied to the field of PSMU, LCA has been widely used to identify differentiated profiles of use. For example, Boer et al. (2022a), in a sample of 6,626 Dutch adolescents, identified three profiles (normative, at-risk, and problematic), observing that the problematic group presented greater difficulties in mental health, academic performance, and sleep quality. Convergently, other studies have found three-class solutions in adolescent and young populations (Cerniglia et al., 2019; Moreno et al., 2023; Oh et al., 2021; Pi et al., 2024), and, in a multilevel analysis conducted in 41 countries and regions, Lu (2026) likewise identified three latent patterns, organised as groups with low, moderate, and high probability of presenting symptoms of PSMU. In Spanish adult population, Zarco-Alpuente et al. (2025) also observed a three-profile structure (functional, at-risk, and problematic), highlighting that classes could be differentiated by the specific pattern of criteria present and their differential association with psychological variables. Taken together, these findings support the usefulness of distinguishing user profiles in order to interpret prevalence figures more precisely and avoid overgeneralised readings of the phenomenon (Cheng et al., 2021).

In coherence with this approach, the present study applies LCA in a sample of Spanish adolescents and incorporates psychological and academic indicators in order to examine the external associations of the latent profiles identified. This decision is supported by meta-analytic evidence documenting consistent associations between PSMU and psychological distress, especially symptoms of anxiety and depression (Du et al., 2024), as well as negative relationships with personal resources linked to well-being, such as self-esteem (Huang, 2022; Jing et al., 2025). In addition, resources with a potential protective or moderating role were included, such as resilience (Hidalgo-Fuentes et al., 2023) and emotional self-efficacy (Calandri et al., 2021). Complementarily, the study examines the relationship between PSMU and different indicators of school adjustment in adolescence. This inclusion is pertinent because the school context constitutes one of the most significant environments at this developmental stage and a relevant source of stress for adolescents themselves (De Anda et al., 2000). In addition, although the negative association between PSMU and academic performance has been widely documented in previous literature (Giunchiglia et al., 2018; Liu et al., 2017), school adjustment cannot be reduced solely to performance. From a broader psychoeducational perspective, this construct also includes variables linked to learning and academic well-being, whose relationship with problematic social media use has received much less attention (e.g., Hussain et al., 2020; Yılmaz et al., 2025). Within this framework, the present work analyses the extent to which PSMU is associated with four complementary indicators of school adjustment: academic performance, academic burnout (Kiuru et al., 2008), academic engagement (Salmela-Aro & Upadyaya, 2014), and academic self-concept (Pérez-Sánchez et al., 2024). A table summarising the empirical evidence on the relationship between PSMU and the variables included in the study can be found in Annex 5, Supplementary Material 1.

In sum, considering that social media constitute a structural environment in adolescent life, with a high presence and developmental relevance in processes of socialisation and identity (Márquez et al., 2025; Orben, 2020), that PSMU is defined by the presence of functional impairment rather than mere intensive use (Fournier et al., 2023; Van den Eijnden et al., 2016), and that its assessment has been marked by notable conceptual and methodological heterogeneity, reflected in the wide variability of prevalence estimates (Cheng et al., 2021), it becomes necessary to move towards a more precise delineation of usage profiles at this developmental stage. Although research has relatively consistently identified three main profiles (functional, at-risk/intermediate, and problematic; Boer et al., 2022a; Lu, 2026; Zarco-Alpuente et al., 2025), this structure had not been specifically examined in Spanish adolescent populations. Within this framework, and additionally considering that meta-analytic evidence

has documented consistent associations between PSMU and internalising symptoms (Du et al., 2024; Yigiter et al., 2024), as well as negative relationships with personal resources (Huang, 2022; Jing et al., 2025) and indicators of academic adjustment (Giunchiglia et al., 2018; Liu et al., 2017; Paterna et al., 2024), the present study aims to (i) identify latent profiles of social media use in a sample of Spanish adolescents through LCA and (ii) examine the external associations of these profiles by analysing their differences in a set of indicators previously linked to PSMU, including risk factors (anxiety and depression), protective factors (self-esteem, resilience, and emotional self-efficacy), and indicators of academic adjustment (academic performance, academic burnout, academic engagement, and academic self-concept). Supplementary materials and other resources are available on the Open Science Framework (OSF): https://osf.io/f7yd5, and in Annex 5.

3.2. Method

3.2.1. Participants

The sample consisted of a total of 902 participants, aged between 11 and 19 years (*M* = 13.99; *SD* = 2.05). The sample was obtained through collaboration with 10 educational centres in the municipality of Oliva, Valencia, and the reference population was adolescents enrolled in schools in that municipality. Data collection was planned with the aim of obtaining broad coverage of the centres and educational stages present in the locality, including students from primary education, compulsory secondary education (ESO), upper secondary education, and vocational education and training. However, no population weights were applied and it was not possible to calculate a precise response rate, as the exact number of eligible or invited students in each centre and classroom was not available. Therefore, this was a school-based, multicentre, non-probabilistic sample. With regard to gender, the distribution was balanced between boys and girls, with a slightly higher proportion of girls (n = 474; 52.55%). Regarding educational level, the sample included students from the main stages of the educational system[1]: primary education (Year 7; n = 128; 14.21%), compulsory secondary education (Years 8 to 11; n = 596; 66.15%), post-compulsory upper secondary education (Years 12 and 13; n = 133; 14.75%), and vocational education and training, both intermediate level (n = 25; 2.77%) and higher level (n = 19; 2.11%). A more detailed table with sociodemographic data can be found in Annex 5, Supplementary Material 2.

[1] In the English translation, the Spanish educational stages were retained, but the school years were expressed using the British year-group system.

3.2.2. Procedure

The study was conducted within the framework of a broader project funded through a service contract between the Ajuntament d'Oliva and the Universitat de València, aimed at analysing the socioeducational needs of the adolescent population. Several educational centres from Oliva (Valencia) participated in this project. Data collection planning was carried out with the participating centres, and questionnaire administration was supervised by the research team and jointly coordinated with the designated staff at each centre. The inclusion criteria were: a) being between 11 and 19 years old, b) being enrolled in one of the participating schools, and c) having informed consent from families and from the students themselves where appropriate. The study was authorised by the local city council within the project OTR2023-23767INVES (City Council Decree 2023-0840). Data collection was carried out following the ethical principles applicable to research with minors in educational contexts, including voluntary participation, informed consent, confidentiality, and anonymised data processing. Data collection took place between November and December 2023.

3.2.3. Instruments

The instruments used to assess the variables measured in the study are described below.

Sociodemographic Data. Participants were asked to indicate their gender, age, and educational level.

***Problematic Social Media Use*.** Problematic social media use was assessed using the Spanish version of the Social Media Disorder Scale (SMD-S; Boer et al., 2022b; Van den Eijnden et al., 2016). The SMD-S is composed of 9 dichotomous items assessing symptoms such as salience, tolerance, withdrawal, conflict, or displacement of activities, providing a total score ranging from 0 to 9, where higher scores indicate greater severity of problematic use. In the Spanish validation, the instrument showed adequate levels of internal consistency (α = .81). In the present study, internal consistency was good (α = .83; ω = .86).

***Anxiety Symptoms*.** Anxiety symptoms were assessed using the Spanish version of the Generalized Anxiety Disorder-7 (GAD-7; García-Campayo et al., 2010; Spitzer et al., 2006). The GAD-7 is composed of 7 items with a 4-point response scale. The total score ranges from 0 to 21, where higher scores indicate greater severity of anxiety symptomatology. In the Spanish validation, the instrument showed an internal consistency of α = .83. In the present study, internal consistency was excellent (α = .91; ω = .92).

Depressive Symptoms. Depressive symptoms were assessed using the Spanish version of the Patient Health Questionnaire-9 (PHQ-9; Fonseca-Pedrero et al., 2023; Spitzer et al., 1999). The PHQ-9 is composed of 9 items with a 4-point response scale. The total score ranges from 0 to 27, where higher scores indicate greater severity of depressive symptomatology. In the Spanish validation, the instrument showed an internal consistency of ω = .87. In the present study, internal consistency was good (α = .86; ω = .88).

Self-esteem. Self-esteem was assessed using the Spanish version of the Rosenberg Self-Esteem Scale for adolescents (Atienza et al., 2000; Rosenberg, 1965). The scale is composed of 10 items with a 4-point response scale. The scale can be analysed unidimensionally or by distinguishing two subscales: positive self-esteem and negative self-esteem. In the Spanish validation, the instrument showed an internal consistency of α = .80. In the present study, internal consistency was excellent for the positive self-esteem subscale (α = .89; ω = .92) and good for the negative self-esteem subscale (α = .84; ω = .88).

Resilience. Resilience was assessed using the Spanish version of the Resilience Appraisals Scale (RAS; Johnson et al., 2010; Malonda-Vidal et al., 2021). The RAS is composed of 12 items with a 5-point response scale. The instrument provides a total score and is organised into three subscales: social support, emotional coping, and situational coping. In the original validation, the instrument showed adequate levels of internal consistency for the total scale and its subscales. In the present study, internal consistency was excellent for the total score (α = .92; ω = .96), social support (α = .89; ω = .92), emotional coping (α = .93; ω = .94), and situational coping (α = .91; ω = .92).

Emotional Self-efficacy. Emotional self-efficacy was assessed using the Spanish version of the Regulatory Emotional Self-Efficacy Scale (RESE; Caprara et al., 2008; Doménech et al., 2024). The RESE is composed of 12 items with a 5-point response scale. The instrument is organised into three subscales: self-efficacy in positive emotions, self-efficacy in managing despondency, and self-efficacy in managing anger. In the validation with adolescents, the instrument showed adequate internal consistency indices for its three dimensions. In the present study, internal consistency was good for positive emotions (α = .85; ω = .86) and despondency (α = .77; ω = .82), and acceptable for anger (α = .75; ω = .78).

Academic Performance. Academic performance was assessed through a self-reported grade point average measure. Participants were asked to indicate their average grade across different subjects during the previous academic year and during the first term of the current academic year. This strategy is frequently used in educational research when official records

cannot be accessed or when preserving participant anonymity is desired. Meta-analytic evidence has shown high agreement between self-reported and actual grades, both in university and secondary education samples (Kuncel et al., 2005).

Academic Burnout. Academic burnout was assessed using the School Burnout Inventory (SBI; García-Ros et al., 2026, in press; Moyano & Riaño-Hernández, 2013). The SBI is composed of 9 items with a 6-point response scale. The instrument assesses emotional exhaustion, cynicism towards studying, and feelings of academic inadequacy, and provides a global score of academic burnout, which was used in this study. In the Spanish validation with adolescents, the instrument showed adequate levels of internal consistency (α = .79). In the present study, internal consistency was good (α = .85; ω = .89).

***Academic Engagement*.** Academic engagement was assessed using the ultra-short version of the Utrecht Work Engagement Scale for students (UWES-3-SF; Peñalver et al., 2026; Schaufeli et al., 2002). The scale is composed of 3 items with a 5-point response scale. The items assess energy, dedication, and absorption in academic activities. In the Spanish version, the scale has shown acceptable internal consistency (α = .69). In the present study, internal consistency was low (α = .56; ω = .60). Given that these values are below the thresholds considered adequate, the results relating to this variable should be interpreted with caution.

***Academic Self-concept*.** Academic self-concept was assessed using the General Academic Self-Concept subscale of the Self-Description Questionnaire II-Short Form (SDQ-II-S; Marsh et al., 2005; Pérez-Sánchez et al., 2024). The subscale is composed of 4 items with a 6-point response scale. The items assess the general perception of competence in the academic domain. In previous studies with adolescents, the instrument has shown adequate levels of internal consistency (α = .79). In the present study, internal consistency was excellent (α = .88; ω = .90).

3.2.4. Analysis

First, the internal consistency of the scales was assessed using McDonald's omega coefficient and Cronbach's alpha (McNeish, 2018). Given that the questionnaire response scales were categorical in nature (ordinal or dichotomous), polychoric or tetrachoric matrices were used to calculate these reliability indices (Bonanomi et al., 2013; Chakraborty & Chechi, 2020).

Next, a latent class analysis was conducted with the aim of identifying response profiles for the SMD-S criteria. LCA is a person-centred strategy that makes it possible to identify latent subgroups on the basis of response patterns in categorical indicators (Collins & Lanza, 2010;

Weller et al., 2020). In this study, the nine dichotomous SMD-S items were used as indicators. Before estimating the models, the availability of valid responses on these items was reviewed and 30 participants with blank responses on at least one of the indicators were identified, representing a small proportion of the initial sample (3.33%; Schafer, 1999). These cases were excluded from the analyses. Thus, the analytical sample for the latent class model consisted of 872 participants with valid responses on the nine indicators.

Different models with between two and six latent classes were estimated and compared. The selection of the final solution was based on a joint evaluation of statistical and substantive criteria, including the Akaike Information Criterion (AIC), the Consistent Akaike Information Criterion (CAIC), the Sample-Size Adjusted Bayesian Information Criterion (SABIC), the Bayesian Information Criterion (BIC), solution stability, replication of the best log likelihood value, entropy, relative class size, average posterior classification probabilities, and profile interpretability. In line with recommendations for applying LCA, the final solution was selected by attending to the balance between these criteria and to the substantive coherence and conceptual interpretability of the profiles identified (Collins & Lanza, 2010; Weller et al., 2020). To reduce the risk of convergence on local maxima, each model was estimated using 1,000 random starts. Detailed analyses of stability, classification quality, and other complementary checks are presented in Annex 5, Supplementary Material 3.

Once the latent class model had been selected, the conditional response probabilities for each SMD-S item were examined by class. Next, χ^2 tests were conducted to assess the association between class membership and the response to each SMD-S criterion, as well as between class membership and the sociodemographic variables analysed: gender and educational stage. For this latter analysis, educational levels were grouped into four categories: Year 7, first cycle of Compulsory Secondary Education, second cycle of Compulsory Secondary Education, and post-compulsory education. The magnitude of the associations was estimated using Cramer's *V*, interpreted according to the following thresholds: .05 weak, .10 moderate, .15 strong, and .25 very strong (Akoglu, 2018). Adjusted standardised residuals were examined to identify which categories contributed most to the observed associations.

As complementary analyses, three-class models with age and educational stage as concomitant covariates were estimated to assess whether these variables provided additional information about the probability of class membership. These models were compared with the unconditional models estimated in the same subsamples and are presented in the Annex 5, Supplementary Material 3.

Subsequently, one-way analyses of variance (ANOVA) were conducted to examine differences between the latent classes identified in the psychological and academic indicator variables previously linked to PSMU. For these analyses, participants were assigned to the class with the highest posterior probability of membership. Because this strategy does not fully incorporate the classification uncertainty inherent in LCA, the external comparisons were interpreted as exploratory auxiliary analyses (Collins & Lanza, 2010; Weller et al., 2020). Fisher's F statistic was used when the assumption of homogeneity of variances was met, and Welch's F statistic when this assumption was not met. Post hoc comparisons were conducted using Tukey or Games-Howell tests, according to the result of Levene's test. Cohen's d with 95% confidence intervals was estimated for pairwise comparisons, whereas the overall effect size of the ANOVAs was estimated using omega squared (ω^2).

Finally, as a sensitivity check, means weighted by the posterior probabilities of class membership were calculated to assess whether the descriptive pattern of the external variables was maintained when classification uncertainty was partially incorporated. This analysis was interpreted as descriptive support and is presented in Annex 5, Supplementary Material 3.

All statistical analyses were carried out using R software (version 4.2.2).

3.3. Results

The results of the different latent class models evaluated in this study are presented in Table 2, which includes models with between two and six classes.

Table 2

Summary of the Latent Class Models Evaluated

Classes	Parameters	Log likelihood	AIC	CAIC	SABIC	BIC	Entropy	*df*	Smallest class, *n* (%)
2	19	−3598	7234	7343	7264	7324	.70	492	297 (34.06%)
3	29	−3570	7198	7365	7244	7336	.71	482	57 (6.54%)
4	39	−3551	7180	7405	7244	7366	.60	472	74 (8.49%)
5	49	−3537	7173	7455	7251	7406	.63	462	69 (7.91%)
6	59	−3527	7171	7512	7264	7453	.68	452	13 (1.49%)

Note. Classes = number of latent classes estimated; Parameters = number of free parameters in the model; Log likelihood = model log likelihood; AIC = Akaike Information Criterion; CAIC = Consistent Akaike Information Criterion; SABIC = Sample-Size Adjusted Bayesian Information Criterion; BIC = Bayesian Information Criterion; Entropy = classification accuracy index; df = degrees of freedom.

The fit indices did not converge on a single solution. BIC and CAIC reached their lowest values in the two-class solution (BIC = 7324; CAIC = 7343), whereas AIC decreased progressively until the six-class solution (AIC = 7171). For its part, SABIC presented its lowest value in the three- and four-class solutions (SABIC = 7244). Entropy showed a slight improvement from two to three classes (.70 to .71), but did not improve consistently in solutions with a higher number of classes.

Given that the fit indices offered several plausible solutions, model stability was examined through replication of the best log likelihood value across 1,000 random starts. The two-class solution showed the greatest stability, whereas the three-class solution also showed high stability, with replication of the best log likelihood in 995 of the 1000 starts. From the four-class solution onwards, stability decreased progressively, especially in the five- and six-class solutions.

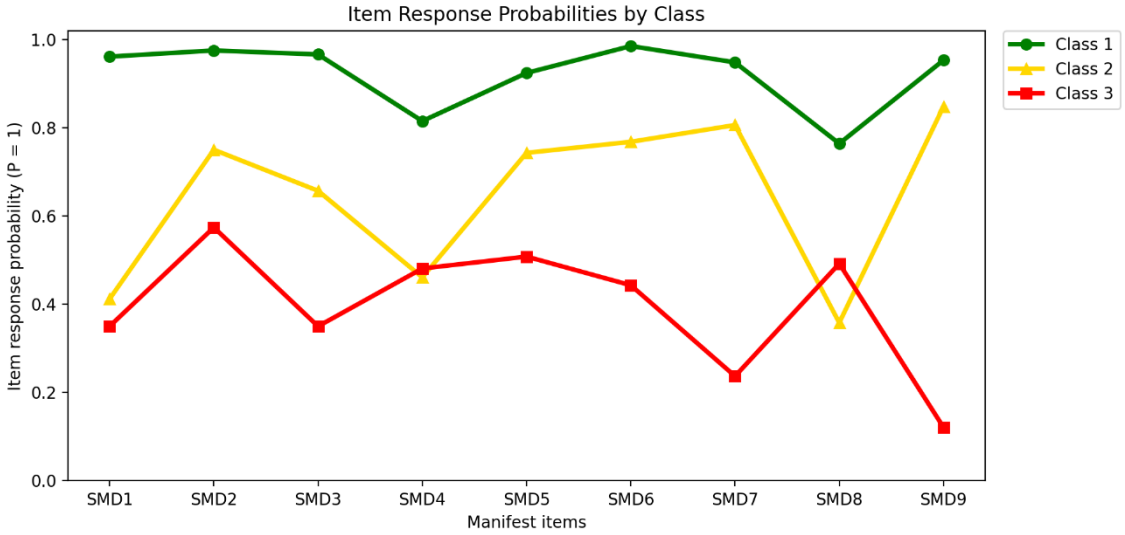
Taken together, these results indicated that several solutions could be considered statistically plausible. The two-class solution was supported by the more conservative criteria and showed the greatest stability. Solutions with four or more classes presented some partial improvements in the fit indices, especially in AIC, and, in the case of the four-class solution, an SABIC equivalent to that of the three-class solution. However, these solutions showed lower entropy, lower stability, and, in the five- and six-class models, a tendency to generate small or less robust classes, especially in the six-class solution, whose smallest class included only 13 participants (1.49%). The three-class solution presented an SABIC as favourable as that of the four-class solution, together with higher entropy, greater stability, and a substantively interpretable structure, as it allowed differentiation between a functional profile, an at-risk profile, and a problematic profile, in line with previous literature on PSMU in adolescents and young people (Cerniglia et al., 2019; Lu, 2026; Moreno et al., 2023; Oh et al., 2021; Pi et al., 2024; Zarco-Alpuente et al., 2025). In addition, the three-class solution showed reasonable classification quality, with average posterior probabilities of membership in the assigned class above .83 in the three profiles. In turn, the size of the problematic profile (6.54% of the analytical sample) was coherent with recent epidemiological estimates in Spanish adolescent populations based on the SMD (Márquez et al., 2025), which reinforced the interpretability of the solution. Therefore, the three-class solution was retained because it offered the best balance between fit, parsimony, stability, classification quality, class size, and substantive interpretability. Consequently, this solution was selected for the subsequent analyses.

Next, the conditional response probabilities for the nine SMD-S criteria were examined according to latent class. Table 3 presents the probability of responding “No” to each criterion

for each class, whereas Figure 6 provides a graphical representation that facilitates the visualisation of these differences. All items showed statistically significant differences between classes ($p < .001$), with moderate to very high effect sizes according to Cramer's V ($V = .344$-$.677$), evidencing clear differentiation between the profiles on the indicators used for their identification.

Figure 6

Probability of Scoring Negatively on Each Criterion for Each Latent Class



Note. Latent class 1 = Functional users; latent class 2 = At-risk users; latent class 3 = Problematic users. SMD1 = Salience/Preoccupation; SMD2 = Tolerance; SMD3 = Withdrawal; SMD4 = Persistence; SMD5 = Escape; SMD6 = Problem; SMD7 = Deception; SMD8 = Displacement; SMD9 = Conflict.

Table 3

Probability of Scoring Negatively on Each Item According to Class

	Latent classes				
Item	1	2	3	*p*	Cramer's *V*
During the past year,					
Have you often found yourself unable to think about anything else but the moment that you would be able to use social media again? (SMD1)	.961	.412	.350	< .001	.677
Have you felt dissatisfied because you wanted to spend more time on social media? (SMD2)	.975	.750	.574	< .001	.431
Have you felt bad when you could not use social media? (SMD3)	.966	.657	.350	< .001	.543
Have you tried to spend less time on social media, but failed? (SMD4)	.815	.461	.481	< .001	.384
Have you often used social media to escape from negative feelings? (SMD5)	.924	.743	.508	< .001	.344
Have you often argued with other people because of your social media use? (SMD6)	.985	.768	.443	< .001	.510
Have you regularly lied to your parents or friends about the amount of time you spend on social media? (SMD7)	.948	.806	.237	< .001	.537
Have you often neglected other activities, for example hobbies or sport, because you wanted to use social media? (SMD8)	.764	.358	.492	< .001	.407
Have you had serious conflicts with your father, mother, brothers, or sisters because of the way you use social media? (SMD9)	.953	.848	.121	< .001	.659

Note. The table shows the probability of responding 1 (No) to each criterion for each latent class. The *p* column corresponds to the significance value of the χ^2 test used to assess the association between latent class and the response to each item. Latent class 1 = Functional users; latent class 2 = At-risk users; latent class 3 = Problematic users.

Taken together, the results made it possible to distinguish three social media use profiles, interpreted as functional, at-risk, and problematic. These profiles differed both in the probability of presenting PSMU criteria and in the nature of the indicators most characteristic of each class.

The first latent class comprised 523 adolescents (59.98%) and was interpreted as a functional profile of social media use. This profile was characterised by a very high probability of denying practically all SMD-S criteria (*M* = 0.68, range = 0–9). This tendency was especially marked for criteria related to salience of use (SMD1; *P*(No) = .961; Cramer's *V* = .677), distress when social media cannot be used (SMD3; *P*(No) = .966; Cramer's *V* = .543), interpersonal conflict (SMD6; *P*(No) = .985; Cramer's *V* = .510), and serious conflicts with family (SMD9; *P*(No) = .953; Cramer's *V* = .659).

The second latent class comprised 292 adolescents (33.49%) and was interpreted as an at-risk profile (*M* = 3.45, range = 0–9). This profile showed a lower probability of denying criteria linked to the centrality of use and difficulties in self-regulation. In particular, there was a lower probability of responding "No" to salience of use (SMD1; *P*(No) = .412; Cramer's *V* = .677), unsuccessful attempts to reduce time of use (SMD4; *P*(No) = .461; Cramer's *V* = .384), and neglect of other activities because of social media use (SMD8; *P*(No) = .358; Cramer's *V* = .407).

The third latent class comprised 57 adolescents (6.54%) and was interpreted as a problematic profile (*M* = 5.74, range = 0–9). This group showed a lower probability of denying most SMD-S criteria, especially those linked to interpersonal interference and concealment of use. In particular, serious conflicts with family (SMD9; *P*(No) = .121; Cramer's *V* = .659) and lying to parents or friends about time spent using social media (SMD7; *P*(No) = .237; Cramer's *V* = .537) stood out. A lower probability of denying other relevant indicators was also observed, such as using social media to escape from negative emotions (SMD5; *P*(No) = .508; Cramer's *V* = .344) and neglect of other activities because of social media use (SMD8; *P*(No) = .492; Cramer's *V* = .407).

Subsequently, the association between profile membership and sociodemographic variables was examined. No significant association was observed between latent class and gender, $\chi^2(4) = 7.03$, $p = .134$, $V = .063$. In contrast, a significant association was observed between latent class and educational stage, $\chi^2(6) = 17.83$, $p = .007$, $V = .101$. The functional profile was more frequent in Year 6 of Primary Education (69.05%) and in the second cycle of Compulsory Secondary Education (61.36%) than in post-compulsory education (52.66%), whereas the problematic profile showed a higher relative presence in post-compulsory

education (11.83%) than in Year 7 (1.59%). Adjusted standardised residuals showed that this association was mainly driven by the overrepresentation of the functional profile in Year 7 (2.23), the overrepresentation of the problematic profile in post-compulsory education (3.10), the underrepresentation of the problematic profile in Year 7 (-2.43), and the underrepresentation of the functional profile in post-compulsory education (-2.18). The at-risk profile showed no relevant deviations from expected frequencies. Table 4 presents the frequencies, percentages, and significance tests by gender and educational stage.

Table 4

Characterisation of Each Latent Class

	Latent classes								
	1		2		3				
	n = 523	%	*n* = 292	%	*n* = 57	%	χ^2	*p*	Cramer's *V*
							7.03	.134	.063
Gender									
Boy	251	64.03%	116	29.59%	25	6.38%			
Girl	264	57.27%	167	36.23%	30	6.51%			
Other	8	42.11%	9	47.37%	2	10.53%			
							17.83	.007	.101
Educational level									
Year 7	87	69.05%	37	29.37%	2	1.59%			
First cycle of compulsory secondary education	139	58.65%	80	33.76%	18	7.59%			
Second cycle of compulsory secondary education	208	61.36%	114	33.63%	17	5.01%			
Post-compulsory education	89	52.66%	60	35.50%	20	11.83%			

Note. Percentages were calculated within each sociodemographic category. The first cycle of Compulsory Secondary Education includes Years 8 and 9, the second cycle of Compulsory Secondary Education comprises Years 10 and 11, and post-compulsory education includes upper secondary education (Years 12 and 13) and Vocational Education and Training. Latent class 1 = Functional users; latent class 2 = At-risk users; latent class 3 = Problematic users.

The complementary models with age and educational stage as concomitant covariates are presented on OSF. Overall, these analyses suggested some variation in the probability of class membership according to age or educational stage, but did not provide sufficient evidence to replace the unconditional three-class solution.

Table 5 presents a summary of the one-way ANOVAs conducted to examine differences between latent classes in anxiety and depressive symptoms, self-esteem, emotional self-efficacy, resilience, perceived grade average, academic burnout, academic engagement, and academic self-concept.

Table 5

One-Way ANOVA for Psychological and Academic Variables, with Latent Class as the Independent Variable

	1		2		3				
	n = 523	59.98%	*n* = 292	33.49%	*n* = 57	6.54%			
	M	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*	ω^2
GAD-7	4.88	4.75	7.90	5.13	8.44	4.83	42.81	< .001	.088
PHQ-9	6.00	5.40	9.38	5.87	10.25	6.64	38.93	< .001	.085
Positive RSE	3.29	0.57	2.97	0.62	2.82	0.55	37.13	< .001	.077
Negative RSE	1.98	0.70	2.39	0.68	2.63	0.55	48.02	< .001	.097
RESE: positive emotions	16.33	3.07	15.52	2.90	14.51	3.60	13.34	< .001	.028
RESE: despondency	12.87	3.61	11.37	3.53	11.09	3.47	19.71	< .001	.041
RESE: anger	12.08	3.71	10.55	3.76	10.14	3.35	19.81	< .001	.041
RAS: social support	16.53	3.40	15.57	3.65	13.89	3.93	18.19	< .001	.038

	1		2		3				
	n = 523	59.98%	*n* = 292	33.49%	*n* = 57	6.54%			
	M	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*	ω^2
RAS: emotion coping	13.90	4.03	12.01	4.11	11.23	3.37	27.26	< .001	.057
RAS: situation coping	15.35	3.09	13.85	3.34	13.28	3.48	26.71	< .001	.056
Previous academic year grade average	7.60	1.63	7.20	1.57	7.09	1.41	7.31	< .001	.014
Current academic year grade average (first term)	8.29	1.35	7.75	1.42	7.77	1.54	15.38	< .001	.032
SBI	23.99	8.68	30.07	8.51	30.54	9.07	52.98	< .001	.107
UWES	3.07	0.78	2.76	0.78	2.73	0.70	16.82	< .001	.035
SDQ	14.07	3.37	12.38	3.61	12.95	3.40	23.13	< .001	.048

Note. GAD-7 = Generalized Anxiety Disorder-7 (anxiety symptoms); PHQ-9 = Patient Health Questionnaire-9 (depressive symptoms); RSE = Rosenberg Self-Esteem Scale; RAS = Resilience Appraisals Scale (resilience); RESE = Regulatory Emotional Self-Efficacy Scale (emotional self-efficacy); Previous grade average and current grade average = perceived academic performance; SBI = School Burnout Inventory (academic burnout); UWES = Utrecht Work Engagement Scale (academic engagement); SDQ = Self-Description Questionnaire (academic self-concept). Latent class 1 = Functional users; latent class 2 = At-risk users; latent class 3 = Problematic users.

Table 6 shows the post hoc tests conducted to compare latent classes pairwise in those variables for which the F statistic was significant in the ANOVAs. With regard to anxiety and depressive symptoms, the post hoc analyses indicated that functional users presented significantly lower levels of anxiety and depression than at-risk and problematic users, with moderate effect sizes. No differences were observed between these latter two profiles.

A similar pattern was observed for personal resources (self-esteem, emotional self-efficacy, and resilience). Overall, functional users showed more favourable levels in these dimensions compared with at-risk and problematic users. In most cases, no significant differences were found between these latter two profiles, with the exception of social support within resilience, where problematic users presented significantly lower levels than at-risk users.

Regarding academic adjustment, functional users showed a more favourable pattern than the at-risk and problematic profiles. First, in academic grades, functional users showed higher scores than the at-risk and problematic profiles in the current academic year grade average; in the previous academic year grade average, the difference was significant relative to the at-risk profile, but not relative to the problematic profile. In addition, they presented lower levels of academic burnout, higher academic engagement, and higher academic self-concept. Again, no significant differences were observed between the at-risk and problematic profiles.

The sensitivity check based on means weighted by posterior probabilities of class membership showed a descriptive pattern equivalent to that obtained through modal assignment and is presented in Annex 5, Supplementary Material 3.

Table 6

Post Hoc Tests for Psychological and Educational Variables with Latent Class as the Independent Variable

	Pairwise comparisons								
	1 vs. 2			1 vs. 3			2 vs. 3		
	t	*p*	*d* [95% CI]	*t*	*p*	*d* [95% CI]	*t*	*p*	*d* [95% CI]
GAD-7	8.48	< .001	-0.62 [-0.76, -0.47]	5.23	< .001	-0.74 [-1.02, -0.47]	0.76	.731	-0.11 [-0.39, 0.18]
PHQ-9	8.20	< .001	-0.60 [-0.75, -0.46]	5.39	< .001	-0.76 [-1.04, -0.49]	1.05	.543	-0.14 [-0.43, 0.14]
Positive RSE	7.48	< .001	0.54 [0.40, 0.69]	5.75	< .001	0.81 [0.53, 1.09]	1.77	.092	0.30 [0.01, 0.58]
Negative RSE	-8.20	< .001	-0.59 [-0.74, -0.45]	-6.81	< .001	-0.95 [-1.23, -0.67]	-2.42	.163	-0.26 [-0.54, 0.03]
RESE: positive emotions	-3.65	< .001	0.25 [0.11, 0.39]	-4.28	< .001	0.56 [0.29, 0.83]	-2.28	.059	0.33 [0.05, 0.62]
RESE: despondency	-5.74	< .001	0.40 [0.26, 0.54]	-3.58	.001	0.48 [0.20, 0.75]	-0.55	.846	0.08 [-0.20, 0.37]
RESE: anger	-5.67	< .001	0.40 [0.25, 0.54]	-3.76	< .001	0.51 [0.24, 0.79]	-0.76	.728	0.11 [-0.17, 0.39]
RAS: social support	-3.73	< .001	0.27 [0.13, 0.42]	-5.36	< .001	0.76 [0.49, 1.04]	-3.28	.003	0.45 [0.17, 0.74]

	Pairwise comparisons								
	1 vs. 2			1 vs. 3			2 vs. 3		
	t	*p*	*d* [95% CI]	*t*	*p*	*d* [95% CI]	*t*	*p*	*d* [95% CI]
RAS: emotion coping	-6.44	< .001	0.46 [0.32, 0.61]	-4.76	< .001	0.67 [0.39, 0.95]	-1.34	.374	0.20 [-0.09, 0.48]
RAS: situation coping	-6.42	< .001	0.46 [0.32, 0.61]	-4.64	< .001	0.65 [0.38, 0.93]	-1.23	.434	0.17 [-0.11, 0.45]
Previous grade average	-3.44	.002	0.23 [0.09, 0.37]	-2.28	.059	0.30 [0.02, 0.57]	-0.46	.888	0.07 [-0.21, 0.35]
Current grade average	-4.88	< .001	0.33 [0.19, 0.47]	-2.82	.014	0.37 [0.09, 0.64]	-0.25	.995	0.04 [-0.25, 0.32]
SBI	-9.61	< .001	-0.70 [-0.85, -0.55]	-5.43	< .001	-0.76 [-1.03, -0.48]	-0.39	.923	-0.06 [-0.34, 0.23]
UWES	4.56	< .001	0.38 [0.23, 0.52]	2.88	.004	0.43 [0.16, 0.70]	-0.46	.934	0.05 [-0.23, 0.34]
SDQ	6.58	< .001	0.49 [0.34, 0.63]	-2.37	.041	0.33 [0.06, 0.61]	-1.15	.254	-0.16 [-0.44, 0.12]

Note. GAD-7 = Generalized Anxiety Disorder-7 (anxiety symptoms); PHQ-9 = Patient Health Questionnaire-9 (depressive symptoms); RSE = Rosenberg Self-Esteem Scale; RAS = Resilience Appraisals Scale (resilience); RESE = Regulatory Emotional Self-Efficacy Scale (emotional self-efficacy); Previous grade average and current grade average = perceived academic performance; SBI = School Burnout Inventory (academic burnout); UWES = Utrecht Work Engagement Scale (academic engagement); SDQ = Self-Description Questionnaire (academic self-concept). Latent class 1 = Functional users; latent class 2 = At-risk users; latent class 3 = Problematic users.

3.4. Discussion

The present study had two aims: (a) to identify latent profiles of PSMU in a sample of Spanish adolescents on the basis of the criteria of the Social Media Disorder Scale and (b) to examine the external associations of these profiles through their relationship with psychological and academic indicators previously linked in the literature to PSMU. The results support the selection of a three-profile solution, differentiated according to the probability of presenting PSMU criteria, with a functional profile (59.98%) and two profiles with a greater presence of dysregulation indicators (at-risk: 33.49%; problematic: 6.54%). Beyond the severity gradient, the item-by-item comparison suggests that the difference between the at-risk and problematic profiles is concentrated especially in criteria linked to interpersonal interference and signs of functional impairment, such as conflict and concealment of use. However, when external variables were analysed, the pattern was consistent: most of the differences occurred between the functional profile and the other two, whereas distinctions between at-risk and problematic tended to be more limited.

In relation to the first aim, the three-profile solution was considered the most informative from a conceptual point of view. Although some fit indices favoured a more parsimonious two-class solution, the three-profile structure converges with previous evidence that relatively consistently describes a functional profile, an intermediate or at-risk profile, and a problematic profile in adolescent samples (e.g., Boer et al., 2022a; Cerniglia et al., 2019; Lu, 2026; Moreno et al., 2023; Oh et al., 2021; Pi et al., 2024), as well as with the findings recently obtained in Spanish adult populations, where an equivalent three-profile structure was also identified (Zarco-Alpuente et al., 2025), which supports the substantive coherence and descriptive usefulness of this solution in the Spanish context.

The profiles identified describe a gradient of increasing severity in the probability of presenting PSMU criteria; however, their interpretation cannot be reduced to a merely quantitative difference in the number of symptoms. In order to distinguish them precisely, it is especially informative to attend to the pattern of item-by-item conditional probabilities, as this makes it possible to identify which criteria are concentrated in each profile (Zarco-Alpuente et al., 2025). In addition, the effect sizes (Cramer's *V*) suggest that the differentiation between classes is especially marked in a subset of criteria, which reinforces the usefulness of interpreting the profiles by attending to which symptoms discriminate more, and not only to how many. In the present study, functional users are characterised by a low probability of endorsing most

PSMU criteria, which is compatible with a use of social media integrated into everyday life and without clear signs of interference. At an interpretive level, this functional profile may include both adolescents with limited use and adolescents with frequent use who nevertheless maintain sufficient balance for interference or relevant negative consequences not to appear; therefore, the low presence of criteria mainly reflects the absence of reported impairment, not necessarily low involvement in social media (Boer et al., 2022a; Vanden Abeele, 2021).

Additionally, an association was observed between profile membership and educational stage. The functional profile was more frequent in Primary Education, whereas the problematic profile showed a greater relative presence in later educational stages. The complementary models with age and educational stage as covariates pointed in a similar direction, although they showed lower stability than the unconditional solution. Therefore, these results suggest differences in the relative distribution of profiles by educational stage, but do not allow us to conclude that there is a distinct latent structure across stages. This pattern is coherent with recent data in Spanish populations, where the prevalence of problematic social media use assessed through the SMD is also lower in Primary Education and higher in Compulsory Secondary Education and upper secondary education (Márquez et al., 2025). However, previous evidence does not describe a single developmental pattern. In a representative Italian sample of adolescents aged 11, 13, and 15 years, Marino et al. (2020) found that the prevalence of PSMU was higher at age 13 than at ages 11 and 15, suggesting a non-linear age pattern. Complementarily, longitudinal studies have shown that PSMU may follow different trajectories over time and that frequency of use does not necessarily evolve in parallel with problematicity of use (Boer et al., 2022a).

For their part, at-risk users are characterised by an increase in criteria reflecting greater centrality of use and difficulties regulating use. Specifically, in this profile the probability increases of reporting preoccupation with when social media can be used again, unsuccessful attempts to reduce time of use, and neglect of other activities because of social media use. This pattern suggests a more intensive style of use, in the sense that use begins to compete with other everyday behaviours and goals and indications of partial loss of control appear. Taken together, this profile seems to occupy an intermediate position between functional and problematic use, with the presence of core symptoms of use dysregulation, although without the more serious functional consequences that characterise the problematic profile appearing equally markedly (Ciudad-Fernández et al., 2025; Fournier et al., 2023). At this point, it is worth avoiding interpreting this intermediate profile only as a transitional stage towards problematic

use. Recent studies suggest that it may group together a broad and heterogeneous set of adolescents who present some core symptoms, such as difficulty stopping social media use or resorting to it to regulate emotions, but without necessarily all of them evolving towards more severe forms (Lu, 2026). From this perspective, the at-risk profile could represent a differentiated pattern within the continuum of dysregulation, whose practical importance will depend on whether or not these symptoms are associated with higher levels of psychological distress and adjustment difficulties in other domains.

Finally, the problematic profile is characterised by a high probability of presenting criteria on most PSMU items, with a mean score close to the cut-off point used in the literature to identify problematic use (≥ 6 criteria) (Boer et al., 2022b). However, its distinctive feature is not only the quantitative increase in symptoms, but the greater presence of indicators linked to interpersonal conflict and concealment of use. Therefore, this group presents a pattern of problematic social media use that is more visible to the surrounding environment, because it includes arguments, tensions, and concealment behaviours. In line with the effect sizes observed, these types of criteria tend to contribute in a particularly discriminative way to the separation between the at-risk and problematic profiles, supporting their role as markers of greater functional interference. By directly capturing the interference of use in everyday and relational functioning, these criteria make it possible to delimit the most severe end from intensive use without manifest impairment (Boer et al., 2022a; Fournier et al., 2023; Van den Eijnden et al., 2016), in coherence with previous findings in Spanish adult populations, where items linked to interpersonal conflict and negative consequences also emerged as the most discriminative for identifying the problematic profile (Zarco-Alpuente et al., 2025).

In relation to the second aim, oriented towards examining the external associations of the profiles identified, the results showed that the main difference is established between the functional class and the other two, whereas the at-risk and problematic profiles present very similar values in most of the variables considered. This pattern was descriptively maintained in the sensitivity analysis based on means weighted by posterior probabilities, although this procedure does not eliminate the classification uncertainty inherent in LCA. Conceptually, these results suggest that a broad proportion of adolescents located at an intermediate level of symptomatology (33.49%) may concentrate a vulnerability profile comparable to that of the group with the highest severity in external indicators. This interpretation converges with recent typologies in which the moderate class represents a large group whose clinical meaning cannot be assumed to be benign by default (Lu, 2026).

With respect to internalising symptoms, our results show a clear pattern: adolescents with a functional use of social media present significantly lower levels of anxiety and depression than the at-risk and problematic profiles. This trend is coherent with the accumulated evidence, which has consistently documented significant associations between PSMU and higher levels of depression and anxiety in adolescents and young people (Du et al., 2024; Shannon et al., 2022; Yigiter et al., 2024). However, in our study no differences were observed between the at-risk and problematic profiles, which suggests that emotional distress is also present in the intermediate profile of dysregulation and does not constitute an exclusive feature of the most severe profile. This result is similar to that observed by Paakkari et al. (2021), where adolescents classified as "moderate risk users" presented levels of negative affect and psychosomatic symptoms very close to those of the problematic group, leading the authors to highlight this intermediate profile as a group of significant vulnerability and not simply a transitional or harmless one in emotional terms. Taken together, these findings are compatible with at least two complementary interpretations: on the one hand, that the at-risk profile groups together adolescents with emotional vulnerability comparable to that of the problematic profile; on the other, that the differentiation between at-risk and problematic is expressed mainly at the relational and functional level (e.g., conflict, interference, or concealment) rather than in the intensity of intrapersonal distress, which would explain their similarity in anxiety and depression despite differing in PSMU criteria.

In relation to psychological resources, our results replicate the pattern observed for internalising symptoms: adolescents with a functional use of social media present higher levels of self-esteem, emotional self-efficacy, and resilience, whereas the at-risk and problematic profiles show lower scores and do not differ from one another. Again, the main difference is located between the functional profile and the other two, which suggests that the vulnerability associated with PSMU implies greater distress and also lower availability of intrapersonal resources for emotional regulation and coping with stress. This interpretation is coherent with evidence pointing to the protective role of these resources. Emotional self-efficacy, for example, has been shown to moderate the relationship between social media use and emotional adjustment in adolescence, such that low levels are associated with greater symptomatology when use is high (Calandri et al., 2021). Similarly, resilience is negatively related to problematic use, acting as a buffer against stress and reducing the likelihood of dysregulated use (Hou et al., 2017). Likewise, lower levels of psychological well-being and self-esteem are consistently associated with higher levels of PSMU (Jing et al., 2025; Wang, 2024). The fact that the at-risk profile presents levels comparable to the problematic profile suggests that this group also shows

lower availability of personal resources. However, the cross-sectional design prevents determining whether these differences precede, accompany, or derive from PSMU.

A partial exception to this pattern was observed in perceived social support. In this case, the only significant difference between the at-risk and problematic profiles was found in the subscale assessing the perceived availability of people to turn to and from whom to receive support (Johnson et al., 2010). This result reinforces the interpretation of the problematic profile as a group with greater interpersonal impairment, in which social media use is accompanied by relational tensions and a lower perception of available support. In line with this interpretation, longitudinal evidence in adolescents suggests that lower social support is associated with more vulnerable trajectories of problematic social media use (Salerno et al., 2025).

At the academic level, our findings reinforce the idea that the association between PSMU and school adjustment is not limited to its inverse relationship with academic performance, but extends to the set of central indicators of school adaptation considered in this study. Specifically, adolescents with a functional use of social media showed a more favourable pattern in academic performance, especially in the current academic year grade, higher academic self-concept, and lower levels of burnout, whereas the at-risk and problematic profiles presented a comparatively more unfavourable pattern and hardly differed from one another. These results converge with meta-analytic evidence documenting a small but consistent negative relationship between problematic smartphone use and academic performance, especially in earlier educational stages (Paterna et al., 2024), as well as with different studies situating excessive social media use in adolescents within a broader profile of psychoeducational vulnerability, characterised by lower academic self-concept compared with normative users (Malo-Cerrato et al., 2018). Taken together, the results suggest that the association of PSMU with the academic domain may be expressed as a broader pattern of lower school adjustment. This pattern may be reflected in lower academic self-concept and engagement, as well as in higher levels of academic burnout, variables that the educational literature has identified as closely interrelated and relevant for well-being and performance in secondary education (Bakker & Mostert, 2024; García-Ros et al., 2025; Salmela-Aro et al., 2022).

3.4.1. Limitations and Future Directions

The present study has several limitations that should be considered when interpreting the results. First, its cross-sectional design prevents the establishment of causal relationships between PSMU profiles and the psychological and academic indicators analysed. Although the

findings are consistent with the literature linking PSMU to greater distress and poorer adjustment, it is also possible that prior difficulties in mental health, self-esteem, emotional self-efficacy, or academic adjustment increase the probability of belonging to at-risk or problematic profiles. Future longitudinal studies would make it possible to clarify the directionality of these associations and examine possible bidirectional processes between problematic social media use and the associated variables.

Second, the sample was large and came from 10 educational centres in a single municipality, but it was not obtained through probabilistic sampling and cannot be considered representative of the Spanish adolescent population. In addition, the breadth of age and educational stage introduces a relevant source of heterogeneity. Adolescence involves changes in identity, autonomy, peer relationships, and self-regulation, processes that currently develop in highly digitalised contexts (Berk, 2018; Orben, 2020). Although in this study the profiles were not distributed homogeneously by educational stage, the cross-sectional design prevents interpreting these differences as developmental trajectories. Future work should examine profile stability through longitudinal designs or samples with a larger size by educational stage.

Third, all variables were assessed through self-reports, which may introduce biases derived from social desirability, recall errors, or common method variance (Brannick et al., 2010). This issue is especially relevant in variables such as problematic social media use or perceived grade average. Future research could incorporate multimethod measures, such as objective academic grades, teacher or family reports, and behavioural indicators of digital use. Likewise, the measure of academic engagement showed low internal consistency in the present sample. Although it was retained in the analyses because of its theoretical relevance within academic adjustment, the results associated with this variable should be interpreted with less weight than those relating to measures with stronger psychometric indicators.

Fourth, although the three-class solution showed high stability and reasonable classification quality, the selection of the number of classes should be interpreted with caution, as the fit indices did not fully converge on a single solution. In addition, the problematic profile had a relatively small size, which may have limited the statistical power to detect more subtle differences between the at-risk and problematic profiles. In this sense, the solution identified should be understood as a plausible and useful structure in this sample rather than as a definitive classification. Future studies with larger samples and more robust sampling procedures would make it possible to assess the replicability and generalisation of these profiles.

Fifth, the external comparisons between classes were conducted through ANOVA and post hoc tests after assigning each participant to their modal class. This strategy facilitates interpretation of the profiles, but does not fully incorporate the classification error inherent in LCA. Although the sensitivity analysis based on means weighted by posterior probabilities showed a descriptive pattern very similar to that obtained through modal assignment, this procedure only partially incorporates classification uncertainty and does not substitute formal auxiliary methods. Future studies should use procedures specifically designed to analyse external variables in latent class models while preserving classification uncertainty, such as BCH or three-step procedures.

With regard to future lines of research, we consider that focusing analyses exclusively on the presence or absence of symptoms associated with PSMU offers a necessarily partial perspective on adolescents' digital experiences. The absence of problematic indicators does not make it possible to discern whether such a pattern responds to low exposure or, conversely, to frequent but functional use integrated into everyday life. In this sense, differentiating between "absence of problem" and "presence of positive experience" constitutes a relevant conceptual step. Investigating whether adolescents classified in the functional profile present not only a low probability of PSMU, but also indicators of positive impact, personal growth, social connection, or learning, would make it possible to move towards a more balanced understanding of the phenomenon.

3.4.2. Practical Implications

Taken together, the results allow several applied implications to be drawn. First, LCA makes it possible to go beyond a dichotomous reading of PSMU (problematic vs. non-problematic) and offers a more nuanced characterisation of the distribution of the phenomenon in the sample. Specifically, most adolescents are located in a functional profile (≈ 60%), with a low probability of presenting PSMU criteria, which suggests that, for a broad proportion, social media use is not accompanied by problematic symptomatology. This evidence is especially relevant in the current debate on generalist responses to adolescent use, as it shows that vulnerability is not distributed uniformly in the population (Ciudad-Fernández et al., 2026, under review).

Second, the identification of profiles "by patterns" makes it possible to distinguish the quantity of criteria and which ones are more characteristic of each profile. Thus, the at-risk profile is mainly associated with signs of centrality and dysregulation of use, whereas the

problematic profile is delimited above all by indicators of functional impairment, in particular interpersonal conflict and concealment of use (Boer et al., 2022a; Fournier et al., 2023; Van den Eijnden et al., 2016). In applied terms, this pattern makes it possible to delimit differentiated intervention targets. In the at-risk profile, actions could prioritise reducing time of use, for example, through interventions aimed at decreasing daily duration through limits and behavioural components (Stinson & Dallery, 2023), as well as reinforcing alternative activities, such as competitive sport participation, which may favour spaces of disconnection (Zarco-Alpuente et al., 2026). In the problematic profile, defined by interpersonal conflict and concealment, strategies should incorporate a more ecological intervention centred on the adolescent's relational environment, for example, by prioritising the strengthening of the relationship and family climate (Vossen et al., 2024).

Third, the similarity between the at-risk and problematic profiles in most of the psychological and academic indicators suggests that a relevant part of the vulnerability associated with PSMU is also present at the intermediate level, so it should not be interpreted as a harmless profile (Lu, 2026; Paakkari et al., 2021). From a practical point of view, this finding supports broadening preventive efforts beyond the minority problematic group with more visible relational signals and also including the at-risk profile, through the strengthening of personal resources and the addressing of indicators of use dysregulation. This approach is coherent with prevention models in behavioural addictions, which underline the usefulness of selective strategies directed at groups with initial indicators of vulnerability before more severe functional consequences become consolidated (Lee et al., 2019). In addition, the pattern observed by educational level, with an overrepresentation of the functional profile in Year 6 of Primary Education and a greater relative presence of more severe profiles in later educational stages, suggests that preventive strategies should consider differences between educational stages and begin before the higher-risk profiles acquire greater relative presence. In this sense, the final years of Primary Education and the transition to Compulsory Secondary Education may constitute relevant contexts for introducing actions in digital literacy, self-regulation, and family guidance, although this proposal should be understood as a tentative preventive implication derived from cross-sectional differences. Future longitudinal studies should clarify whether there is a particularly sensitive developmental period for the prevention of PSMU.

Finally, the results also suggest that the prevention of PSMU in the school context should not be limited to reducing maladjusted use behaviours, but should incorporate actions aimed at promoting balanced use of digital technologies and strengthening digital self-regulation

competences (Du & Wang, 2024). Likewise, it seems pertinent to strengthen those personal and contextual resources more closely linked to academic engagement and well-being, such as self-efficacy for learning, self-esteem, resilience, self-regulated learning, and social support from teachers, peers, and families, as well as other elements of the educational context, such as classroom climate and teaching methodologies (Salmela-Aro et al., 2022). This idea is coherent with review work underlining the central role of educational institutions, teachers, and families in promoting digital competences that enable adolescents to function appropriately in the social media environment (Valencia-Ortiz et al., 2021).

3.5. References

Akoglu, H. (2018). User's guide to correlation coefficients. *Turkish Journal of Emergency Medicine, 18*(3), 91–93. https://doi.org/10.1016/j.tjem.2018.08.001

Atienza, F. L., Moreno, Y., & Balaguer, I. (2000). Análisis de la dimensionalidad de la Escala de Autoestima de Rosenberg en una muestra de adolescentes valencianos. *Revista de Psicología. Universitas Tarraconensis, 22*(1-2), 29–42.

Bakker, A. B., & Mostert, K. (2024). Study demands–resources theory: Understanding student well-being in higher education. *Educational Psychology Review, 36*(3), 92. https://doi.org/10.1007/s10648-024-09940-8

Berk, L. E. (2018). *Development through the lifespan* (7th ed.). SAGE Publications.

Bishop, M. (2019). Healthcare social media for consumer informatics. In *Consumer informatics and digital health: Solutions for health and health care* (pp. 61–86). Springer. https://doi.org/10.1007/978-3-319-96906-0_4

Boer, M., Stevens, G. W. J. M., Finkenauer, C., & van den Eijnden, R. J. J. M. (2022a). The course of problematic social media use in young adolescents: A latent class growth analysis. *Child Development, 93*(2), e168–e187. https://doi.org/10.1111/cdev.13712

Boer, M., Stevens, G. W. J. M., Finkenauer, C., & van den Eijnden, R. J. J. M. (2022b). Cross-national validation of the Social Media Disorder Scale: Findings from adolescents from 44 countries. *Addiction, 117*(3), 784–795. https://doi.org/10.1111/add.15709

Bonanomi, A., Nai Ruscone, M., & Osmetti, S. A. (2013). The polychoric ordinal alpha, measuring the reliability of a set of polytomous ordinal items. In *Advances in latent variables* (pp. 1–6). Vita e Pensiero. https://staging-unicatt.elsevierpure.com/en/publications/the-polychoric-ordinal-alpha-measuring-thereliability-of-a-set-of-9

Brannick, M. T., Chan, D., Conway, J. M., Lance, C. E., & Spector, P. E. (2010). What is method variance and how can we cope with it? A panel discussion. *Organizational Research Methods, 13*(3), 407–420. https://doi.org/10.1177/1094428109360993

Calandri, E., Graziano, F., & Rollé, L. (2021). Social media, depressive symptoms and well-being in early adolescence: The moderating role of emotional self-efficacy and gender. *Frontiers in Psychology, 12*, 660740. https://doi.org/10.3389/fpsyg.2021.660740

Caprara, G. V., Di Giunta, L., Eisenberg, N., Gerbino, M., Pastorelli, C., & Tramontano, C. (2008). Assessing regulatory emotional self-efficacy in three countries. *Psychological Assessment, 20*(3), 227–237. https://doi.org/10.1037/1040-3590.20.3.227

Cataldo, I., Billieux, J., Esposito, G., & Corazza, O. (2022). Assessing problematic use of social media: Where do we stand and what can be improved? *Current Opinion in Behavioral Sciences, 45*, 101145. https://doi.org/10.1016/j.cobeha.2022.101145

Cerniglia, L., Griffiths, M. D., Cimino, S., Palo, V. de, Monacis, L., Sinatra, M., & Tambelli, R. (2019). A latent profile approach for the study of internet gaming disorder, social media addiction, and psychopathology in a normative sample of adolescents. *Psychology*

Research and Behavior Management, 12, 651–659. https://doi.org/10.2147/PRBM.S211873

Chakraborty, R., & Chechi, V. K. (2020). Network psychometrics based validation of volitional component of self regulated learning and estimation of its polychoric ordinal omega reliability. *Mukt Shabd Journal, 9*(6), 5890–5909.

Cheng, C., Lau, Y. ching, Chan, L., & Luk, J. W. (2021). Prevalence of social media addiction across 32 nations: Meta-analysis with subgroup analysis of classification schemes and cultural values. *Addictive Behaviors, 117*(2), 106845. https://doi.org/10.1016/j.addbeh.2021.106845

Ciudad-Fernández, V., Fournier, L., Escrivá-Martínez, T., Baños, R., Zarco-Alpuente, A., & Billieux, J. (2025). Salience and tolerance are not indicators of problematic social media use: Evidence from the Social Media Disorder Scale and the Bergen Social Media Addiction Scale. *Journal of Behavioral Addictions, 14*(3), 1380–1393. https://doi.org/10.1556/2006.2025.00073

Ciudad-Fernández, V., Zarco-Alpuente, A., Perales, J. C., Montag, C., King, D., Baños, R., [...] & Billieux, J. (2026, under review). Age-based social media restrictions in adolescence: A call for evidence-based policy and platform-level regulation. Manuscript under review at *Nature Mental Health*.

Collins, L. M., & Lanza, S. T. (2010). *Latent class and latent transition analysis: With applications in the social, behavioral, and health sciences*. John Wiley & Sons. https://doi.org/10.1002/9780470567333

De Anda, D., Baroni, S., Boskin, L., Buchwald, L., Morgan, J., Ow, J., Gold, J. S., & Weiss, R. (2000). Stress, stressors and coping among high school students. *Children and Youth Services Review, 22*(6), 441–463. https://doi.org/10.1016/s0190-7409(00)00096-7

Doménech, P., Tur-Porcar, A. M., & Mestre-Escrivá, V. (2024). Emotion regulation and self-efficacy: The mediating role of emotional stability and extraversion in adolescence. *Behavioral Sciences, 14*(3). https://doi.org/10.3390/bs14030206

Du, J., & Wang, Y. (2024). High school students' social media use predicts school engagement and burnout: The moderating role of social media self-control. *Frontiers in Child and Adolescent Psychiatry, 3*, 1269606. https://doi.org/10.3389/frcha.2024.1269606

Du, M., Zhao, C., Hu, H., Ding, N., He, J., Tian, W., Zhao, W., Lin, X., Liu, G., Chen, W., Wang, S. L., Wang, P., Xu, D., Shen, X., & Zhang, G. (2024). Association between problematic social networking use and anxiety symptoms: A systematic review and meta-analysis. *BMC Psychology, 12*(1), 263. https://doi.org/10.1186/s40359-024-01705-w

Fonseca-Pedrero, E., Díez-Gómez, A., Pérez-Albéniz, A., Al-Halabí, S., Lucas-Molina, B., & Debbané, M. (2023). Youth screening depression: Validation of the Patient Health Questionnaire-9 (PHQ-9) in a representative sample of adolescents. *Psychiatry Research, 328*, 115486. https://doi.org/10.1016/j.psychres.2023.115486

Fournier, L., Schimmenti, A., Musetti, A., Boursier, V., Flayelle, M., Cataldo, I., Starcevic, V., & Billieux, J. (2023). Deconstructing the components model of addiction: An illustration through "addictive" use of social media. *Addictive Behaviors, 143*(3), 107694. https://doi.org/10.1016/j.addbeh.2023.107694

García-Campayo, J., Zamorano, E., Ruiz, M. A., Pardo, A., Pérez-Páramo, M., López-Gómez, V., Freire, O., & Rejas, J. (2010). Cultural adaptation into Spanish of the Generalized Anxiety Disorder-7 (GAD-7) scale as a screening tool. *Health and Quality of Life Outcomes, 8*(1), 8. https://doi.org/10.1186/1477-7525-8-8

García-Ros, R., Ruescas-Nicolau, M. A., Cezón-Serrano, N., & Sánchez-Sánchez, M. L. (2025). Assessment rubrics, learning and academic well-being at university: A study in neuro-physiotherapy from the study demands-resources model. *Anales de Psicología, 41*(2), 196–209. https://doi.org/10.6018/analesps.603981

García-Ros, R., Tores, Z., Enrique, S., & Tomás, J. M. (2026, in press). Revisiting the School Burnout Inventory: Further evidence on its factorial validity, invariance and nomological network in a sample of Spanish adolescents. *Psicología Educativa*.

Giunchiglia, F., Zeni, M., Gobbi, E., Bignotti, E., & Bison, I. (2018). Mobile social media usage and academic performance. *Computers in Human Behavior, 82*(10), 177–185. https://doi.org/10.1016/j.chb.2017.12.041

Griffiths, M. (2005). A "components" model of addiction within a biopsychosocial framework. *Journal of Substance Use, 10*(4), 191–197. https://doi.org/10.1080/14659890500114359

Hidalgo-Fuentes, S., Martí-Vilar, M., & Ruiz-Ordoñez, Y. (2023). Problematic internet use and resilience: A systematic review and meta-analysis. *Nursing Reports, 13*(1), 337–350. https://doi.org/10.3390/nursrep13010032

Hou, X. L., Wang, H. Z., Guo, C., Gaskin, J., Rost, D. H., & Wang, J. L. (2017). Psychological resilience can help combat the effect of stress on problematic social networking site usage. *Personality and Individual Differences, 109*(6), 61–66. https://doi.org/10.1016/j.paid.2016.12.048

Huang, C. (2022). A meta-analysis of the problematic social media use and mental health. *International Journal of Social Psychiatry, 68*(1), 12–33. https://doi.org/10.1177/0020764020978434

Hussain, Z., Wegmann, E., Yang, H., & Montag, C. (2020). Social networks use disorder and associations with depression and anxiety symptoms: A systematic review of recent research in China. *Frontiers in Psychology, 11*, 487227. https://doi.org/10.3389/fpsyg.2020.00211

Jing, Z., Yang, W., Lei, Z., Junmei, W., Hui, L., & Tianmin, Z. (2025). Correlations between social media addiction and anxiety, depression, FoMO, loneliness and self-esteem among students: A systematic review and meta-analysis. *PLOS ONE, 20*(9). https://doi.org/10.1371/journal.pone.0329466

Johnson, J., Gooding, P. A., Wood, A. M., & Tarrier, N. (2010). Resilience as positive coping appraisals: Testing the schematic appraisals model of suicide (SAMS). *Behaviour Research and Therapy, 48*(3), 179–186. https://doi.org/10.1016/j.brat.2009.10.007

Kiuru, N., Aunola, K., Nurmi, J. E., Leskinen, E., & Salmela-Aro, K. (2008). Peer group influence and selection in adolescents' school burnout: A longitudinal study. *Merrill-Palmer Quarterly, 54*(1), 23–55. https://doi.org/10.1353/mpq.2008.0008

Kuncel, N. R., Credé, M., & Thomas, L. L. (2005). The validity of self-reported grade point averages, class ranks, and test scores: A meta-analysis and review of the literature. *Review of Educational Research, 75*(1), 63–82. https://doi.org/10.3102/00346543075001063

Lee, S. Y., Kim, M. S., & Lee, H. K. (2019). Prevention strategies and interventions for internet use disorders due to addictive behaviors based on an integrative conceptual model. *Current Addiction Reports, 6*(3), 303–312. https://doi.org/10.1007/s40429-019-00265-z

Liu, D., Kirschner, P. A., & Karpinski, A. C. (2017). A meta-analysis of the relationship of academic performance and social network site use among adolescents and young adults. *Computers in Human Behavior, 77*, 148–157. https://doi.org/10.1016/j.chb.2017.08.039

Lu, Z. (2026). Mapping adolescent problematic social media use patterns across 41 countries/regions: A multilevel latent class analysis with social determinants. *Addictive Behaviors, 172*, 108523. https://doi.org/10.1016/j.addbeh.2025.108523

Malo-Cerrato, S., Martín-Perpiñá, M.-M., & Viñas-Poch, F. (2018). Excessive use of social networks: Psychosocial profile of Spanish adolescents. *Comunicar: Media Education Research Journal, 26*(56), 101–109. https://doi.org/10.3916/C56-2018-10

Malonda-Vidal, E., Samper-García, P., Llorca-Mestre, A., Muñoz-Navarro, R., & Mestre-Escrivá, V. (2021). Traditional masculinity and aggression in adolescence: Its relationship with emotional processes. *International Journal of Environmental Research and Public Health, 18*(18), 9802.

Marino, C., Lenzi, M., Canale, N., Pierannunzio, D., Dalmasso, P., Borraccino, A., ... & Weiss, S. (2020). Problematic social media use: Associations with health complaints among adolescents. *Annali dell'Istituto Superiore di Sanità, 56*(4), 514–521. https://dx.doi.org/10.4415/ANN_20_04_16

Márquez, J.M., Andrade, B., Guadix, I., Suárez, F., Rodríguez, F.J., González-Cabrera, J. & Rial, A. (2025). *Infancia, adolescencia y bienestar digital*. Madrid: UNICEF España, Universidad de Santiago de Compostela, Consejo General de Ingeniería en Informática y Entidad Pública Empresarial Red.es. http://doi.org/10.30923/IABD202510

Marsh, H. W., Ellis, L. A., Parada, R. H., Richards, G., & Heubeck, B. G. (2005). A short version of the Self Description Questionnaire II: Operationalizing criteria for short-form evaluation with new applications of confirmatory factor analyses. *Psychological Assessment, 17*(1), 81–102. https://doi.org/10.1037/1040-3590.17.1.81

McNeish, D. (2018). Thanks coefficient alpha, we'll take it from here. *Psychological Methods, 23*(3), 412–433. https://doi.org/10.1037/met0000144

Moreno, M. A., Gower, A. D., Pham, D., Zhao, Q., & Eickhoff, J. (2023). Adolescent media use, parent involvement and health outcomes: A latent class analysis approach. *Information, Communication and Society, 26*(4), 746–763. https://doi.org/10.1080/1369118X.2021.1983002

Moretta, T., Buodo, G., Demetrovics, Z., & Potenza, M. N. (2022). Tracing 20 years of research on problematic use of the internet and social media: Theoretical models, assessment tools, and an agenda for future work. *Comprehensive Psychiatry, 112*, Article 152286. https://doi.org/10.1016/j.comppsych.2021.152286

Moyano, N., & Riaño-Hernández, D. (2013). Burnout escolar en adolescentes españoles: Adaptación y validación del School Burnout Inventory. *Ansiedad y Estrés, 19*(1), 95–103.

Murciano-Hueso, A., Gutiérrez-Pérez, B. M., Martín-Lucas, J., & García, A. H. (2022). Juventud onlife. Estudio sobre el perfil de uso y comportamiento de los jóvenes a través de las pantallas. *RELIEVE - Revista Electrónica de Investigación y Evaluación Educativa, 28*(2). https://doi.org/10.30827/RELIEVE.V28I2.26158

Oh, Y., Kim, Y., & Joung, Y. S. (2021). A latent profile analysis of problematic media device use and its association with executive function and behavioral problem among children: A population-based study. *Psychiatry Investigation, 18*(9), 895–903. https://doi.org/10.30773/PI.2021.0133

Orben, A. (2020). Teenagers, screens and social media: A narrative review of reviews and key studies. *Social Psychiatry and Psychiatric Epidemiology, 55*(4), 407–414. https://doi.org/10.1007/s00127-019-01825-4

Paakkari, L., Tynjälä, J., Lahti, H., Ojala, K., & Lyyra, N. (2021). Problematic social media use and health among adolescents. *International Journal of Environmental Research and Public Health, 18*(4), 1–11. https://doi.org/10.3390/ijerph18041885

Paterna, A., Alcaraz-Ibáñez, M., Aguilar-Parra, J. M., Salavera, C., Demetrovics, Z., & Griffiths, M. D. (2024). Problematic smartphone use and academic achievement: A systematic review and meta-analysis. *Journal of Behavioral Addictions, 13*(2), 313–326. https://doi.org/10.1556/2006.2024.00014

Peñalver, J., Marín, V. I., & Aguilar, D. (2026). Psychometric properties of the ultra-short measure Utrecht Work Engagement Scale for Students (UWES-3S): Validity and reliability in the Spanish online university context. *Estudios sobre Educación*. Advance online publication. https://doi.org/10.15581/004.51.006

Pérez-Sánchez, J. A., Castejón, M. A., Parra-Plaza, F. J., & Berengüí, R. (2024). Self-Description Questionnaire II-Short (SDQ-II-S): Measurement properties in Spanish adolescents. *Behavioral Psychology / Psicología Conductual, 32*(3), 563–585. https://doi.org/10.51668/bp.8324308n

Pi, L., Wang, Y., Zou, L., Mo, X., & Guo, L. (2024). An analysis of the latent class and influencing factors of problematic mobile social media usage among Chinese college students. *Psychology Research and Behavior Management, 17*, 367–378. https://doi.org/10.2147/PRBM.S438713

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton University Press.

Rosič, J., Janicke-Bowles, S. H., Carbone, L., Lobe, B., & Vandenbosch, L. (2022). Positive digital communication among youth: The development and validation of the Digital Flourishing Scale for Adolescents. *Frontiers in Digital Health, 4*, 975557. https://doi.org/10.3389/fdgth.2022.975557

Salerno, L., Fortunato, L., Ostwald, V., Muscolino, A., & Lo Coco, G. (2025). Social support and social comparison tendencies predict trajectories of adolescents' problematic social media use: A longitudinal study. *PLOS ONE, 20*(6), e0323320. https://doi.org/10.1371/journal.pone.0323320

Salmela-Aro, K., & Upadyaya, K. (2014). School burnout and engagement in the context of demands–resources model. *British Journal of Educational Psychology, 84*(1), 137–151. https://doi.org/10.1111/bjep.12018

Salmela-Aro, K., Tang, X., & Upadyaya, K. (2022). Study demands-resources model of student engagement and burnout. In A. L. Reschly & S. L. Christenson (Eds.), *Handbook of research on student engagement* (pp. 77–93). Springer. https://link.springer.com/10.1007/978-3-031-07853-8_4

Schafer, J. L. (1999). Multiple imputation: A primer. *Statistical Methods in Medical Research, 8*(1), 3–15. https://doi.org/10.1177/096228029900800102

Schaufeli, W. B., Martinez, I. M., Marques-Pinto, A., Salanova, M., & Bakker, A. B. (2002). Burnout and engagement in university students: A cross-national study. *Journal of Cross-Cultural Psychology, 33*(5), 464–481. https://doi.org/10.1177/0022022102033005003

Shannon, H., Bush, K., Villeneuve, P. J., Hellemans, K. G., & Guimond, S. (2022). Problematic social media use in adolescents and young adults: Systematic review and meta-analysis. *JMIR Mental Health, 9*(4), e33450. https://doi.org/10.2196/33450

Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. *Archives of Internal Medicine, 166*(10), 1092–1097. https://doi.org/10.1001/archinte.166.10.1092

Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Patient Health Questionnaire Primary Care Study Group. (1999). Validation and utility of a self-report version of PRIME-MD: The PHQ primary care study. *JAMA, 282*(18), 1737–1744. https://doi.org/10.1001/jama.282.18.1737

Stinson, L., & Dallery, J. (2023). Reducing problematic social media use via a package intervention. *Journal of Applied Behavior Analysis, 56*(2), 323–335. https://doi.org/10.1002/jaba.975

Valencia-Ortiz, R., Cabero-Almenara, J., Garay-Ruiz, U., & Fernández-Robles, B. (2021). Problemática de estudio e investigación de la adicción a las redes sociales online en jóvenes y adolescentes. *Tecnología, Ciencia y Educación, 18*, 99–125.

Van den Eijnden, R. J. J. M., Lemmens, J. S., & Valkenburg, P. M. (2016). The Social Media Disorder Scale. *Computers in Human Behavior, 61*(3), 478–487. https://doi.org/10.1016/j.chb.2016.03.038

Vanden Abeele, M. M. P. (2021). Digital wellbeing as a dynamic construct. *Communication Theory, 31*(4), 932–955. https://doi.org/10.1093/ct/qtaa024

Vossen, H. G. M., van den Eijnden, R. J. J. M., Visser, I., & Koning, I. M. (2024). Parenting and problematic social media use: A systematic review. *Current Addiction Reports, 11*(3), 511–527. https://doi.org/10.1007/s40429-024-00559-x

Wang, H. (2024). Relationship between self-esteem and problematic social media use amongst Chinese college students: A longitudinal study. *Psychology Research and Behavior Management, 17*, 679–689. https://doi.org/10.2147/PRBM.S452603

Weller, B. E., Bowen, N. K., & Faubert, S. J. (2020). Latent class analysis: A guide to best practice. *Journal of Black Psychology, 46*(4), 287–311. https://doi.org/10.1177/0095798420930932

Yigiter, M. S., Demir, S., & Dogan, N. (2024). The relationship between problematic social media use and depression: A meta-analysis study. *Current Psychology, 43*(9), 7936–7951. https://doi.org/10.1007/s12144-023-04972-9

Yılmaz, G. K., Yılmaz, R., & Gençel, N. (2025). Social media addiction in high school students: Examining its relationship with school burnout, fear of negative evaluation and cognitive avoidance. *Multidisciplinary Journal for Education, Social and Technological Sciences, 12*(2). https://doi.org/10.4995/muse.2025.23157

Zarco-Alpuente, A., Álvarez, O., Castillo, I., & Samper-García, P. (2026). Digital disconnection in adolescent sport: A reflexive thematic analysis of athletes' experiences. *Psychology of Sport and Exercise, 85*, 103098. https://doi.org/10.1016/j.psychsport.2026.103098

CHAPTER 4

STUDY 2:

Assessing Positive Digital Experiences: A Spanish Validation of the Digital Flourishing Scale for Adolescents



Abstract

Adolescents are immersed in digital communication, which can benefit or harm their well-being. Digital flourishing captures positive perceptions of this communication (connectedness, authentic self-presentation, positive social comparison, civil participation, and self-control) and how they foster well-being. In Spain there is still no validated instrument for adolescents. We adapted and validated the Digital Flourishing Scale for Adolescents (DFSA) for Spanish adolescents. Study 1 involved a pilot survey (n = 13) and cognitive interviews (n = 10) to improve clarity and cultural relevance. Study 2 used a cross-sectional survey (n = 1,786) to examine the DFSA's latent structure, measurement invariance by gender and age, internal reliability of scores, and validity evidence based on relationships to other variables. Study 3 assessed test-retest reliability of scores and longitudinal measurement invariance over six weeks (n = 289). Study 1 improved item clarity and cultural relevance through linguistic adjustments. Study 2 confirmed a five-factor model, showing strict age invariance and metric gender invariance. All subscales correlated with well-being indicators. Study 3 showed poor to moderate temporal stability of scores but supported scalar longitudinal invariance. The Spanish DFSA is a promising tool for assessing adolescents' digital flourishing in the Spanish context.

Keywords: Digital Flourishing; Adolescents; Scale Adaptation, Self-Determination Theory; Digital Communication.

This chapter is published in Psicothema: Zarco-Alpuente, A., Ciudad Fernández, V., Rosic, J., Janicke-Bowles, S., Escrivá-Martínez, T., & Samper-García, P. (2026). Assessing positive digital experiences: A Spanish validation of the Digital Flourishing Scale for Adolescents. *Psicothema, 38*(1), 23–35.
https://doi.org/10.70478/psicothema.2026.38.03

4.1. Introduction

Contemporary adolescents grow up fully immersed in digital communication technologies, significantly transforming how they spend their time and interact with their environment (Holly et al., 2023). While early research emphasized the potential risks of digital communication, recent scholarship has called for a more nuanced understanding that includes the positive aspects of digital communication (Vanden Abeele, 2021). One such approach is the emerging construct of digital flourishing, which emphasizes that beneficial use of digital communication can satisfy adolescents' developmental needs and promote both hedonic and eudaimonic well-being (Gudka et al., 2023; Janicke-Bowles et al., 2023).

Digital flourishing refers to positive perceptions of digital communication experiences and behaviours contributing to well-being and fulfilment (Janicke-Bowles et al., 2023). To operationalize this construct, Janicke-Bowles et al. (2023) developed the Digital Flourishing Scale (DFS) for adults, which was later adapted for adolescents (DFSA) (Rosič et al., 2022). This instrument captures five interrelated dimensions: connectedness (feeling socially connected online), authentic self-presentation (expressing one's true self online), positive social comparison (feeling inspired after socially comparing online), civil participation (engaging respectfully and constructively online), and self-control (managing time spent online).

The theoretical foundation of digital flourishing draws significantly from Self-Determination Theory (SDT; Deci & Ryan, 2000). According to SDT, the satisfaction of the basic psychological needs for relatedness, autonomy, and competence is essential for well-being. Digital flourishing builds on this framework by proposing that digital communication can support these needs. Empirical studies have consistently found that adolescents who report higher levels of digital flourishing also experience greater psychological need satisfaction and related well-being outcomes (Janicke-Bowles et al., 2023; Janicke-Bowles, 2024; Rosič et al., 2022).

To the best of our knowledge, the DFSA is currently the only validated instrument specifically designed to assess digital flourishing in adolescence. It is currently available in English, Slovenian (Rosič et al., 2022), Dutch (Schreurs & Vandenbosch, 2026), and Chinese (Wang & Yu, 2025). However, it has not yet been adapted to widely spoken languages such as Spanish. While other frameworks have assessed general flourishing in Spanish among adults (e.g. De la Fuente et al., 2017), the DFSA provides a unique tool to evaluate adolescents' positive digital communication. This study aims to adapt the DFSA for Spanish-speaking adolescents using a multimethod approach (i.e. cognitive interviewing, a cross-sectional and longitudinal

study) to evaluate its psychometric properties, evidence of validity based on the relationship with other variables, measurement invariance, and temporal reliability.

Digital flourishing is theorised to support basic psychological needs, namely relatedness, competence, and autonomy (Janicke-Bowles et al., 2023). During developmental period of adolescence these needs become more salient and therefore, digital flourishing is especially relevant. Regarding relatedness, adolescents increasingly prioritize peer relationships for identity validation and emotional support, decreasing compliance with parents (Berk, 2022; Girelli et al., 2019). For competence, adolescents prefer independent decisions and complex tasks, seeking challenges that foster achievement and mastery (Berk, 2022). Autonomy needs manifest as adolescents actively pursue independence through self-determined decisions and activities (Girelli et al., 2019).

Moreover, adolescents are among the highest users of digital media (Boer et al., 2020). Digital media use plays a vital role during adolescence, providing platforms for socialization, learning and self-expression (Holly et al., 2023). The positive interactions adolescents have while using digital media are part of the context that can contribute to the satisfaction of basic psychological needs and shape their development (Holly et al., 2023).

Digital communication with peers may provide adolescents with a sense of belonging, satisfying their need for relatedness by making them feel connected and less lonely (Rosič et al., 2024). This virtual context offers flexibility in choosing what to share, who to interact with, and when, supporting the fulfilment of relational needs (O'Keeffe et al., 2011). When adolescents learn to interact responsibly online and navigate online communication challenges like presenting themselves authentically in spaces shaped by "positivity bias" and idealized portrayals, digital communication also contributes to the need for competence (Schreurs & Vandenbosch, 2026). Positive social comparisons online, especially in areas like academics, sports, and relationships, offer insights into their perceived competence and can evoke motivation, inspiration, and benign envy (Meier & Schäfer, 2018). Civil participation online is also relevant for competence, as adolescents' psychosocial and cognitive development fosters prosocial and civil engagement in online discussions (Lysenstøen et al., 2021). Finally, as their cognitive abilities mature, adolescents gain greater self-control over digital interactions, an important aspect of autonomy in a context of constant connectivity (Hoareau et al., 2021; Rosič et al., 2022). These dimensions of connectedness, civil participation, authentic self-presentation, positive social comparison, and self-control, form the core of digital flourishing and have been

theorised and empirically proven to relate to the basic psychological needs' satisfaction (Janicke-Bowles et al., 2023).

Previous studies measuring digital flourishing using the DFSA have consistently supported a better fit for multidimensional model with five-factor structure than high-order structure among adolescent (Rosič et al., 2022) and adult samples (Janicke-Bowles et al., 2023), although both structures were acceptable. Therefore, digital flourishing can be investigated either through a composite score or by analysing its five dimensions separately, as each dimension captures distinct but complementary aspects of positive digital experiences. This study examines whether the five-factor structure replicates in a new cultural context, namely Spain, which presents a distinctive setting in terms of digital engagement. Spain represents a unique environment, ranking seventh worldwide in active social media use (83.6%), notably above the global average (62.3%) and higher than the United States (70.1%) and Slovenia (76.9%) (DataReportal, 2024), where the DFS(A) have previously been applied. Consequently, Spanish adolescents navigate unique demands from ubiquitous connectivity (Vanden Abeele, 2021).

From an SDT perspective, broader social systems shape the opportunities adolescents have to pursue and satisfy their basic psychological needs. In highly connected environments, digital communication may both enable and constrain these opportunities, depending on how access is regulated. For example, recent restrictions on smartphone use in Valencian schools (see resolution of 17 April 2024 DOGV - Generalitat Valenciana) may impact digital flourishing by creating tension between institutional regulations and widespread peer smartphone use. Thus, adapting an instrument assessing positive digital communication perceptions among Spanish adolescents requires an understanding of their specific context.

In addition to contextual relevance, examining the DFSA's associations with theoretically and empirically grounded constructs allows for a more comprehensive validation of the instrument within the Spanish adolescent population.

First, previous research has shown that all five dimensions of digital flourishing are significantly associated with the satisfaction of basic psychological needs (i.e. relatedness, competence, autonomy) (Rosič et al., 2022). The connectedness subscale was significantly associated with all three needs, showing the strongest correlation with relatedness. The civil participation and self-control subscales were most significantly related to autonomy, while the positive social comparison and authentic self-presentation demonstrated the strongest

associations with competence (Rosič et al., 2022). We expected positive correlations between DFSA dimensions and basic psychological needs satisfaction.

In terms of broader well-being, satisfaction with life is a personal evaluation of life quality based on the alignment between individual aspirations and actual circumstances (Kjell & Diener, 2021). The dimensions of digital flourishing have been associated with higher levels of overall well-being, including life satisfaction (Janicke-Bowles et al., 2023). Therefore, we expected that higher levels of digital flourishing will be positively correlated with greater satisfaction with life.

Conversely, loneliness is a subjective experience of distress from a lack of social connection or belonging (Beutel et al., 2017). Digital communication (i.e. texting, group chatting) can foster the development of social connections and a sense of belonging among adolescents (Vincent, 2016). However, many adolescents report feelings of loneliness and isolation when communicating on social media, which can harm their sense of belonging and subsequently diminish their well-being (Smith et al., 2021). Consequently, higher loneliness was expected to negatively correlate with connectedness.

Authenticity can be defined as perceiving one's actions as self-authored and is achieved by acting in accordance with one's values, preferences, and needs (Ryan & Ryan, 2019), is another construct related to digital flourishing. Digital communication provides new opportunities for authentic self-expression, such as spontaneously and informally sharing daily activities and thoughts (Manning et al., 2017), which many adolescents do through apps such as BeReal or Instagram. Being authentic has been linked to higher well-being (Smallenbroek et al., 2017). Higher authenticity on social media was expected to positively correlate with authentic self-presentation.

Although much research links online social comparison to lower well-being, recent studies suggest that positive (or upward) comparison, which evokes benign envy, can inspire and enhance well-being (Meier & Schaefer, 2018; Meier et al., 2020). This process of inspiration is also considered in relation to digital flourishing. Specifically, content that is either creative, transformative in nature or portrays human's moral nature, is especially powerful to elicit inspiration (Chang, 2023). In turn, the experience of inspiration from online content or interactions has been found to increase love and compassion over time (Janicke-Bowles et al., 2022). We hypothesised that higher social media-induced inspiration would be positively related to positive social comparison.

On the negative side of digital interactions, internet aggression includes harmful behaviours toward others online such as cyberbullying (Ybarra & Mitchell, 2004). Although most adolescents experience positive social interactions online, a significant minority are affected by negative interactions, either as perpetrators, targets, or both (Werner et al., 2010). These aggressive behaviours can include rude, threatening, harassing comments, unwanted sexual remarks, and social exclusion (Ybarra & Mitchell, 2004). Adolescents who engage more frequently in respectful online discourse and civil participation are significantly less likely to engage in aggressive or harmful digital communication (Jones & Mitchell, 2015). We hypothesised that higher rates of internet aggression would be negatively related to civil participation.

Finally, problematic social media use (PSMU) refers to users' perceptions that their social media use cannot be controlled and is overused, characterised by the presence of various symptoms: preoccupation, tolerance, withdrawal, relapse, mood modification, detrimental consequences in important life domains and displacement of activities due to social media use (Boer et al., 2020). Such problematic use has been associated with a range of mental health problems (Huang, 2020). Research highlights that individuals with lower self-control dispositions are more likely to present PSMU (Osatuyi & Turel, 2018). Thus, we expected higher PSMU to negatively correlate with self-control.

The present research adapted the DFSA (Rosič et al., 2022) to the digital communication experiences of Spanish adolescents, following standard scale development procedures (Carpenter, 2018). In Study 1, a pilot survey and cognitive interviews with adolescents were conducted to assess clarity of the scale translated to Spanish. In Study 2, a cross-sectional survey was conducted to replicate the latent structure of the DFSA, evaluate measurement invariance for gender and age, and assess the scale's validity evidence based on its relationships to other variables. In Study 3, a longitudinal survey was conducted with a subsample of the participants from Study 2 to explore the temporal reliability and longitudinal measurement invariance of the scale. For the final Spanish DFSA version with the adaptations made after the study, see the OSF document 'DFSA'.

This study received approval from the University of Valencia ethics committee (2039883). Prior to participation, all individuals were fully briefed on the study's objectives and gave their informed consent. For participants > 14 years, parental consent was obtained. Those ≥ 14 years could choose to provide their birth date and initials for a follow-up conducted 6 weeks later, which was done to explore the temporal reliability and longitudinal measurement

invariance of the scale in Study 3. The responses of participants under 14 remained entirely anonymous. The database has also been used in another article (Ciudad-Fernández et al., 2025).

This study was preregistered in November 2023 before the data analysis on the Open Science Framework (OSF) at https://osf.io/be4wh. Data, scripts, supplementary materials, and other resources are available on the OSF page and are also included in Annex 6.

4.2. Study 1: Pilot Survey and Cognitive Interviews

4.2.1. Method

Participants. A total of 20 adolescents were initially recruited through the researchers' personal networks to participate in a pilot survey. The final sample consisted of 13 adolescents (12-18 years, M_{age} = 15.62, SD_{age} = 2.04, 69.2% girls). For the cognitive interview phase, 10 adolescents participated across two group sessions: one conducted in person (n = 8) and another online (n = 2) due to logistical constraints.

Instruments. In the pilot survey, participants rated each item's clarity on a 3-point scale (1 = I don't understand anything; 2 = I understand it well, but not completely; 3 = I understand it perfectly) and answered an open-ended question about any comprehension issues or suggestions. These measures collected both quantitative and qualitative feedback on the clarity and cultural relevance of the translated DFSA items.

Procedure. The original English version of the DFSA was translated into Spanish using a forward-backward translation procedure by two bilingual researchers. The resulting versions were reviewed by native Spanish speakers, and discrepancies were resolved to ensure semantic, idiomatic, experiential, and conceptual equivalence, resulting in a preliminary Spanish version.

A pilot survey was then administered using Qualtrics between September 2023 and May 2023. Based on reported comprehension issues, semi-structured cognitive interviews were conducted to assess validity based on response processes (Ryan et al., 2012). Following a hybrid model, both think-aloud and verbal probing techniques were employed (Padilla & Benítez, 2014). Details regarding the sample, the guide used, the changes introduced, and a comparison between the initial and final versions can be found in Annex 6.

To ensure the methodological rigor of the adaptation process, we evaluated the Spanish version of the DFSA against the International Test Commission (ITC) guidelines for test adaptation (Hernández et al., 2020). A checklist documenting compliance with each criterion can be found in Annex 6, Supplementary Material 5.

Data Analysis. For quantitative pilot survey data, the percentage of participants for the three response options was calculated for each item to assess item clarity. Items were flagged for revision if over 25% of participants indicated partial or no understanding. Open-ended responses were analysed thematically, and researcher notes and observations of cognitive interviews were examined to identify common interpretation issues and improvement suggestions.

4.2.2. Results

According to the results presented in Annex 6, Supplementary Material 6 (*Pilot Survey Comprehensibility*), 14 of the 21 items were well understood by more than 75% of participants. However, four items raised concerns, with nearly half of the participants indicating limited understanding, which prompted the subsequent cognitive interviews.

Based on this feedback, a series of changes were implemented across the scale. The introductory text was revised using more familiar and age-appropriate terminology (e.g. replacing “online applications” with “online activities”) and updated to reflect the platforms most used by Spanish adolescents (e.g. replacing Viber with Telegram and including BeReal, Twitter, and gaming chats). Wording across items was adjusted to enhance specificity and personal meaning. For instance, some item content was also rephrased to better align with adolescents' digital communication experiences. For example, in the civil participation dimension, the item referring to “politics” was reworded to “current affairs (such as sports, politics, or celebrities),” as the original formulation was perceived as abstract or detached from participants’ online interactions. All changes are available in Annex 6, Supplementary Materials 1 and 5.

4.3. Study 2: Cross-Sectional Study

4.3.1. Method

Participants. Out of initial 3,464 participants, we removed participants who: (1) did not accept the informed consent (n = 82), (2) were not between 13 and 19 years old or did not answer age question (n = 511), (3) had no access or didn't use social media (n = 53), and (4) failed at least two out of the three attention check questions (e.g. "If you are reading this, select 'Agree'.") (Buchanan & Scofield, 2018) (n = 457). The final sample consisted of 1,786 participants (M_{age} = 15.22, SD_{age} = 1.20, 49.0% girls, 66% Compulsory Secondary Education, 87% Spanish nationality). For more detailed results see Annex 6, Supplementary Material 7.

Instruments

Demographic Variables. Adolescents reported their age and gender (1 = boy, 2 = girl, 3 = non-binary, 4 = prefer not to say). Responses for the option “non-binary” and "prefer not to say" were included in the analyses, except for the gender invariance testing. Adolescents’ educational level was categorized as follows: compulsory secondary education (ages 12-16), post-compulsory secondary education (ages 16-18), and vocational training levels (ages 16-20). Additionally, participants indicated their nationality.

Digital Flourishing in Adolescence. The 21-item DFSA in Spanish with five factors using a scale from 1 (Not at all true of me) to 5 (Very true of me), with an option "Not applicable to me" was used. Reliability indices: connectedness (α = .65, ω = .68), civil participation (α = .73, ω = .76), positive social comparison (α = .78, ω = .81), authentic self-presentation (α = .82, ω = .86), and self-control (α = .79, ω = .83).

***The Satisfaction of Basic Psychological Needs*.** We used the 12-item Brief Scale Measuring Basic Psychological Needs Satisfaction (BPNS; Girelli et al., 2019) evaluated on a 5-point Likert-type scale ranging from 1 (Not true at all) to 5 (Very true). Since no validated Spanish version for adolescents was available, we conducted a confirmatory factor analysis (CFA) to examine the internal structure and support the validity of the interpretations derived from the scores in our sample. The analysis confirmed a three-factor structure: Relatedness (e.g., “I like the people I know”) (α = .78, ω = .81), Competence (e.g., “I feel good at doing many things”) (α = .84, ω = .86), and Autonomy (e.g., “I feel free to decide how to do my own things”) (α = .83, ω = .87), in line with the original model. See the Annex 6, Supplementary Material 8 for further information regarding its construct validity in this sample.

***Satisfaction with life*.** We used the 3-item Satisfaction with Life Scale (SWLS-3; Ortuño-Sierra et al., 2019; Kjell & Diener, 2021) (e.g., "The conditions of my life are excellent") evaluated on a 7-point Likert-type scale ranging from 1 (Strongly disagree) to 7 (Strongly agree). Following Kjell and Diener’s (2021) recommendations, the last two items out of five were removed. Internal consistency for the scale was excellent (α = .87, ω = .87).

***Loneliness*.** The Three-Item Loneliness Scale (TILS; Trucharte et al., 2023) was used on a 3-point Likert scale ranging from 1 (Hardly ever) to 3 (Often) (e.g. “How often do you feel that you lack company?”). Reliability indices: α = .88 and ω = .89.

***Subjective Authenticity of Positive Self-Content on Social Media*.** One item from the Virtual Self subscale of the Psycho-Social Aspects of Facebook Use (Bodroža & Jovanović, 2016)

was adapted ("When you posted messages on social media during the last month, did you have the impression that these messages showed who you really are?"). As this questionnaire was not available in Spanish, it was translated and adapted for the present study. Responses were given on a 5-point Likert scale ranging from 1 (Never) to 5 (Very often). This item obtained an association of .51 with the Authentic self-presentation factor from the DFSA (Rosič et al., 2022).

***Social Media-Induced Inspiration*.** Two items of the Social Media-Induced Inspiration Scale (SMII; Meier & Schäfer, 2018) were used: "When I use social media, I am inspired by the posts of other users to do something [new]" and "When I use social media, I experience inspiration." The word "Instagram" was replaced with "social media". Answers ranged from 1 (Strongly disagree) to 5 (Strongly agree) with the option "Not applicable to me". As this questionnaire was not available in Spanish, it was translated and adapted for the present study. The Spearman-Brown coefficient was .71.

***Internet Aggression*.** The 4-item Internet Aggression Scale (IAS; Werner et al., 2010) was used (e.g. "I used the Internet to play a joke or annoy someone I was mad at.") with a scale ranging from 1 (Never) to 4 (5 or more times) with the option "Not applicable to me" (α = .86 and ω = .87). As this questionnaire was not available in Spanish, it was translated and adapted for the present study.

***Social Media Disorder*.** The 9-item Social Media Disorder Scale (SMD-S; Boer et al., 2020) was used (e.g. "How often have you felt bad when you have not been able to use social networks?"). We adapted an original dichotomous Yes/No response format to a 6-point Likert scale, following Savci et al. (2018). Reliability indices in this sample are excellent (α = .90; ω = .90).

Procedure. Data collection took place in educational institutions between September 2023 and May 2024 in person, using either paper or digital formats (e.g. Qualtrics via tablet, smartphone, computer). While no monetary compensation was offered, participation was encouraged by providing a personalised report of the results and an educational workshop. Participants were recruited from schools that had collaborated in previous research and the official directory of educational institutions by the Generalitat Valenciana (GVA). School staff (e.g. counsellors, head teachers, or psychology departments) agreed to explain the study's aims and coordinate data collection within class time.

Data Analysis. First, internal consistency of the test scores was assessed using Cronbach's α and McDonald's ω, with polychoric correlation matrices. For the two-item scale

(i.e. the Social Media-Induced Inspiration Scale), Spearman-Brown coefficient was calculated (Eisinga et al., 2013).

Second, multiple confirmatory factor analysis (CFA) models were tested to confirm the theoretical latent structure for the DFSA: a one-factor model, an uncorrelated five-factor model, a correlated five-factor model, and a five-factor model with a second order factor. Model fit was evaluated using the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI) (i.e. ≥ .95 = excellent and ≥ .90 = acceptable), Root Mean Square Error of Approximation (RMSEA) with confidence intervals, Standardised Root Mean Square Residual (SRMR) (i.e. ≤ .06 = excellent and ≤ .08 = acceptable) (Hu & Bentler, 1999), and the χ^2 statistic (Kyriazos, 2018).

Third, measurement invariance of the test scores was examined across gender and age groups (early adolescence [13-14 years], middle adolescence [15-16], and late adolescence [17-19 years]) using a stepwise approach: (1) a configural model was tested without any restrictions (i.e. configural invariance); next, models were tested with constrained (2) factor loadings (i.e. metric invariance); (3) item intercepts (i.e. scalar invariance); and (4) residual variances (i.e. strict invariance). Responses for the option “non-binary”, “prefer not to say", and “other” were excluded for gender invariance testing due to the low number of cases, which made it unfeasible to analyse the factorial model exclusively for these groups. To assess if constraining the models resulted in a significant reduction in model fit (i.e., measurement invariance), the χ^2 test, *p*-values, changes in CFI (≤ .01) and RMSEA (≤ .015), were examined (Chen, 2007), with ΔCFI and ΔRMSEA prioritized over the χ^2 due to its sensitivity to significant differences even when they are negligible (Kyriazos, 2018). When full invariance was not supported, partial invariance was subsequently tested by freeing parameters exhibiting the largest statistically significant cross-group differences. All CFA and invariance models used Maximum Likelihood with robust correction (MLR), with missing data handled using Full Information Maximum Likelihood.

Lastly, to assess validity evidence based on relationships to other variables, a Spearman correlation matrix was computed. CFA were conducted for each measure with at least three items (McNeish, 2023). Factor scores were then computed for each subscale.

Analyses were conducted using R version 4.3.2, the packages psych (Revelle, 2023), lavaan (Rosseel, 2012), semTools (Jorgensen et al., 2021), and ggcorrplot (Kassambara, 2019).

4.3.2. Results

Table 7 presents descriptive statistics for the study variables and Table 8 indicates the descriptive statistics of the DFSA items.

Table 7

Descriptive Statistics and Validity Evidence Based on Relationships with Other Variables

Variables	*n*	*M*	*SD*	*Mdn*	*MAD*	Min	Max	Skewness	Kurtosis
DFSA connectedness	1,725	2.50	0.92	2.67	0.99	0	5	-0.29	-0.05
DFSA authentic self-presentation	1,726	2.69	0.87	2.75	0.74	0	5	-0.30	0.06
DFSA positive social comparison	1,725	2.23	0.96	2.25	1.11	0	5	0.12	-0.01
DFSA civil participation	1,725	2.93	0.69	3.00	0.59	0	5	-0.42	1.01
DFSA self-control	1,786	2.58	0.84	2.75	0.74	0	5	-0.30	0.06
BSBP Relatedness	1,786	13.84	4.90	15	2.97	0	20	-1.57	2.32
BSBP Competence	1,786	13.59	4.99	15	2.97	0	20	-1.37	1.73
BSBP Autonomy	1,786	13.74	5.08	15	4.45	0	20	-1.34	1.59
Life satisfaction	1,786	5.06	1.39	5.33	1.48	1	7	-0.78	-0.01
Loneliness	1,786	4.26	2.09	4	1.48	0	9	0.10	0.09
Subjective authenticity of positive self-content on social media	1,595	3.79	1.45	4	1.48	1	6	-.40	-0.66
Social Media-Induced Inspiration Scale	1,786	5.64	2.85	6	2.97	0	12	-0.56	-0.22
Internet Aggression Scale	1,786	4.80	2.92	4	1.48	0	20	1.22	3.81
Social Media Disorder Scale	1,786	20.46	10.11	20	10.38	0	52	0.03	-0.02

Note. *n* = sample size; *M* = mean; *SD* = standard deviation; *Mdn* = median; *MAD* = median absolute deviation; Min = minimum; Max = maximum.

Table 8

Descriptive Statistics and Discrimination Indices for Individual Items of the Digital Flourishing Scale

Subscale	Item	*M*	*SD*	Skewness	Kurtosis	% Floor	% Ceiling	Item-total correlation
Connectedness	1	2.71	1.32	-0.18	-0.45	6.3	10.0	0.37
Connectedness	2	2.47	1.10	-0.25	-0.40	4.5	1.4	0.36
Connectedness	3	2.31	1.28	0.07	-0.51	8.6	5.1	0.49
Authentic self-presentation	1	2.54	1.14	0.05	-0.18	3.8	5.0	0.56
Authentic self-presentation	2	2.77	1.08	-0.30	0.22	3.3	5.0	0.58
Authentic self-presentation	3	2.69	1.30	0.02	-0.46	4.9	11.2	0.58
Authentic self-presentation	4	2.73	1.20	-0.23	-0.18	4.5	6.9	0.59
Authentic self-presentation	5	2.72	1.17	-0.25	-0.01	4.8	6.3	0.54
Positive social comparison	1	2.69	1.16	-0.33	-0.32	4.2	3.5	0.47
Positive social comparison	2	2.34	1.21	0.01	-0.41	7.2	3.8	0.61
Positive social comparison	3	2.02	1.27	0.34	-0.37	11.2	4.1	0.62
Positive social comparison	4	1.86	1.35	0.45	-0.49	17.2	4.4	0.56
Civil participation	1	3.02	1.00	-0.86	1.04	3.0	2.7	0.41

Subscale	Item	*M*	*SD*	Skewness	Kurtosis	% Floor	% Ceiling	Item-total correlation
Civil participation	2	3.04	1.07	-0.91	0.56	3.2	2.3	0.43
Civil participation	3	3.06	0.95	-0.56	0.83	1.5	4.2	0.45
Civil participation	4	3.11	0.99	-0.54	0.87	1.9	6.3	0.49
Civil participation	5	2.41	1.20	0.03	-0.29	6.3	4.7	0.39
Self-control	1	2.54	1.10	-0.26	-0.29	4.1	2.1	0.62
Self-control	2	2.50	1.12	-0.21	-0.46	4.1	1.9	0.64
Self-control	3	2.39	1.10	-0.18	-0.43	4.7	1.5	0.56
Self-control	4	2.90	1.02	-0.78	0.41	2.8	1.0	0.48

Note. % Floor = Percentage of participants endorsing the lowest possible score on the item. % Ceiling = Percentage of participantsendorsing the highest possible score on the item. Item-total correlation indicates the item's ability to discriminate between high and low scorers on the subscale.

Table 9 shows the statistical fit of the CFA models. Model 1 demonstrates poor fit according to the cut-off scores. Model 2 shows a better fit, with an acceptable RMSEA, but poor remaining fit indices. Model 3 shows the best fit, with excellent values for all fit indices and an acceptable TLI. Model 4, which considers a second-order factor encompassing the five factors, indicates an acceptable CFI and TLI and excellent RMSEA and SRMR but fits notably worse than Model 3. Therefore, Model 3 was retained in further analyses.

Table 9

Confirmatory Factor Analyses Models

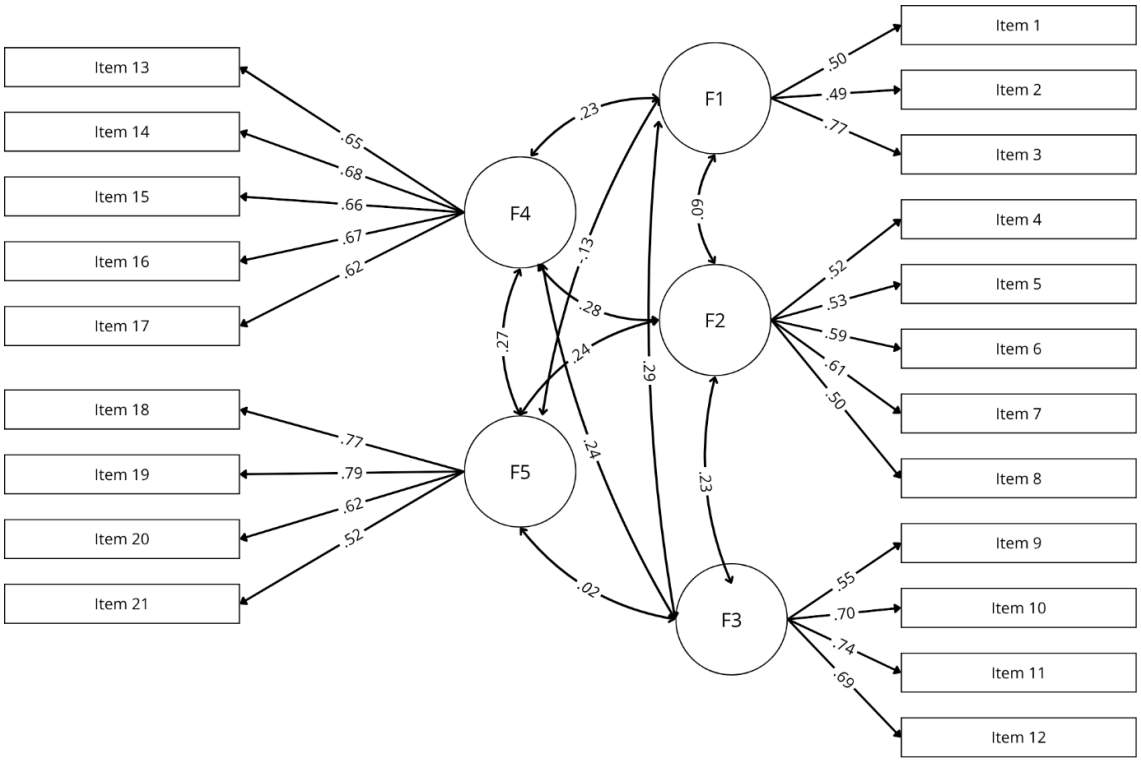
Model	χ^2	*df*	CFI	TLI	RMSEA	SRMR
One factor (Model 1)	4253.388*	189	.380	.311	.125 [.122, .128]	.115
Five uncorrelated factors (Model 2)	862.972*	189	.897	.886	.051 [.047, .054]	.083
Five correlated factors (Model 3)	519.960*	179	.948	.939	.037 [.033, .041]	.033
Five factors model with a second order factor (Model 4)	623.564*	184	.934	.924	.041 [.038, .045]	.047

Note. χ^2 = Chi-Square; *df* = Degrees of Freedom; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardised Root Mean Square Residual. *$p < .05$.

Figure 7 presents the measurement model from Model 3. Most factor loadings were above .50. All correlations between latent factors were statistically significant except for the correlation between Factor 3 (Positive social comparison) and Factor 5 (Self-Control), which was not significant.

Figure 7

Measurement Model of the DFSA



Note. For the sake of clarity, unique variances and intercepts were omitted. Non-significant estimates are written in italics. Factor 1: Authentic self-presentation; Factor 2: Civil participation; Factor 3: Positive social comparison; Factor 4: Connectedness; Factor 5: Self-control.

Table 10 indicates gender (boys and girls) invariance models. The configural model indicates acceptable CFI and RMSEA. Although the metric model indicates a significant χ^2 change, CFI and RMSEA remain within cut-offs. However, the scalar model showed a significant reduction in goodness-of-fit exceeding the cut-off. This indicated a relevant loss in fit, suggesting that constraining item intercepts between men and women resulted in a non-negligible decrease in model fit to the data. Therefore, to continue comparing nested models, a partial invariance analysis was conducted. The intercept of DFSA Civil participation item 2 was identified as the most problematic. By freeing this intercept in the partial scalar invariance model, the changes in fit indices compared to the metric model were below the cut-off, achieving partial scalar invariance. Finally, strict invariance was assessed. The initial strict invariance model (with only DFSA Civil participation item 2 intercept freed) showed a ΔCFI violating the criterion. Further analysis identified the residual variance of DFSA Civil participation item 2 as the most problematic. By freeing both the intercept and the residual variance of DFSA Civil participation item 2, partial strict invariance was supported. In summary, complete metric invariance and

partial strict invariance have been established. This means that men and women share the same latent structure and factor loadings. Furthermore, after freeing the intercept and residual variance of DFSA Civil participation item 2, strict invariance was achieved, which is crucial for comparing both latent factor means and variances between the groups.

Table 10

Confirmatory Factor Models Assessing Gender Invariance

Model	χ^2	*df*	CFI	RMSEA	$\Delta\chi^2$	Δdf	*p*	ΔCFI	ΔRMSEA
Boys	378.644*	179	.940	.040	-	-	-	-	-
Girls	357.366*	179	.947	.038	-	-	-	-	-
Measurement Invariance Models									
Configural invariance	901.710	358	.943	.039	-	-	-	-	-
Metric invariance	945.500	374	.940	.039	33.980	16	.005	.003	.000
Scalar invariance	1069.100	390	.927	.042	125.310	16	< .001	.013	.003
Partial scalar invariance (DFSA Civil Participation - item 2 intercept freed)	1012.031	389	.934	.040	67.297	15	< .001	.007	.001
Partial strict invariance (DFSA Civil Participation - item 2 intercept freed)	1184.858	410	.916	.044	114.200	21	< .001	.017	.003
Partial strict invariance (DFSA Civil Participation - item 2 intercept and residual freed)	909.381	409	.924	.042	19.518	14	.146	.006	.005

Note. χ^2 = chi-square; df = degrees of freedom; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; $\Delta\chi^2$ = chi-square difference from the previous model; Δdf = degrees of freedom difference from the previous model; p = probability value; ΔCFI = change in Comparative Fit Index; ΔRMSEA = change in Root Mean Square Error of Approximation.

Table 11 reports age (early, middle and late adolescents) invariance models. The configural model obtained acceptable fit according to CFI and RMSEA. The metric model indicated non-significant χ^2 difference and minimal loss of fit in CFI and RMSEA. Similarly, the

scalar and strict invariance models do not show a significant χ^2 difference, with CFI and RMSEA below the cut-off thresholds, supporting the assumption of age invariance across factor loadings, item intercepts, and unique variances. Therefore, the different adolescent age groups share a similar latent structure in the DFSA.

Table 11

Confirmatory Factor Models Assessing Age Invariance

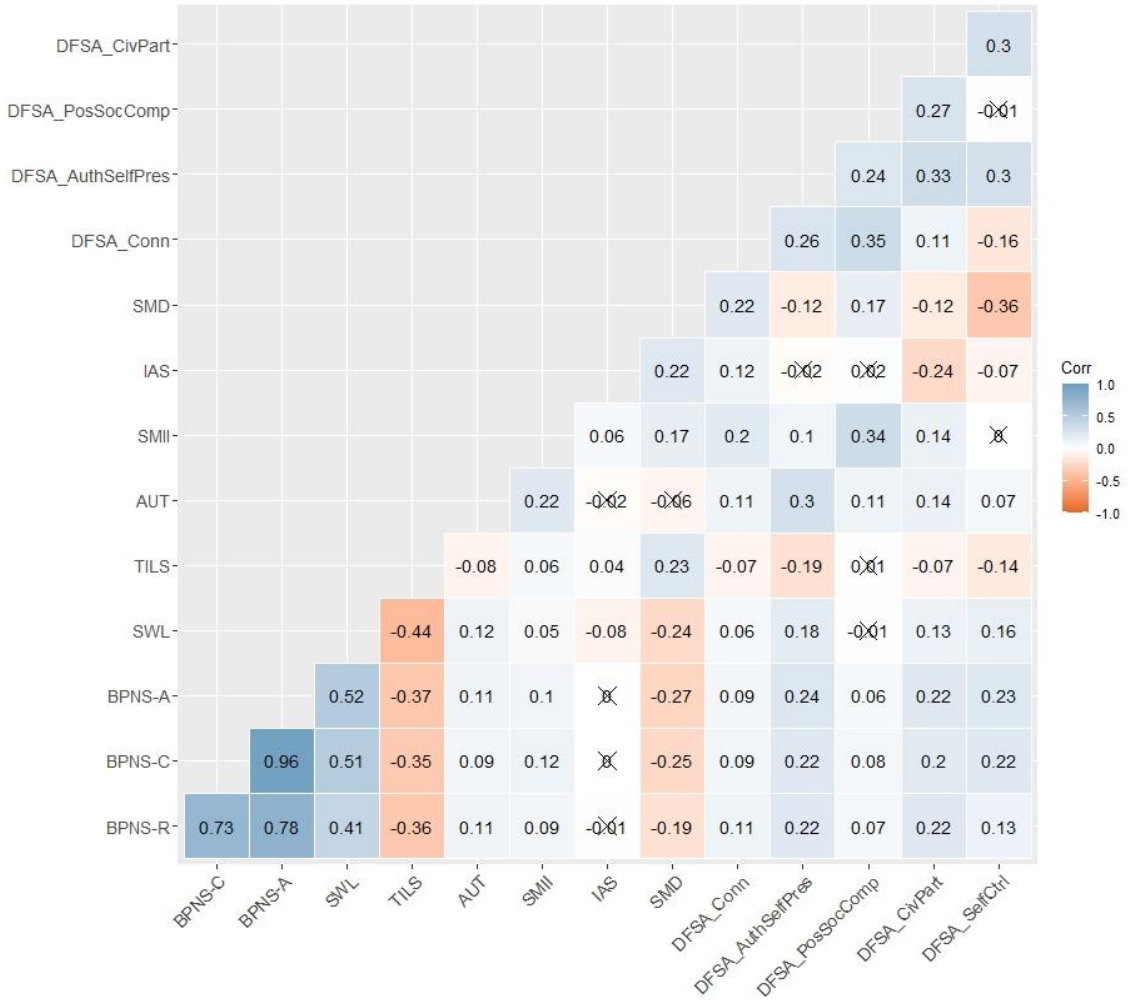
Model	χ^2	*df*	CFI	RMSEA	$\Delta\chi^2$	Δdf	*p*	ΔCFI	ΔRMSEA
Early Adolescence (13-14)	253.726	179	0.953	0.035	-	-	-	-	-
Middle Adolescence (15-16)	365.989	179	0.941	0.039	-	-	-	-	-
Late Adolescence (17-19)	288.115	179	0.948	0.038	-	-	-	-	-
Measurement Invariance Models									
Configural	1105.0	537	0.942	0.035	-	-	-	-	-
Metric	1161.5	569	0.940	0.034	42.849	32	0.095	0.002	0.001
Scalar	1204.8	601	0.938	0.034	43.220	32	0.089	0.002	0.000
Strict	1281.1	643	0.938	0.033	50.372	42	0.176	0.001	0.001

Note. χ^2 = chi-square; df = degrees of freedom; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; $\Delta\chi^2$ = chi-square difference from the previous model; Δdf = degrees of freedom difference from the previous model; p = probability value; ΔCFI = change in Comparative Fit Index; ΔRMSEA = change in Root Mean Square Error of Approximation.

Figure 8 indicates the associations among variables. DFSA dimensions positively correlated with basic psychological needs satisfaction, and life satisfaction, except for positive social comparison, which was not significantly associated with life satisfaction. Loneliness was negatively associated with DFSA connectedness. Subjective authenticity of positive self-content on social media was associated with higher of DFSA authentic self-presentation. Social media-induced inspiration was positively correlated with DFSA positive social comparison. Internet aggression was negatively associated with DFSA civil participation. Finally, problematic social media use was negatively associated with DFSA self-control.

Figure 8

Spearman Correlation Matrix Among Variables



Note. BPNS-R = Basic Psychological Needs Satisfaction Relatedness; BPNS-C = Competence; BPNS-A = Autonomy; SWL = Satisfaction with Life; TILS = Loneliness; AUT = Subjective Authenticity of Positive Self-Content on Social Media; SMII = Social Media-Induced Inspiration Scale; IAS = Internet Aggression Scale; SMD = Social Media Disorder; DFSA_Conn = Connectedness; DFSA_AuthSelfPres = Authentic Self-Presentation; DFSA_PosSocComp = Positive Social Comparison; DFSA_CivPart = Civil Participation; DFSA_SelfCtrl = Self-Control. Non-significant Spearman correlations are blank.

4.4. Study 3: A Longitudinal Survey

4.4.1. Method

Participants. A subsample of 286 adolescents from the cross-sectional Study 2 participated in a follow-up assessment 6 weeks later (M_{age} = 15.71, SD_{age} = 1.08, age range: 14-19; 49.99% boys). Table 12 presents descriptive statistics for the study variables. For more detailed results see Annex 6, Supplementary Material 9.

Table 12

Sociodemographic Characteristics of Participants in the Longitudinal Study

Variables	*n* (%)
Age	286
14	29 (10%)
15	100 (35%)
16	108 (37%)
17	31 (11%)
18	10 (3.5%)
19	8 (2.8%)
Gender	286
Boy	143 (50.9%)
Girl	141 (49.8%)
Non-binary	1 (0.3%)
Prefer not to say	1 (0.3%)

Instruments. The DFSA (Rosič et al., 2022) adapted in Study 1 was administered.

Procedure. The same procedure as in Study 2 was followed.

Data Analysis. To evaluate temporal reliability of the DFSA subscales scores, intraclass correlation coefficients (ICC) for each dimension were computed to detect systematic measurement bias while verifying temporal stability of scores (Correa-Rojas, 2021). The ICC were calculated along with its 95% confidence interval using a two-way mixed-effects model, single measurement, and absolute agreement. Cutoff values of ICC values were: < .50 poor, .50 < .75 moderate, .75 < .90 good, and > .90 excellent reliability of the scores (Koo & Li, 2016).

To evaluate the longitudinal invariance of the DFSA measurement model between measurement time points (time 1 and 2, i.e. after 6 weeks), a series of progressively constrained CFAs was performed using MLR as the estimation method and full information maximum likelihood to handle missing values.

4.4.2. Results

Table 13 reports the ICCs and confidence intervals. Subscales for connectedness, authentic self-presentation, positive social comparison, civil participation, and self-control showed poor to moderate stability, indicating that scores are prone to fluctuate over time.

Table 13

Intraclass Correlation Coefficients and Confidence Intervals

Subscale	ICC	Lower CI	Upper CI	Classification
Connectedness	.467	.372	.553	Poor to Moderate
Authentic Self-Presentation	.504	.412	.585	Poor to Moderate
Positive Social Comparison	.464	.368	.550	Poor to Moderate
Civil Participation	.471	.375	.556	Poor to Moderate
Self-control	.599	.519	.668	Moderate

Note. ICC = Intraclass correlation coefficient. ICC was computed considering a single-measurement, absolute-agreement, two-way mixed effects model.

Table 14 presents fit indices for longitudinal invariance models of the DFSA. The configural, metric, and scalar models show adequate fit indices, with minimal changes in χ^2, CFI, and RMSEA. However, the strict model indicated a significant χ^2 difference. Although ΔRMSEA was within acceptable limits, the decrease in CFI exceeded the threshold. Hence, the DFSA demonstrated longitudinal invariance across factor loadings and item intercepts but not for unique item variances.

Table 14

Longitudinal Invariance Models

Model	χ^2	*df*	CFI	RMSEA	$\Delta\chi^2$	Δdf	*p*	ΔCFI	ΔRMSEA
Time 1	328.651	179	.916	.047	-	-	-	-	-
Time 2	320.362	179	.941	.047	-	-	-	-	-
Configural	649.01	358	.931	.047	-	-	-	-	-
Metric	673.04	374	.930	.046	17.401	16	.360	-.001	-.001
Scalar	693.33	390	.929	.046	20.502	16	.198	-.001	-.001
Strict invariance	815.31	411	.901	.052	74.380	21	< .001	-.027	.007

Note. χ^2 = chi-square; *df* = degrees of freedom; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; $\Delta\chi^2$ = chi-square difference from the previous model; Δdf = degrees of freedom difference from the previous model; p = probability value; ΔCFI = change in Comparative Fit Index; ΔRMSEA = change in Root Mean Square Error of Approximation.

4.5. Discussion

This research had two aims: translating and adapting the DFSA and evaluating its psychometric properties in Spanish adolescents. Results showed that the Spanish DFSA is a promising tool for measuring digital flourishing, aligning with prior validations (Janicke-Bowles et al., 2023; Rosič et al., 2022; Schreurs & Vandenbosch, 2026; Yao et al., 2025).

Study 1 improved questionnaire comprehensibility by tailoring it to the Spanish context. While some items were easily understood, others posed difficulties, prompting further refinement. Based on cognitive interviews results, instructions were clarified, the language was simplified, and additional examples were provided to improve clarity. These adjustments laid the groundwork for the psychometric evaluation.

In Study 2, the correlated five-factor model comprising connectedness, authentic self-presentation, positive social comparison, civil participation, and self-control, showed the best fit in the Spanish adolescent context and supports the conceptualization of digital flourishing as a set of interrelated but distinct dimensions. This finding aligns with prior validations of the scale in both adolescent and adult samples (Janicke-Bowles et al., 2023; Rosič et al., 2022), where the multidimensional structure consistently outperformed alternative models. In our sample, both

the one-factor and the hierarchical models showed poorer fit indices compared to the five-factor solution, further supporting a multidimensional conceptualization of the construct over the use of a global DFSA score. Internal consistency was acceptable across subscales, except for connectedness, which was borderline-possibly due to its three-item length (Streiner, 2003).

The study also found strict measurement invariance across age groups, meaning the construct is measured equivalently in early, middle and late adolescents. As a result, observed differences between these age groups could probably be attributed to true differences in the underlying latent variable, rather than to variations in item interpretation (Meredith, 1993). Only metric measurement invariance was met across gender, indicating that the construct is conceptualised similarly by boys and girls. However, the lack of scalar invariance suggests discrepancies in item intercepts across gender, meaning that boys and girls may interpret items differently, potentially leading to biased comparisons of latent means (Blanco-Canitrot et al., 2018).

The DFSA's validity based on relationships to other variables was supported. The connectedness subscale correlated negatively with loneliness, a pattern consistent with prior research suggesting that digital communication can help foster a sense of belonging and reduce feelings of isolation (Trucharte et al., 2023; Vincent, 2016). Authentic self-presentation was positively associated with subjective authenticity, supporting that adolescents who feel able to act in accordance with their values and preferences online also perceive their digital self-presentation as more genuine (Ryan & Ryan, 2019; Schreurs & Vandenbosch, 2022). Positive social comparison online was positively associated with inspiration, consistent with studies showing that upward comparison in online contexts can evoke constructive and motivating emotional responses (Chang, 2023; Meier & Schäfer, 2018). Civil participation was inversely related to internet aggression, indicating that adolescents who engage more frequently in polite and respectful digital communication report lower involvement in hostile online interactions (Lysenstøen et al., 2021; Werner et al., 2010). Finally, self-control correlated negatively with problematic social media use, echoing previous findings that highlight the role of self-regulatory difficulties in problematic patterns of social media engagement (Boer et al., 2020; Osatuyi & Turel, 2018). However, effect sizes were small (r = .05 to .20), finding not uncommon in media effects research (Meier & Reinecke, 2021). These low estimates may reflect moderate measurement error, especially in dimensions like positive social comparison, self-control, and civil participation, which showed lower reliability (DeVellis & Thorpe, 2021). This suggests a need to review and possibly expand these subscales.

It is worth noting the weak, albeit significant, relationship between positive social comparison and the need for competence. Conceptualization of the scale (Janicke-Bowles et al., 2023) proposes that enhancing competence in digital communication involves successfully organising one's online social environment to reduce negative social comparisons and increase positive ones. However, in both the current study and the original validation, this subscale, while significant, shows the lowest correlation with the hypothesized basic psychological need (in this case with competence). This may be due to operationalization of the items. While items capture the received benefits from positive social comparisons, the scale does not address the presence of negative social comparisons, which may be equally important in assessing a sense of competence in digital interactions. Without considering both positive and negative social comparisons, the scale may fail to fully capture adolescents' ability to manage social dynamics in digital communication, which is central to the feeling of competence in this context. Similarly, all DFSA subscales were significantly associated with satisfaction with life, further supporting the scale's relevance in capturing key aspects of overall well-being (Janicke-Bowles et al., 2023; Kjell & Diener, 2021).

Study 3 showed poor to moderate temporal stability of the DFSA across six weeks. The ICC values suggest that scores fluctuate, potentially due to changes in school or family context, social dynamics, digital trends, or broader sociocultural factors (Magis-Weinberg et al., 2021). Given that the DFSA measures adolescents' digital communication experiences, such variability is not unexpected. Adolescence is a developmental period characterised by ongoing changes in self-concept, social habits, and digital engagement patterns, making adolescents more susceptible to variations in their responses (Berk, 2022). Moreover, recent research emphasizes that the time frame chosen for measurement plays an important role in how digital media uses and effects manifest. Media use and its effects can vary depending on the daily events, the distinction between weekdays and weekends, and even seasonal factors (Vandenbosch et al., 2025). It is therefore possible that a six-week interval is insufficient to capture meaningful temporal stability, and longer intervals should be considered in future research. For instance, study on digital flourishing fluctuations among adolescents found relatively stable patterns when assessments were spaced over one-year with four-month intervals (Rosič et al., 2024).

Longitudinal invariance testing showed scalar invariance over time, indicating that score changes reflect genuine shifts in the latent construct rather than interpretation differences (Mackinnon et al., 2022). However, residual invariance was not met, suggesting that item-level

measurement error varied across time. Despite this, the DFSA appears suitable for longitudinal studies, although further research is needed.

The Spanish version of the DFSA offers educators and researchers a promising tool to assess the extent to which adolescents experience their digital communication as enriching and meaningful. While most available instruments emphasize problematic or excessive use, the DFSA offers a complementary, theory-based perspective by capturing five positive dimensions of digital communication. The results support its reliability, structural validity, and measurement invariance in the samples, allowing for use across diverse adolescent groups. In educational settings, the DFSA can help identify areas where students perceive greater or lesser fulfilment in their digital experiences, inform digital literacy programs, and support more balanced technology-related policies. Developed exclusively for research purposes, the scale is not intended for diagnostic or high-stakes decision-making. Instead, it promotes educational dialogue around adolescents' lived positive digital communication experiences, fostering a more holistic understanding of their relationship with technology and supporting the development of healthier, more autonomous, and socially engaged digital habits.

This study has some limitations. First, the cognitive group interviews included fewer male than female participants. Additionally, the sample used to validate the DFSA was composed entirely of students from Valencia and Madrid, limiting the generalizability of the findings to Spanish adolescents as a whole. Moreover, lower internal consistency was found with the connectedness subscale. Future research may explore whether revisiting the original five-item subscale of social connectedness with Spanish adolescents would yield more reliable results than a three-item subscale (Janicke-Bowles et al., 2023). Moreover, DFSA is a self-report measure and captures reflections of adolescents' digital communication experiences rather than actual outcomes. This could lead to socially desirable responses (Janicke-Bowles et al., 2023). However, self-reported measures are frequently used in digital communication use research (Meier & Reinecke, 2021). Finally, while several of the scales used in Study 2 had validated Spanish versions, three instruments had not been formally validated in Spanish: the Satisfaction of Basic Psychological Needs (Girelli et al., 2019), the Virtual Self subscale (Bodroža & Jovanović, 2016), the Social Media-Induced Inspiration Scale (Meier & Schäfer, 2018), and the Internet Aggression Scale (Werner et al., 2010). These were included following the same approach used in the original adolescent validation of the DFSA (Rosič et al., 2022), but relying on non-validated translations is not considered best practice and may affect the accuracy and interpretability of

the results. Future studies should further validate the DFSA with other validated measures in Spanish.

The DFSA focuses on positive digital experiences. Combining it with measures of digital drawbacks may clarify how benefits and harms coexist in media use (Vanden Abeele, 2021). This counterbalance is essential, as positive experiences alone do not capture the full scope of adolescent digital communication. Although the DFSA emphasizes need satisfaction via positive digital interactions, Basic Psychological Needs Theory (Ryan & Deci, 2017) suggests that experiences can also lead to need frustration. Future research should consider developing instruments to assess negative digital experiences linked to need frustration, offering a fuller picture of adolescents' digital lives within SDT. Additionally, cross-country comparisons could reveal how cultural differences shape digital flourishing. Understanding these variations would inform culturally tailored strategies to promote positive digital experiences among adolescents.

4.6. References

Berk, L. E. (2022). *Development through the lifespan*. Sage Publications.

Beutel, M. E., Klein, E. M., Brähler, E., Reiner, I., Jünger, C., Michal, M., Wiltink, J., Wild, P. S., Münzel, T., Lackner, K. J., & Tibubos, A. N. (2017). Loneliness in the general population: Prevalence, determinants and relations to mental health. *BMC Psychiatry*, *17*(1), Article 97. https://doi.org/10.1186/s12888-017-1262-x

Blanco-Canitrot, D., Alvarado, J. M., & Ondé, D. (2018). Consequences of disregarding metric invariance on diagnosis and prognosis using psychological tests. *Frontiers in Psychology, 9*, Article 167. https://doi.org/10.3389/fpsyg.2018.00167

Bodroža, B., & Jovanović, T. (2016). Validation of the new scale for measuring behaviors of Facebook users: Psycho-Social Aspects of Facebook Use (PSAFU). *Computers in Human Behavior*, *54*, 425–435. https://doi.org/10.1016/j.chb.2015.07.032

Boer, M., van den Eijnden, R. J., Boniel-Nissim, M., Wong, S. L., Inchley, J. C., Badura, P., ... & Stevens, G. W. (2020). Adolescents' intense and problematic social media use and their well-being in 29 countries. *Journal of Adolescent Health*, *66*(6), S89–S99. https://doi.org/10.1016/j.jadohealth.2020.02.014

Buchanan, E. M., & Scofield, J. E. (2018). Methods to detect low quality data and its implication for psychological research. *Behavior Research Methods*, *50*, 2586–2596. https://doi.org/10.3758/s13428-018-1035-6

Carpenter, S. (2018). Ten steps in scale development and reporting: A guide for researchers. *Communication Methods and Measures, 12*(1), 25–44. https://doi.org/10.1080/19312458.2017.1396583

Chang, C. (2023). Being inspired by media content: Psychological processes leading to inspiration. *Media Psychology*, *26*(1), 72–87. https://doi.org/10.1080/15213269.2022.2097927

Chen, F. F. (2007). Sensitivity of goodness of fit indexes to lack of measurement invariance. *Structural Equation Modeling: A Multidisciplinary Journal*, *14*(3), 464–504. https://doi.org/10.1080/10705510701301834

Correa-Rojas, J. (2021). Intraclass correlation coefficient: Applications to estimate the temporal stability of a measuring instrument. *Ciencias Psicológicas, 15*(2), 1–16.

Datareportal. (2024). *Digital 2024: Global overview report*. https://datareportal.com/reports/digital-2024-global-overview-report

De la Fuente, R., Parra, A., & Sánchez-Queija, I. (2017). Psychometric properties of the Flourishing Scale and measurement invariance between two samples of Spanish university students. *Evaluation & the health professions*, *40*(4), 409–424. https://doi.org/10.1177/0163278717703446

Deci, E. L., & Ryan, R. M. (2000). The "what" and" why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01

DeVellis, R. F., & Thorpe, C. T. (2021). *Scale Development: Theory and applications* (5th ed.). Sage publications.

Eisinga, R., Grotenhuis, M. T., & Pelzer, B. (2013). The reliability of a two-item scale: Pearson, Cronbach, or Spearman-Brown?. *International Journal of Public Health*, *58*, 637–642. https://doi.org/10.1007/s00038-012-0416-3

Girelli, L., Cavicchiolo, E., Lucidi, F., Cozzolino, M., Alivernini, F., & Manganelli, S. (2019). Psychometric properties and validity of a brief scale measuring basic psychological needs satisfaction in adolescents. *Journal of Educational, Cultural and Psychological Studies, 20,* 215–229. https://doi.org/10.7358/ECPS-2019-020-GIRE

Gudka, M., Gardiner, K. L. K., & Lomas, T. (2023). Towards a framework for flourishing through social media: a systematic review of 118 research studies. *The Journal of Positive Psychology*, *18*(1), 86–105. https://doi.org/10.1080/17439760.2021.1991447

Hoareau, N., Bagès, C., & Guerrien, A. (2021). Cyberbullying, self-control, information, and electronic communication technologies: do adolescents know how to exercise self-control on the internet?. *International Journal of Bullying Prevention*, *5*(4), 306–316. https://doi.org/10.1007/s42380-021-00099-2

Holly, L., Wong, B. L. H., van Kessel, R., Awah, I., Agrawal, A., & Ndili, N. (2023). Optimising adolescent wellbeing in a digital age. *BMJ*, *380*, Article e068279. https://doi.org/10.1136/bmj-2021-068279

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1–55. https://doi.org/10.1080/10705519909540118

Huang, C. (2020). A meta-analysis of the problematic social media use and mental health. *International Journal of Social Psychiatry*, *68*(1), 12–33. https://doi.org/10.1177/0020764020978434

Janicke-Bowles, S. H., Buckley, T. M., Rey, R., Wozniak, T., Meier, A., & Lomanowska, A. (2023). Digital flourishing: Conceptualizing and assessing positive perceptions of mediated social interactions. *Journal of Happiness Studies*, *24*(3), 1013–1035. https://doi.org/10.1007/s10902-023-00619-5

Janicke-Bowles, S. H., Raney, A. A., Oliver, M. B., Dale, K. R., Zhao, D., Neumann, D., Clayton, R. B., & Hendry, A. A. (2022). Inspiration on social media: Applying an entertainment perspective to longitudinally explore mental health and well-being. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, *16*(2), Article 1. https://doi.org/10.5817/CP2022-2-1

Jones, L. M., & Mitchell, K. J. (2015). Defining and measuring youth digital citizenship. *New media & society*, *18*(9), 2063–2079. https://doi.org/10.1177/1461444815577797

Jorgensen, T. D., Pornprasertmanit, S., Schoemann, A. M., & Rosseel, Y. (2021). *semTools: Useful tools for structural equation modeling (Version 0.5-5) [R package].* https://CRAN.R-project.org/package=semTools

Kassambara, A. (2019). *ggcorrplot: Visualization of a correlation matrix using 'ggplot2'* (Version 0.1.3) [R package]. https://CRAN.R-project.org/package=ggcorrplot

Kjell, O. N. E., & Diener, E. (2021). Abbreviated three-item versions of the satisfaction with life scale and the harmony in life scale yield as strong psychometric properties as the original scales. *Journal of Personality Assessment, 103*(2), 183–194. https://doi.org/10.1080/00223891.2020.1737093

Koo, T. K., & Li, M. Y. (2016). A guideline of selecting and reporting intraclass correlation coefficients for reliability research. *Journal of Chiropractic Medicine*, *15*(2), 155–163. https://doi.org/10.1016/j.jcm.2016.02.012

Kyriazos, T. A. (2018). Applied psychometrics: sample size and sample power considerations in factor analysis (EFA, CFA) and SEM in general. *Psychology*, *9*(08), 2207–2230.

Lysenstøen, C., Bøe, T., Hjetland, G. J., & Skogen, J. C. (2021). A Review of the Relationship Between Social Media Use and Online Prosocial Behavior Among Adolescents. *Frontiers in Psychology*, *12*, Article 579347. https://doi.org/10.3389/fpsyg.2021.579347

Mackinnon, S., Curtis, R., & O'Connor, R. (2022). A tutorial in longitudinal measurement invariance and cross-lagged panel models using lavaan. *Meta-Psychology*, *6*. https://doi.org/10.15626/MP.2020.2595

Magis-Weinberg, L., Ballonoff Suleiman, A., & Dahl, R. E. (2021). Context, development, and digital media: Implications for very young adolescents in LMICs. *Frontiers in Psychology, 12*, Article 632713. https://doi.org/10.3389/fpsyg.2021.632713

Manning, N., Penfold-Mounce, R., Loader, B. D., Vromen, A., & Xenos, M. (2017). Politicians, celebrities and social media: a case of informalisation? *Journal of Youth Studies*, *20*(2), 127–144. https://doi.org/10.1080/13676261.2016.1206867

McNeish, D. (2023). Psychometric properties of sum scores and factor scores differ even when their correlation is 0.98: A response to Widaman and Revelle. *Behavior Research Methods, 55*(8), 4269–4290. https://doi.org/10.3758/s13428-022-02016-x

Meier, A., & Reinecke, L. (2021). Computer-mediated communication, social media, and mental health: a conceptual and empirical meta-review. *Communication Research, 48*(8), 1182–1209. https://doi.org/10.1177/0093650220958224

Meier, A., & Schäfer, S. (2018). The positive side of social comparison on social network sites: How envy can drive inspiration on Instagram. *Cyberpsychology, Behavior, and Social Networking*, *21*(7), 411–-417. https://doi.org/10.1089/cyber.2017.0708

Meier, A., Gilbert, A., Börner, S., & Possler, D. (2020). Instagram inspiration: How upward comparison on social network sites can contribute to well-being. *Journal of Communication, 70*(5), 721–743. https://doi.org/10.1093/joc/jqaa025

Meredith, W. (1993). Measurement invariance, factor analysis and factorial invariance. *Psychometrika*, *58*(4), 525–543. https://doi.org/10.1007/BF02294825

O'Keeffe, G. S., & Clarke-Pearson, K. (2011). The impact of social media on children, adolescents, and families. *Pediatrics*, *127*(4), 800–804. https://doi.org/10.1542/peds.2011-0054

Ortuño-Sierra, J., Aritio-Solana, R., Chocarro de Luis, E., Nalda, F. N., & Fonseca-Pedrero, E. (2019). Subjective well-being in adolescence: New psychometric evidences on the

satisfaction with life scale. *European Journal of Developmental Psychology, 16*(2), 236–244. https://doi.org/10.1080/17405629.2017.1360179

Osatuyi, B., & Turel, O. (2018). Tug of war between social self-regulation and habit: Explaining the experience of momentary social media addiction symptoms. *Computers in Human Behavior, 85*, 95–105. https://doi.org/10.1016/j.chb.2018.03.037

Padilla, J. L., & Benítez, I. (2014). Validity evidence based on response processes. *Psicothema*, *26*(1), 136–144. https://doi.org/10.7334/PSICOTHEMA2013.259

Revelle, W. (2023). *psych: Procedures for personality and psychological research* (Version 2.3.9) [R package]. Northwestern University. https://CRAN.R-project.org/package=psych

Rosič, J., Janicke-Bowles, S. H., Carbone, L., Lobe, B., & Vandenbosch, L. (2022). Positive digital communication among youth: The development and validation of the digital flourishing scale for adolescents. *Frontiers in Digital Health*, *4*, Article 2. https://doi.org/10.3389/fdgth.2022.975557

Rosič, J., Schreurs, L., Janicke-Bowles, S. H., & Vandenbosch, L. (2024). Trajectories of digital flourishing in adolescence: The predictive roles of developmental changes and digital divide factors. *Child Development, 95*(5), 1586–1602. https://doi.org/10.1111/cdev.14101

Rosseel, Y. (2012). lavaan: An R package for structural equation modeling. *Journal of statistical software*, *48*(1), 1–36.

Ryan, K., Gannon-Slater, N., & Culbertson, M. J. (2012). Improving survey methods with cognitive interviews in small-and medium-scale evaluations. *American Journal of Evaluation, 33*(3), 414–430. https://doi.org/10.1177/1098214012441499

Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness.* The Guilford Press. https://doi.org/10.1521/978.14625/28806

Ryan, W. S., & Ryan, R. M. (2019). Toward a social psychology of authenticity: Exploring within-person variation in autonomy, congruence, and genuineness using self-determination theory. *Review of General Psychology*, *23*(1), 99–112. https://doi.org/10.1037/gpr0000162

Savci, M., Ercengiz, M., & Aysan, F. (2018). Turkish adaptation of the social media disorder scale in adolescents. *Archives of Neuropsychiatry*, *55*(3), 248–255. https://doi.org/10.5152/npa.2017.19285

Schreurs, L., & Vandenbosch, L. (2022). The Development and Validation of Measurement Instruments to Address Interactions with Positive Social Media Content. *Media Psychology*, *25*(2), 262–289. https://doi.org/10.1080/15213269.2021.1925561

Schreurs, L., & Vandenbosch, L. (2026). Enhancing adolescents' emotion regulation in the social media context: A cluster randomized controlled trial of the Vibe Check social media literacy intervention. *Educational Psychology*, 1–19. https://doi.org/10.1080/01443410.2025.2593545

Smallenbroek, O., Zelenski, J. M., & Whelan, D. C. (2017). Authenticity as a eudaimonic construct: The relationships among authenticity, values, and valence. *The Journal of Positive Psychology*, *12*(2), 197–209. https://doi.org/10.1080/17439760.2016.1187198

Smith, D., Leonis, T., & Anandavalli, S. (2021). Belonging and loneliness in cyberspace: impacts of social media on adolescents' well-being. *Australian Journal of Psychology*, *73*(1), 12–23. https://doi.org/10.1080/00049530.2021.1898914

Streiner, D. L. (2003). Starting at the beginning: an introduction to coefficient alpha and internal consistency. *Journal of Personality Assessment, 80*(1), 99–103. https://doi.org/10.1207/S15327752JPA8001_18

Trucharte, A., Calderón, L., Cerezo, E., Contreras, A., Peinado, V., & Valiente, C. (2023). Three-item loneliness scale: psychometric properties and normative data of the Spanish version. *Current Psychology*, *42*(9), 7466–7474. https://doi.org/10.1007/S12144-021-02110-X/TABLES/7

Vanden Abeele, M. M. P. (2021). Digital wellbeing as a dynamic construct. *Communication Theory*, *31*(4), 932-955. https://doi.org/10.1093/CT/QTAA024

Vandenbosch, L., Beullens, K., Vanherle, R., & Schreurs, L. (2025). Digital media uses and effects: The contributing roles of time. *Journal of Children and Media, 19*(1), 71–76. https://doi.org/10.1080/17482798.2024.2438690

Vincent, E. A. (2016). Social media as an avenue to achieving sense of belonging among college students. *Vistas Online*, *36*, 1–14.

Werner, N. E., Bumpus, M. F., & Rock, D. (2010). Involvement in internet aggression during early adolescence. *Journal of Youth and Adolescence*, *39*, 607–619. https://doi.org/10.1007/s10964-009-9419-7

Yao, W., Hou, H., Yang, P., & Ni, S. (2025). The co-occurrence of adolescent smartphone addiction and academic burnout: The role of smartphone stress and digital flourishing. *Education and Information Technologies*, *30*(4), 4987–5007. https://doi.org/10.1007/s10639-024-13017-y

Ybarra, M. L., & Mitchell, K. J. (2004). Online aggressor/targets, aggressors, and targets: A comparison of associated youth characteristics. *Journal of Child Psychology and Psychiatry*, *45*(7), 1308–1316. https://doi.org/10.1111/j.1469-7610.2004.00328.x

CHAPTER 5

STUDY 3:

Ambivalent Digital Experiences of Adolescent Athletes: A Qualitative Study



Abstract

Smartphones are now fully embedded in adolescents' lives, and for athletes this integration unfolds within a demanding context where the device brings both opportunities and challenges. This study explores how adolescent athletes experience smartphone use within sport and everyday lives. Adopting an interpretivist–constructionist approach, we conducted four focus groups with 20 adolescent athletes federated in various individual and team sports in Spain. Data were analysed through reflexive thematic analysis following an iterative process that combined inductive engagement with participants' accounts and theoretical reflection through the lenses of digital well-being. Through this process, we generated two main themes: i) Integrating the digital as part of being an athlete, where adolescents incorporate the smartphone as a practical complement to their sporting routines; and ii) When connection becomes a burden, when difficulties regulating use interfere with performance and well-being. Overall, the study shows that adolescent athletes' digital experiences are shaped by the coexistence of benefits and drawbacks, revealing an ambivalent yet meaningful integration of the smartphone into their sporting and daily lives.

Keywords: Adolescents athletes; Smartphone use; Digital well-being; Reflexive thematic analysis; Focus groups.

This paper is under review in Current Psychology.

5.1. Introduction

The smartphone has become an omnipresent element in adolescents' lives. Adolescents have grown up surrounded by digital devices that operate as everyday infrastructures for social interaction, mood regulation, entertainment, and access to information (Odgers & Jensen, 2020). This intensified use has generated a broad social and scientific debate about its possible effects on mental health and well-being, with positions ranging from alarmism to the defence of its potential utility (Dienlin & Johannes, 2022). At present, there is a certain consensus that the effects and meanings of the smartphone and social media are not uniform, but rather deeply context-dependent and influenced by multiple moderating factors (Capraro et al., 2025). For this reason, understanding adolescents' digital lives requires moving beyond general accounts of screen exposure and examining how mobile connectivity is embedded in the specific practices, relationships, and contexts that organise their everyday experience (Wolfers, 2024).

In this complex scenario, it becomes especially relevant to analyse the perceived implications of the smartphone in groups whose digital experience may be shaped by particular developmental and contextual demands (Valkenburg & Peter, 2013). Adolescent athletes represent one such group: in addition to having to navigate the dynamics of contemporary adolescent digital life (Gould et al., 2019), they must simultaneously balance academic, athletic, social, and family responsibilities, often under conditions of high pressure (Walton et al., 2022). This accumulation of pressures creates a particularly demanding environment that can hinder personal balance and increase their vulnerability to physical and mental health problems (Van Slingerland et al., 2019). It is not surprising that smartphone use has been identified as a growing concern among coaches and sport professionals (Durand-Bush & DesClouds, 2018; Gould et al., 2019).

From a quantitative perspective, research on smartphone use in the sporting context has mainly focused on its risks, highlighting negative effects on performance and mental health (Ong et al., 2023). Among adolescent athletes, associations have been identified between greater time spent on social media poorer affective states and maladaptive behaviours (Fiedler et al., 2023). In experimental contexts, it has been observed that using the smartphone 30–45 minutes before competing may induce mental fatigue and impair decision-making and performance (Fortes et al., 2019). In turn, phenomena such as phubbing, understood as ignoring others to attend to one's device, have been shown to affect group cohesion, especially in team sports (Zhang et al., 2022). Although these studies are valuable, they tend to offer a pathologising view of the digital environment, aligned with the discourse of moral panic that overstates the potential harmful effects of technology on youth (Odgers & Jensen, 2020) and

simplifies a much more complex phenomenon, overlooking the subjective meanings and the diversity of digital experiences that characterise the everyday lives of adolescent athletes (Vanden Abeele, 2016; Wolfers, 2024).

To address these limitations, qualitative studies in sport have increasingly examined how athletes engage with digital technologies, exploring the meanings these technologies acquire in their sporting and social worlds. Within this growing body of work, digital qualitative research in sport has emerged as an approach that investigates such meanings through digital content, contexts, and practices, acknowledging the embedded and ubiquitous nature of technology in sport (Goodyear & Bundon, 2021). More recently, this tradition has extended to studies specifically focused on smartphone use. A recent systematic review by Ong and Chua (2024) synthesised this emerging body of work by identifying seven qualitative studies addressing the effects of electronic device use among athletes, which collectively highlight the ambivalent nature of the smartphone's impact on athletes. On the one hand, studies have documented detrimental effects of smartphone use in the sporting context, emphasising its role as a source of distraction, time loss, and mental fatigue, as well as its association with reduced performance, sleep disturbances, stress, and anxiety. These experiences are linked to difficulties in maintaining concentration, exhaustion resulting from excessive use, and interpersonal tensions generated by hyperconnectivity, the pressure to respond to messages, or the fear of missing relevant information (DesClouds & Durand-Bush, 2021; Hayes et al., 2019, 2020; Ong et al., 2023, 2024). On the other hand, these same studies have also highlighted the beneficial effects of smartphones and other electronic devices on the sporting experience, noting that athletes use them to regulate their emotional state, relieve competitive pressure through "beneficial distraction," and find moments of relaxation and disconnection from the demands of sport. Moreover, these technologies foster social connection and a sense of belonging by allowing athletes to maintain contact with family and friends during trips or periods of isolation, to reinforce social support and morale through messages of encouragement, and to strengthen group cohesion and communication. Finally, their instrumental benefits are also recognised, as they facilitate planning, self-monitoring, task organisation, psychological preparation, and quick access to relevant information about opponents or sporting events (DesClouds & Durand-Bush, 2021; Hayes et al., 2019, 2020).

The concept of digital well-being offers a particularly suitable framework to understand how adolescent athletes experience smartphone use in their everyday and sporting lives (Vanden Abeele, 2021). Digital well-being is rooted in the paradoxical reality of mobile media, which enable an always-connected lifestyle without time and space constraints while both

expanding and restricting human autonomy (Vanden Abeele et al., 2018). On the one hand, mobile connectivity allows people to stay in touch with their social networks, manage responsibilities, and access information or entertainment anytime and anywhere, offering adolescents a wide range of digital resources through messaging apps, social media, information and entertainment platforms, or organisational tools that structure, condition, and guide how they act, communicate, and coordinate in their daily lives (Vanden Abeele et al., 2021). On the other hand, smartphones introduce pressures of permanent availability, reinforced by awareness cues such as notifications and read receipts (Halfmann et al., 2023), and intensified by addictive design features such as infinite scroll or short-form videos (Flayelle et al., 2023), which make it difficult to maintain control over their use. In this context, digital well-being is defined as a subjective and dynamic balance between the benefits and drawbacks brought by mobile connectivity (Vanden Abeele, 2021). This balance should not be understood as a fixed state but as a dynamic and changing negotiation that emerges as a result of the interaction between personal characteristics, device design, and the social environments of each individual (Vanden Abeele, 2021). From this model, personal factors such as impulsivity or mood, device characteristics such as notifications or infinite scrolling, and the demands, expectations, and responsibilities emerging from the different roles and contexts in which individuals operate act jointly in shaping how connection is experienced (Vanden Abeele & Syvertsen, 2025).

In summary, qualitative research has increasingly demonstrated the complexity and ambivalence of athletes' digital experiences, moving beyond pathologising accounts of smartphone use (DesClouds & Durand-Bush, 2021; Ong & Chua, 2024). In this study, the digital well-being framework is used as a sensitising concept (Patton, 2015) that helps interpret how adolescent athletes make sense of this ambivalence within their everyday and sporting lives (Vanden Abeele, 2021). Within this expanding field, the present study extends knowledge in three ways. First, it diversifies the sociocultural scope of existing qualitative work, which has largely focused on Anglo-Saxon contexts (Goodyear & Bundon, 2021), by focusing on adolescent athletes in Spain. Second, it enriches previous studies by bringing digital well-being into dialogue with adolescent athletes' accounts, offering an interpretive lens for understanding how they negotiate mobile connectivity in context (Vanden Abeele, 2021). Third, it examines the usefulness of this concept in the sporting context, since studies on adolescents that have adopted this framework to date have been developed almost exclusively within educational settings (Rosič et al., 2024).

The research questions evolved throughout the project. Initially broader and encompassing different contexts and participants, they were later refined to focus specifically

on adolescent athletes. The final research question was therefore: How do adolescent athletes perceive the impact of the smartphone on their sporting and daily life?

5.2. Methodology

This study is grounded in an interpretivist–constructionist paradigm. From this perspective, social reality is conceived as a human construction, multiple and changing, in which knowledge is co-constructed through interpretation and interaction between the researcher and the participants (Sparkes & Smith, 2014). Accordingly, adolescent athletes' digital experiences are not approached as fixed or self-evident realities, but as meanings constructed through participants' accounts and situated within the social, cultural, and relational contexts in which smartphone use takes place. Rather than assuming a single meaning of smartphone use, we attend to the diversity of ways in which adolescents make sense of its presence, benefits, drawbacks, and role within their everyday and sporting lives. We also acknowledge that our position in the research process is neither objective nor neutral but a constitutive part of the knowledge that is generated. Accordingly, focus groups were conducted and analysed through Reflexive Thematic Analysis (RTA; Braun & Clarke, 2019) to explore how adolescent athletes experience and make sense of their digital experiences.

5.2.1. Participants

The study received approval from the Ethics Committee of the University of Valencia (code 2024-PSILOG-3668590). Informed consent was obtained from all participants and, when necessary, from their legal guardians, and all participants completed an online demographic questionnaire before attending the focus groups.

A purposeful and criterion-based sampling strategy was employed to select participants for the study. Inclusion criteria required participants to be between 14 and 19 years of age, to be federated in a sport discipline, and to be regular smartphone users. In total, 20 adolescent athletes participated (M = 16.95; SD = 1.32). To form the focus groups, a stratified sampling approach was used (Robinson, 2014), prioritising internal heterogeneity in terms of gender and type of sport. The final sample consisted of 65% boys and 35% girls, all of European or Mediterranean ethnic background. Team sports were more represented (60%: basketball, football, futsal, handball, rugby) than individual disciplines (40%: swimming, taekwondo, athletics, chess, rhythmic gymnastics, cycling). Table 15 presents the details of the final sample. The composition of each group can be found in Annex 7, Supplementary Material 1.

Table 15

Sociodemographic, Sporting, and Digital Profile of Participants in Study 3

Demographics	*n* or *M*	% or *SD*
Age	16.95	1.317
Gender		
Boy	13	65%
Girl	7	35%
Ethnicity		
European or Mediterranean	20	100%
Educational level		
3º ESO (lower secondary)	1	5%
1º Bachiller (upper secondary)	8	40%
Intermediate Vocational Training	4	20%
Advanced Vocational Training	2	10%
University Degree	5	25%
Type of sport		
Team	12	60%
Individual	8	40%
Weekly time (hours)	7h 36 min	3h 24 min
Years of practice	8.80 years	4.099 years

Note. M = mean; *SD* = standard deviation.

5.2.2. Procedure

Focus groups were selected to capture the diversity of athletes' experiences and to promote interaction that could elicit new reflections, nuances, and shared meanings (Krueger & Casey, 2015), given that the impact of smartphones in adolescence is heterogeneous and context-dependent (Vanden Abeele, 2016, 2021). Each session was moderated by one researcher and observed by another, who supported facilitation and documented group dynamics. A semi-structured guide was used as a flexible support tool that allowed adaptation to the flow of discussion. The questions were designed to explore the ambivalence of mobile connectivity (Vanden Abeele, 2021), addressing general and sport-specific smartphone use, perceived benefits (e.g., "What benefits do you get from using the apps or smartphone

features?"), drawbacks (e.g., "What disadvantages do you experience when using the apps or smartphone features?"), and the influence of usage norms across contexts such as family, school, and sport (e.g., "Does your coach establish rules about how and when to use your smartphone in the sports setting?"; "How do these rules or decisions make you feel?"). The complete guide is provided in Annex 7, Supplementary Material 2.

A pilot group (n = 2) was first conducted online with two adolescent athletes to test the clarity of the questions and the guide's dynamics. However, the virtual format limited interaction and rapport, leading to the decision to hold the main sessions face-to-face. Subsequently, four focus groups were conducted with federated adolescent athletes (n = 18). Each session involved four to five participants, lasted 70–100 minutes, and was organised between December 2024 and February 2025 in collaboration with a state-subsidized private school located in Valencia (Spain). To broaden the sample beyond the school context, a fourth group was conducted with first-year university athletes under 19 years of age, recruited through university lecturers.

All focus groups were audio recorded with consent and transcribed verbatim using Whisper software (Spiller et al., 2023). As the tool does not identify speakers, the researcher manually reviewed and corrected each transcript while re-listening to the recordings, incorporating notes on pauses, tone, and other nuances. Field notes from the moderator and second researcher were added to capture non-verbal behaviour, group dynamics, and contextual aspects (e.g., interruptions or background noise). Participants were anonymised through a code indicating group (PG for the pilot group and FG1–4 for the focus groups), gender (W/M), and a number corresponding to the order of participation. The sport practised was also added with a hyphen. For example, FG2W3-athletics refers to the third female participant of the second focus group who practises athletics.

The decision to stop data collection was guided by the principle of information power (Malterud et al., 2016; Braun & Clarke, 2021a). After the third focus group within the same school context, participants' accounts began to converge, with no new insights relevant to the research questions. To enhance diversity, a fourth group was conducted with university athletes aged 18–19, which provided additional nuances regarding smartphone use in family and academic contexts. However, the information concerning benefits, drawbacks, and digital dynamics in sport was largely consistent with previous groups. Based on these observations and supported by the first stage of data familiarisation (Braun & Clarke, 2019), it was concluded that the dataset offered sufficiently rich and varied material to address the study aims.

5.2.3. Data Analysis

The analysis was conducted using RTA (Braun & Clarke, 2006, 2019), consistent with the study's interpretivist–constructionist approach. This framework enabled the examination of how meanings were constructed, negotiated, and articulated in participants' accounts, while allowing themes to be actively developed through the researcher's reflexive engagement with the data and later interpreted in dialogue with digital well-being literature (Vanden Abeele, 2021; Vanden Abeele & Syvertsen, 2025). A visual example of how the early phases of the RTA were carried out is provided in Annex 7, Supplementary Material 3.

The process followed the six recursive phases proposed by Braun and Clarke (2019): (1) familiarisation with the data, (2) generating initial codes, (3) searching for preliminary themes, (4) developing and reviewing themes, (5) refining, defining, and naming themes, and (6) writing up. These phases were approached as a flexible and iterative guide rather than a linear sequence, and the process was led by the first author. Intercoder reliability or artificial intelligence assistance was not employed (Braun & Clarke, 2021b; Monforte, 2026). The application of these analytical phases is detailed below.

During familiarisation, all transcripts were read in paper form, integrating field notes (pauses, tone, incidents) and early analytic annotations capturing first impressions and reflexive thoughts, while the original audios were re-listened to.

Coding was carried out manually in Atlas.ti through multiple rounds that combined primarily inductive engagement with the data with theoretically informed interpretation, and both semantic and latent levels of analysis. Initially, primarily semantic codes were assigned to relevant fragments (e.g., "Communication with teammates through WhatsApp"), accompanied by analytical comments noting early interpretations. For instance, the code "Social comparison with other athletes" included reflections such as "This comparison generates negative feelings of frustration and demotivation, according to the participant." In later rounds, the analysis progressed toward identifying latent meanings, generating codes that went beyond description, such as "Positive attitude towards listening to music before competition". Inductive and theoretically informed reasoning operated complementarily: most codes were developed through close engagement with participants' accounts, while concepts from the digital well-being literature sensitised the analysis to patterns related to ambivalence, connectivity, loss of control, and functional support. For example, the connectivity paradox informed the interpretation of codes such as "Drawbacks as a result of excessive connectivity", while other meanings, such as the use of smartphones as a means of regulating arousal, were developed

through engagement with the data. In total, 84 provisional codes exported from Atlas.ti were reviewed and refined. These were printed, cut, and manually organised to group related ideas, contrast overlaps, and identify redundant categories.

In moving from codes to themes, related codes were clustered around shared interpretive threads to generate candidate themes, each with an initial working definition. through successive re-readings of codes, quotations, and transcripts, broader patterns of meaning were actively developed in relation to the research question. For example, one preliminary theme aimed at capturing the ambivalence of smartphone use was eventually discarded, as it was understood to reflect the boundaries and relations between the themes that describe the benefits derived from integrating the digital as part of being an athlete and the drawbacks that arise when smartphone use becomes a burden. The grouping and refinement were conducted manually using printed codes.

Subsequently, these working definitions were elaborated into full narrative definitions for each theme and subtheme to examine how individual accounts fitted within the overall dataset, which were later refined into their final form in Table 16. This confirmed that the themes captured distinct central ideas with minimal overlap. Writing overlapped with the final stages of theme development, involving constant cross-checking of codes, quotations, and transcripts to ensure coherence across the dataset. The selected quotations were integrated into the manuscript alongside analytical interpretations, aiming to ground the analysis in participants' accounts while recognising that the final themes constitute a situated and reflexive interpretation of those accounts.

5.2.4. Reflexivity

Reflexivity was understood as an ongoing process of examining how our experiences, assumptions, and values shaped the production of knowledge throughout all stages of the study (Braun & Clarke, 2021b; Sparkes & Smith, 2014). The first author, a Spanish male psychologist and PhD student with a personal background in amateur sport, occupied a partially insider position that facilitated rapport and contextual understanding while also requiring awareness of potential power asymmetries when interacting with adolescent participants. His training in psychology and previous familiarity with quantitative research also shaped the early tendency to approach the topic through pre-existing constructs, which was progressively reconsidered as the analysis became more attentive to participants' accounts of ambivalence, negotiation, and situated smartphone use. An example of how reflexivity was applied during the focus groups is the following: having always practised team sports, his questions and examples were initially

influenced by his own sporting experience, which led him, as the research progressed, to purposefully move beyond this perspective and remain open to the experiences of athletes from individual disciplines. Reflexivity was intentionally maintained throughout the entire research process through a research diary documenting analytic decisions and through regular discussions with co-authors, who acted as critical friends (Trainor & Bundon, 2021), bringing diverse perspectives related to sport, adolescence, and qualitative inquiry. These exchanges helped question taken-for-granted assumptions, consider alternative readings of the data, and refine the analytic story, while maintaining coherence between the study's interpretivist–constructionist assumptions, the research questions, and the themes generated.

5.3. Analysis

Through the RTA, two main themes were generated that capture how adolescent athletes perceive and experience their connection to the smartphone in their sporting context and everyday life:

(1) integrating the digital as part of being an athlete, and

(2) when connection becomes a burden (see Table 16).

Table 16

Thematic Structure and Analytic Narrative of Themes and Subthemes

Themes	Brief analytic narrative
Integrating the digital as part of being an athlete	Adolescents actively appropriate technology, where the smartphone does not compete with sporting practice but instead complements and strengthens it.
Learning and training with digital support	The smartphone becomes a learning space where adolescents combine coaches' guidance with their own initiative, integrating the digital into their improvement process.
Connectivity that sustains the sporting community	Digital connectivity acts as a relational fabric facilitates coordination among the different agents in adolescents' lives, extending relational capacity beyond the field.

Themes	Brief analytic narrative
Maintaining emotional balance with the help of the smartphone	The smartphone operates as both a source of emotional experiences and a tool for their regulation, which adolescents integrate into their preparation.
When connection becomes a burden	The same connectivity that facilitates can also turn into a device that, when control over its use is lost, interferes with adolescents' priorities and personal and sporting balance.
If I lose control, my sports performance can get worse	Losing control over smartphone use can erode self-regulation and generate a negative impact on their sporting performance.
Connected but apart	Digital connectivity can disrupt in-person interaction and shared presence and create moments of exclusion or tension that weaken adolescents' sense of social connection.
When smartphone use becomes an emotional strain	Smartphone use can intensify emotional discomfort when comparison leads to frustration or when attempts to distract oneself end up worsening how adolescent athletes feel.

5.3.1. Integrating the Digital as Part of Being an Athlete

Far from understanding the digital sphere as a distraction or a threat to their performance, adolescent athletes describe an integrated relationship between their sporting practice and smartphone use. For them, the device does not compete with sport but rather complements and strengthens it. This theme focuses on this active appropriation of technology and the different ways adolescents incorporate the smartphone into their sporting and everyday life: as a space for learning and training with digital support, as a channel that sustains and expands their sporting community, and as an everyday resource for balancing and managing their emotions related to performance and well-being.

Learning and Training With Digital Support. For adolescents, the smartphone is a companion in their sporting development and a tool for learning and improvement. Beyond a functional resource, they integrate it into their routines to refine technique, prepare for

competition, organise daily life, and maintain autonomy in training. These practices stem from both individual initiative and collaboration with coaches, showing how the digital becomes an integral dimension of sporting practice rather than an external addition (Goodyear & Bundon, 2021).

Notably, adolescents emphasise that the smartphone allows them to learn and perfect their sporting technique by enabling them to observe and analyse their own performance. As FG4M2-football expressed:

> When I've watched a match, it's nothing like what you feel when you're playing compared to what you see from the outside. Sometimes you think you're playing worse than it actually looks, or the opposite, you think you're playing well and then you watch the match and you're like, damn, I should've done this, it looks slower than I thought.

In most clubs, coaches record matches themselves and provide feedback, both individually and collectively. This video analysis practice is complemented by the study of elite athletes or rivals, and the smartphone allows them to receive and review competition footage. For example, FG2M3-basketball told us:

> Our coach sometimes sends us videos [on WhatsApp] from, for example, the NBA or the Spanish Basketball League, or if not, for example, our club has an older team that plays in the EBA League, and he sometimes shows us their plays, videos of the rivals.

In addition, adolescents mention that they turn to platforms such as YouTube, TikTok, or Instagram to look for advice on technique, nutrition, or strength training, depending on what they need at a given moment. In this conversation, two participants described how they use these platforms to solve questions related to their own sports:

> FG3W1-basketball: On TikTok there are lots of physios and stuff like that who help with things like… If something hurts, do this […]
>
> FG3M1-rugby: Same, for example, to strengthen tackling in rugby, do this exercise, or do this one for endurance.
>
> FG3W1-basketball: In basketball, to jump higher, run faster. […] And in the end, I don't know, there's quite useful people there to help you improve.

Adolescents also talk about the smartphone as a key support for competition preparation. They report using federation apps, official websites, or social media to find information about rivals, rankings, and statistics, adjusting their approach before competing: "If you see someone scoring a lot of points, then you're like, 'I'm gonna defend that one really well.

He's not scoring much today'" (PGM1-basketball). In sports with qualifying marks, immediate access to other competitors' results helps them situate their own performance and set realistic goals. FG2M3-basketball summarised this integration of the phone across all stages of preparation:

> In my case, we use apps to see how the rivals are doing, the rankings, how the matches went. And also, we often use the team's Instagram to see who we're playing against and to prepare the match a bit. If you see, for example, in basketball, that there are lots of really tall players, you prepare the match one way or another, and you focus the week's training differently.

At the same time, the smartphone allows them to extend their sporting practice beyond formal training, for example, during the holiday period. In individual disciplines such as cycling or athletics, where progress partly depends on autonomous work, applications like Strava or TrainingPeaks become common monitoring tools that help both the coach and the athlete track performance. FG4W2-cycling explained:

> Well, for example, I have TrainingPeaks. You train, upload the workout, and it shows your performance, your stats, the comparison with other days and stuff. And also, since I don't see my coach that often, she uploads my sessions there and I upload mine, and it's a way of communicating.

Connectivity That Sustains the Sporting Community. The smartphone also plays a key role in the social lives of adolescent athletes, as a tool that allows them to stay in touch and strengthen social bonds with those around them. Through applications like WhatsApp or Instagram, they communicate with friends, teammates, family, and coaches, sharing moments, news, and conversations that keep them connected in daily life. In the sporting context, the smartphone becomes a space that organises the team's social life. FG3W1-basketball illustrated this by saying:

> Many times we've said about going out to eat or something, and someone proposed it in the group: "Hey, for the Christmas dinner or something, do you want to go eat at some place? Or do you have plans tomorrow? We could go watch a match of, I don't know, the older girls at the gym." So in the end, yeah. And I think that if we didn't have that group, maybe we wouldn't do it as much.

Family connections are also mediated by the smartphone. Parents share videos, results, or comments about the sport, and when they cannot attend competitions, post-game calls

become spaces to talk and discuss what happened together. For their part, adolescents use their phones to keep family members updated on schedules and competition venues, extending family presence in the sporting experience and improving organisation.

Finally, coaches and athletes use the smartphone to coordinate the day-to-day aspects of sporting practice. Through messages, they communicate schedules, send call-ups, and make last-minute changes when it is necessary to adapt pitches or available facilities. They also use federation applications to locate fields or venues, information that coaches or athletes themselves share in group chats to organise travel together. FG3M3-handball summarised this point as follows:

> In the end, that's really useful, because they send the locations of the matches, they say what time we have to train. For example, they often tell us to train half an hour earlier on Thursdays, to start half an hour earlier and finish at the usual time so we can add some fitness work or whatever.

Maintaining Emotional Balance With the Help of the Smartphone. For adolescent athletes, the smartphone is both a source of emotional experiences and a tool for regulating them. It also plays a role in their psychological preparation for sport, helping them reach the activation level they consider optimal before competition.

First, adolescents describe social comparison as a normal part of their sporting life, as FG4W1-rhythmicgymnastics illustrated: "In gymnastics, it's normal to compare yourself." Competing means constantly positioning oneself against others, measuring one's progress, and seeing what remains to be achieved (Lee & Matthews, 2025). However, this comparison is not always experienced as pressure or threat. For many, seeing the achievements of other athletes is experienced as a way to stay motivated and learn. FG1M2-athletics elaborated on his experience:

> My sport is about overcoming yourself: you compete against yourself and beat your own record, your times, and your physical condition. So, seeing people who are better in those qualities, well, you tend to say: "These are the people around me, this is what they do, and this is what I have to do." And, well, it's more inspiring than discouraging.

These experiences align with what Schreurs et al. (2023) call assimilative comparison, in which adolescents focus on those they perceive as better in order to learn with/from them. Social media thus become spaces that foster motivation and learning rather than pressure.

Second, adolescents speak of the smartphone as a resource for managing the emotional responses that accompany their sporting and everyday lives. On the one hand, they explain that talking with friends through messages or calls helps them release tension and share what worries them. FG1M1-football explained it this way: "If something happened, you talk about it… to clear your head a bit. If something happened or you feel bad, your friends can also help you." That support is activated among teammates, especially when someone is going through a bad time: "Like a typical teammate who hasn't had a good match, you try to talk to him, cheer him up, motivate him" (FG4M2-basketball).

On the other hand, adolescents also situate smartphone use within their usual responses for managing emotions. Listening to music, watching videos, or spending some time on social media are strategies they use to relieve tension and disconnect from daily worries. As FG3W1-basketball described:

> When I use it, it's because I need to disconnect a bit from school or from anything, so it helps me de-stress […] If I'm really sad, really angry, whatever, and I go listen to music or go on TikTok or something, it even calms me down. Or it makes me forget about my problems for a bit.

Third, adolescents describe phone use as part of their psychological preparation before competitions thanks to its ability to help them regulate their activation level. Depending on the situation and the demands of each discipline, they use it both to increase or decrease their arousal levels, integrating it into their pre-competition rituals.

With the goal of increasing their arousal levels, adolescents explain that "music is the best tool to prepare for a competition, the best one" (FG2M1-swimming). Listening to songs that motivate them helps generate the desired intensity before competing. At a group level, listening to music in the changing room is experienced as a shared ritual that prepares them for competition. Some also turn to sports videos to connect with the challenge, as FG3M1-rugby explained: "What motivates me the most is probably watching the best rugby plays, from national teams."

In other cases, the goal is the opposite: to reduce arousal before competing. In sports that require concentration or precision, such as gymnastics or chess, they use their smartphones to distract themselves slightly and calm their nerves. FG3M2-chess illustrated this situation by saying:

> So I don't get nervous at tournaments or whatever, sometimes I de-stress a bit with social media or some game so I'm not too focused, like I have to make a certain move, and if I mess up or whatever, it relaxes me more.

Taken together, their experiences reflect a functional relationship with technology: it's not just about reacting to the digital environment, but about actively integrating it into the management of their well-being and sporting preparation.

5.3.2. When Connection Becomes a Burden

However, the same connectivity that enhances their sporting life can also become a source of interference and imbalance. Adolescents recognise that when they lose control over their smartphone use, it stops being an ally and turns into a burden that affects both their performance and well-being. This theme gathers experiences in which smartphone use disrupts sporting routines, shifts priorities, deteriorates the quality of relationships, and amplifies emotional discomfort.

If I Lose Control, My Sports Performance Can Get Worse. The negative consequences on their sporting performance, and also their academic work, appear linked to a common difficulty: controlling smartphone use, something that, with greater or lesser success, they all need to deal with. Many describe the smartphone as something that "traps you" (FG3M1-rugby). They talk about how short videos on apps like TikTok or Instagram keep them hooked: "it's endless, really, you keep scrolling and there's always another one. If you don't set a limit…" (FG3W1-basketball). They also mention video games, where there is always a new level to beat, and the habit of jumping from one app to another or replying to notifications without thinking, which makes time slip away: "you say, I'm just going to check it for a bit. But if you don't stop yourself or whatever, that little bit turns into hours" (FG3W1-basketball). In their experiences, we can see the feeling of losing autonomy in front of a device that captures their attention and shapes their decisions, an experience that illustrates the paradox of connectivity (Vanden Abeele, 2021): the same resource that expands their autonomy ends up limiting it.

Adolescents identify several ways in which unregulated use ends up affecting them: it interferes with their rest, concentration, and overall performance in daily tasks. Several participants mention how going to bed late because of smartphone use directly influences their athletic performance. FG2M2-futsal explained it: "When you play in the morning, it's the top 1 [disadvantage] without a doubt. When you play in the morning and you sleep late because of the phone, the next day your body feels it." They also relate that lack of sleep to lower academic performance and are aware of how fatigue affects their attention and energy levels.

Distraction is another of the most frequently mentioned effects. In the academic context, they describe the phone as "what distracts you the most in the world" (FG2M2-futsal). They comment that checking notifications while studying or using it in class prevents them from concentrating and makes them waste time. As FG2M3-basketball recounted:

> In class we usually play together [points to other participants who are classmates] and many times, when we've already finished our work and that, we start playing, but many other times we're playing without having finished because someone else already did and says something to you… and you unconsciously say yes and start playing with that person, and in the end, you don't finish the task, and you have to do it later or at the wrong time.

However, in the sporting context, most say that this kind of distraction doesn't happen in the same way. They say that during training or competitions "I don't touch the phone at all" (FG2M2-futsal). Even those who admit occasional use, try to use strategies to control that inner urge to check it, especially during competitions: "Sometimes we leave it with the coaches, or I just put it in my backpack and that's it" (FG4W1-rhythmicgymnastics).

Finally, some adolescents recognise that the phone can disrupt their time management. They talk about moments when they get distracted and end up postponing training sessions or planned tasks. FG1M1-football described it like this when talking about a training session: "I was going to go down at eight and come back up at nine […], and maybe I get distracted with the phone and suddenly it's half past eight. And then I don't know if I should still go." Similarly, they mention how prolonged phone use while studying leads to breaks that stretch out and delay their responsibilities.

Connected but Apart. Adolescents are also critical of the way the smartphone can interfere with their social relationships. They talk about everyday situations in which the presence of the smartphone breaks the flow of conversation or takes attention away from the other person during face-to-face encounters. As FG4M2-football pointed out: "You're with someone and suddenly they take out their phone or start looking at something. You say: 'It's not the moment, keep it for later, I'm talking to you.'" These phubbing practices were described as annoying and disrespectful, especially in contexts they consider meaningful, such as sport.

Some regret that the moments before competition, traditionally devoted to bonding and spending time with teammates, are increasingly occupied by screens. FG2M1-swimming explained it this way: "There are lots of people there [at competitions] to talk to, to get along with. And if you're on your phone, you don't socialise with anyone." These experiences show

how adolescents perceive that smartphone use can limit in-person interaction and weaken their social connections.

In addition to interrupting social interaction, the smartphone also appears as a space where they can feel excluded. Some describe the discomfort caused by seeing on social media that their teammates have met up without inviting them: “If you see on stories that they’ve met up and they’re from your team, you feel a bit left out” (FG2M2-futsal). Adolescents also spoke of the smartphone use as a possible source of conflict, generating tension within online groups over topics such as political debates or sporting rivalries. These situations show how the same device that helps them stay close and connected with their peers can also make them feel left out or in conflict, reflecting the ambivalent role of the smartphone in their social lives (van der Wal et al., 2024).

When Smartphone Use Becomes an Emotional Strain. Adolescents also identify moments when the smartphone stops working as emotional support and becomes associated with distress. In their experiences, they recognise that comparing themselves with other athletes is not always inspiring (see Theme 2.3), as sometimes it leads to frustration or discouragement, especially when the reference point feels unattainable. FG1W3-taekwondo expressed it like this: “My teacher sends me videos of Korean taekwondo and the Korean girls have their leg up here. Higher than my legs even go […], and I know that’s not gonna happen. Listen, no.”

This kind of comparison, which Schreurs et al. (2023) call contrastive, occurs when attention focuses on differences with others and others’ success feels out of reach. In these cases, the smartphone amplifies exposure to idealised figures, intensifying self-criticism and generating feelings of inferiority or envy. For them, the same process that sometimes inspires improvement can, at other times, undermine confidence and increase emotional distress.

They also acknowledge the limits of the smartphone as a tool for regulating mood. Although many use it to distract themselves or have fun, they are aware that sometimes it can make their distress worse. In the words of FG1M1-football: “If I feel bad, nervous or something, rather than looking at my phone, I go do sport or go outside or… I don’t know, looking at the phone can give me more problems”, showing a critical perspective on the smartphone’s potential effect.

5.4. Reflections

This qualitative study examined adolescent athletes' digital experiences with the aim of understanding how they make sense of smartphone use and its perceived implications in their sporting and everyday lives. The analysis generated two closely related themes that capture the ambivalent place of the smartphone in adolescent sport: its integration as part of being an athlete and the moments in which connection becomes a burden. This study contributes to diversifying the sociocultural scope of qualitative research on digital experiences by focusing on adolescent athletes in Spain (Goodyear & Bundon, 2021). It also extends the digital well-being framework to the sporting context, showing how the value of mobile connectivity is shaped by its fit with the concrete demands, relationships, and routines that organise adolescent athletes' sporting and everyday lives (Vanden Abeele, 2021; Vanden Abeele & Syvertsen, 2025).

The coexistence of the two themes points to the ambivalent character of adolescent athletes' digital experience. In Theme 1, the smartphone appeared as a resource when its use was articulated with a clear purpose within sporting life. Participants described practices such as reviewing video clips to learn from mistakes, coordinating with coaches and teammates through WhatsApp, accessing sport-related information, or regulating pre-competition arousal through music. These uses were not external additions to sport, but part of the routines, relationships, and forms of preparation through which adolescent athletes organise their sporting lives. In this sense, the findings converge with digital qualitative research in sport, which has shown that technologies are embedded in sporting practices, spaces, and relationships (Goodyear & Bundon, 2021), and with DesClouds and Durand-Bush's (2021) study, where athletes' smartphones were integrated across sport, school, and home as tools for managing demands, sustaining connectedness, and supporting self-regulation. From the perspective of digital well-being, these accounts illustrate the functional support that mobile connectivity can provide when it is aligned with adolescents' goals, relationships, and sporting demands (Vanden Abeele, 2021).

Theme 2 shows the other side of this same connectivity. The smartphone became burdensome when its permanent availability, attentional pull, or social visibility interfered with athletes' priorities, relationships, rest, or emotional balance. Among participants, this appeared when night-time use shortened sleep and "the body feels it" during competition the next day, when "a little bit" of app browsing turned into hours, when comparison that could be motivating became frustrating, or when phubbing interrupted face-to-face interaction and stories triggered feelings of exclusion. These findings are consistent with the synthesis offered by Ong and Chua (2024), who showed that electronic device use among athletes can be both facilitative and

debilitative, and with Ong et al. (2024), who reported that dysregulated smartphone use among youth athletes was described as linked to distraction, sleep-related difficulties, reduced focus, and motivational disruption. They also converge with DesClouds and Durand-Bush (2021), who described athletes' smartphone use as a complicated relationship involving both positive functions and negative experiences such as stress, distraction, and disengagement. In these moments, the smartphone moved from supporting sporting life to interfering with the attentional, relational, emotional, and bodily conditions that athletes associated with performance and well-being.

This ambivalence is central to how the present study applies the digital well-being model. Vanden Abeele (2021) argues that the benefits and drawbacks of mobile connectivity are inherently intertwined, since "we cannot have one without the other" (p. 937). The present findings give empirical substance to this idea in adolescent sport: the same connectivity that supports learning, coordination, preparation, and social connection can also generate distraction, prolonged availability, comparison, sleep interference, and difficulties remaining present with others. From this perspective, digital well-being involves "optimizing the ambivalence" (Vanden Abeele, 2021, p. 937), that is, carefully adjusting connectivity so that it provides controlled pleasure and functional support while minimising loss of control and functional impairment. In this study, such adjustment was visible when smartphone use was purposeful, connected to athletes' sporting or relational goals, and compatible with the demands of the activity; imbalance appeared when connectivity was organised instead by habit, attentional capture, social pressure, or the expectation of permanent availability. This reading is consistent with DesClouds and Durand-Bush's (2021) interpretation of athletes' smartphone use as a continuum whose implications vary according to time, purpose, and context of use. It also helps specify the contribution of the present study: adolescent athletes' digital well-being cannot be understood only by asking how much they use the smartphone, but by examining how specific forms of mobile connectivity fit, or fail to fit, within concrete sporting, academic, social, and emotional situations.

The findings also support the dynamic and contextual logic of the digital well-being model. Vanden Abeele (2021) argues that experiences of digital well-being are contingent upon a constellation of person-, device-, and context-specific factors. This constellation was visible throughout participants' accounts. Person-specific factors appeared in adolescents' motivations, emotional states, regulatory capacities, and sporting goals. Device-specific factors appeared in notifications, app design, short-form videos, and the ease with which one digital activity led to another. Context-specific factors appeared in training routines, competition

schedules, team relationships, family expectations, school demands, and shared norms about appropriate use. These factors interacted in ways that made the smartphone supportive in some situations and disruptive in others. The sporting context is therefore relevant because it does not merely provide a backdrop for smartphone use, but actively shapes when connectivity becomes functional, when it becomes burdensome, and when its presence needs to be regulated.

5.4.1. Practical Implications

Given the numerous benefits that adolescents report when smartphone use has a clear and meaningful purpose, the results of this study offer several practical directions for promoting digital well-being among adolescents. For sport professionals, our findings suggest that the challenge lies not only in limiting smartphone use but in integrating it purposefully and in balance, enhancing its positive functions while minimising its risks. The goal is encouraging smartphone uses that help adolescents improve as athletes, foster meaningful social connections, and support their psychological preparation, while raising awareness of the potential downsides of purposeless use. These practices can benefit from continuous dialogue with athletes, encouraging reflection on the boundaries and opportunities of the device at each moment.

It is also essential to recognise that not all adolescents experience or manage smartphone use in the same way. The presence of differences among adolescents, highlights the need to identify the most vulnerable athletes and offer them specific support. One possible strategy would be to designate within each team a player as a reference figure or “digital media captain,” previously trained by the coaching staff, to act as a close role model and source of support to promote balanced digital use. This figure could play a particularly useful role, given that adolescents tend to turn to peers rather than adults when facing difficulties in the digital sphere (Boomgaarden et al., 2022). Having a teammate prepared to provide guidance and support regarding smartphone use could strengthen media literacy within the team and promoting digital well-being.

5.4.2. Limitations and Future Studies

This study presents some limitations that should be taken into account. First, the formative stage of the first author may have influenced the design and facilitation of the groups, as well as the depth and reflexivity of the analysis. Moreover, three of the four groups were conducted in the same educational centre, which could have introduced some homogeneity in

digital experiences. Likewise, the school context itself, rather than a sporting or informal one, may have limited the spontaneity of narratives related to sport and technology.

On the other hand, although some heterogeneity was sought, the sample was composed mainly of non-elite federated adolescents, enrolled in education and residing in urban or semi-urban areas of Valencia (Spain). This profile restricts the transferability of the results, which should be interpreted within the specific cultural and normative framework of this research. However, rather than detracting from its value, these particularities offer useful interpretative insights for similar contexts.

Finally, although the digital well-being framework was used as a sensitising concept to interpret the ambivalent character of adolescent athletes' digital experiences, the study was not designed as a deductive examination of Vanden Abeele's (2021) model. Accordingly, it did not directly assess the specific affective and cognitive appraisals through which adolescents evaluate the integration of mobile connectivity into their ordinary lives. Future research could build on these findings through a deductive qualitative design explicitly organised around the main components of the digital well-being model. This would make it possible to examine how adolescent athletes interpret the balance between connectivity and disconnectivity, and how person-, device-, and context-specific factors shape this balance in concrete sporting situations. Such an approach would be valuable because deductive qualitative research can help build on prior inductive studies, refine existing conceptual frameworks, and examine how theoretical models apply across specific contexts (Robinson & Bailey-Rodriguez, 2026).

Future research could also incorporate the voices of other key actors in the sporting ecosystem (coaches and families) to explore how smartphone use is perceived and regulated from their respective standpoints. Integrating these perspectives would facilitate a more ecological and applied understanding of the phenomenon. A second avenue for future research concerns the sporting experiences of disconnection identified in Theme 5.3.2. In particular, adolescents' accounts suggest that sport may create moments in which smartphone use is temporarily suspended or experienced as incompatible with full engagement in the activity. Building on this finding, future studies could examine more specifically how sporting contexts may foster meaningful spaces of digital disconnection, and how these experiences shape adolescents' broader relationship with smartphone use.

5.4.3. Conclusions

In summary, this study shows that the smartphone forms an integral part of adolescents' sporting experience, generating both opportunities and tensions. Far from being an inherently

positive or negative tool, the meanings and perceived implications of smartphone use varied according to the purpose, moment, and context of use. This coexistence can be interpreted, through digital well-being, as an expression of the situated balance adolescents negotiate between the benefits and drawbacks of mobile connectivity. Listening to the voices of adolescent athletes has allowed us to understand their efforts to maintain this balance: how they appropriate technology to learn, connect, and regulate themselves, while also confronting moments of distraction, comparison, and loss of control. The challenge now lies with those of us who research and work alongside these young people: to help them enhance the benefits and minimise risks, while recognising that their active participation is essential for supporting a healthier and more autonomous relationship with digital devices.

5.5. References

Boomgaarden, H., Tolocho, P., & Song, H. (2022). *Report on the influence of situational variables and personal networks on online resilience and digital skills.* ySKILLS.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative research in sport, exercise and health*, *11*(4), 589–597. https://doi.org/10.1080/2159676X.2019.1628806

Braun, V., & Clarke, V. (2021a). To saturate or not to saturate? Questioning data saturation as a useful concept for thematic analysis and sample-size rationales. *Qualitative research in sport, exercise and health*, *13*(2), 201–216. https://doi.org/10.1080/2159676X.2019.1704846

Braun, V., & Clarke, V. (2021b). *Thematic analysis: A practical guide*. SAGE Publications.

Capraro, V., Globig, L., Rausch, Z., Rathje, S., Wormley, A., Olson, J., ... & Van Bavel, J. J. (2025). *A consensus statement on potential negative impacts of smartphone and social media use on adolescent mental health* [Preprint]. SSRN. https://dx.doi.org/10.2139/ssrn.5256747

DesClouds, P., & Durand-Bush, N. (2021). Smartphones and varsity athletes: A complicated relationship. *Frontiers in Sports and Active Living*, *2*, 560031. https://doi.org/10.3389/fspor.2020.560031

Dienlin, T., & Johannes, N. (2022). The impact of digital technology use on adolescent wellbeing. *Dialogues in clinical neuroscience*, *22*(2), 135–142. https://doi.org/10.31887/DCNS.2020.22.2/tdienlin

Durand-Bush, N., & DesClouds, P. (2018). Smartphones: How can mental performance consultants help athletes and coaches leverage their use to generate more benefits than drawbacks? *Journal of Sport Psychology in Action*, *9*(4), 227–238. https://doi.org/10.1080/21520704.2018.1496211

Fiedler, R., Heidari, J., Birnkraut, T., & Kellmann, M. (2023). Digital media and mental health in adolescent athletes. *Psychology of sport and exercise*, *67*, 102421. https://doi.org/10.1016/j.psychsport.2023.102421

Flayelle, M., Brevers, D., King, D. L., Maurage, P., Perales, J. C., & Billieux, J. (2023). A taxonomy of technology design features that promote potentially addictive online behaviours. *Nature Reviews Psychology*, *2*(3), 136–150. https://doi.org/10.1038/s44159-023-00153-4

Fortes, L. S., Lima-Junior, D., Nascimento-Júnior, J. R., Costa, E. C., Matta, M. O., & Ferreira, M. E. (2019). Effect of exposure time to smartphone apps on passing decision-making in male soccer athletes. *Psychology of Sport and Exercise*, *44*, 35–41. https://doi.org/10.1016/j.psychsport.2019.05.001

Goodyear, V., & Bundon, A. (2021). Contemporary digital qualitative research in sport, exercise and health: Introduction. *Qualitative research in sport, exercise and health*, *13*(1), 1–10. https://doi.org/10.1080/2159676X.2020.1854836

Gould, D., Nalepa, J., & Mignano, M. (2019). Coaching generation Z athletes. *Journal of Applied Sport Psychology*, *32*(1), 104–120. http://dx.doi.org/10.1080/10413200.2019.1581856

Halfmann, A., Meier, A., & Reinecke, L. (2023). Trapped Between Goal Conflict and Availability Norm? *Journal of Media Psychology, 36*(1), 45–57. https://doi.org/10.1027/1864-1105/a000381

Hayes, M., Filo, K., Geurin, A., & Riot, C. (2020). An exploration of the distractions inherent to social media use among athletes. *Sport Management Review*, *23*(5), 852–868. https://doi.org/10.1016/j.smr.2019.12.006

Hayes, M., Filo, K., Riot, C., & Geurin, A. (2019). Athlete perceptions of social media benefits and challenges during major sport events. *International Journal of Sport Communication*, *12*(4), 449–481. https://doi.org/10.1123/ijsc.2019-0026

Krueger, R. A., & Casey, M. A. (2015). Focus group interviewing. *Handbook of practical program evaluation*, 506–534. https://doi.org/10.1002/9781119171386.ch20

Lee, S. & Matthews, B. (2025). Exploring the Emotional Lives of Adolescent Athletes Under Competitive Pressure. *Journal of Adolescent and Youth Psychological Studies, 6*(2), 118–126. http://dx.doi.org/10.61838/kman.jayps.6.2.13

Malterud, K., Siersma, V. D., & Guassora, A. D. (2016). Sample size in qualitative interview studies: guided by information power. *Qualitative health research*, *26*(13), 1753–1760. https://doi.org/10.1177/1049732315617444

Monforte, J. (2026). Generative artificial intelligence and the craft of qualitative health research: Observations from a techno-negative stance. *Qualitative Health Research*, *36*(2-3), 166–180. https://doi.org/10.1177/10497323251365198

Odgers, C. L., & Jensen, M. R. (2020). Annual research review: Adolescent mental health in the digital age: Facts, fears, and future directions. *Journal of Child Psychology and Psychiatry*, *61*(3), 336–348. https://doi.org/10.1111/jcpp.13190

Ong, N. C., & Chua, J. H. (2024). The effects of electronic device use on athlete performance and health: A systematic review. *International Journal of Sport and Exercise Psychology*, 1–29. https://doi.org/10.1080/1612197X.2024.2386318

Ong, N. C., Kee, Y. H., Pillai, J. S., Lim, H. B., & Chua, J. H. (2023). Problematic smartphone use among youth athletes: A topic modelling approach. *International Journal of Sport and Exercise Psychology*, *21*(4), 616–637. https://doi.org/10.1080/1612197X.2022.2078856

Ong, N. C., Kee, Y. H., Pillai, J. S., Lim, H. B., & Lin, Y. C. (2024). Problematic smartphone use among youth athletes: a qualitative investigation using focus groups. *International Journal of Sport and Exercise Psychology*, *22*(3), 645–666. https://doi.org/10.1080/1612197X.2022.2152855

Patton, M. Q. (2015). Fieldwork Strategies and Observation Methods. In *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed., pp. 358–363). Sage Publications.

Robinson, O. C. (2014). Sampling in interview-based qualitative research: A theoretical and practical guide. *Qualitative Research in Psychology, 11*(1), 25–41. https://doi.org/10.1080/14780887.2013.801543

Robinson, O. C., & Bailey-Rodriguez, D. (2026). Deductive qualitative research: An integrative approach to designing studies. *Qualitative Research in Psychology, 23*(2), 369–384. https://doi.org/10.1080/14780887.2025.2604773

Rosič, J., Carbone, L., Vanden Abeele, M. M. P., Lobe, B., & Vandenbosch, L. (2024). Measuring digital well-being in everyday life among Slovenian adolescents: The perceived digital well-being in adolescence scale. *Journal of Children and Media*, *18*(1), 99–119. https://doi.org/10.1080/17482798.2023.2272651

Schreurs, L., Meier, A., & Vandenbosch, L. (2023). Exposure to the positivity bias and adolescents' differential longitudinal links with social comparison, inspiration and envy depending on social media literacy. *Current Psychology*, *42*(32), 28221–28241. https://doi.org/10.1007/s12144-022-03893-3

Sparkes, A. C., & Smith, B. (2014). *Qualitative research methods in sport, exercise and health: From process to product*. Routledge.

Spiller, T. R., Rabe, F., Ben-Zion, Z., Korem, N., Burrer, A., Homan, P., ... & Duek, O. (2023). Efficient and accurate transcription in mental health research-A tutorial on using whisper AI for audio file transcription. *OSF Preprints*.

Trainor, L. R., & Bundon, A. (2021). Developing the craft: Reflexive accounts of doing reflexive thematic analysis. *Qualitative research in sport, exercise and health*, *13*(5), 705–726. https://doi.org/10.1080/2159676X.2020.1840423

Valkenburg, P. M., & Peter, J. (2013). The differential susceptibility to media effects model. *Journal of communication*, *63*(2), 221–243. https://doi.org/10.1111/jcom.12024

van der Wal, A., Valkenburg, P. M., & van Driel, I. I. (2024). In their own words: How adolescents use social media and how it affects them. *Social media+ society*, *10*(2), 20563051241248591. https://doi.org/10.1177/20563051241248591

Van Slingerland, K. J., Durand-Bush, N., Bradley, L., Goldfield, G., Archambault, R., Smith, D., ... & Kenttä, G. (2019). Canadian Centre for Mental Health and Sport (CCMHS) position statement: Principles of mental health in competitive and high-performance sport. *Clinical journal of sport medicine*, *29*(3), 173–180. https://doi.org/10.1097/JSM.0000000000000665

Vanden Abeele, M. M. P. (2016). Mobile lifestyles: Conceptualizing heterogeneity in mobile youth culture. *New Media & Society*, *18*(6), 908–926. https://doi.org/10.1177/1461444814551349

Vanden Abeele, M. M. P. (2021). Digital wellbeing as a dynamic construct. *Communication Theory*, *31*(4), 932–955. https://doi.org/10.1093/ct/qtaa024

Vanden Abeele, M. M. P., & Syvertsen, T. (2025). Theorizing dis/connection: A mutual invitation to mobile media and digital disconnection scholars. *Mobile Media & Communication*, 20501579251360886. https://doi.org/10.1177/20501579251360886

Vanden Abeele, M. M. P., De Wolf, R., & Ling, R. (2018). Mobile media and social space: How anytime, anyplace connectivity structures everyday life. *Media and Communication*, *6*(2), 5–14. https://doi.org/10.17645/mac.v6i2.1399

Walton, C. C., Rice, S. M., & Purcell, R. (2022). Mental health in youth elite athletes. In *Mental health care for elite athletes* (pp. 209–213). Cham: Springer International Publishing. http://dx.doi.org/10.1007/978-3-031-08364-8_22

Wolfers, L. N. (2024). A social constructivist viewpoint of media effects: Extending the social influence model of technology use to media effects. *Communication Theory*, *34*(4), 178–190. https://doi.org/10.1093/ct/qtae015

Zhang, L., Liu, Y., & Du, X. (2022). Relationship between athletes' phubbing and team cohesion: A moderated mediation model. *Forest Chemicals Review*, 441–451.

CHAPTER 6

STUDY 4:

Digital disconnection in adolescent sport: A reflexive thematic analysis of athletes' experiences



Abstract

In a context of pervasive smartphone use and "always-on" connectivity, digital disconnection has emerged as a key area of research concerned with moments of distancing from technology; however, existing evidence has focused primarily on leisure and everyday contexts, paying limited attention to performance-oriented settings such as sport. This study addresses this gap by examining digital disconnection among adolescent athletes, for whom digital technologies occupy a central place in everyday life**,** from an interpretive–constructionist perspective. We conducted five focus groups with 20 federated adolescent athletes from individual and team sports (14–19 years). Data were analysed using Reflexive Thematic Analysis through an iterative process. Three themes captured how adolescent athletes experience and explain smartphone disconnection in their sporting context: (1) When the smartphone ceases to be a relevant option in sporting practice: physical separation from the device and the practical incompatibilities during training and competition reduce opportunities for use, displacing the smartphone from adolescents' practical horizon of action during sporting activity; (2) When smartphone use ceases to be socially appropriate in sporting practice: explicit and implicit social norms, grounded in shared expectations, regulate the legitimacy of smartphone use by delimiting appropriate and inappropriate moments and spaces during training and competition; and (3) When the smartphone ceases to be central due to involvement in sporting practice: attentional and experiential immersion in sport displaces the smartphone from the focus of experience, so that digital disconnection emerges without being deliberately pursued, despite brief and situational reappearances during practice. Overall, digital disconnection among adolescent athletes did not emerge primarily from deliberate individual decisions, but from the alignment of material conditions, social regulation, and embodied involvement in sporting practice, which collectively displaced the smartphone from the centre of experience during training and competition.

Keywords: Digital disconnection; Adolescents athletes; Smartphone use; Reflexive thematic analysis; Focus groups.

This chapter is published in Psychology of Sport & Exercise: Zarco-Alpuente, A., Álvarez, O., Castillo, I. & Samper-García, P. (2026). Digital disconnection in adolescent sport: A reflexive thematic analysis of athletes' experiences. *Psychology of Sport & Exercise*, 85, Article 103098.
https://doi.org/10.1016/j.psychsport.2026.103098

6.1. Introduction

The expansion of mobile technology has consolidated a model of permanent connectivity in which many people live in a state of near-constant availability and exposure to continuous flows of digital information and communication (Vorderer et al., 2017). The smartphone reorganises everyday life by facilitating continuous social connectivity, more autonomous coordination of personal networks, and increasingly personalised access to content and services (Vanden Abeele et al., 2018). However, within this "always-on" context, many individuals experience an imbalance in their daily lives associated with overexposure to such connectivity and difficulties in managing it, which has been linked to a deterioration in psychological and physical well-being (Nguyen, 2021).

Adolescence is a developmental stage that is particularly sensitive to digital hyperconnectivity, as processes of identity exploration, the search for social acceptance, and pressures to remain connected promote an intense integration of digital environments into everyday life (Murciano-Hueso et al., 2020; Orben, 2020). This integration is especially salient because adolescence constitutes a critical period characterised by vulnerabilities that may increase exposure to online risks and amplify the influence of the internet and social media (Saleh, 2024). The centrality of the digital in adolescents' lives has also generated extensive academic and social debate concerning the potential negative effects of intensive digital technology use on adolescents' well-being and mental health, often accompanied by discourses of concern and alarm (Twenge et al., 2018). In the Spanish context, where 92.8% of adolescents own a personal smartphone, this centrality translates into almost constant connectivity which, while offering social and emotional benefits, may also interfere with other areas of daily life and lead many adolescents to express the need for spaces and moments of disconnection that foster rest, concentration, and everyday balance (Márquez et al., 2025).

Against this backdrop, digital disconnection has acquired a central role in contemporary debates and has become established as a distinct field of research (Bagger, 2024; Nassen et al., 2023). Its study is grounded in the premise that fully understanding digital experience requires attention not only to practices of connection, but also to moments in which individuals distance themselves from technology (Vanden Abeele & Syvertsen, 2025). From this perspective, digital disconnection can be conceptualised as a continuum of voluntary practices involving the partial or temporary suspension of the use of digital devices, platforms, or content following their prior adoption (Kuntsman & Miyake, 2019; Nassen et al., 2023).

However, the decision to disconnect does not depend solely on individual will, but is shaped by broader social, normative, and institutional frameworks that delineate when, how, and with what legitimacy disconnection is possible (Syvertsen, 2020). In this regard, Van Bruyssel et al. (2024) argue that actual possibilities for disconnection are traversed by obstacles that emerge through the interaction of material conditions (devices and technological ecosystems, infrastructures, and socio-spatial arrangements of use), social conditions (relationships, expectations, and everyday responsibilities), and individual conditions (habits, dispositions, and moral frameworks through which individuals interpret and regulate their own use). From this perspective, digital disconnection is understood as a situated practice, whose feasibility depends on the specific constellation of conditions that enable or constrain it (Syvertsen, 2020; Van Bruyssel et al., 2024).

To date, most studies on digital disconnection have focused on leisure and consumption contexts, where disconnecting is typically understood as a means of resting, recovering authenticity, or seeking well-being (Fast, 2021). By contrast, in performance-oriented environments such as work, disconnection is redefined because it must be negotiated not only with the need for recovery, but also with demands for attention, efficiency, and productivity, as well as pressures to remain available (Schaefer et al., 2018). The sporting domain shares this performance logic. Within it, the smartphone may be perceived as a potentially disruptive element, capable of generating distraction, loss of focus, or interference with athletes' mental and physical preparation (Ong et al., 2024). At the same time, the device is not external to practice, but deeply embedded in the sporting experience, as it is used to organise routines, monitor training loads, review technical videos, or coordinate with teammates and coaching staff (DesClouds & Durand-Bush, 2021; Goodyear & Bundon, 2021). In this framework, digital (dis)connection in sport acquires an idiosyncratic character, as it is situated within the tension between protecting concentration and sustaining smartphone uses that are functional for performance and the organisation of contemporary sporting practice (DesClouds & Durand-Bush, 2021).

In the case of adolescent athletes, this tension between protecting performance and sustaining functional smartphone use unfolds within a life context in which, in addition to facing challenges characteristic of their generation as digital natives (Gould et al., 2019), they must simultaneously balance academic, sporting, social, and family responsibilities, often under conditions of high pressure (Walton et al., 2022). This accumulation of demands configures a particularly demanding environment, which may hinder personal balance and increase vulnerability to physical and mental health problems (Van Slingerland et al., 2019). It is therefore

unsurprising that smartphone use has become a growing concern among coaches and sport professionals (Durand-Bush & DesClouds, 2018; Gould et al., 2019).

To the best of our knowledge, no studies have addressed digital disconnection as a primary research focus in the context of adolescent sport. Nevertheless, DesClouds and Durand-Bush (2021) provide a relevant contribution by exploring university athletes' relationships with smartphones. Although device use was widespread and functional across multiple domains of daily life, athletes described adopting self-imposed and socially regulated restrictions at key moments within the sporting context, aimed at protecting concentration, respect, and competition preparation. These practices included avoiding smartphone use in spaces such as changing rooms, limiting social interactions prior to competition, or using the device solely for instrumental purposes. Similarly, Ong et al. (2024) report that some adolescent athletes propose creating physical barriers to smartphone use as a strategy to limit access, such as hiding the device or placing it in less accessible locations, as a potentially beneficial measure to reduce distractions and facilitate self-regulation. Taken together, these indications suggest that examining moments of disconnection in sport is key to understanding how this context generates, regulates, or constrains adolescents' possibilities for digital disconnection.

In sum, digital disconnection has become a key issue for understanding contemporary digital experience in adolescence, a developmental stage marked by the centrality of the smartphone and heightened vulnerability to its potential negative consequences (Orben, 2020; Saleh, 2024; Twenge et al., 2018; Vanden Abeele & Syvertsen, 2025). However, available evidence has focused primarily on contexts in which disconnection is understood as a practice oriented towards rest or the recovery of well-being, while performance-oriented environments have received limited attention (Fast, 2021; Nassen et al., 2023). This gap is particularly salient in adolescent sport, where the smartphone, despite being deeply embedded in practice, is perceived by both athletes and sport professionals as a potential distractor (DesClouds & Durand-Bush, 2021; Ong et al., 2024). Nevertheless, digital disconnection has been addressed only peripherally, typically as a secondary aspect within broader studies on technology in sport (DesClouds & Durand-Bush, 2021).

The present study extends existing knowledge in three ways. First, it addresses digital disconnection in sport as a situated practice, whose possibility depends not solely on the will to disconnect, but on conditions that enable, constrain, and give meaning to it within sporting practice itself (Syvertsen, 2020; Van Bruyssel et al., 2024). Second, it contributes to the literature on digital disconnection by positioning adolescent sport as the central focus of analysis, rather

than treating disconnection as a peripheral issue within broader research on technology in sport (DesClouds & Durand-Bush, 2021; Goodyear & Bundon, 2021). Third, it diversifies the sociocultural scope of existing evidence, which has predominantly focused on Anglo-Saxon contexts, by examining the experiences of adolescent athletes in Spain (Goodyear & Bundon, 2021).

The research question evolved over the course of the study. Initially, it focused on how adolescent athletes perceive the impact of smartphone use. However, as the analysis progressed, digital disconnection within the sporting context was identified as a particularly salient focus, prompting a progressive refinement of the question. The initial interest in understanding digital experience in a broad sense ultimately led to a specific focus on digital disconnection and the conditions that make it possible within the sporting context. Accordingly, the final research question guiding this study is: How is digital disconnection produced and experienced among adolescent athletes in the sporting context?

6.2. Methodology

This study is situated within an interpretivist–constructivist paradigm, in which social reality is understood as constructed and context-dependent, and knowledge is produced through interpretative processes aimed at understanding how people make sense of their experiences (Sparkes & Smith, 2014). From this perspective, adolescents' digital experiences are assumed to acquire meaning in relation to the contexts in which they unfold, and the researcher's position is not considered objective or neutral, but rather constitutive of the knowledge that is produced. In line with this approach, focus groups were conducted and the data were analysed using Reflexive Thematic Analysis (RTA; Braun & Clarke, 2019) to explore how adolescent athletes experience and make sense of their digital disconnection.

The methodological process of the study was shaped by the first author's position as a doctoral researcher in training and by the progressive development of his understanding of interpretive qualitative research. In particular, participation in the course "The Practice of Interpretive Research: Reflexivity, Methods and Debates", taught by Professor Javier Monforte at the University of Valencia (Spain), marked a turning point in how knowledge production was conceptualised. This formative process fostered a gradual movement of dis-identification from the epistemic assumptions of a prior training that was predominantly quantitative and postpositivist (Braidotti, 2019). This critical distancing opened up the possibility of alternative ways of thinking and producing knowledge, which are reflected in the methodological decisions described below. In light of this process, the study design evolved gradually and reflexively,

following the iterative logic characteristic of qualitative research, which involved adjustments to the formulation of the research question, the incorporation of new design decisions, and a reorientation of the analytical focus (Busetto et al., 2020).

6.2.1. Participants

The study received approval from the Ethics Committee of the University of Valencia, Spain (code 2024-PSILOG-3668590). Informed consent was obtained from all participants and, when necessary, from their legal guardians, and all participants completed an online demographic questionnaire before attending the focus groups.

A purposeful and criterion-based sampling strategy was employed to select participants for the study. Inclusion criteria required participants to be between 14 and 19 years of age, to be federated in a sport discipline, and to be regular smartphone users. In total, 20 adolescent athletes participated (*M* = 16.95; *SD* = 1.32). To form the focus groups, a stratified sampling approach was used (Robinson, 2014), prioritising internal heterogeneity in terms of gender and type of sport. The final sample consisted of 65% boys and 35% girls, all of European or Mediterranean ethnic background. Team sports were more represented among participants (60%: basketball, football, futsal, handball, rugby) than individual disciplines (40%: swimming, taekwondo, athletics, chess, rhythmic gymnastics, cycling). Table 17 presents the details of the final sample. The composition of each group can be found in Annex 8, Supplementary Material 1.

Table 17

Sociodemographic, Sporting, and Digital Profile of Participants in Study 4

Demographics	*n* or *M*	% or *SD*
Age	16.95	1.32
Gender		
Boy	13	65%
Girl	7	35%
Ethnicity		
European or Mediterranean	20	100%
Educational level		
3º ESO (lower secondary)	1	5%

Demographics	*n* or *M*	% or *SD*
1º Bachiller (upper secondary)	8	40%
Intermediate Vocational Training	4	20%
Advanced Vocational Training	2	10%
University Degree	5	25%
Type of sport		
Team	12	60%
Individual	8	40%
Weekly time (hours)	7h 36 min	3h 24 min
Years of practice	8.80 years	4.10 years

Note. M = mean; *SD* = standard deviation.

6.2.2. Procedure

Although the study design followed a continuous iterative process, it is possible to identify two distinct phases in its development. In the first phase, the study was oriented towards a broad exploration of adolescent athletes' digital experiences, both in their everyday lives and within the sporting context. In the second phase, the focus of the study was reoriented towards digital disconnection in the sporting context, which entailed adjustments to the research question, the data collection design, and the analytical process.

Data collection was organised around the use of focus groups as the primary method, with the aim of broadly exploring adolescent athletes' digital experiences. This format was chosen for its capacity to capture a diversity of perspectives and to foster the collective construction of meaning through group interaction (Krueger & Casey, 2015), in line with the understanding of digital experiences as situated and context-dependent (Syvertsen, 2020; Vanden Abeele, 2016).

During the first phase of the study, a semi-structured guide was designed focusing on general and sport-related smartphone use, perceived benefits and drawbacks, and usage norms across different contexts. Following a pilot focus group conducted online with two adolescent athletes to test the clarity of the questions and the guide's dynamics, four in-person focus groups organised between December 2024 and February 2025 were carried out with federated adolescent athletes (4–5 participants per group; 70–100 minutes).

All sessions were audio-recorded, transcribed verbatim using Whisper software (Spiller et al., 2023), and subsequently reviewed manually. Once this phase was completed, and in

accordance with the principle of information power (Braun & Clarke, 2021a; Malterud et al., 2016), the resulting corpus was considered sufficiently rich to address the original research question.

The transition to the second phase of the study emerged from an analytical reconsideration of the initial design. This reconsideration was prompted by ongoing training in interpretive qualitative research and deeper theoretical engagement with Reflexive Thematic Analysis (Braun & Clarke, 2019, 2023a, 2023b, 2025; Trainor & Bundon, 2021), as well as by suggestions received during the editorial review process at Psychology of Sport and Exercise. Although digital disconnection had already emerged as a relevant theme in the initial analysis, this process prompted a reassessment of its analytical centrality and potential as the core focus of the study, leading to a reformulation of the research question and the initiation of a second RTA process.

In line with this new analytical focus, a second phase of data familiarisation was undertaken, involving systematic re-listening to and re-reading of the original audio recordings and transcripts. This reanalysis indicated that the available corpus was insufficient to robustly address a research question specifically centred on experiences of digital disconnection in the sporting context.

Based on this assessment, the decision was made to resume data collection and expand the corpus by conducting an additional focus group with participants from the fourth group, consisting of university athletes under the age of 19; this additional session was conducted in November 2025. Unlike the previous phase, this session was deliberately held at the sports complex of the University of Valencia – Faculty of Physical Activity and Sport Sciences, incorporating the sporting context as part of the methodological device, given that the location in which discussion takes place influences the experiences that are evoked and the ways in which they are narrated (Elwood & Martin, 2000). A photograph of the space in which this focus group was conducted is provided in Annex 8, Supplementary Material 2.

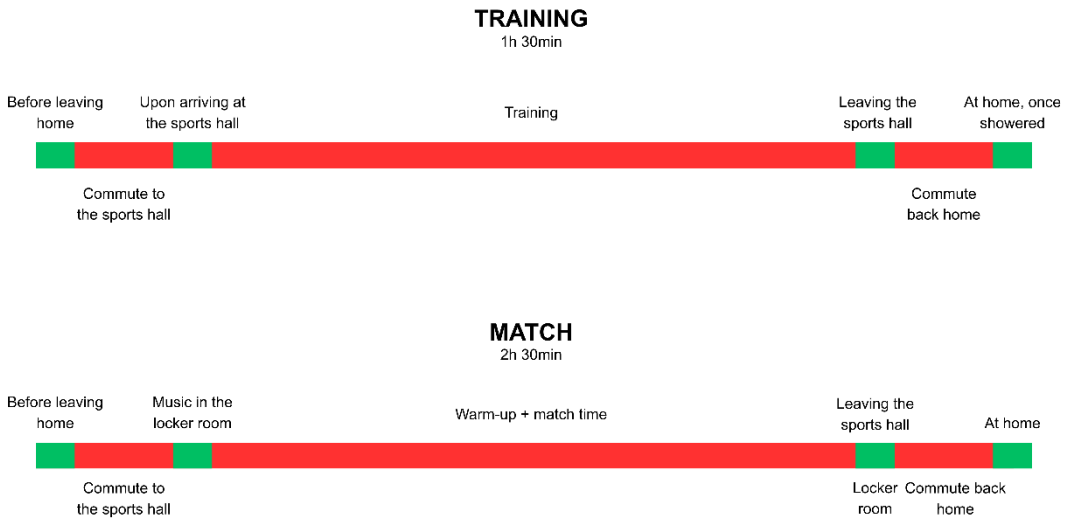
Moreover, in contrast to the initial approach, which was more strongly oriented towards systematic data collection, this phase prioritised greater experiential and narrative depth. To this end, a visual elicitation technique was incorporated, based on an adaptation of the timeline drawing method (Chen, 2018), integrated with elements of the draw-and-tell approach (Goodwin et al., 2023). Participants graphically represented moments of connection and disconnection experienced during training and competition and subsequently explained their drawings to the group. Building on the collective discussion of these materials (included in full

in Annex 8, Supplementary Material 3), the discussion developed in a flexible, conversation-led manner, aimed at addressing previously identified analytical gaps, such as the reasons for not using the smartphone during sporting practice.

This procedure made it possible to identify a shared pattern in which sporting practice was associated with extended periods of digital disconnection during training and competition, while connectivity was concentrated in moments prior to the start of the activity and after its completion (see Figure 9).

Figure 9

Example of Timeline Drawing by FG5M3–futsal



Finally, this additional session was transcribed manually and verbatim by the researcher, foregoing the use of automated transcription tools as a strategy to foster a closer relationship with the data and to initiate the familiarisation process from the earliest stages of analysis (Sparkes & Smith, 2014). The resulting material was subsequently incorporated into the analytical corpus as an additional focus group.

6.2.3. Data Analysis

The data were analysed using RTA (Braun & Clarke, 2019), a qualitative approach aimed at identifying and developing patterns of meaning across the corpus. The analytical process was guided by the six recursive phases proposed by Braun and Clarke (2019): data familiarisation, generation of initial codes, searching for themes, developing and reviewing themes, defining and naming themes, and writing up, understood as a flexible guide rather than a linear

sequence. A visual example of how the manual coding process was carried out can be found in Annex 8, Supplementary Material 4.

Throughout the analysis, an iterative logic was adopted (Sparkes & Smith, 2014), through which the analytical process progressed via an ongoing dialogue between participants' accounts (inductive engagement) and the relevant literature on digital disconnection (theoretically informed interpretation). In this regard, scholarship on digital disconnection (e.g., Van Bruyssel et al., 2024; Vanden Abeele & Syvertsen, 2025) was used as sensitising concepts (Blumer, 1954; Bowen, 2019), providing general analytic orientations that helped refine the interpretation of the data, without operating as fixed categories or as an a priori explanatory framework. This approach contrasts with the more structuring initial analytical phase, in which analysis was organised around pre-established theoretical domains, prioritising the classification of data into conceptual categories over the identification of patterns of meaning that cut across the corpus and enabled the articulation of an interpretive narrative. Regarding the level of meaning, coding began at a predominantly semantic level and moved, where analytically necessary, towards more latent interpretations as themes were developed. Semantic and latent coding were treated as points along a continuum rather than as discrete or hierarchical options (Braun & Clarke, 2021b).

To illustrate how this analytic process unfolded, the following outlines the development of Theme 1, "When the smartphone ceases to be a viable option during sporting practice". Initial coding remained closely tied to participants' explicit descriptions. For example, extracts such as "you leave it in your bag", "you can't be on your phone and fencing at the same time", or "if the resin touches the phone it gets all dirty" were coded at a semantic level as "leaving the phone out of reach", "functional incompatibility during practice", or "material barriers to use". At this stage, coding remained grounded in what participants directly articulated about smartphone non-use in the sporting context. At a subsequent stage, some extracts were interpreted at a slightly more latent level when accounts moved beyond practical impossibility and pointed to the diminished mental presence of the device during training. For instance, when participants stated "I don't think about picking up my phone, I don't feel that need", this was not only coded semantically as non-use, but also interpreted as indicating a temporary reduction in the smartphone's perceived relevance within the situation.

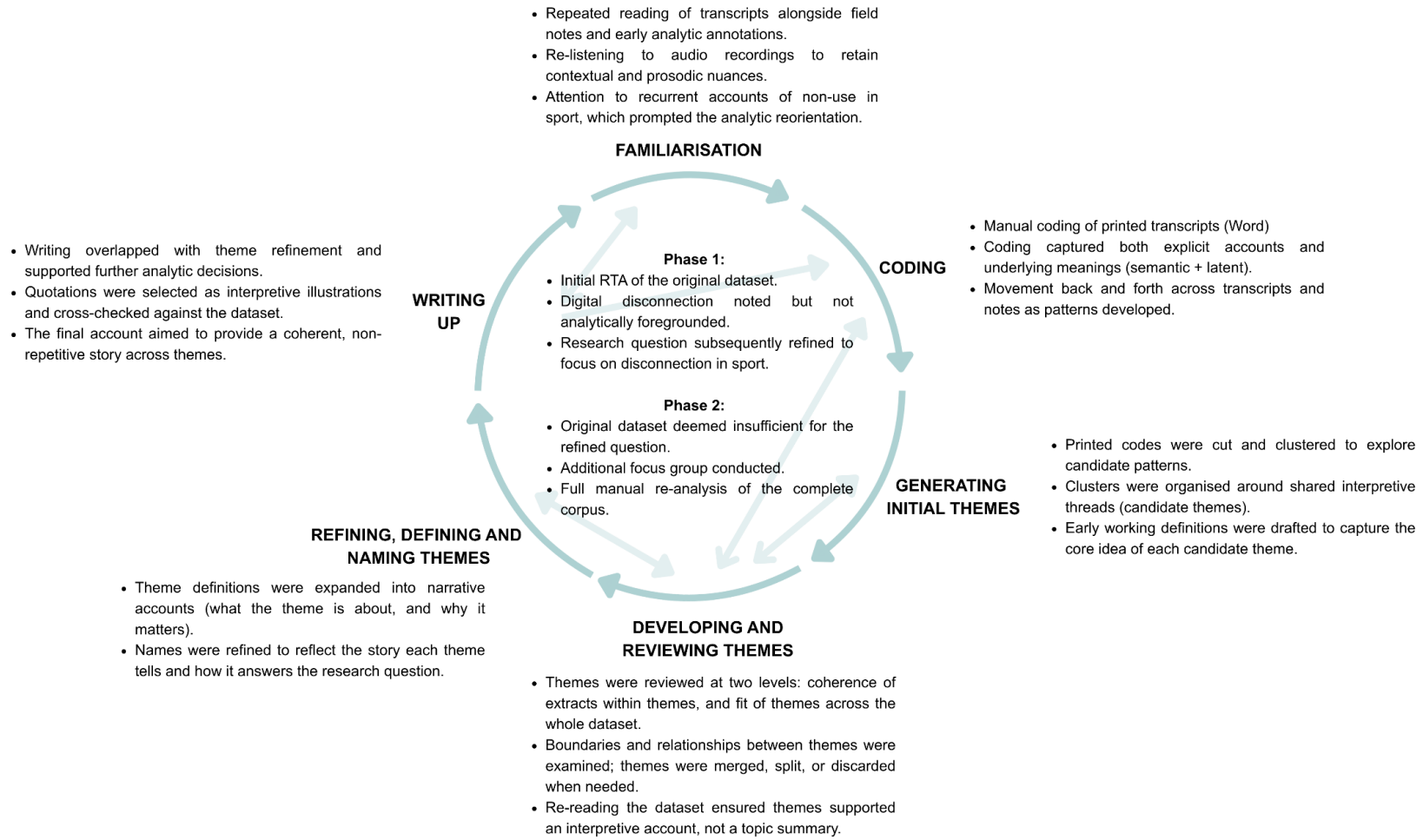
Through recursive comparison across accounts, these codes were integrated into a shared pattern of meaning: sporting practice configured the activity in ways that rendered smartphone use less possible, less relevant, and often not worth considering

while practice was underway. At this point, engagement with Van Bruyssel et al. (2024) provided a sensitising framework that helped organise these emerging patterns. In line with their proposal that experiences of (dis)connection are shaped by the interaction between material, social, and individual conditions, the material dimensions of sporting practice became analytically visible as structuring features of the context that contributed to this displacement (e.g., where the phone is placed, what the body is doing, and what equipment allows). Importantly, this framework did not generate the codes, but offered a conceptual lens through which relationships that had already emerged inductively from the data could be coherently articulated.

Figure 10 provides a visual overview of the RTA process undertaken in this study. Rather than depicting a linear or sequential procedure, the figure conveys the reflexive nature of the analysis, in which analytic focus, research questions and interpretive sensibilities evolved through ongoing engagement with the data. It illustrates how the six phases of RTA were revisited in a flexible and recursive manner, rather than followed as discrete steps. The figure also captures two analytically distinct moments in the study, discussed previously.

Figure 10

Iterative Process of Reflexive Thematic Analysis Throughout the Study



6.3. Analysis

Through the RTA, three main themes were generated that capture how adolescent athletes experience and explain their disconnection from the smartphone in their sporting context:

(1) When the smartphone ceases to be a viable option during sporting practice,

(2) When smartphone use is no longer socially appropriate in the sporting context, and

(3) When the smartphone loses its centrality due to engagement in sporting practice.

6.3.1. When the Smartphone Ceases to be a Viable Option During Sporting Practice

In this first theme, the analysis focuses on how, within the sporting context, the smartphone ceases to appear as a viable option for use for adolescents. Drawing on their accounts, a shared pattern is identified in whic sporting practice configures the conditions of activity in such a way that the smartphone is displaced beyond the practical horizon of action during training and competition.

In many sports, this displacement is first materialised through physical separation from the smartphone. Adolescents describe highly similar routines in which the phone is put away upon arrival at training or competition and remains out of reach throughout the entire session. On competition days, this distance is particularly structured, giving rise to recurrent preparation sequences in which the phone is left in specific spaces before the activity begins. In the case of cycling, FG4W2–cycling explained:

> When you get to the box, you leave it in your bag [the phone]. You focus on getting changed, putting your numbers on, listening to what the race director tells you, getting your equipment ready… and that's when you leave it there. Then you compete […] And when you come back, we have a talk about how it went, what happened, how we felt. And then, once everything's packed away, you pick up your phone.

This separation from the smartphone is described by adolescents themselves as an element that facilitates not using it during sporting practice. Indeed, when asked what they considered to be the main reason for not using the smartphone in the sporting context, FG5W1–rhythmic gymnastics expressed it as follows when comparing situations with and without physical distance from the phone:

> I think so, yes, because that used to happen to us [the previous season, when there wasn't any physical separation]: in the end you'd go to get a drink of water, you had

> your phone there and even if you didn't have any notifications, you'd do the usual thing of checking something. So yeah, I think so, when it's far away it's kind of more… you don't see the possibility of using it.

Beyond physical distance, adolescents describe how the embodied dynamics of sporting practice themselves introduce practical incompatibilities that hinder smartphone use, even when the device is accessible. Motor demands, the need for continuous attention, and the use of the body as the primary instrument of action mean that the smartphone no longer fits functionally within the situation. As FG1W3–taekwondo stated: "You can't be on your phone and fencing at the same time. So you're not on your phone". In other cases, the equipment itself acts as a material barrier. FG3M3–handball explained that, "for us it's impossible. Because when we train with the resin [substance that players apply to their hands and the ball to improve grip], if that touches the phone it gets all dirty". Thus, physical separation from the smartphone and the practical impossibility of using it during activity operate as barriers to use that facilitate digital disconnection.

However, participants consistently note that these barriers, while central, do not operate in isolation nor do they fully explain all experiences of disconnection. For instance, in many sports halls, backpacks are left next to the court, which would allow access to the phone during breaks, effectively removing physical distance and practical incompatibility. Even so, several participants explain that they do not consider using it. As FG5M3–futsal reported:

> We leave our bags near us in the sports hall, against a wall. You put your phone in your pocket. But when you stop to get a drink of water, I don't think about picking up my phone, I don't feel that need.

Therefore, although physical distance and practical incompatibility contribute decisively to the smartphone no longer being a viable option during sporting practice, they do not operate in an isolated or uniform manner. Rather, they appear to be articulated with other processes that shape when, how, and why the device is effectively displaced during training and competition.

6.3.2. When Smartphone Use is no Longer Socially Appropriate in the Sporting Context

In this second theme, the analysis focuses on how, within the context of sporting practice, smartphone use ceases to be considered socially appropriate at certain moments and in certain spaces. Drawing on adolescents' accounts, a shared pattern of social regulation is identified, through which formal and informal norms define expectations regarding appropriate behaviour and delimit the legitimacy of the device during training and competition.

In some teams or clubs, this regulation takes the form of explicit rules associated with sanctions. As reported by FG2M3–basketball: “In my club […] if you touch your phone during training or a match, we get fined. And in the end, no one uses it, unless you tell the coach you have to take an important call or something”. These rules are well known to the athletes, who describe sanctions ranging from financial fines to temporary exclusion from competition or the assignment of corrective tasks.

However, even in contexts where fines or other formal measures exist, adolescents indicate that these are rarely enforced. As FG5M2–football explained: “Last year there were [fines], yeah… but in all the years I’ve played, when that rule has been in place, there’s never actually been a fine for it”. In participants’ accounts, these sanctions appear more as a potential reference than as an effective regulatory mechanism, suggesting that the non-use of smartphones during sporting practice does not primarily depend on the activation of punitive measures.

Instead, regulation of smartphone use in sporting practice operates around a set of shared expectations among the adolescents themselves. These expectations are articulated around criteria of responsibility and commitment. As FG5M1–basketball noted, “it’s about respect for the coach, for your teammates, and about committing to what you’re doing”. Similarly, FG5M2–football expressed it as follows:

> The coach is giving up their own time, and your teammates are too, so it’s not right for someone to be replying to messages. If you want to use your phone, waste your own time, fine, but don’t waste other people’s time.

In practice, these shared values and expectations are embodied in informal norms that regulate behaviour during sporting practice and that adolescents themselves describe as “unwritten rules” (FG4M1–basketball). The changing room emerges repeatedly as a particularly regulated space, associated with conversation, group cohesion, and pre-activity preparation, in which smartphone use loses legitimacy. As FG4M1–basketball summarised: “I think the changing room is a sacred place where there shouldn’t be any phones, it’s for talking, for bonding”. Similarly, adolescents identify specific moments within sporting practice in which smartphone use ceases to be a relevant option, such as during training and competition, or in pre-activity moments devoted to socialisation and concentration.

At the same time, these informal norms do not only define moments or spaces of non-use, but also delimit those in which smartphone use is considered acceptable and functional. Adolescents mention that smartphone use is accepted during long journeys, when the coach

asks them to record an exercise for later review, or when use is directly linked to sporting practice, such as checking results, league standings, or videos of their own team. FG1M1–football explained this in reference to his teammates: "If you see them on their phone, it's because they're showing something to a teammate, or because they're checking a result from the weekend, how things went, how we're doing in the league".

Taken together, these accounts show that regulation of smartphone use in sporting practice does not operate primarily through the imposition of explicit prohibitions, but through a shared normative order that defines which uses are legitimate and which are not depending on the moment, space, and situation. In this way, rather than excluding the device altogether, social regulation contributes to displacing it from the centre of activity at those moments when its use is perceived as incompatible with the dynamics of training or competition.

6.3.3. When the Smartphone Loses its Centrality due to Engagement in Sporting Practice

In this third theme, the analysis focuses on how digital disconnection emerges during sporting practice without being experienced as a conscious decision or a deliberate strategy. Drawing on adolescents' accounts, a shared pattern is identified in which engagement in sporting activity leads the smartphone to lose centrality while they train or compete.

In their narratives, digital disconnection is recurrently linked to the concentration demands imposed by sporting practice, generating an immersive experience in which attention becomes absorbed by the activity. This attentional engagement reduces mental availability to attend to other stimuli, such that the smartphone loses relevance in the immediate experience and ceases to be present. As FG5M2–football noted: "You're focused on training, on the match, and you don't even remember that the phone is there".

This absorption in sporting practice also extends to a more global experience in which sport is described as an activity that "disconnects you from everything" (FG2W1-Chess) and, in that process, also draws the smartphone out of focus. FG5M2–football explained that during training he does not think "about my daily problems or things in my life," because their mind "goes somewhere else". Similarly, FG5M3–futsal noted that sport functions as "a moment of disconnection from everything else […] and I think that includes disconnecting from your phone, from social media, which we're on all day". For FG5W2–cycling, this experience of disconnection is lived in an equally global way, "you disconnect from life in general. You disconnect, you go out and do your thing, and then when you come back, you reconnect again".

In practice, this experience translates into an absence of intention to check the smartphone while training or competing. Even when backpacks are placed close to the court and the device is accessible during short breaks, several adolescents explain that they do not consider taking it out. Thus, FG5M3–futsal reported that, even when stopping to drink water, he does not think about picking up the phone because he is "more concentrated and focused on training, on doing things well, on what I'm demanding of myself, than on paying attention to the phone". Similarly, this absence of the smartphone persists even when practice is undertaken alone. FG5M1–basketball explained that when he trains by himself, "even if I had it in my pocket, I wouldn't even remember that I was carrying it".

However, although this form of digital disconnection is common and widely shared, participants' accounts show that it does not occur in a uniform or continuous manner. At specific moments, some adolescents describe brief contacts with the smartphone when an external demand introduces a particular need for connection that is able to compete, albeit momentarily, with the engagement required by sporting practice. For instance, one participant explained that although he rarely looks at his phone while training, on the days when he has a sports bet placed he feels the need to check the results: "It's the only day, once every three months when I put one euro on a bet, it's the only moment when I look at my phone" (FG5M1–basketball). Similarly, other adolescents mention brief and limited checks between exercises, such as glancing at a notification while drinking water: "when I train, when we go to drink water or when we're recording and all that, there are times when you have to check notifications, but that's it, I check it and that's it" (FG4W1–rhythmic gymnastics).

Taken together, these accounts show that this form of disconnection is not experienced as a continuous or absolute state, but rather as an experience that may be momentarily interrupted when certain personal or situational demands acquire temporary relevance. Nevertheless, these brief contacts do not alter the dominant pattern described by participants: during sporting practice, the smartphone loses centrality as an emergent effect of the sporting experience itself.

6.4. Reflections Derived From the Study

This qualitative study examined how adolescent athletes explain and experience smartphone disconnection within the sporting context. The analysis shows that smartphone disconnection among adolescent athletes is not primarily explained by deliberate individual decisions, but rather emerges from the characteristics of sporting context. Specifically, the findings highlight the role of physical separation and practical incompatibilities that render the

smartphone no longer a viable option during sporting activity (Theme 1), explicit and implicit social norms that delimit when and for which uses the device is considered socially appropriate (Theme 2), and engagement in sporting practice, which displaces the centrality of the smartphone as an unintentional effect of the activity itself (Theme 3). At the same time, participants' accounts show that disconnection is neither absolute nor stable, but rather dynamic and situated, with occasional reappearances of the device depending on personal or contextual demands (Theme 3), reinforcing a conception of digital disconnection as a changing process (Vanden Abeele & Syvertsen, 2025).

In line with Van Bruyssel et al. (2024), experiences of (dis)connection are better understood by attending to the dynamic interaction between material, social, and individual conditions that may facilitate or hinder them. In this regard, our analysis reveals that, in adolescent sport, these conditions tend to align in a particularly favourable way towards non-use during training and competition, in contrast to other everyday environments marked by permanent connectivity and continuous demands for availability (Nguyen, 2021; Vorderer et al., 2017).

First, the material conditions of sport contribute to the smartphone no longer being configured as a viable option for use during training and competition, insofar as physical separation from the device (e.g., when it is stored in the changing room or backpack) and practical incompatibilities associated with bodily movement, use of the hands, and sport-specific equipment effectively reduce opportunities for checking it. This type of "natural" separation from the smartphone has also been described in other sporting contexts, for example in studies with varsity athletes (DesClouds & Durand-Bush, 2021). These barriers can be interpreted as micro-boundaries that help interrupt the stimulus–response chain associated with habitual checking, weakening the automatic activation of smartphone use (Vanden Abeele et al., 2024). The specific contribution of sport is that this separation does not need to be designed or imposed as a strategy, because it emerges from the dynamics the activity.

Second, the social conditions of the sporting context consolidate a 'culture of disconnection' that facilitates distancing from the smartphone. The analysis shows that norms do not operate solely as absolute prohibitions, in the manner of regulations in the school context (Tatum et al., 2018), but rather as a system sustained by adolescents themselves through 'unwritten rules' that delimit when, where, and for which uses the device is considered appropriate. Within this framework, non-connectivity is associated with values of commitment, respect, and cohesion, and smartphone use may be interpreted as a disruptive behaviour that

affects the group and the meaning of the activity, particularly in spaces such as the changing room or in moments prior to competition. This interpretation aligns with the work of DesClouds and Durand-Bush (2021), who show that even in the absence of formal team-level regulations, smartphone use in sport is governed by strongly shared and socially sanctioned unwritten norms. Therefore, and considering that adolescence is a developmental period that is particularly sensitive to hyperconnectivity (Orben, 2020; Saleh, 2024; Twenge et al., 2018), this culture of disconnection is relevant because it reduces the social cost of being unavailable and shifts disconnection from being 'socially costly' to being 'socially expected' during the core moments of sporting practice.

Third, the findings indicate that a substantial proportion of digital disconnection among adolescent athletes is not configured as an intentional practice, but rather emerges as a secondary effect of their engagement in sporting activity. Unlike voluntary disconnection, understood as a deliberate decision to distance oneself from technology (Nassen et al., 2023), adolescents describe this distancing as a consequence of the concentration and demands inherent in a performance-oriented context, which reduces the intention to check the smartphone even when the device remains accessible. Thus, in a post-digital scenario characterised by the integration of the smartphone into everyday life, and even into sporting contexts (Goodyear & Bundon, 2021; Vanden Abeele et al., 2018), these findings suggest that sport may offer adolescents moments of digital distancing that do not depend on an explicit will to disconnect, but rather on the attentional intensity and engagement inherent in sporting practice.

Taken together, the analysis allows for a critical qualification of discourses that position digital disconnection as a primarily individual responsibility and as an exercise in self-control (Fast et al., 2021; Newport, 2019). As Syvertsen (2020) cautions, many contemporary discourses on disconnection shift responsibility onto the individual, obscuring the social and organisational conditions that make disconnection more or less possible in specific contexts. In the case of adolescent sport, the findings show that disconnection is not experienced as a costly practice nor as a conscious decision, but rather emerges as a result of the characteristics of the sporting context. From this perspective, digital disconnection emerges as a benefit associated with engagement in sporting practice, adding to the already documented psychological and social benefits of sport participation during adolescence (Eime et al., 2013). This argument is particularly relevant in a context such as Spain, where many adolescents, immersed in near-constant connectivity, express the need for spaces that foster rest, concentration, and everyday balance (Márquez et al., 2025). In this way, sport offers an alternative way of thinking about the

management of connectivity beyond the logic of individual self-control, which may be particularly valuable for adolescents, given that they are in a life stage marked by hyperconnectivity and heightened vulnerability to its potential negative consequences (Saleh, 2024; Syvertsen, 2020).

Finally, the results show that digital disconnection in the sporting context does not constitute a total or uniform experience, but is traversed by the emergence of personal and situational demands during practice that lead adolescents to reconnect (Vanden Abeele & Syvertsen, 2025). On the one hand, adolescents report occasional reappearances of the smartphone associated with personal demands that, at specific moments, briefly compete with sporting engagement, such as the pressure to check a notification or verify the outcome of a bet during a break. On the other hand, the sporting context itself introduces situational demands that legitimise certain uses of the device aligned with the goals of the practice, such as checking results, coordinating with the team, or using the smartphone for instrumental purposes (DesClouds & Durand-Bush, 2021). These momentary instances of connectivity have also been observed in previous studies, where some athletes keep the phone nearby to ensure immediate accessibility, remaining exposed to distractions from actual or anticipated notifications, or take advantage of breaks for brief checks (DesClouds & Durand-Bush, 2021; Ong et al., 2024).

That these reappearances occur even in a context that clearly facilitates disconnection does not imply a contradiction, but rather highlights the situated and negotiated nature of (dis)connectivity decisions. As proposed by Vanden Abeele and Syvertsen (2025), connecting and disconnecting are localised processes that are enacted in relation to specific circumstances and to the position occupied by the individual at any given moment. From this perspective, (dis)connectivity decisions do not reflect a stable choice or a fixed behavioural trait, but instead emerge from dynamic adjustments between momentary personal dispositions and specific contextual demands. Thus, even in a context that strongly promotes disconnection such as sport, connectivity may reappear sporadically when certain demands acquire situational relevance, without altering the general pattern of disconnection described by adolescents (Vanden Abeele & Syvertsen, 2025).

6.4.1. Practical Implications

The findings of this study offer practical guidance for promoting digital disconnection among adolescents from a contextual perspective. Specifically, they highlight that disconnection emerges more effectively when it is embedded in contexts in which the primary activity, in this case sport, becomes central and displaces smartphone use without the need for explicit

prohibitions. This form of disconnection is constructed through meaningful and motivating activities that foster full engagement, in which being without the device is not experienced as a renunciation, but rather as a natural consequence of participation. This is further supported by the physical nature of sport, which introduces material incompatibilities with smartphone use, and by the existence of shared social expectations that legitimise disconnection during the core moments of activity. From this perspective, transferring this logic to other contexts, such as school or family settings, would involve replacing restrictive measures with the creation of environments that promote activities that are relevant to adolescents, physically engaging, and incompatible with smartphone use, and in which disconnection is socially expected and valued. Specifically for families, considering sport or other activities with similar characteristics, such as playing a musical instrument or practising theatre, may offer adolescents structured spaces in which digital disconnection can emerge naturally.

Within this framework, it is particularly relevant for coaches and clubs to be aware that, although disconnection commonly emerges in sporting practice, it does not occur uniformly for all adolescents or at all times. As the findings show, some athletes experience greater difficulties in managing their (dis)connectivity, with more frequent reappearances of the smartphone associated with personal or situational demands. In such cases, rather than imposing new rules or framing disconnection as an individual requirement, it may be more useful to adopt a supportive role within the existing culture of disconnection in sport. This support can be articulated through ongoing dialogue with athletes, aimed at making explicit the boundaries, meanings, and moments associated with connection and disconnection within the sporting context. Given that adolescents tend to turn to peers rather than adults when facing tensions related to connectivity (Boomgaarden et al., 2022), one possible strategy is to rely on reference figures among the athletes themselves, such as a player trained by the coaching staff to act as a close support and role model in the everyday management of moments of non-use.

6.4.2. Limitations and Future Research

This study has several limitations that should be considered when interpreting the findings. First, the first author was in a formative stage as a doctoral researcher at the time the study was conducted. This condition may have influenced key methodological decisions, such as the design and facilitation of the focus groups, as well as the depth and reflexivity achieved during the analysis. Just as subsequent training made it possible to identify and revise analytically inconsistent decisions, it is reasonable to assume that more advanced future training will allow for the recognition of additional areas for improvement and the continued refinement of the methodological practices employed.

Second, three of the four initial focus groups were conducted in the same educational centre, which may have introduced a degree of homogeneity into the accounts. Although the sampling strategy sought internal heterogeneity in terms of gender and type of sport, the shared institutional context may have influenced how adolescents articulated their experiences of smartphone use and disconnection. Likewise, addressing sporting experiences within a school setting, rather than in a sporting environment, may have shaped the types of narratives produced. This limitation was partially addressed through the inclusion of an additional focus group conducted in a setting more closely aligned with the sporting context.

Finally, the sample consisted primarily of non-elite federated adolescent athletes who were enrolled in school and residing in urban or semi-urban areas of Valencia (Spain). This profile limits the transferability of the findings, which should be interpreted within the specific cultural and normative framework of this research. Nevertheless, rather than detracting from the study, these characteristics provide relevant interpretive insights for understanding digital disconnection in comparable youth sporting contexts.

Future research could further explore how practices of connection and disconnection are negotiated as they unfold within the sporting context. The use of immersive qualitative methodologies, such as in situ and/or digital ethnography (Jones, 2022; Kaur-Gill & Dutta, 2017), would allow for a deeper understanding of the meanings, tensions, and micro-practices that shape smartphone use during training, competition, or rest periods. Such approaches, which are increasingly valued in contemporary qualitative research in sport (Goodyear & Bundon, 2021), would provide a richer understanding of the dynamics underpinning the "culture of disconnection" in sport.

6.4.3. Conclusions

In summary, this study shows that digital disconnection in the context of adolescent sport does not primarily arise from an individual self-regulation strategy, but rather from the characteristics of the sporting context that facilitate it. Specifically, the findings highlight the role of bodily engagement and physical distance from the device, which mean that the smartphone ceases to be configured as a viable option during practice; the explicit and implicit social norms that regulate when and for which uses the device is considered socially appropriate; and engagement in sporting practice, which displaces the centrality of the smartphone as an unintentional effect of the activity itself. Through this assemblage of conditions, digital disconnection is configured as a situated, socially legitimised, and in many cases non-deliberate experience. From this perspective, the findings allow digital disconnection to be conceptualised

as an emergent benefit of sporting practice, adding to the psychological and social benefits of sport participation in adolescence that have already been documented. In a context marked by the centrality of the digital and by the difficulty of finding moments of distance from the smartphone in everyday life, sport offers spaces and moments in which digital disconnection emerges naturally and without constituting a burden for adolescents.

6.5. References

Bagger, C. (2024). A decade of digital disconnection research in review: Where, what, how, and who? In K. Albris, K. Fast, F. Karlsen, A. Kaun, S. Lomborg, & T. Syvertsen (Eds.), *The digital backlash and the paradoxes of disconnection* (pp. 109–128). Nordicom, University of Gothenburg. https://doi.org/10.48335/9789188855961-6

Blumer, H. (1954). What is wrong with social theory? *American Sociological Review, 19*(1), 3–10. https://doi.org/10.2307/2088165

Boomgaarden, H., Tolocho, P., & Song, H. (2022). *Report on the influence of situational variables and personal networks on online resilience and digital skills.* ySKILLS.

Bowen, G. A. (2019). *Sensitizing concepts*. SAGE Publications Limited. http://dx.doi.org/10.4135/9781526421036

Braidotti, R. (2019). *Posthuman knowledge* (Vol. 2). Polity Press.

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative research in sport, exercise and health*, *11*(4), 589–597. https://doi.org/10.1080/2159676X.2019.1628806

Braun, V., & Clarke, V. (2021a). To saturate or not to saturate? Questioning data saturation as a useful concept for thematic analysis and sample-size rationales. *Qualitative research in sport, exercise and health*, *13*(2), 201–216. https://doi.org/10.1080/2159676X.2019.1704846

Braun, V., & Clarke, V. (2021b). *Thematic analysis: A practical guide*. SAGE Publications.

Braun, V., & Clarke, V. (2023a). Is thematic analysis used well in health psychology? A critical review of published research, with recommendations for quality practice and reporting. *Health Psychology Review*, *17*(4), 695–718. https://doi.org/10.1080/17437199.2022.2161594

Braun, V., & Clarke, V. (2023b). Toward good practice in thematic analysis: Avoiding common problems and be (com)ing a knowing researcher. *International journal of transgender health*, *24*(1), 1–6. https://doi.org/10.1080/26895269.2022.2129597

Braun, V., & Clarke, V. (2025). Reporting guidelines for qualitative research: A values-based approach. *Qualitative Research in Psychology*, *22*(2), 399–438. https://doi.org/10.1080/14780887.2024.2382244

Busetto, L., Wick, W., & Gumbinger, C. (2020). How to use and assess qualitative research methods. *Neurological Research and practice*, *2*(1), 14. https://doi.org/10.1186/s42466-020-00059-z

Chen, A. T. (2018). Timeline drawing and the online scrapbook: Two visual elicitation techniques for a richer exploration of illness journeys. *International Journal of Qualitative Methods*, *17*(1), 1609406917753207. https://doi.org/10.1177/1609406917753207

DesClouds, P., & Durand-Bush, N. (2021). Smartphones and varsity athletes: A complicated relationship. *Frontiers in Sports and Active Living*, *2*, 560031. https://doi.org/10.3389/fspor.2020.560031

Durand-Bush, N., & DesClouds, P. (2018). Smartphones: How can mental performance consultants help athletes and coaches leverage their use to generate more benefits than drawbacks? *Journal of Sport Psychology in Action*, *9*(4), 227–238. https://doi.org/10.1080/21520704.2018.1496211

Eime, R. M., Young, J. A., Harvey, J. T., Charity, M. J., & Payne, W. R. (2013). A systematic review of the psychological and social benefits of participation in sport for children and adolescents: informing development of a conceptual model of health through sport. *International journal of behavioral nutrition and physical activity*, *10*(1), 98. https://doi.org/10.1186/1479-5868-10-98

Elwood, S. A., & Martin, D. G. (2000). "Placing" interviews: Location and scales of power in qualitative research. *The professional geographer*, *52*(4), 649-657.

Fast, K. (2021). The disconnection turn: Three facets of disconnective work in post-digital capitalism. *Convergence*, *27*(6), 1615–1630. https://doi.org/10.1177/13548565211033382

Goodwin, J., Savage, E., & O'Donovan, A. (2023). Using the draw and tell method with adolescents as part of an interpretive descriptive study. *Qualitative Research Journal*, *23*(3), 273–286. https://doi.org/10.1108/QRJ-08-2022-0105

Goodyear, V., & Bundon, A. (2021). Contemporary digital qualitative research in sport, exercise and health: Introduction. *Qualitative research in sport, exercise and health*, *13*(1), 1–10. https://doi.org/10.1080/2159676X.2020.1854836

Gould, D., Nalepa, J., & Mignano, M. (2019). Coaching generation Z athletes. *Journal of Applied Sport Psychology*, *32*(1), 104–120. http://dx.doi.org/10.1080/10413200.2019.1581856

Saleh, E. F. (2024). Adolescent Socialization in the Digital Age: The Role of Internet Usage and Social Networks. *Recent Research Advances in Arts and Social Studies*, 66–98. https://doi.org/10.9734/bpi/rraass/v8/6181A

Jones, I. (2022). *Research methods for sports studies*. Routledge. https://doi.org/10.4324/9781003195467

Kaur-Gill, S., & Dutta, M. J. (2017). Digital ethnography. *The international encyclopedia of communication research methods*, *10*(1), 1–10. http://doi.org/10.1002/9781118901731.iecrm0271

Krueger, R. A., & Casey, M. A. (2015). Focus group interviewing. In K. E. Newcomer, H. P. Hatry, J. S. Wholey (Eds.), Handbook *of practical program evaluation* (pp. 506–534). Wiley Online Library. https://doi.org/10.1002/9781119171386.ch20

Kuntsman, A., & Miyake, E. (2019). The paradox and continuum of digital disengagement: Denaturalising digital sociality and technological connectivity. *Media, Culture & Society*, *41*(6), 901–913. https://doi.org/10.1177/0163443719853732

Malterud, K., Siersma, V. D., & Guassora, A. D. (2016). Sample size in qualitative interview studies: guided by information power. *Qualitative health research*, *26*(13), 1753–1760. https://doi.org/10.1177/1049732315617444

Márquez, J.M., Andrade, B., Guadix, I., Suárez, F., Rodríguez, F.J., González-Cabrera, J. & Rial, A. (2025). *Infancia, adolescencia y bienestar digital*. Madrid: UNICEF España, Universidad de Santiago de Compostela, Consejo General de Ingeniería en Informática y Entidad Pública Empresarial Red.es. http://doi.org/10.30923/IABD202510

Murciano-Hueso, A., Torrijos-Fincias, P., & Serrate-González, S. (2020, October). Youth Perception of Connectivity: Times and Uses. In *Eighth International Conference on Technological Ecosystems for Enhancing Multiculturality* (pp. 909–914). https://doi.org/10.1145/3434780.3436566

Nassen, L. M., Vandebosch, H., Poels, K., & Karsay, K. (2023). Opt-out, abstain, unplug. A systematic review of the voluntary digital disconnection literature. *Telematics and Informatics*, *81*, 101980. https://doi.org/10.1016/j.tele.2023.101980

Newport, C. (2019). *Digital minimalism: Choosing a focused life in a noisy world*. Penguin.

Nguyen, M. H. (2021). Managing social media use in an "always-on" society: Exploring digital wellbeing strategies that people use to disconnect. *Mass Communication and Society*, *24*(6), 795–817. https://doi.org/10.1080/15205436.2021.1979045

Ong, N. C., Kee, Y. H., Pillai, J. S., Lim, H. B., & Lin, Y. C. (2024). Problematic smartphone use among youth athletes: a qualitative investigation using focus groups. *International Journal of Sport and Exercise Psychology*, *22*(3), 645–666. https://doi.org/10.1080/1612197X.2022.2152855

Orben, A. (2020). Teenagers, screens and social media: a narrative review of reviews and key studies. *Social psychiatry and psychiatric epidemiology*, *55*(4), 407–414. https://doi.org/10.1007/s00127-019-01825-4

Robinson, O. C. (2014). Sampling in interview-based qualitative research: A theoretical and practical guide. *Qualitative Research in Psychology, 11*(1), 25–41. https://doi.org/10.1080/14780887.2013.801543

Schaefer, S., Andersson, M., Bjarnason, E., & Hansson, K. (2018). *Working and organizing in the digital age*. The Pufendorf Institute for Advanced Studies, Lund University.

Sparkes, A. C., & Smith, B. (2014). *Qualitative research methods in sport, exercise and health: From process to product*. Routledge.

Spiller, T. R., Rabe, F., Ben-Zion, Z., Korem, N., Burrer, A., Homan, P., ... & Duek, O. (2023). Efficient and accurate transcription in mental health research-A tutorial on using whisper AI for audio file transcription. *OSF Preprints*.

Syvertsen, T. (2020). Managing the Problem. Disconnection and Detox. In *Digital Detox: The Politics of Disconnecting* (pp. 73–97). Emerald Publishing Limited. https://doi.org/10.1108/978-1-78769-339-520201005

Tatum, N. T., Olson, M. K., & Frey, T. K. (2018). Noncompliance and dissent with cell phone policies: A psychological reactance theoretical perspective. *Communication Education*, *67*(2), 226–244. https://doi.org/10.1080/03634523.2017.1417615

Trainor, L. R., & Bundon, A. (2021). Developing the craft: Reflexive accounts of doing reflexive thematic analysis. *Qualitative research in sport, exercise and health*, *13*(5), 705-726. https://doi.org/10.1080/2159676X.2020.1840423

Twenge, J. M., Joiner, T. E., Rogers, M. L., & Martin, G. N. (2018). Increases in depressive symptoms, suicide-related outcomes, and suicide rates among US adolescents after 2010 and links to increased new media screen time. *Clinical Psychological Science, 6*,3–17. https://doi.org/10.1177/2167702617723376

Van Bruyssel, S., De Wolf, R., & Vanden Abeele, M. M. P. (2024). From bliss to burden: An ethnographic inquiry into how social, material and individual obstacles to digital well-being shape everyday life. *New Media & Society*, 14614448241288159. https://doi.org/10.1177/14614448241288159

Van Slingerland, K. J., Durand-Bush, N., Bradley, L., Goldfield, G., Archambault, R., Smith, D., ... & Kenttä, G. (2019). Canadian Centre for Mental Health and Sport (CCMHS) position statement: Principles of mental health in competitive and high-performance sport. *Clinical journal of sport medicine*, *29*(3), 173–180. https://doi.org/10.1097/JSM.0000000000000665

Vanden Abeele, M. M. P., Vandebosch, H., Koster, E. H. W., De Leyn, T., Van Gaeveren, K., de Segovia Vicente, D., Van Bruyssel, S., van Timmeren, T., De Marez, L., Poels, K., DeSmet, A., De Wever, B., Verbruggen, M., & Baillien, E. (2024). Why, how, when, and for whom does digital disconnection work? A process-based framework of digital disconnection. *Communication Theory, 34*(1), 3–17. https://doi.org/10.1093/ct/qtad016

Vanden Abeele, M. M. P. (2016). Mobile lifestyles: Conceptualizing heterogeneity in mobile youth culture. *new media & society*, *18*(6), 908–926. https://doi.org/10.1177/1461444814551349

Vanden Abeele, M. M. P. (2021). Digital wellbeing as a dynamic construct. *Communication Theory*, *31*(4), 932–955. https://doi.org/10.1093/ct/qtaa024

Vanden Abeele, M. M. P., & Syvertsen, T. (2025). Theorizing dis/connection: A mutual invitation to mobile media and digital disconnection scholars. *Mobile Media & Communication*, 20501579251360886. https://doi.org/10.1177/20501579251360886

Vanden Abeele, M. M. P., De Wolf, R., & Ling, R. (2018). Mobile media and social space: How anytime, anyplace connectivity structures everyday life. *Media and Communication*, *6*(2), 5–14. https://doi.org/10.17645/mac.v6i2.1399

Vorderer, P., Hefner, D., Reinecke, L., & Klimmt, C. (Eds.). (2017). *Permanently online, permanently connected*. Routledge, Taylor & Francis Group

Walton, C. C., Rice, S. M., & Purcell, R. (2022). Mental health in youth elite athletes. In *Mental health care for elite athletes* (pp. 209–213). Springer International Publishing. http://dx.doi.org/10.1007/978-3-031-08364-8_22

CHAPTER 7

General Discussion



7.1. Main Findings

Over recent decades, the use of digital media has become a structural feature of everyday life, especially following the convergence between social media and the smartphone, which has consolidated a form of connectivity marked by constant availability, perpetual contact, and the blurring of boundaries between contexts, times, and relationships (Jensen, 2022; Meier & Reinecke, 2021; Vanden Abeele et al., 2018; Vorderer et al., 2017). In adolescence, this reality acquires particular relevance, as central developmental tasks, such as identity construction, the search for autonomy, the need to belong, and the growing centrality of peers, now develop within deeply digitalised environments (Berk, 2022; Papalia & Martorell, 2021; Schnauber-Stockmann et al., 2021; Subrahmanyam & Smahel, 2011). For this reason, understanding adolescents' digital experience requires situating it at the intersection between the characteristics of this developmental stage and the conditions of a society in which connection constitutes part of the ordinary fabric of adolescents' social lives (Boyd, 2014; Reyero et al., 2021; Tsaliki, 2022).

However, as argued in the background, digital experience is a complex phenomenon that can be approached from different perspectives. The accumulated evidence shows, on the one hand, that certain forms of digital use may be associated with dysregulation, functional interference, and distress, but, on the other, that they may also favour the satisfaction of basic psychological needs and enhance adolescent well-being (Janicke-Bowles et al., 2023; Meier & Reinecke, 2021; Odgers & Jensen, 2020; Rosič et al., 2022; Vanden Abeele, 2021). Likewise, attending exclusively to practices of connection leaves aside an equally relevant dimension for understanding digital experience: the capacity to establish limits on such connectivity. This dimension refers to digital disconnection, understood as a situated possibility that also depends on the conditions and contexts that facilitate or hinder taking distance from the device (Nassen et al., 2023; Syvertsen, 2020; Vanden Abeele & Syvertsen, 2025). This approach is especially relevant in the case of adolescent athletes, since sport constitutes an everyday context in which the smartphone is intensely present, but where specific demands also emerge that may reconfigure in particular ways both the connection and the disconnection of these adolescents (DesClouds & Durand-Bush, 2021; Goodyear & Bundon, 2021; Ong et al., 2024; Walton et al., 2022).

On the basis of this framework, the present thesis proposed four complementary objectives: to identify differentiated profiles of problematic social media use (PSMU) in Spanish adolescents and analyse their associations with indicators of mental health and school

adjustment (SO1); to adapt and validate, in a Spanish adolescent population, an instrument that would make it possible to assess positive digital experiences, specifically the Digital Flourishing Scale for Adolescents (SO2); to explore adolescent athletes' accounts of the benefits and drawbacks of smartphone use in their everyday and sporting lives (SO3); and, finally, to analyse how digital disconnection is produced and experienced by adolescent athletes within the sporting context (SO4). The four studies sought to respond to these objectives respectively. Study 1 showed that the problematic pole can be organised into three differentiated profiles of PSMU, which were associated with distinct patterns of mental health and school adjustment. Study 2 provided a tool for assessing the positive pole of adolescents' digital experience and showed its multidimensional character. Study 3 highlighted the ambivalence of the digital experiences of adolescent athletes. Study 4 showed that, in that same context, digital disconnection emerges as a phenomenon facilitated by the configuration of sporting practice.

In light of these findings, the conclusions that follow are organised around two central ideas that run through the thesis as a whole and respond to the two main objectives proposed: on the one hand, that the problematic pole and the positive pole of adolescents' digital experience show internal heterogeneity, partial relationships with one another, and temporal variation (O1); on the other hand, sport emerges, in adolescent athletes' accounts, as a context that situationally reorganises the place of the smartphone in their everyday lives by shaping when connectivity is integrated, when it interferes, and when it can be displaced (O2).

1. The Thesis Shows That the Problematic Pole and the Positive Pole of Adolescents' Digital Experience Present Heterogeneity, Relationships With One Another, and Temporal Variation

A first conclusion that emerges from this thesis, mainly from Studies 1 and 2, is that the manifestations of digital use in adolescence explored are organised in a heterogeneous way. This heterogeneity appears in both the problematic and the positive pole and suggests that adolescents' digital experience is understood more precisely when attention is paid to specific profiles and dimensions rather than resorting to pre-defined and global categories. This reading converges with an important part of the recent literature, which has underlined the need for approaches that are more sensitive to the internal complexity of this phenomenon, attending in a differentiated way to its different facets and to diverse, and even ambivalent, ways in which adolescents' digital experience are articulated (Beyens et al., 2020; Valkenburg, 2022; Van der Wal et al., 2024).

At the problematic pole, Study 1 showed that PSMU in Spanish adolescents can be distributed into three differentiated profiles: functional, at-risk, and problematic. This

contribution is relevant because, although the three-part solution is relatively frequent in the literature, it should not be assumed to be a natural partition of the phenomenon or the only possible representation of its structure (Boer et al., 2022). In fact, in Study 1, alternative class solutions could also be considered statistically viable. However, the choice of three classes allowed for a conceptually more informative interpretation of the phenomenon, in line with other works that have also identified functional, intermediate, and problematic patterns in adolescents and young people (Boer et al., 2022; Cerniglia et al., 2019; Lu, 2026; Moreno et al., 2023; Oh et al., 2021; Pi et al., 2024).

In terms of prevalence, Study 1 showed that the problematic profile represented a specific, although non-negligible, proportion of Spanish adolescents, accounting for 6.54% of the analytic sample. This finding nuances more alarmist interpretations of the phenomenon: PSMU should be understood as a relevant problem because of its association with functional impairment and psychological adjustment, but not as a generalised condition affecting most adolescents (Odgers, 2018). Meanwhile, meta-analytic evidence also shows that prevalence estimates vary widely depending on samples, instruments, and classification criteria. For instance, Cheng et al. (2021) reported a pooled global prevalence of 24%, but individual estimates ranged from 0% to 82%. In this context, the person-centred approach used in Study 1 is especially useful because it identifies empirically derived response patterns in the sample and distinguishes adolescents with a clearly problematic profile from those showing intermediate or functional patterns of use. The 6.54% problematic profile therefore helps to qualify higher prevalence estimates by locating the most severe configuration of symptoms in a smaller subgroup of adolescents. This pattern is also consistent with the 5.7 % prevalence reported by Márquez et al. (2025) in a representative sample of Spanish adolescents.

Beyond prevalence, the profiles identified in Study 1 also help to clarify which indicators contributed most clearly to the differentiation between less and more severe forms of PSMU. The at-risk profile showed higher probabilities of presenting criteria related to salience or preoccupation with social media use, unsuccessful attempts to reduce time spent on social media, and the displacement of other activities. The problematic profile showed a higher overall probability of presenting PSMU criteria, with a distinctive concentration of indicators relative to the at-risk profile related to interpersonal conflict, concealment of use, and functional interference. This nuance converges with findings observed in a Spanish population aged 16 and above, where three profiles were also identified and where items related to conflict, deception, and negative consequences contributed especially to delimiting the problematic profile, whereas the at-risk profile was mainly characterised by displacement of other activities,

difficulties in reducing use, and the use of social media as a strategy for emotional regulation (Zarco-Alpuente et al., 2025).

This pattern is relevant for the conceptual delimitation of PSMU. The criteria that most clearly define the problematic profile are precisely those that point to an impairment of control that becomes visible in interpersonal relationships and everyday functioning. In this sense, the problematic profile reflects a form of involvement in social media that has begun to generate consequences beyond the individual experience of salience, craving, or difficulty reducing use, reaching domains such as family conflict, concealment, and functional interference. This interpretation is consistent with work warning against the overpathologisation of everyday behaviours and with recent proposals that locate problematicity in the emergence of clinically or functionally relevant consequences, rather than in frequent, salient, or highly engaged use alone (Billieux et al., 2015; Fournier et al., 2023; Kardefelt-Winther et al., 2017; Moretta et al., 2022). Importantly, both the at-risk and problematic profiles also showed a more concerning pattern of associations with psychological and academic adjustment indicators, suggesting that the at-risk profile should not be interpreted as merely transitional or negligible, but as a group with practical relevance in its own right (Lu, 2026).

At the positive pole, Study 2 showed that the DFSA is organised into five interrelated dimensions: connectedness, authentic self-presentation, positive social comparison, civil participation, and self-control. This structure indicates that positive digital experiences relevant to adolescent well-being are composed of differentiated yet related facets, highlighting their internal diversity and underscoring the need to preserve the specificity of these dimensions rather than reducing them to a single undifferentiated global score. This is coherent both with the original formulation of digital flourishing in adults, conceived as a multifaceted phenomenon in which the correlated five-factor model offered a more informative representation than a unidimensional or hierarchical solution (Janicke-Bowles et al., 2023), and in the original adolescent validation, conducted with Slovenian adolescents with its validation in adolescents (Rosič et al., 2022). In addition, recent adaptations of the DFSA in Chinese-speaking adolescent samples have further supported the relevance of retaining its five specific dimensions (Wang & Yu, 2025).

Another relevant aspect is that PSMU and DFSA represent partially overlapping dimensions of adolescents' digital experience. Study 2 data make it possible to examine this relationship directly, since convergent validity explicitly incorporated the SMD-S, the same measure of PSMU used in Study 1. The correlations between the SMD-S and the DFSA

dimensions can be consulted in Annex 9. Self-control, civil participation, and authentic self-presentation were negatively associated with PSMU, whereas connectedness and positive social comparison showed positive associations. This pattern indicates that PSMU and digital flourishing show non-homogeneous relationships. Positive associations with PSMU appear in dimensions related to online connectedness and positive social comparison, whereas lower problematicity is more clearly linked to dimensions involving self-regulation (self-control) and constructive digital participation, such as civil participation, and authentic self-presentation. This pattern qualifies the more polar organisation with which both constructs were initially positioned in the background of the thesis (see Figure 2).

One possible explanation for this non-expected pattern of positive correlations lies in the specific content of the dimensions involved. The connectedness subscale of the DFSA refers to the extent to which adolescents feel socially connected online and attribute importance to digitally mediated relationships (Janicke-Bowles et al., 2023). By contrast, the social components captured by the SMD-S refer mainly to the extent to which social media use generates interference beyond the digital environment, including conflict with others, deception about use, or displacement of other activities (Van den Eijnden et al., 2016). From this perspective, the positive association between connectedness and PSMU does not necessarily reflect a conceptual contradiction. An adolescent who experiences online communication as a central source of belonging, support, or social continuity may present positive digital connectedness while also becoming more exposed to difficulties in regulating such involvement when online interaction is prioritised over alternative activities or face-to-face relationships. This interpretation is consistent with the recent proposal of overvaluation of the relative utility of social media as a potential mechanism underlying PSMU. Ciudad-Fernández et al. (2025) conceptualise this process as a decision-making vulnerability in which the perceived value of social media for achieving specific utility domains exceeds that of alternative behaviours, fostering excessive selection and reliance on these platforms. Particularly relevant for the present findings are those domains linked to social interaction, meeting new people, and social acceptance, since they may help explain why some adolescents simultaneously report high levels of online connectedness and higher indicators of problematic use (Ciudad-Fernández et al., 2025).

A complementary line of reasoning can be proposed for the positive association between positive social comparison and PSMU. In the DFSA, this dimension captures the inspiring and motivating side of comparison, that is, the extent to which adolescents perceive that seeing others online helps them improve or feel encouraged in their own lives (Janicke-

Bowles et al., 2023). This operationalisation focuses on the positive pole of comparison and does not assess whether negative or competitive forms of comparison also occur. Therefore, higher scores in this dimension may partly reflect a broader tendency to engage in social comparison in digital environments, whose consequences may vary depending on the content, direction, and meaning of the comparison (Schreurs et al., 2023). Lewin et al. (2022) provide a useful explanation for why social comparison may show a positive association with PSMU. In their study, comparison of abilities, that is, the tendency to evaluate one's achievements, qualities, or status in relation to others, was positively associated with problematic use across five social media platforms. The authors suggested two complementary interpretations. On the one hand, users with stronger ability-comparison tendencies may be more likely to seek comparison opportunities online, where social media provide a constant flow of information about others' achievements, lifestyles, appearance, and social recognition. On the other hand, problematic use itself may increase exposure to highly curated images, idealised self-presentations, and social success cues, thereby reinforcing further comparison (Lewin et al., 2022).

Beyond its relationship with PSMU, another relevant finding concerns the temporal stability of digital flourishing. In the longitudinal analysis of Study 2, scores showed poor to moderate stability over six weeks in connectedness, authentic self-presentation, positive social comparison, and civil participation, whereas scalar longitudinal invariance supported that these fluctuations reflect changes in the construct and not problems in item interpretation. On the basis of these results, it may be proposed that adolescents' positive digital experiences present a short term component of variability, probably sensitive to interpersonal, school, family, and situational dynamics (Berk, 2022; Maciejewski et al., 2019; Papalia & Martorell, 2021; Vanden Abeele, 2021). This pattern is coherent with the argument that adolescents' relationship with digital connectivity fluctuates over time through their interaction with internal and external-contextual influences (Vanden Abeele, 2021). The longitudinal study on digital flourishing by Rosič et al. (2024b) examined this issue more specifically. Based on three waves over one year, their findings showed that digital flourishing combines relative stability with dimension-specific and person-specific variation over time. Some adolescents maintained relatively high and stable levels of digital flourishing, whereas others showed lower levels and a decline specifically in self-control. The authors interpret these patterns in light of two complementary ideas: first, positive forms of digital communication may be linked to developmental processes that are still undergoing reorganisation during adolescence; second, self-control constitutes a dimension that is especially vulnerable in contexts of ubiquitous connectivity, where the opportunities for

permanent interaction and the potentially distracting design of digital environments make it difficult to regulate when to connect and when to disconnect (Rosič et al., 2024b).

Temporal variation also invites methodological caution. Instruments such as the DFSA and measures of problematic use ask adolescents to evaluate their digital experience or pattern of use over relatively broad periods, such as the past month in the case of the DFSA (Janicke-Bowles et al., 2023) or the last year in the case of the SMD-S (Van den Eijnden et al., 2016). These retrospective evaluations may be influenced by particularly recent, frequent, or salient episodes, as suggested by research on retrospective self-report and momentary experience (Stone et al., 1999). In this sense, short-term fluctuations in DFSA scores may reflect both the situated and changing nature of adolescents' digital lives and the way adolescents retrospectively organise these experiences when responding to questionnaire items. This reading is consistent with Vandenbosch et al., (2025), who argued that time should be considered a central methodological factor in digital media research, as the moment in the calendar, the novelty of the medium, developmental stage, and the specific time interval used in measurement may shape how digital media use and its effects are captured. Applied to Study 2, this argument suggests that the positive digital experiences assessed by the DFSA may vary according to the temporal conditions that structure the reference period, such as school demands, holidays, interpersonal events, platform-specific trends, or developmental transitions. Therefore, the temporal variability observed can be interpreted both as a psychometric consideration and as a substantive indication that adolescents' positive digital experiences are embedded in changing temporal conditions (Vanden Abeele, 2021).

Finally, this temporal variation is also tentatively coherent with the findings of Studies 3 and 4. In the focus groups with adolescent athletes, digital experience appeared as a situated reality, modulated by the demands of the moment, the activity underway, the norms of the environment, and the type of digital interaction involved. The same adolescent could experience the smartphone as a useful tool, a source of connection, a relational burden, a distraction, or an element relegated to the background by sporting practice itself. From this logic, the short-term changes observed in the DFSA may be interpreted as the quantitative expression of an idea already present in the qualitative data: digital experiences are forms of lived experience that are sensitive to the situations and contexts in which they occur (Meier & Reinecke, 2021; Valkenburg et al., 2021; Vanden Abeele & Syvertsen, 2025).

2. The Thesis Shows That, for Adolescent Athletes, Sport Reorganises the Place of the Smartphone by Shaping When Connectivity Is Integrated, When It Interferes, and When It Can Be Displaced

The second key finding of the thesis is that, in adolescents' accounts, sport emerges as a context in which the place of the smartphone is situationally reorganised through specific configurations of sporting practice. This reorganisation takes shape when material arrangements, bodily involvement, performance demands, interpersonal expectations, and shared norms become temporarily relevant, making the smartphone more or less compatible with what the sporting situation requires. This conclusion makes it possible to connect Studies 3 and 4 through the same logic: the smartphone does not occupy a fixed position in adolescent sporting life, but acquires different meanings depending on the conditions that organise each moment. This conclusion is mainly supported by Studies 3 and 4, but it is also coherent with the general logic of Studies 1 and 2: if digital experience cannot be understood only through global categories, then it becomes essential to examine how it is configured within concrete contexts of everyday life.

In this sense, the analysis of Study 3 suggests that, for the adolescent athletes who participated in the study, the smartphone was positioned as deeply integrated into the experience of being an athlete (Goodyear & Bundon, 2021). Participants described it as part of the routines, relationships, and forms of preparation through which everyday sporting life is organised, and as involved in how they train, coordinate with others, and approach competition. Taken together, these findings converge with previous work showing that digital technologies form a situated, embodied, and relational part of contemporary sporting experience, supporting processes of learning, psychological preparation, self-regulation, and cohesion in sport (DesClouds & Durand-Bush, 2021; Goodyear & Bundon, 2021).

The most relevant aspect is that the smartphone's integration into sporting life acquires value according to how it is articulated with the situation at hand. Study 3 suggests that the same device could acquire a more functional or more disruptive meaning depending on its relationship with the concrete demands and expectations of each situation. When smartphone use served a recognisable purpose within the sporting activity, it tended to be interpreted as a resource; when it became difficult to regulate, captured attention, interfered with rest or face-to-face interaction, or intensified social comparison, it tended to be experienced as a burden. This finding is in line with DesClouds and Durand-Bush's (2021) interpretation of athletes' smartphone use as a continuum in which its useful or harmful character depended largely on

the timing, purpose, and context of use. Thus, Study 3 shows that the benefits and drawbacks of smartphone use emerge from its situated fit with sporting practice (Van Bruyssel et al., 2024).

In turn, this reading situates Study 3 within digital well-being research by specifying how the balance between the benefits and drawbacks of mobile connectivity is constructed within the ecology of adolescent sport. In line with Vanden Abeele (2021), the results make it possible to understand ambivalence as a constitutive feature of digital experience, whereby the valued possibilities of mobile connectivity are inseparable from the tensions and demands that this same connectivity may generate. From this perspective, digital well-being does not involve eliminating the costs of connectivity, but rather optimizing the ambivalence through a careful adjustment of connection (Vanden Abeele, 2021). Study 3 allows this logic to be observed in adolescent sport: connectivity can support sporting life when it aligns with its goals and relationships, but it can also generate costs when its permanent availability comes into tension with the demands of practice. This interpretation, in any case, requires conceptual caution. Study 3 was designed to explore adolescent athletes' perceived benefits and drawbacks in relation to smartphone use, and did not directly examine the affective and cognitive appraisals through which adolescents evaluate the overall integration of mobile connectivity into their ordinary lives, as proposed in the digital well-being model (Vanden Abeele, 2021).

Study 4 extends this discussion by shifting attention from the ambivalent use of the smartphone to the conditions that make its displacement possible. Vanden Abeele's (2021) model is especially useful for this step because it situates digital well-being as a balance between connectivity and disconnectivity. In her account, the central question concerns how people negotiate the moments, places, and situations in which they connect or disconnect. This negotiation is especially relevant for the present thesis because, within the dynamic logic of the model, connection and disconnection do not depend only on individual will, but on a constellation of person-, device-, and context-specific factors. As Vanden Abeele (2021) notes, "our experiences with these interactive, dialogical media are not only of our own making, but also shaped by devices in their material form, and by normative expectations, behaviours and rituals that pertain to specific social and situational contexts" (p. 939). From this perspective, sport modulates the meaning of connection, as Study 3 showed, and can also modify the conditions under which disconnecting becomes possible, legitimate, and experientially ordinary.

Specifically, Study 4 identifies three conditions through which this process takes shape. First, the smartphone loses practical viability when physical separation, bodily movement, and sport-specific equipment reduce opportunities for use during training and competition. Second,

it loses social legitimacy when shared norms of attention, commitment, and respect delimit the moments and spaces in which the device is considered appropriate. Third, it loses experiential centrality when adolescents become absorbed by the attentional and bodily demands of sporting practice. Taken together, these conditions suggest that sport can configure an ecology favourable to non-use, reducing its subjective and relational cost and making disconnection more available, socially supported, and experientially facilitated during the central moments of the activity.

This finding situates the thesis within recent literature that understands digital disconnection as a situated practice, shaped by material, social, and individual conditions (Nassen et al., 2023; Van Bruyssel et al., 2024; Vanden Abeele & Syvertsen, 2025), and provides evidence of how this constellation operates in an adolescent performance-oriented context. This reading, in turn, helps nuance discourses that present digital disconnection as a deliberate practice of self-care or digital hygiene dependent mainly on the individual capacity to set boundaries and resist the device (Fast, 2021; Newport, 2019; Syvertsen, 2020). In adolescent sport, individual agency remains relevant, but it is embedded in a 'culture of disconnection' that makes non-use meaningful, legitimate, and socially expected during the central moments of the activity.

However, this interpretation also requires avoiding an idealised reading of sport as a space of full disconnection. The disconnection described by participants should not be understood as total or uniform. Even within a favourable context, connectivity may reappear when certain personal, relational, or sporting demands regain relevance during practice (Vanden Abeele, 2021). Similarly, the positive meaning attributed to disconnection in participants' accounts requires careful interpretation. Adolescents frequently described it as valuable, natural, or relieving, especially when it helped them concentrate, enjoy the activity, or remain present with their teammates. This appraisal, however, may depend on conditions such as the type of sport, competitive level, relational pressures, family expectations, injury situations, or the way each adolescent experiences sporting practice. In this sense, the thesis identifies sport as a context in which disconnection can become more viable and be experienced positively, while leaving open the question of when, for whom, and under which sporting conditions this disconnection actually supports well-being.

Therefore, in response to the question "How can we optimally embed mobile connectivity in our life so that it supports individual autonomy without experiencing a loss of control?" (Vanden Abeele, 2021, p. 934), the present thesis offers a situated answer from

adolescent sport. In this context, Study 3 shows that the smartphone can be functionally integrated into sporting life when its use is articulated with the goals, relationships, and concrete demands of practice; and Study 4 shows that sport can also temporarily displace this availability by offering material, social, and attentional limits to use, helping adolescents set boundaries to the logic of permanent connection.

7.2. Practical Implications

Based on the findings and ideas developed in this thesis, a number of relevant practical implications may be derived.

Practical Implication 1. Tailor Intervention to the Adolescent's Digital Profile and Promote Proportionate Responses and Early Prevention. The results of Study 1 suggest that patterns of vulnerability associated with PSMU can be organised into differentiated profiles. This profile-based reading helps to calibrate the magnitude of the phenomenon: in Study 1, most adolescents were located in the functional profile, whereas the problematic profile represented a smaller group, a distribution consistent with recent representative evidence in Spanish adolescents reporting a more moderate prevalence of PSMU (Márquez et al., 2025). This finding supports proportionate responses that identify adolescents with greater vulnerability while avoiding generalised readings of adolescent social media use as intrinsically problematic (Odgers, 2018). Also, within this differentiated distribution, the at-risk profile has particular practical relevance because it captures adolescents who, without reaching the problematic profile, already showed a pattern of vulnerability that was similar across many psychological and academic indicators (Lu, 2026).

More specifically, prevention and intervention programmes should be adjusted to the configuration of each adolescent's profile of use and vulnerability. The at-risk profile was characterised by a higher probability of presenting indicators such as thinking frequently about returning to social media, unsuccessful attempts to reduce time spent on social media, and displacement of other activities. For these adolescents, selective prevention focused on self-regulation, time management, the detection of early signs of loss of control, and the strengthening of meaningful alternative activities appears especially relevant (Stinson & Dallery, 2023). The problematic profile, in turn, was more clearly delimited by indicators of functional impairment, particularly interpersonal conflict and concealment of use. For these cases, the findings suggest the convenience of a more ecological intervention focused on the adolescent's relational environment, for example, by promoting the strengthening of the relationship and the family climate (Vossen et al., 2024).

Finally, the pattern found by educational level in Study 1 also suggests that preventive actions should begin before problematic patterns become more consolidated. The overrepresentation of the functional profile in the final year of primary education, together with the greater relative presence of more severe profiles in later stages, indicates that the end of primary education may constitute a particularly relevant moment to begin prevention. Although this thesis did not directly analyse preadolescence as a differentiated stage, these results are compatible with the idea that some relevant patterns of digital experience may already be present at the end of primary school, reinforcing the convenience of anticipating prevention to earlier developmental stages (Rosič, 2025).

Practical Implication 2. Intervene on Both Dysregulated Patterns and Positive Digital Experiences, Supported by Combined Assessment. As discussed previously, the findings of this thesis show that PSMU and digital flourishing constitute differentiated but partially overlapping dimensions of adolescents' digital experience. Consequently, the reduction of problematic indicators represents only one part of digital well-being promotion. Programmes aimed at adolescents may benefit from an approach that combines two complementary objectives: reducing forms of use associated with conflict, functional interference, or compulsive use, and promoting digital experiences that may contribute to adolescent well-being, such as connection, self-expression, meaningful participation, and self-regulation.

This dual focus also requires assessment strategies capable of capturing both problematicity and digital flourishing. For researchers, educators, and professionals working with adolescents, the joint use of indicators of PSMU and positive digital experiences may offer a more precise picture of how technologies are articulated in everyday life. In this regard, this thesis provides a validated Spanish measure of digital flourishing in adolescence through the DFSA, which can be used alongside measures such as the SMD-S to identify whether difficulties in self-regulation, relational tensions, a lower presence of positive digital experiences, or several of these dimensions at once are predominant. This type of combined assessment may favour more individualised prevention, intervention, and psychoeducational guidance.

Practical Implication 3. Help Sport Professionals Integrate the Smartphone Meaningfully, Not Simply Ban It. For coaches, clubs, and other sport professionals, the findings suggest that the smartphone could be understood as part of the contemporary adolescent sporting experience, rather than treated only as an external anomaly that may simply be eliminated (Goodyear & Bundon, 2021). As Study 3 showed, the smartphone may offer relevant benefits for athletes, such as coordination with coaches and teammates, access to useful

information, emotional activation prior to competition, or the maintenance of social connection. The practical challenge, therefore, is to help adolescents use it in a more intentional and balanced way, maximising its functional value and preventing distraction, overload, or unnecessary intrusion at key moments in sport. This implies that sport professionals should combine necessary limits on smartphone use with opportunities for athletes to reflect on when, how, and for what purposes they use the device.

In turn, the findings also suggest the potential relevance of peer based strategies within the sporting context, insofar as Studies 3 and 4 show that digital experience in sport is deeply mediated by group dynamics, shared norms, and everyday forms of relating among teammates. Given that adolescents tend to turn to their peers more easily than to adults when they experience tensions related to digital life (Boomgaarden et al., 2022), one practical option that could be explored would be to identify and train a reference figure within the team, such as a teammate who could act as a close model and source of support in relation to a more balanced smartphone use. This figure could help to normalise reflection on digital habits within the group, provide everyday support in moments of difficulty, and reinforce media literacy in a way that is potentially more credible and accessible for adolescent athletes. Naturally, this strategy should not replace adult responsibility but rather complement the work of coaches and clubs through a format more aligned with adolescent social dynamics.

Practical Implication 4. Reinforce and Support the 'Culture of Disconnection' Already Present in Sport. For coaches, clubs, and other professionals working with adolescent athletes, the findings of Study 4 indicate that the disconnection already present in sport could be reinforced and supported in a more deliberate way. Given that physical distance from the device frequently appeared associated with disconnection in adolescents' accounts, simple environmental strategies may be useful, such as encouraging athletes to leave the phone in the changing room, in a bag, or out of reach during training sessions, team meetings, and other central moments of practice. Similarly, given that the sporting context already contains a situated culture of disconnection, it may be beneficial to make explicit the spaces, times, and situations in which smartphone use is not expected. This may reduce the uncertainty that adolescents often experience regarding the limits and social norms of use in contexts where disconnection is partially legitimised, but not always formalised or equally clear for everyone. In this sense, making disconnection norms explicit may help to transform non-use from an individual act of self-control into a shared and socially supported practice, especially in a broader digital culture where expectations of availability and emerging norms of disconnection can coexist in tension (Geber et al., 2024). Although the idea of supporting this disconnection

through a more dialogical and less rigidly controlling approach does not derive directly and exclusively from our findings, it is coherent with previous evidence on adolescence, according to which rules may be more effective when they are explained, made understandable, and negotiated while taking into account adolescents' own opinions and preferences, rather than imposed solely through restriction (Malonda et al., 2019; Valkenburg et al., 2013).

Practical Implication 5. Use Sport as a Context that Facilitates Setting Limits on Connectivity. Existing intervention research has usually justified the use of sport and physical exercise in programmes for problematic internet, smartphone, or social media use through their psychobiological and psychosocial benefits. Exercise-based interventions have been associated with reductions in problematic use and improvements in related outcomes such as anxiety, depression, sleep quality, self-control, perceived stress, loneliness, and general mental health (Liu et al., 2017; Precht et al., 2024; Xiao et al., 2021; Zhang et al., 2023). From this perspective, sport has mainly been understood as an offline activity that occupies time, provides reinforcement outside the digital environment, and supports broader psychological adjustment. The results of Study 4 add a more context-specific rationale: competitive sport may facilitate disconnection because it creates moments in which smartphone use becomes practically difficult, socially inappropriate, and less relevant to the ongoing experience. During training and competition, physical movement, distance from the device, equipment, shared norms of attention and respect, and immersion in the activity can make non-use easier to sustain. Thus, the preventive value of sport may also lie in its capacity to provide structured and meaningful limits to connectivity, embedded in a context where disconnection is supported by the activity itself and by the norms of the group.

Accordingly, prevention and intervention programmes may benefit from incorporating competitive sport, as well as other structured practices, as contexts for promoting sustainable limits on connectivity. The applied focus would be on creating or strengthening meaningful activities in which non-use is supported by the organisation of the activity itself, rather than being framed only as an individual act of self-control. Music, theatre, dance, outdoor practices, or group-based artistic and educational projects may serve a similar function when they provide adolescents with socially organised spaces in which the expectation of constant availability temporarily loses force. From this perspective, the management of connectivity is supported by placing adolescents in environments where non-use becomes viable, legitimate, and valuable, and not only by asking them to exert more self-control (Syvertsen, 2020).

Practical Implication 6. Transfer the Logic of Sport to Families and Schools. Finally, the thesis also offers implications for families and schools. If one of the main contributions of sport lies in creating meaningful, socially shared, and physically involving moments in which non-use becomes easier, then families and schools could benefit from trying to create contexts with similar characteristics. In the case of families, this could imply protecting regular moments and activities in which smartphone use loses centrality because shared involvement takes priority, such as meals, conversations, outings, sport, or other structured extracurricular activities. In the case of schools, the implication is similar. The findings suggest that digital regulation could benefit from not being based exclusively on prohibition, but also on the creation of educational environments in which attention is directed towards attractive, socially valued activities that are less materially compatible with the constant checking of the device.

7.3. Critical Appraisal of the Thesis

The critical appraisal of the thesis will be carried out following the quality criteria proposed in Chapter 2. At the quantitative level, the methodological quality of Studies 1 and 2 may be assessed, first, with regard to the quality of the design, attending to the adequacy between the research question, the design employed, and the type of inferences that it allows one to sustain. In this sense, both studies started from well delimited objectives and employed designs coherent with their immediate aims. Study 1 sought to identify profiles of PSMU and to examine their external validity, and for this purpose it drew on latent class analysis, an appropriate strategy for detecting heterogeneity among adolescents and moving beyond predefined classifications of PSMU (Weller et al., 2020). In addition, the study analysed its association with relevant psychological and academic variables, which provided evidence of external validity and reinforced the interpretive characterisation of the solution obtained. Study 2, in turn, adopted a staged validation design that made it possible to examine different facets of the psychometric functioning of the scale.

However, an important limitation of this block lies in the predominance of correlational logics and, in the case of Study 1, clearly cross-sectional ones. Consequently, these studies make it possible to describe profiles, examine associations, and provide relevant evidence on the structure and functioning of the instruments, but they do not allow robust causal inferences to be sustained. This limitation is especially relevant in a field such as adolescents' digital media effects, where the directionality of effects remains an open question and where associations between digital media use and adjustment may reflect reciprocal dynamics, cumulative processes, or the influence of third variables such as prior psychopathology, personality traits, family climate, parenting practices, peer relationships, academic pressure, sleep, physical

activity, socioeconomic conditions, or exposure to adverse experiences (Elhai et al., 2026, in press). Although Study 2 incorporated a longitudinal component, this mainly strengthened the evaluation of the scale's stability and longitudinal invariance, rather than the possibility of answering explanatory or causal questions.

Second, the quality of the quantitative block may be assessed on the basis of the quality of measurement. At this point, one of its main strengths lies in the care devoted to the use and evaluation of the instruments. In Study 1, a large part of the measures showed adequate or high levels of internal consistency, and the analysis incorporated both alpha and omega coefficients, adjusted to the type of scale response. In addition, the choice of the SMD-S was appropriate for the objective of the study, given that it is a measure especially oriented towards capturing symptoms associated with interference and conflict linked to social media use. In Study 2, the psychometric evidence was broader. The validation of the DFSA was developed through a progressive process that combined a pilot survey, cognitive interviews, a cross-sectional study, and a longitudinal follow-up, which made it possible to gather convergent evidence on item comprehension, factorial structure, invariance, internal consistency, and relationships with external variables. In addition, the adaptation and validation process was explicitly considered in relation to the ITC guidelines, as set out in Annex 6. Taken together, this procedure provides a robust basis for sustaining the psychometric quality of the adapted instrument and constitutes one of the clearest methodological strengths of the quantitative block.

Third, the appraisal focuses on the generalisability of the findings. Although Studies 1 and 2 relied on large sample sizes, which undoubtedly constitutes a strength, both samples were fundamentally restricted to adolescents enrolled in school in specific contexts and selected in a non-probabilistic manner, mainly in schools in the province of Valencia. For this reason, the results cannot be considered representative of Spanish adolescents as a whole, and any claim to generalisation must be formulated with caution.

Finally, the quality of the quantitative block may be assessed in terms of analytical transparency and scientific openness. In Study 1, the criteria used to compare models, select the final solution, and interpret the differences between classes were made explicit, and effect sizes and confidence intervals were reported in the comparative analyses. In Study 2, this dimension was even more marked, since the work was preregistered and its materials, data, and analytical documentation were made publicly available through OSF. This type of decision reinforces the traceability of the research process and facilitates the external evaluation of the findings.

At the qualitative level, the quality of Studies 3 and 4 may be assessed, first, around the worthiness of the topic. From this criterion, a clear strength of the qualitative block lies in the substantive, conceptual, and methodological relevance of the phenomenon studied. Both studies addressed underexplored dimensions of adolescents' digital experience in a specific everyday context, sport, thereby contributing to broadening the focus of a field that has tended to centre on problematic uses or on decontextualised analyses.

Second, the quality of the qualitative block should be assessed on the basis of the criterion of commitment and rigor. At this level, an important limitation is that the research process developed in parallel with my own training as a qualitative researcher, which affected the degree of maturity with which some questions were initially formulated, the analytical focus was delimited, and certain methodological decisions were taken. This meant that the first analyses did not achieve from the outset all the depth and consistency that would have been desirable. This same criterion also allows a relevant strength to be recognised: the analytical work was continuously reworked on the basis of a deeper reading of the methodological literature, sustained attention to the empirical material, and critical review of prior decisions.

Third, the appraisal may be formulated in terms of transparency. One of the main strengths of the qualitative block has been precisely the attempt to make visible, in as explicit a way as possible, the process through which the studies took shape. In both Studies 3 and 4, as well as in the methodological chapter, I have tried to make explicit how certain initial assumptions did not fully fit the material, how the methodological critique received during the review process made it necessary to reconsider fundamental decisions, and how the analysis gained consistency as I myself developed a deeper understanding of interpretive research, thereby allowing the reader to understand better the conditions under which the reported knowledge was produced.

Lastly, the quality of the qualitative block may also be judged on the basis of coherence. At this level, a relevant limitation is that paradigmatic and methodological coherence was not fully achieved from the outset, but was progressively built throughout the process. However, once the initial assumptions had been reviewed and the logic of the analysis reformulated, Studies 3 and 4 achieved a greater fit between their interpretive orientation, the questions posed, the methods employed, the analytical approach, and the way in which the findings were represented.

Finally, one of the main limitations of the thesis as a whole lies at the level of the integration between the quantitative and the interpretive blocks. Although the project

ultimately offers a more articulated reading of the different findings, that integration was constructed a posteriori and not from a fully integrated design from the outset. Throughout the process, the thesis incorporated different constructs, such as PSMU, digital flourishing, digital well-being, and digital disconnection, drawn from theoretical traditions and onto-epistemological positions that were not entirely coincident. The final result provides a broad view of adolescent digital life, but it also introduces a conceptual and methodological diversity that probably could have been managed better with more reflexive planning from the beginning. A deeper and more critical reading of the field, together with greater initial methodological clarity, would have allowed me to position myself earlier, delimit the focus better, and take more informed decisions about which conceptual lens to sustain and how to articulate the different studies more coherently from the outset.

This limitation also takes shape in the degree to which the quantitative and qualitative studies actually examine the same object of study. Although all of them are inscribed within the general framework of adolescent digital life, they do not operate at the same level of analysis or rest on the same epistemological assumptions. The quantitative studies focused on more delimited and previously operationalised constructs, such as PSMU and digital flourishing, making these phenomena researchable by translating them into measurable indicators. This reflects a psychometric logic in which psychological constructs are approached, to varying degrees, as latent entities or relatively stable patterns of functioning that can be inferred from participants' responses. From a social constructionist perspective, such categories cannot be treated as transparent routes into an underlying psychological reality of the subject; they are also historically, culturally, and interactionally produced ways of organising experience, meaning, and possible forms of action (Burr, 1995, 2015).

PSMU, as examined in Study 1, represents the clearest expression of this postpositivist logic, as problematic use was identified through predefined symptomatic indicators of dysregulation and functional interference. The DFSA in Study 2, while also assessed through a quantitative self-report instrument, is closer to an experiential and perceptual level of analysis, as it addresses how adolescents perceive positive facets of their digital communication. Digital flourishing can therefore be read as more closely aligned with the subjective and meaning-oriented dimension of digital experience, even if it remains operationalised within a psychometric framework. The qualitative studies, in turn, explored digital experience as a situated, contextual, and meaning-laden reality. Accordingly, the difficulty of integration lies in the fact that each component constructs and accesses the phenomenon differently. The value of the multiple-method design therefore depends on clarifying what each study can legitimately

contribute and how these contributions can be placed in dialogue, rather than merging them into a single unified account (Sparkes, 2015). This has been the integrative effort pursued throughout the thesis: to make explicit the assumptions, scope, and limits of each study, so that their findings can be read together without dissolving the methodological differences that produced them.

7.4. Future Directions

The future lines of research derived from this thesis invite, among many others, the continued development of an agenda aimed at refining the conceptual foundations of digital flourishing and examining how adolescents' digital well-being is shaped by competitive sport.

A first line of future research could focus on revising and refining the conceptualisation of digital flourishing in adolescents. The findings of this thesis suggest that this issue presents a certain degree of complexity, since some positive experiences, such as connectedness with others or positive social comparison, may coexist with certain indicators of dysregulation. This coexistence invites further specification of what is meant by digital flourishing when it is studied. As currently conceptualised, the DFSA makes it possible to assess adolescents' positive perceptions of their digital communication through five interrelated dimensions that are not organised hierarchically (Janicke-Bowles et al., 2023). This approach may be useful for identifying specific areas in which digital communication can be perceived as positive, but it leaves open the question of whether the presence of such experiences is sufficient to speak of digital flourishing in a full sense.

From a broader positive media psychology perspective, digital flourishing has been defined as a state of thriving with media, characterised by mindful and intentional patterns of use, perceived benefits for oneself and others, personal growth, resilience, and the absence of negative habitual use (Raney et al., 2020). According to this interpretation, digital flourishing would not be limited to experiencing digital benefits in specific areas, but would refer to a broader pattern of digital functioning in which such experiences are coherently integrated with processes of self-regulation, intentionality, growth, and low functional interference. Future research could therefore advance towards a more precise conceptual redefinition of digital flourishing. One possible way to move in this direction would be to develop a Delphi study or an expert consensus panel aimed at revising the definition of the construct (Davis, 1992; Yusoff, 2019), ideally combined with a systematic conceptual review and content validation procedures that incorporate both the specialised literature and adolescents' perspectives (Ciudad-Fernández et al., 2025).

A second line of research from a quantitative perspective could examine more directly whether, how, and under which contextual conditions participation in competitive sport is associated with adolescents' digital well-being. The findings of this thesis suggest that sport may constitute a relevant context for understanding how adolescents' digital experiences are organised, especially when it combines functional uses of the smartphone, situated norms, training demands, and opportunities for disconnection during practice. A first step could be to compare federated and non-federated adolescents across the domains of digital well-being, incorporating variables that previous research has related to adolescents' digital experiences, such as age, gender, socioeconomic status, self-esteem, general well-being, PSMU, sleep, or family support (Orben & Przybylski, 2019; Rosič et al., 2024a; Valkenburg et al., 2021). This design would make it possible to explore whether participation in federated sport is associated with more favourable levels of digital well-being once these variables are taken into account, while also examining the specific mechanisms through which sport may configure digital experience.

In a complementary way, a second phase could focus specifically on adolescent athletes through ecological momentary assessment (EMA) designs. This approach would respond to recent methodological discussions in social media and adolescent well-being research suggesting that multi-wave longitudinal panel designs may fail to capture the specific moment at which digital media-related changes occur. In their systematic review and re-analysis of Random Intercept Cross-Lagged Panel Models studies, Lissens et al. (2026) found little and inconsistent within-person associations over time and argued that this pattern may partly reflect a mismatch between the temporal architecture of longitudinal models and the lived temporality of social media effects. In the context of the present thesis, this methodological issue is especially relevant because digital well-being is conceptualised as a situated and temporally sensitive experience. EMA would make it possible to examine how digital well-being fluctuates around training sessions, competitions, rest periods, and everyday non-sport moments, by recording experiences, behaviours, and psychological states in real time and in the natural contexts in which they occur (Shiffman et al., 2008; Trull & Ebner-Priemer, 2013). To do so, it would be necessary to adapt or develop brief indicators of momentary digital well-being and combine them with measurements linked to sport-related events, such as before and after training sessions or competitions (see Wolfers & Baumgartner, 2026, for an overview of validation procedures for single-item measures in experience sampling research in communication science). This type of design would allow researchers to analyse whether short-term variations in digital well-being are associated with specifically sport-related processes, such

as the intentional use of the smartphone for preparation, coordination, or video analysis, team norms, situated disconnection during practice, fatigue, competitive stress, or satisfaction with performance. At the same time, future research could complement this micro-temporal approach with longitudinal designs aimed at modelling how digital well-being and sport-related smartphone practices co-evolve over longer periods. Person-centred approaches such as growth mixture modelling could help identify subgroups of adolescent athletes with different developmental trajectories of digital well-being, smartphone involvement, and sport-related adjustment (Lissens et al., 2026). However, across both EMA and longer-term longitudinal designs, future research should pay careful attention to participant burden and measurement reactivity, since repeated smartphone-based prompts may themselves alter adolescents' awareness of their digital behaviour and their digital experience (de Segovia, 2025).

A third especially promising line could be oriented towards consolidating an agenda of qualitative and digitally situated research on the experience of adolescent athletes. A future path of great interest would be the development of in-person and (digital) ethnographies capable of examining how these dynamics unfold in real time and across multiple spaces, interactions, and materialities. More specifically, observations in training sessions, competitions, journeys, common spaces, and waiting times could be combined with the analysis of messaging groups, team social media, club platforms, shared videos, social media stories, sport-tracking applications, and other relevant digital traces. This type of approach would make it possible to access with greater precision micropractices, temporal sequences, implicit norms, embodied tensions, and forms of distributed connectivity that are not always made visible with the same richness in retrospective accounts (Goodyear & Bundon, 2021; Kaur-Gill & Dutta, 2017; Pink et al., 2016).

Finally, a particularly valuable future direction would be to develop mixed methods research designs with more explicit and substantive integration between quantitative and qualitative components in adolescent athletes (Sparkes, 2015). This type of approach would make it possible to articulate designs in which the combination of methods generates denser explanations of digital experience in adolescent sport than those that each approach can offer separately. Specifically, a particularly useful route would be to combine EMA designs with in-depth interviews, digital diaries, or ethnographic follow-up. EMA would make it possible to capture how adolescent athletes' digital well-being fluctuates around training sessions, competitions, rest periods, journeys, and other everyday moments linked to sport. The qualitative phase, in turn, would make it possible to explore the situated meanings, team norms,

competitive demands, disconnection practices, and functional uses of the smartphone through which these fluctuations are produced.

This integration could be organised through the selection of theoretically significant cases from the momentary data, including both prototypical and dissonant cases. Prototypical cases would make it possible to understand how expected patterns are expressed, for example adolescents whose digital well-being improves in moments of disconnection during practice or when they use the smartphone for clear sport-related purposes. Dissonant cases would help examine exceptions and contradictions, such as adolescents for whom sport does not facilitate disconnection, or for whom sport-related connectivity generates pressure, comparison, or interference. Thus, the added value of mixed methods would lie in connecting intraindividual fluctuations and situated meanings, generating more precise explanations of how, when, for whom, and under what conditions competitive sport can contribute to more balanced digital experiences.

7.5. Conclusion

The present thesis shows that the different dimensions and manifestations of adolescents' digital experience examined here are characterised by their heterogeneity, their ambivalence, and their sensitivity to context. At its problematic pole, PSMU in adolescents presents a heterogeneous organisation. Study 1 identifies functional, at-risk, and problematic profiles, differentiated by symptomatic intensity and by the pattern of manifestations that characterises them, with particular weight given to indicators of relational interference, conflict, deception, and functional interference in the most problematic profile. This finding provides a more precise reading of adolescent PSMU, qualifies more generalised interpretations of the phenomenon, and brings to the foreground an intermediate profile characterised by increased salience, difficulties in reducing use, and displacement of other activities. Importantly, this at-risk profile should not be considered merely marginal or transitional, as it also showed a more concerning pattern of associations with psychological and academic adjustment indicators. At the positive pole, Study 2 showed that beneficial digital communication experiences are also organised in a multidimensional way. The Spanish validation of the DFSA provides a psychometrically sound instrument for assessing them in adolescent populations and reinforces a conception of digital flourishing as composed of diverse, interrelated, non-hierarchical dimensions. The longitudinal results indicate that digital flourishing also includes a short-term component of variability, sensitive to the changing and situated character of adolescents' digital lives. Taken together, Studies 1 and 2 refine the distinction between two opposing poles by showing that PSMU and digital flourishing maintain a differentiated but partially overlapping

relationship. The associations between PSMU and the DFSA dimensions suggest that some positive digital experiences may coexist with dysregulated patterns of use.

The qualitative studies deepen the understanding of digital experience from an interpretive logic centred on the sporting context. In Study 3, adolescent athletes' accounts positioned the smartphone as deeply integrated into their everyday sporting lives. Participants made sense of the smartphone as a resource when its use was articulated with the demands of the situation, including learning, coordination, access to sporting information, psychological preparation, emotional regulation, or connection with others. Conversely, they described it as disruptive when its presence was associated with distraction, comparison, pressure, fragmented attention, or difficulties in regulating use. From this perspective, the smartphone was not constructed as inherently beneficial or harmful, but as meaningful, functional, or disruptive depending on how specific uses became embedded within the concrete conditions of everyday and sporting practice. This finding connects with the broader idea of digital well-being as an ambivalent balance, in which the benefits and costs of connectivity are not separate outcomes but interrelated aspects of adolescents' own digital experience. Study 4 complements this finding by showing how digital disconnection was constructed, in the adolescent sporting context analysed, as a situated possibility enabled by the practical, social, and experiential organisation of sport. In participants' accounts, bodily involvement in the activity, physical distance from the device, shared norms of attention and commitment, and the attentional demands of practice contributed to positioning the smartphone as less central, at least at certain moments and in certain spaces. In this sense, the thesis suggests that disconnection should not be understood only as the outcome of individual self-control, but also as a contextually supported possibility that becomes viable, legitimate, and, at times, non-deliberate through specific material, social, and experiential conditions. The sporting context therefore shows that the management of connectivity is not only an individual regulatory task, but also a situated process shaped by the environments in which adolescents participate.

For all these reasons, the thesis suggests that adolescents' digital experience may be better understood by bringing together its problematic manifestations, positive dimensions, temporal variability, and situated forms of connection and disconnection. Sport has served in this thesis as a privileged context for observing how these dimensions become organised in everyday life, as adolescent athletes integrate the smartphone into their routines, negotiate its value across situations, and experience moments in which its presence becomes temporarily displaced. Across the four studies, the thesis therefore traces a movement from the identification of problematic and positive profiles and dimensions of digital experience to the

analysis of how these experiences acquire meaning within the material, relational, normative, and experiential conditions of sporting practice. In doing so, it contributes to understanding digital experience as a situated and dynamic process, shaped by specific practices, moments, and contexts, through which the balance between connectivity and disconnectivity is continuously configured. These findings invite future research to examine whether contexts that temporarily reorganise connectivity, such as sport, can foster more sustainable relationships with digital media and, in doing so, support adolescents' (digital) well-being.

CHAPTER 8

Summary in Spanish Resumen en castellano



8.1. Introducción

El uso de los medios digitales se ha convertido en una característica definitoria de la vida contemporánea. En términos amplios, los medios digitales remiten al conjunto de contenidos, prácticas y formas de interacción que se crean, distribuyen y consumen a través de dispositivos digitales, incluyendo smartphones, tabletas y ordenadores, mediante los cuales se realizan actividades como el uso de las redes sociales, el correo electrónico, el consumo de contenidos en streaming o los videojuegos (Liebherr et al., 2025; Meier & Reinecke, 2021). Dentro de este ecosistema digital, las social media y el smartphone se han convertido en dos de los objetos de estudio más ampliamente analizados. Las social media constituyen entornos comunicativos basados en plataformas que permiten crear, compartir y consumir contenidos, así como participar en distintas formas de interacción social (Bishop, 2019). El smartphone, por su parte, funciona como una infraestructura cotidiana de acceso que integra múltiples medios y servicios en un mismo dispositivo y favorece una conectividad móvil, personal y permanente (Humphreys et al., 2018; Jensen, 2016, 2022). La convergencia entre social media y smartphone ha transformado las condiciones de acceso, disponibilidad e implicación con los entornos digitales, consolidando una forma de conectividad marcada por la disponibilidad constante, el contacto permanente y la difuminación de las fronteras entre tiempos, espacios y relaciones (Vanden Abeele et al., 2018; Vorderer et al., 2017).

Esta tesis se centra específicamente en el uso de los medios digitales durante la adolescencia. La adolescencia constituye una etapa del desarrollo situada entre la infancia y la adultez, caracterizada por una profunda reorganización biológica, cognitiva, emocional y social con implicaciones duraderas para la trayectoria vital de las personas (Blakemore, 2019; Papalia & Martorell, 2021; Sawyer et al., 2018). Durante estos años, tareas evolutivas centrales como la construcción de la identidad, la búsqueda de autonomía, el desarrollo de relaciones íntimas con los iguales, la necesidad de pertenencia y la creciente centralidad de los iguales se producen actualmente en entornos profundamente digitalizados (Berk, 2022; Brown, 2004; Papalia & Martorell, 2021; Steinberg, 2005, 2020; Subrahmanyam & Šmahel, 2011). En este marco, la comunicación digital con iguales adquiere una relevancia especial, ya que permite extender relaciones presenciales, mantener el contacto cotidiano, explorar formas de autopresentación y participar en dinámicas de socialización centrales para el desarrollo adolescente (Antons et al., 2025; Ciudad-Fernández et al., 2024; Leggett-James et al., 2026; Subrahmanyam & Smahel, 2011).

La experiencia digital adolescente remite al conjunto de prácticas, interacciones, percepciones, evaluaciones y significados que emergen de la relación de los adolescentes con

dispositivos, plataformas y contenidos digitalmente mediados. Esta definición parte de una perspectiva socioconstructivista, según la cual la experiencia de los medios es, al menos en parte, subjetiva y socialmente construida (Fulk et al., 1990; Wolfers, 2024). Desde esta perspectiva, la experiencia digital adolescente incluye la manera en que los adolescentes interpretan, incorporan y negocian sus prácticas digitales dentro de contextos cotidianos específicos, así como el modo en que estas prácticas se relacionan con su bienestar y funcionamiento en distintos ámbitos de la vida.

La investigación acumulada sugiere que los efectos de los medios digitales en la adolescencia presentan una naturaleza plural, heterogénea y dependiente del contexto. Algunas formas de uso pueden asociarse con experiencias funcionales y potencialmente beneficiosas, como el aprendizaje, la creatividad, la exploración identitaria, la autoexpresión, el mantenimiento del contacto con iguales o el acceso a apoyo social (Appel et al., 2020; Janicke-Bowles et al., 2023; Odgers & Jensen, 2020; Raney et al., 2020). Otras formas de uso, especialmente cuando adoptan patrones intensivos, desregulados o vinculados a determinados contenidos y dinámicas de las plataformas, se han asociado con problemas de sueño, síntomas de ansiedad y depresión, peor imagen corporal, dificultades atencionales, comparación social desfavorable, interferencia funcional o pérdida de control (Bonfanti et al., 2025; Camerini et al., 2020; Flayelle et al., 2023; Ivie et al., 2020; Piteo & Ward, 2020; Shannon et al., 2022; Sharma & Vidal, 2023). En conjunto, la evidencia sugiere que las asociaciones entre uso digital y variables relevantes para el desarrollo adolescente suelen ser pequeñas, inconsistentes o dependientes de cómo se conceptualizan y operacionalizan tanto el uso como sus posibles consecuencias (Appel et al., 2020; Meier & Reinecke, 2021; Odgers & Jensen, 2020; Orben, 2020; Valkenburg, 2022).

Junto con la evidencia cuantitativa, la investigación cualitativa ha enriquecido el campo al situar en primer plano las experiencias e interpretaciones de los propios adolescentes. Estos estudios muestran que una misma práctica digital, o incluso una misma interacción, puede ser vivida de forma ambivalente: las redes sociales pueden conectar y agotar, entretener y aburrir, inspirar y generar malestar, o facilitar la autoexpresión mientras intensifican la preocupación por el juicio de los demás (Throuvala et al., 2019; Van der Wal et al., 2024; Vaterlaus et al., 2021; Weinstein, 2018). Esta variabilidad depende, entre otros factores, del momento, el contenido, la plataforma, el adolescente y el contexto relacional en el que se produce el uso (Parry et al., 2022; Pouwels et al., 2024; Singh et al., 2026; Valkenburg et al., 2021; Van der Wal et al., 2026). Desde esta perspectiva, la experiencia digital adolescente se entiende mejor a partir de

preguntas centradas en para quién, bajo qué circunstancias, mediante qué usos, contenidos y diseños, y en qué contextos emergen sus beneficios, costes y ambivalencias.

A partir de esta visión, la tesis conceptualiza la experiencia digital adolescente a través de cuatro conceptos complementarios. En primer lugar, el uso problemático de redes sociales permite delimitar patrones de uso excesivo, desregulado o problemático de las redes sociales que pueden implicar pérdida de control, interferencia funcional y consecuencias negativas en la vida cotidiana (Cataldo et al., 2022; Kardefelt-Winther et al., 2017; Moretta et al., 2022). Su rasgo central reside en la pérdida de control y en la interferencia funcional que el uso genera en la vida cotidiana, más que en la frecuencia o intensidad del uso en sí mismas. Este campo presenta importantes desafíos conceptuales y metodológicos, especialmente por la variabilidad de las estimaciones de prevalencia y por el uso frecuente de puntuaciones totales, puntos de corte o clasificaciones dicotómicas que pueden simplificar en exceso la heterogeneidad del fenómeno (Boer et al., 2022; Cheng et al., 2021; MacCallum et al., 2002).

En segundo lugar, el florecimiento digital dirige la atención hacia las experiencias positivas de comunicación digital (Janicke-Bowles et al., 2023). Desde la psicología positiva de los medios, este concepto se centra en cómo las interacciones digitalmente mediadas pueden ser percibidas como valiosas, funcionales o enriquecedoras (Raney et al., 2020). Teóricamente, se fundamenta en la Teoría de la Autodeterminación, al considerar que ciertas experiencias digitales pueden contribuir a la satisfacción de necesidades psicológicas básicas como autonomía, competencia y relación (Ryan & Deci, 2017). El florecimiento digital se entiende a partir de cinco dimensiones que capturan diferentes formas de experiencia positiva en el entorno digital: conexión, autopresentación auténtica, comparación social positiva, participación cívica y autocontrol (Janicke-Bowles et al., 2023; Rosič et al., 2022).

En tercer lugar, el bienestar digital sitúa en el centro la coexistencia de beneficios e inconvenientes derivados de la conectividad digital. Este marco entiende el bienestar digital como una experiencia subjetiva e individual de equilibrio entre los beneficios y los inconvenientes obtenidos de la conectividad móvil, compuesta por dimensiones afectivas y cognitivas (Vanden Abeele, 2021). Desde esta perspectiva, permite analizar cómo los adolescentes evalúan y negocian las consecuencias positivas y negativas de estar conectados en distintos momentos y contextos (Vanden Abeele et al., 2026). Finalmente, la desconexión digital incorpora la dimensión de los límites, las pausas y la suspensión parcial o temporal de la relación con dispositivos, plataformas y contenidos digitales (Nassen et al., 2023). La literatura reciente la entiende como una práctica situada, configurada por condiciones materiales, sociales e

individuales que facilitan o dificultan el distanciamiento respecto a la conectividad (Nassen et al., 2023; Syvertsen, 2020; Vanden Abeele & Syvertsen, 2025).

Dentro de los diferentes contextos cotidianos que estructuran la experiencia digital adolescente, esta tesis se centra específicamente en los adolescentes deportistas. El contexto deportivo resulta relevante como contexto de la vida cotidiana porque organiza de manera concreta las posibilidades de conexión, desconexión y uso del smartphone. Los adolescentes deportistas deben compatibilizar exigencias deportivas, académicas, sociales y familiares, al tiempo que el smartphone y las plataformas digitales forman parte de sus rutinas cotidianas (Gould et al., 2020; Walton et al., 2022). Desde un enfoque cuantitativo, la investigación en deporte se ha centrado principalmente en riesgos potenciales asociados al uso digital, como el sueño, la fatiga mental, el rendimiento deportivo, la salud mental o algunas consecuencias físicas (Ong & Chua, 2024). Desde un enfoque cualitativo, la literatura ha mostrado un panorama más complejo y situado, en el que el smartphone aparece integrado en las rutinas deportivas, escolares y personales de los atletas, cumpliendo funciones relacionales, emocionales, organizativas e instrumentales, al tiempo que puede generar distracción, presión, estrés o interferencia (Camiré et al., 2022; David et al., 2018; DesClouds & Durand-Bush, 2021; Hayes et al., 2020; Ong et al., 2024).

Desde esta perspectiva, el marco del bienestar digital resulta especialmente útil para comprender la ambivalencia que caracteriza la experiencia digital de los adolescentes deportistas, ya que permite atender de forma conjunta a los beneficios y las cargas asociadas a la conectividad móvil como parte de una misma experiencia (Vanden Abeele, 2021; Vanden Abeele & Syvertsen, 2025). Además, comprender esta experiencia requiere incorporar también las prácticas de desconexión (Vanden Abeele & Syvertsen, 2025). Aunque la investigación sobre desconexión digital ha crecido en los últimos años, se ha centrado principalmente en contextos de ocio, consumo o bienestar, mientras que los entornos orientados al rendimiento han recibido mucha menos atención (Fast, 2021; Schaefer, 2018). En el caso del deporte adolescente, algunos trabajos han sugerido que ciertas formas de limitación del uso del smartphone pueden emerger durante la práctica deportiva, orientadas a proteger la concentración, el respeto, la preparación para la competición o la autorregulación, pero esta cuestión rara vez ha sido abordada como objeto central de análisis (DesClouds & Durand-Bush, 2021; Ong et al., 2024). El deporte ofrece, por tanto, un contexto especialmente adecuado para analizar cómo las condiciones materiales, sociales y experienciales de una práctica cotidiana pueden reorganizar la presencia, el valor y la posibilidad de desplazamiento del smartphone.

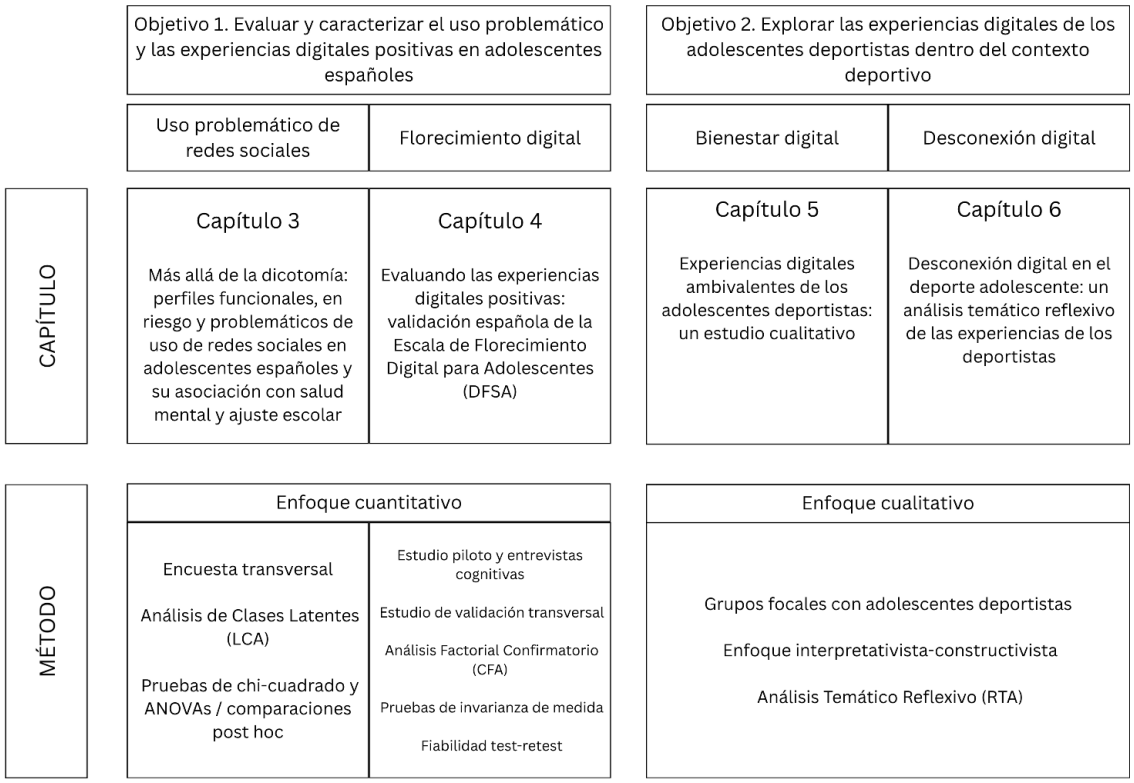
A pesar de los avances del campo, al inicio de esta tesis persistían varias lagunas conceptuales, metodológicas y contextuales. En primer lugar, la literatura sobre uso problemático de redes sociales seguía necesitando una comprensión más matizada del polo problemático, más allá de clasificaciones dicotómicas, puntuaciones totales o puntos de corte, que permitiera captar la heterogeneidad interna de este fenómeno y su relación con el ajuste adolescente. En segundo lugar, el estudio de las experiencias digitales positivas seguía menos desarrollado que el estudio del riesgo, y en el contexto español no existía un instrumento culturalmente adaptado para evaluar el florecimiento digital en adolescentes. En tercer lugar, la experiencia digital adolescente seguía abordándose con frecuencia de forma amplia o descontextualizada, pese a que se configura dentro de contextos cotidianos concretos que organizan rutinas, relaciones, expectativas y demandas. En cuarto lugar, la desconexión digital apenas había sido examinada como una dimensión central y dependiente del contexto dentro de la experiencia adolescente en el deporte.

A partir de estas lagunas, la presente tesis doctoral se planteó dos objetivos generales. El primero fue avanzar hacia una comprensión más matizada de la experiencia digital adolescente en el contexto español, atendiendo tanto a sus manifestaciones problemáticas como a sus dimensiones positivas (O1). Este objetivo se concretó en la identificación de distintos perfiles de uso problemático de redes sociales en adolescentes españoles y en el análisis de su asociación con indicadores relevantes de ajuste psicológico y académico (OE1), así como en la adaptación y validación de una medida de florecimiento digital en adolescentes españoles para evaluar experiencias positivas de comunicación digital en esta población (OE2). El segundo objetivo general fue ampliar la comprensión del carácter situado, ambivalente y contextualmente configurado de la experiencia digital adolescente a través del análisis del contexto deportivo (O2). Este objetivo se concretó en explorar cómo los adolescentes deportistas perciben la coexistencia de beneficios e inconvenientes asociados al uso del smartphone en su vida cotidiana y deportiva (OE3), y en examinar cómo emerge la desconexión digital en el contexto deportivo adolescente, atendiendo a la manera en que las condiciones del deporte configuran el uso y el no uso del smartphone durante la práctica deportiva (OE4).

En la Figura 11 se presenta una visión integrada de la estructura de la tesis, incluyendo los objetivos, los estudios que la componen y los enfoques metodológicos empleados.

Figura 11

Visión General de la Estructura de la Tesis: Objetivos, Estudios y Enfoques Metodológicos



8.2. Consideraciones Metodológicas

La tesis parte de una comprensión de la metodología que va más allá de su dimensión técnica y la entiende como un espacio en el que se articulan supuestos sobre la realidad, el conocimiento, la evidencia, el rigor y el papel del investigador (Sparkes & Smith, 2014). Desde esta perspectiva, las decisiones metodológicas forman parte de la construcción de la tesis y de las condiciones bajo las cuales se produjo el conocimiento. Este capítulo presenta la tesis como un recorrido investigador en el que la secuencia de estudios se articula con cambios de dirección, intentos iniciales, evolución de los supuestos y decisiones progresivas que configuraron su forma final (Braun & Clarke, 2025).

El capítulo se organiza en torno a tres objetivos específicos. El primero explicita los supuestos paradigmáticos que orientan la comprensión de la tesis y permite situar las distintas lógicas desde las que se desarrollaron sus estudios. El segundo reconstruye la trayectoria metodológica de los cuatro estudios, prestando especial atención al desplazamiento progresivo entre lógicas paradigmáticas. El tercero propone los criterios de calidad desde los cuales puede valorarse la tesis.

Respecto al primer objetivo, la tesis se configura a través de dos lógicas paradigmáticas complementarias. Los Estudios 1 y 2 se desarrollan desde una orientación postpositivista y cuantitativa, centrada en la identificación de patrones, la validación de instrumentos y la producción de evidencia sobre dimensiones específicas de la experiencia digital adolescente. Los Estudios 3 y 4 se sitúan progresivamente dentro de una orientación interpretativista y construccionista, orientada a comprender cómo los adolescentes deportistas interpretan, negocian y dan sentido a sus experiencias digitales en contextos cotidianos específicos (Monforte, 2024; Sparkes & Smith, 2014). Esta doble orientación permite comprender el desplazamiento de la tesis desde constructos inicialmente delimitados dentro de una lógica cuantitativa hacia una aproximación más situada, interpretativa y contextual a la experiencia digital adolescente.

El segundo objetivo reconstruye la trayectoria metodológica que condujo a esta configuración. La tesis comienza con interés por el PSMU y la necesidad de superar una lectura dicotómica entre usuarios problemáticos y no problemáticos. A partir de los resultados del Estudio 1, la atención se amplía hacia las experiencias digitales positivas, dando lugar al Estudio 2 y a la validación de la DFSA en adolescentes españoles. Posteriormente, el trabajo cualitativo con adolescentes deportistas muestra que los conceptos inicialmente previstos no captaban suficientemente la complejidad de sus relatos, centrados en la ambivalencia, la negociación entre beneficios e inconvenientes y las formas situadas de conexión y desconexión. Este proceso conduce a una reformulación del foco cualitativo, a una mayor atención a la coherencia ontoepistemológica, metodológica y analítica, y a la división del proyecto inicial en dos estudios diferenciados: uno centrado en la experiencia ambivalente del smartphone en adolescentes deportistas y otro en la desconexión digital en el deporte.

Por último, el tercer objetivo plantea una valoración situada de la calidad metodológica, atendiendo a los supuestos, objetivos, metodología y lógica de producción de conocimiento de cada estudio. En los estudios cuantitativos, esta valoración se organiza en torno a la calidad del diseño, la robustez de la medición, el alcance de la generalización y la transparencia analítica. En los estudios cualitativos, se articula en torno a la relevancia del tema, el compromiso y rigor, la transparencia y la coherencia. En conjunto, la tesis se entiende como un estudio multimétodo, ya que combina estudios desarrollados desde distintos métodos, diseños y paradigmas, articulados a través de una trayectoria progresiva de investigación más que desde un plan de integración completamente cerrado desde el inicio (Johnson et al., 2007).

En la Tabla 18 se recogen los principales objetivos, paradigmas, metodologías, métodos y características de los participantes de los estudios que componen la presente tesis.

Tabla 18

Resumen de los Objetivos, Paradigmas, Metodologías, Métodos y Participantes en los Cuatro Estudios

	Estudio 1	Estudio 2	Estudio 3	Estudio 4
Objetivo	Identificar perfiles latentes de PSMU en adolescentes españoles y examinar sus asociaciones con el ajuste psicológico y académico	Adaptar y validar la versión española de la Escala de Florecimiento Digital para Adolescentes	Explorar cómo los adolescentes deportistas perciben la coexistencia de beneficios e inconvenientes asociados al uso del smartphone en su vida cotidiana y deportiva	Examinar cómo emerge la desconexión digital en el deporte adolescente y cómo se configura a partir de condiciones materiales, normas sociales y dinámicas propias de la práctica deportiva
Paradigma	Postpositivista	Postpositivista	Interpretativo–construccionista	Interpretativo–construccionista
Metodología	Investigación cuantitativa mediante encuesta	Adaptación y validación psicométrica cuantitativa	Investigación cualitativa de carácter interpretativo	Investigación cualitativa de carácter interpretativo

	Estudio 1	Estudio 2	Estudio 3	Estudio 4
Método	Cuestionario online. Análisis de Clases Latentes, pruebas chi-cuadrado, ANOVA, comparaciones post hoc	Cuestionarios online y en papel. Estudio piloto, entrevistas cognitivas, validación psicométrica (AFC, invarianza, fiabilidad, validez)	Grupos de discusión. Análisis Temático Reflexivo	Grupos de discusión. Análisis Temático Reflexivo
Participantes	902 adolescentes de 11 a 19 años	Estudio piloto: 13 adolescentes; entrevistas cognitivas: 10 adolescentes; estudio transversal: 1.786 adolescentes; seguimiento longitudinal: 289 adolescentes	20 adolescentes deportistas federados en cuatro grupos de discusión	Inicialmente basado en los mismos cuatro grupos de discusión, posteriormente ampliado mediante un grupo adicional para profundizar en el análisis de la desconexión digital

Nota. ANOVA = análisis de varianza; CFA = análisis factorial confirmatorio.

8.3. Resultados de la tesis

8.3.1. Estudio 1. Perfiles de Uso Problemático de las Redes Sociales en Adolescentes Españoles

El primer estudio de la tesis, "Más allá de la dicotomía: perfiles funcionales, de riesgo y problemáticos del uso de redes sociales en adolescentes españoles y su asociación con salud mental y ajuste escolar", tuvo como objetivo identificar perfiles latentes de uso problemático de redes sociales en adolescentes españoles y examinar sus asociaciones externas a partir de indicadores psicológicos y académicos previamente vinculados al fenómeno. Este objetivo respondía a una laguna relevante en la literatura, ya que una parte importante de la evidencia previa ha tendido a clasificar a los adolescentes de forma dicotómica, diferenciando entre uso problemático y no problemático, como si esta distinción constituyera una delimitación natural y definitiva del fenómeno. Frente a ello, este estudio partió de la necesidad de analizar si podían identificarse subgrupos con patrones diferenciados de síntomas y de comprobar la utilidad de esta aproximación en una población específica, en este caso, adolescentes españoles. El estudio se apoyó en la Social Media Disorder Scale como medida centrada en la interferencia funcional y el conflicto asociado al uso (Van den Eijnden et al., 2016), y adoptó el análisis de clases latentes como procedimiento estadístico orientado a identificar subgrupos no observados a partir de los patrones de respuesta de los participantes (Collins & Lanza, 2010).

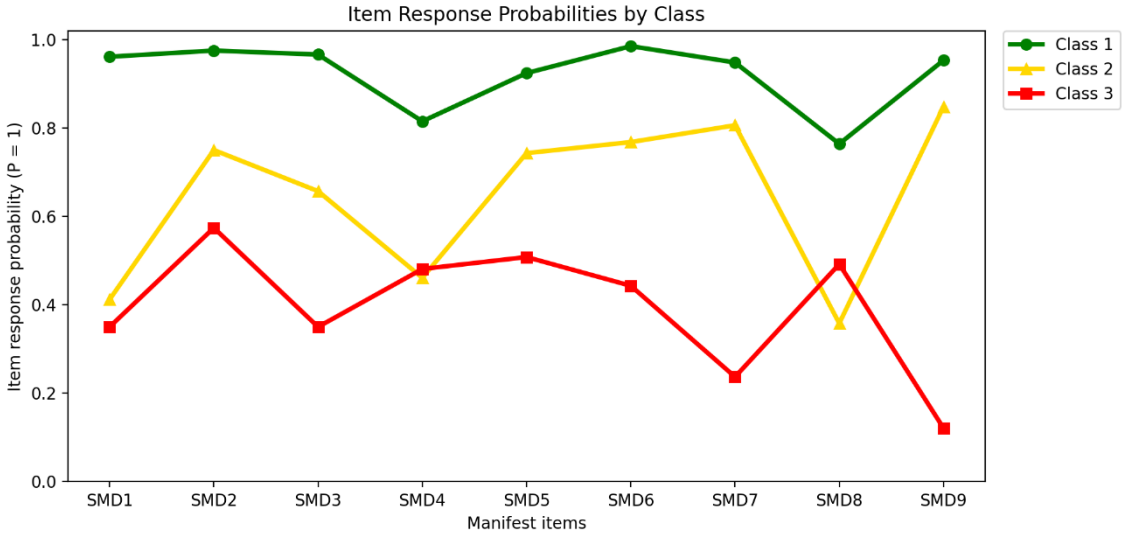
Participaron 902 adolescentes españoles de entre 11 y 19 años. A partir de los nueve criterios de la Social Media Disorder Scale, se estimaron modelos de dos a seis clases latentes. Aunque varias soluciones podían considerarse estadísticamente plausibles, la solución de tres clases se retuvo porque ofrecía un equilibrio adecuado entre ajuste, parsimonia, estabilidad, calidad de clasificación, tamaño de las clases e interpretabilidad sustantiva. Esta solución resultó coherente con la literatura previa en adolescentes y jóvenes, que ha tendido a identificar perfiles funcionales, intermedios o de riesgo y problemáticos (Boer et al., 2022; Cerniglia et al., 2019; Lu, 2026; Moreno et al., 2023; Oh et al., 2021; Pi et al., 2024), y también con hallazgos recientes obtenidos en población adulta española (Zarco-Alpuente et al., 2025). Además, la prevalencia del perfil problemático fue del 6,54% de la muestra analítica, una cifra muy próxima a las estimaciones epidemiológicas recientes en adolescentes españoles basadas en la misma escala, situadas en torno al 5,7% (Márquez et al., 2025).

Los resultados permitieron interpretar tres patrones diferenciados de PSMU. El primero fue conceptualizado como un perfil funcional (59,98%), caracterizado por una probabilidad muy baja de presentar la mayoría de criterios de uso problemático. El segundo fue interpretado como

un perfil de riesgo (33,49%), en el que aumentaba especialmente la probabilidad de criterios vinculados a la centralidad del uso y a dificultades iniciales de autorregulación, como la saliencia, los intentos fallidos de reducir el tiempo y el desplazamiento de otras actividades. El tercero fue conceptualizado como un perfil problemático (6,54%), definido por una mayor severidad global y, de manera distintiva, por criterios más claramente vinculados a interferencia interpersonal y deterioro funcional, especialmente el conflicto y la ocultación del uso. Esta diferenciación mostró que los perfiles no se distinguen únicamente por el número de síntomas, sino también por el patrón específico de criterios que concentran, en línea con perspectivas que sitúan el deterioro funcional en el centro de la delimitación del fenómeno (Cataldo et al., 2022; Fournier et al., 2023; Moretta et al., 2022). La Figura 12 ilustra este patrón mostrando, para cada perfil, la probabilidad estimada de que sus integrantes cumplieran cada uno de los nueve criterios evaluados.

Figura 12

Probabilidad de Puntuar Negativamente en Cada uno de los Criterios Para Cada una de las Clases Latentes



Nota. Clase latente 1 = Usuarios funcionales; Clase latente 2 = Usuarios de riesgo; Clase latente 3 = Usuarios problemáticos. SMD1 = Saliencia/Preocupación; SMD2 = Tolerancia; SMD3 = Abstinencia; SMD4 = Persistencia; SMD5 = Escape; SMD6 = Problema; SMD7 = Engaño; SMD8 = Desplazamiento; SMD9 = Conflicto.

Las asociaciones externas de estos perfiles se examinaron mediante su relación con indicadores psicológicos y académicos previamente vinculados al PSMU. Dentro del plano psicológico, se incluyeron tanto indicadores de malestar, concretamente ansiedad y depresión,

como recursos personales asociados al ajuste, como autoestima, resiliencia y autoeficacia emocional. Los adolescentes del perfil funcional presentaron niveles significativamente más bajos de ansiedad y depresión, y mayores niveles de autoestima, resiliencia y autoeficacia emocional que los perfiles de riesgo y problemático, en línea con la evidencia meta-analítica que ha documentado asociaciones consistentes entre PSMU y mayor malestar emocional (Du et al., 2024; Shannon et al., 2022; Yigiter et al., 2024). Un hallazgo especialmente relevante fue que los perfiles de riesgo y problemático apenas se diferenciaron entre sí en la mayoría de estas variables, lo que sugiere que una parte importante de la vulnerabilidad ya está presente en el nivel intermedio. En el plano académico, el patrón fue muy similar. Los adolescentes con un uso funcional mostraron mejor rendimiento académico, mayor autoconcepto académico y mayores niveles de engagement, así como menores niveles de burnout académico (Du & Wang, 2024; Giunchiglia et al., 2018; Liu et al., 2017; Malo-Cerrato et al., 2018; Paterna et al., 2024; Salmela-Aro et al., 2017, 2022). Además, se observó una asociación con el nivel educativo, con una sobrerrepresentación del perfil funcional en cursos iniciales y una mayor presencia relativa del perfil problemático en etapas posteriores. Los modelos complementarios con edad y etapa educativa como covariables aportaron información adicional sobre la probabilidad de pertenencia a clase, pero no ofrecieron evidencia suficiente para sustituir la solución incondicional de tres clases ni para concluir que la estructura latente variara sustantivamente entre etapas educativas.

En conjunto, este estudio sugiere que el uso problemático de redes sociales en la adolescencia puede comprenderse mejor mediante una lógica de perfiles que mediante una clasificación exclusivamente dicotómica, ya que adopta una estructura más heterogénea, con perfiles que difieren tanto en intensidad como en cualidad sintomática. Asimismo, los hallazgos refuerzan la relevancia de prestar atención al perfil de riesgo, ya que no constituye simplemente una posición intermedia, sino un grupo que ya presenta un patrón de vulnerabilidad psicológica y académica claramente desfavorable. Desde esta perspectiva, el estudio aporta evidencia a favor de aproximaciones más matizadas a la identificación del problema y a la prevención, sensibles a la diversidad de perfiles y niveles de afectación presentes en la adolescencia.

8.3.2. Estudio 2. Validación Española de la Escala de Florecimiento Digital para Adolescentes

El segundo estudio de la tesis, “Evaluación de las experiencias digitales positivas: validación española de la Escala de Florecimiento Digital para Adolescentes”, tuvo como objetivo adaptar y validar dicha escala en población adolescente española. Este estudio respondía a una laguna clara en la literatura: aunque el campo de los efectos de los medios ha estado

históricamente más centrado en el riesgo y en el uso problemático, desarrollos recientes en psicología positiva de los medios y en la investigación sobre florecimiento digital han subrayado la necesidad de examinar también las experiencias digitales positivas y su relación con el bienestar adolescente (Janicke-Bowles et al., 2023; Rosič et al., 2022; Vanden Abeele, 2021). En el contexto español, no existía previamente una medida validada que permitiera evaluar este constructo en adolescentes.

El estudio se estructuró en tres fases complementarias. En una primera fase, se realizó un proceso de traducción y adaptación cultural de la escala mediante una encuesta piloto y entrevistas cognitivas con adolescentes, con el fin de revisar la claridad, comprensibilidad y adecuación contextual de los ítems. En una segunda fase, se llevó a cabo un estudio transversal con 1.786 adolescentes para analizar la estructura latente de la escala, su invariancia por género y edad, la fiabilidad interna de sus puntuaciones y la evidencia de validez basada en su relación con otras variables. En una tercera fase, un seguimiento longitudinal con 286 adolescentes permitió evaluar la estabilidad temporal de las puntuaciones y la invariancia longitudinal durante un intervalo de seis semanas.

Los resultados apoyaron de forma consistente una estructura correlacionada de cinco factores, compuesta por conexión, autopresentación auténtica, comparación social positiva, participación cívica y autocontrol, en línea con la conceptualización original del constructo (Janicke-Bowles et al., 2023; Rosič et al., 2022). Esta solución mostró un ajuste superior al modelo unidimensional y al modelo jerárquico, reforzando la idea de que el florecimiento digital se entiende mejor como un conjunto de dimensiones interrelacionadas. La escala mostró además invarianza estricta por edad e invarianza métrica por género.

La evidencia de validez basada en relaciones con otras variables fue, en general, coherente con lo esperado teóricamente. Las dimensiones de la escala se asociaron positivamente con la satisfacción de las necesidades psicológicas básicas y con la satisfacción vital, lo que resulta congruente con su anclaje en la Teoría de la Autodeterminación (Deci & Ryan, 2000; Ryan & Deci, 2017). De forma más específica, la conexión se relacionó negativamente con la soledad, la autopresentación auténtica con la autenticidad percibida en redes, la comparación social positiva con la inspiración derivada del uso de redes, la participación cívica negativamente con la agresión en línea y el autocontrol negativamente con el uso problemático de redes sociales. Al mismo tiempo, el estudio mostró ciertos matices importantes: algunos tamaños de efecto fueron modestos y algunas dimensiones señalaron márgenes de mejora en su operacionalización o en la consistencia de sus puntuaciones. En la

fase longitudinal, las puntuaciones mostraron una estabilidad temporal pobre a moderada, mientras que la escala sí sostuvo invariancia longitudinal escalar. Este patrón sugiere que el instrumento mide de forma consistente el mismo constructo a lo largo del tiempo, pero que las experiencias de florecimiento digital en la adolescencia pueden fluctuar en función de cambios contextuales, relacionales o evolutivos.

Este estudio permite disponer por primera vez en el contexto español de una medida con respaldo psicométrico para evaluar experiencias de comunicación digital positivas en adolescentes.

8.3.3. Estudio 3. Experiencias Digitales Ambivalentes en Adolescentes Deportistas

El tercer estudio de la tesis, "Experiencias digitales ambivalentes de adolescentes deportistas: un estudio cualitativo", tuvo como objetivo explorar cómo los adolescentes deportistas perciben el impacto del smartphone en su vida cotidiana y deportiva. Este estudio respondía a una laguna importante en la literatura. Aunque la investigación previa sobre tecnología y deporte había comenzado a mostrar la ambivalencia del uso digital en atletas, buena parte de esta evidencia seguía concentrándose en contextos anglosajones y no se había articulado a partir de marcos conceptuales específicos como el del bienestar digital, pese a describir beneficios e inconvenientes asociados al uso del smartphone y de otras tecnologías digitales (DesClouds & Durand-Bush, 2021; Ong & Chua, 2024; Ong et al., 2023, 2024). En este contexto, el estudio se propuso ofrecer una comprensión más situada de la experiencia digital de adolescentes deportistas en España y hacerlo, además, desde la lente teórica del bienestar digital, entendida como la negociación subjetiva y dinámica entre los beneficios y las cargas asociadas a la conectividad móvil (Vanden Abeele, 2021; Vanden Abeele & Syvertsen, 2025).

Metodológicamente, el estudio se situó en un paradigma construccionista y utilizó grupos de discusión y análisis temático reflexivo. Participaron 20 adolescentes deportistas federados, de entre 14 y 19 años, procedentes de deportes individuales y colectivos. Se realizaron cuatro grupos de discusión presenciales y el análisis siguió un proceso iterativo que combinó una aproximación inductiva al material con una lectura teórica inspirada en la literatura sobre bienestar digital (Braun & Clarke, 2019, 2021; Sparkes & Smith, 2014).

El análisis dio lugar a dos temas principales. El primero, integrar lo digital como parte de ser deportista, recoge las formas en que los adolescentes incorporan el smartphone como un complemento significativo de su práctica deportiva. El dispositivo aparece aquí como una herramienta útil para aprender y mejorar, coordinar la vida deportiva, sostener vínculos con compañeros, entrenadores y familiares, y regular el equilibrio emocional antes y después de

competir. Los participantes describieron usos relacionados con la revisión de vídeos para analizar su propio rendimiento, la observación de rivales o deportistas de élite, la búsqueda de contenidos sobre técnica, preparación física o recuperación, y la utilización de aplicaciones para organizar entrenamientos y seguir progresos. Junto a ello, el smartphone también ocupaba un lugar central en la vida social del deporte, facilitando la coordinación del grupo, la continuidad del contacto y el sentimiento de pertenencia al equipo o a la comunidad deportiva.

El segundo tema, cuando la conexión se convierte en una carga, recoge el reverso de esa integración. Los adolescentes reconocieron que el mismo smartphone que les ayuda a organizarse, aprender o sentirse conectados puede convertirse también en una fuente de interferencia y desequilibrio cuando el uso deja de estar suficientemente regulado. Este tema se expresó a través de tres subtemas: la pérdida de control sobre el uso y su impacto en el rendimiento deportivo y académico, el debilitamiento de la presencia compartida en contextos presenciales y la carga emocional asociada a dinámicas como la comparación con otros deportistas. Así, las mismas dinámicas digitales que en algunos momentos inspiraban, calmaban o conectaban, en otros podían intensificar la autocrítica, el estrés o la sensación de estar desbordado.

El estudio mostró así que, para los adolescentes deportistas, el smartphone no aparece ni como una amenaza uniforme ni como una herramienta simplemente beneficiosa, sino como una realidad ambivalente y plenamente incorporada a su vida cotidiana y deportiva.

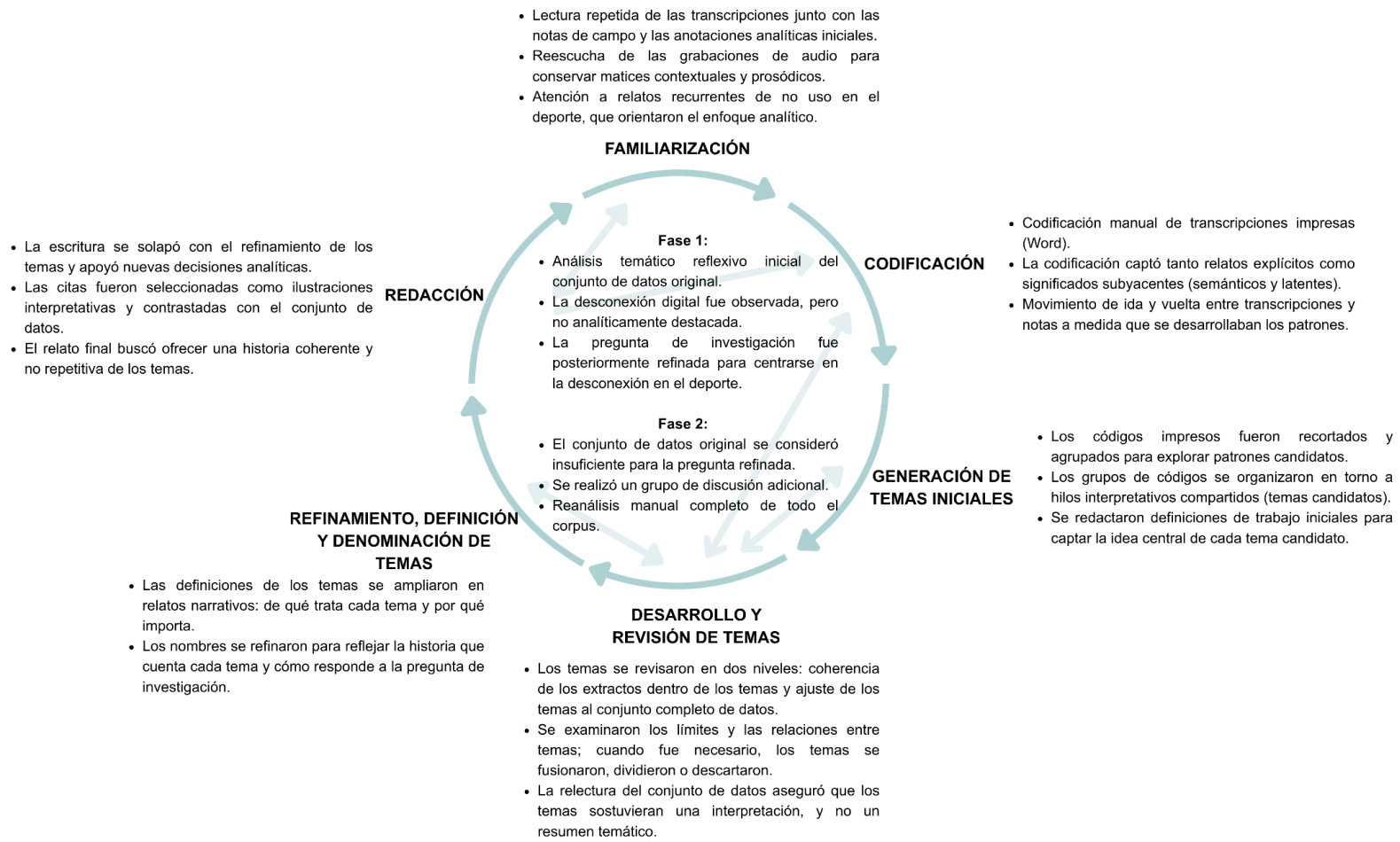
8.3.4. Estudio 4. Desconexión Digital en el Deporte Adolescente

El cuarto estudio de la tesis, “Desconexión digital en el deporte adolescente: un análisis temático reflexivo de las experiencias de deportistas”, tuvo como objetivo examinar cómo se produce y se experimenta la desconexión digital entre adolescentes deportistas. Este estudio respondía a una cuestión todavía poco explorada en la literatura. Aunque la desconexión digital se había consolidado como un campo relevante para comprender la experiencia digital contemporánea, la mayor parte de la investigación previa se había concentrado en contextos de ocio, consumo o bienestar, mientras que los entornos orientados al rendimiento habían recibido mucha menos atención (Bagger, 2024; Fast, 2021; Nassen et al., 2023). En el caso del deporte adolescente, además, la desconexión había tendido a aparecer de forma secundaria dentro de investigaciones más amplias sobre el uso de la tecnología en el deporte, sin convertirse habitualmente en el foco principal de análisis (DesClouds & Durand-Bush, 2021; Goodyear & Bundon, 2021; Ong et al., 2024).

Metodológicamente, el estudio se situó en un paradigma interpretativista y constructivista y empleó grupos de discusión y análisis temático reflexivo. Participaron 20 adolescentes deportistas federados de entre 14 y 19 años, procedentes de deportes individuales y colectivos. El diseño tuvo un carácter iterativo y se desarrolló en dos momentos analíticos. En una primera fase, el material se generó a partir de cuatro grupos de discusión centrados en la experiencia digital de los adolescentes deportistas de forma más amplia. Posteriormente, la desconexión digital fue ganando centralidad analítica y llevó a una reformulación progresiva de la pregunta de investigación, a una segunda ronda de familiarización con el corpus y a la realización de un grupo adicional orientado específicamente a profundizar en cómo se produce la desconexión durante la práctica deportiva. Esta segunda fase incorporó además técnicas de elicitación visual, concretamente una adaptación del método de dibujo de líneas temporales, para representar gráficamente momentos de conexión y desconexión durante entrenamientos y competiciones. El análisis se apoyó en conceptos sensibilizadores procedentes de la literatura sobre desconexión digital (Blumer, 1954; Bowen, 2019; Braun & Clarke, 2019, 2021; Chen, 2018; Goodwin et al., 2023). La Figura 13 proporciona una visión general del proceso de análisis temático reflexivo llevado a cabo en este estudio.

Figura 13

Proceso iterativo del Análisis Temático Reflexivo a lo largo del estudio



El análisis generó tres temas principales. El primero, cuando el teléfono inteligente deja de ser una opción viable durante la práctica deportiva, recoge cómo el deporte configura condiciones materiales que desplazan al smartphone fuera del horizonte práctico de acción durante entrenamientos y competiciones. El segundo, cuando el uso del teléfono inteligente deja de ser socialmente apropiado en el contexto deportivo, muestra que la desconexión también está regulada socialmente, a través de normas implícitas y expectativas compartidas sobre compromiso, respeto e implicación en la actividad. El tercero, cuando el teléfono inteligente pierde centralidad debido a la implicación en la práctica deportiva, mostró una forma especialmente relevante de desconexión: aquella que emerge sin ser deliberadamente buscada, cuando la concentración, la implicación corporal y la intensidad atencional propias del entrenamiento o de la competición hacen que el smartphone deje simplemente de estar presente en la experiencia inmediata. Esta forma de desconexión no era, sin embargo, absoluta ni continua, ya que el análisis mostró breves reapariciones del dispositivo cuando determinadas demandas personales o situacionales adquirían relevancia momentánea.

En conjunto, el estudio concluye que la desconexión digital en el deporte adolescente se configura como una experiencia situada, socialmente legitimada y en muchos casos no deliberada, que emerge de la alineación entre condiciones materiales, regulación social e implicación corporal en la práctica deportiva (Eime et al., 2013; Márquez et al., 2025; Vanden Abeele & Syvertsen, 2025).

8.4. Discusión general

La presente tesis parte de la idea de que la experiencia digital adolescente debe comprenderse en relación con una vida cotidiana profundamente atravesada por la conectividad. En la adolescencia, el smartphone y las redes sociales se integran en tareas evolutivas centrales, como la construcción de la identidad, la búsqueda de autonomía, la pertenencia y la relación con los iguales, de modo que la experiencia digital adquiere un carácter especialmente relevante, ambivalente y sensible al contexto (Berk, 2022; Papalia & Martorell, 2021; Subrahmanyam & Smahel, 2011; Vanden Abeele, 2021). A partir de este marco, la tesis ha analizado la experiencia digital adolescente a través de cuatro conceptos interrelacionados: uso problemático de redes sociales, florecimiento digital, bienestar digital y desconexión digital. En conjunto, estos conceptos permiten atender tanto a los riesgos como a las posibilidades positivas de la vida digital, así como a las condiciones que facilitan o dificultan establecer límites a la conectividad. Este planteamiento resulta especialmente relevante en adolescentes deportistas, ya que el deporte constituye un contexto cotidiano en el que el smartphone puede integrarse como recurso, convertirse en una fuente de interferencia o quedar desplazado por

las propias demandas de la práctica deportiva (DesClouds & Durand-Bush, 2021; Goodyear & Bundon, 2021; Nassen et al., 2023; Vanden Abeele & Syvertsen, 2025).

Sobre esta base, la tesis desarrolló cuatro estudios complementarios. El Estudio 1 identificó perfiles diferenciados de PSMU en adolescentes españoles y analizó sus asociaciones con indicadores de salud mental y ajuste escolar. El Estudio 2 adaptó y validó la DFSA para evaluar experiencias digitales positivas de comunicación digital en adolescentes españoles. El Estudio 3 exploró, desde el marco del bienestar digital, cómo los adolescentes deportistas perciben los beneficios e inconvenientes del uso del smartphone en su vida cotidiana y deportiva. El Estudio 4 analizó cómo se produce y se experimenta la desconexión digital dentro del contexto deportivo adolescente. A partir de estos hallazgos, la discusión se organiza en torno a dos ideas centrales. La primera es que el polo problemático del uso de redes sociales y el polo positivo de la comunicación digital presentan heterogeneidad interna, relaciones parciales entre sí y variación temporal. La segunda es que el deporte emerge, en los relatos de los adolescentes deportistas, como un contexto que reorganiza situacionalmente el lugar del smartphone en su vida cotidiana, al configurar cuándo la conectividad se integra, cuándo interfiere y cuándo puede ser desplazada.

8.4.1. Principales hallazgos

Una primera conclusión general de la tesis es que las manifestaciones del uso y de la experiencia digital adolescente examinadas se organizan de forma heterogénea. Esta heterogeneidad aparece tanto en el polo problemático como en el polo positivo, y sugiere que la experiencia digital adolescente se comprende con mayor precisión cuando se atiende a perfiles y dimensiones específicas en lugar de recurrir a categorías globales previamente definidas. Esta lectura converge con una parte importante de la literatura reciente, que ha subrayado la necesidad de aproximaciones más sensibles a la complejidad interna del fenómeno y a las formas diversas, e incluso ambivalentes, en que se articula la experiencia digital adolescente (Beyens et al., 2020; Valkenburg, 2022; Van der Wal et al., 2024).

En el polo problemático, el Estudio 1 mostró que el PSMU en adolescentes españoles puede distribuirse en tres perfiles diferenciados: funcional, de riesgo y problemático. Aunque otras soluciones de clases también podían considerarse estadísticamente plausibles, la solución de tres clases permitió una interpretación conceptualmente más informativa del fenómeno que una simple clasificación entre usuarios problemáticos y no problemáticos. El perfil problemático representó el 6,54% de la muestra analítica, una proporción reducida, aunque relevante, de adolescentes, y cercana a la prevalencia más moderada observada en estudios recientes con

adolescentes españoles (Márquez et al., 2025). Este hallazgo ayuda a calibrar la magnitud del fenómeno: el PSMU debe entenderse como un problema importante por su asociación con deterioro funcional y ajuste psicológico, pero no como una condición generalizada que afecte a la mayoría de los adolescentes. Al mismo tiempo, la existencia de un perfil de riesgo muestra la relevancia de atender también a formas intermedias de vulnerabilidad (Lu, 2026).

Más allá de la prevalencia, los perfiles identificados ayudaron a precisar qué indicadores parecen más relevantes para diferenciar formas menos y más severas de PSMU. El perfil de riesgo se caracterizó por un aumento de indicadores relacionados con pensar frecuentemente en volver a usar redes sociales, los intentos fallidos de reducir el tiempo de uso y el desplazamiento de otras actividades. En el perfil problemático, en cambio, aparecía un patrón más claramente asociado con conflicto interpersonal, ocultación del uso e interferencia funcional. Esta lectura sitúa la problematicidad más cerca de la pérdida de control y del deterioro cotidiano y relacional que de la mera alta implicación, en línea con trabajos que han cuestionado la patologización de comportamientos frecuentes o intensos cuando no existe una afectación funcional relevante (Billieux et al., 2015; Fournier et al., 2023; Kardefelt-Winther et al., 2017; Moretta et al., 2022).

En el polo positivo, el Estudio 2 mostró que la DFSA se organiza en cinco dimensiones interrelacionadas: conexión, autopresentación auténtica, comparación social positiva, participación cívica y autocontrol. Esta estructura indica que las experiencias positivas de comunicación digital relevantes para el bienestar adolescente están compuestas por facetas diferenciadas, aunque relacionadas entre sí. Por tanto, resulta necesario preservar la especificidad de estas dimensiones en lugar de reducirlas a una única puntuación global indiferenciada. Esta interpretación es coherente con la formulación original del florecimiento digital en adultos, con la validación inicial en adolescentes y con adaptaciones recientes que también apoyan la relevancia de mantener sus cinco dimensiones específicas (Janicke-Bowles et al., 2023; Rosič et al., 2022; Wang & Yu, 2025).

Otro resultado relevante es que PSMU y florecimiento digital constituyen constructos diferenciados, aunque parcialmente relacionados, dentro del estudio de la vida digital adolescente. Los análisis de validez convergente del Estudio 2 permitieron explorar la relación entre ambos constructos. Autocontrol, participación cívica y autopresentación auténtica se asociaron negativamente con PSMU, mientras que conexión y comparación social positiva mostraron asociaciones positivas. Esta pauta matiza la organización más polar con la que ambos constructos habían sido situados inicialmente en el marco teórico de la tesis. Algunas

experiencias digitales positivas pueden coexistir con indicadores de uso problemático, especialmente cuando se refieren a formas de conexión o comparación social que pueden acompañar una implicación más intensa o potencialmente desregulada en el entorno digital. En cambio, las dimensiones más vinculadas a la autorregulación y a formas más constructivas de participación digital tienden a asociarse con menor problematicidad.

Esta coexistencia puede entenderse atendiendo al contenido específico de las dimensiones implicadas. La conexión digital puede reflejar que la comunicación online funciona como una fuente relevante de pertenencia, apoyo o continuidad social, pero esa misma centralidad puede aumentar la exposición a dificultades para regular la implicación digital cuando la interacción online se prioriza frente a otras actividades o relaciones presenciales. De forma similar, la comparación social positiva captura el lado inspirador y motivador de la comparación, aunque puede formar parte de una orientación comparativa digital más amplia en la que inspiración, motivación, presión y desregulación pueden coexistir dentro de las mismas prácticas mediadas digitalmente (Ciudad-Fernández et al., 2025; Janicke-Bowles et al., 2023; Lewin et al., 2022; Schreurs et al., 2023).

Además, el Estudio 2 mostró que algunas dimensiones del florecimiento digital presentan estabilidad pobre o moderada a corto plazo, mientras que la invariancia longitudinal escalar permite interpretar estas fluctuaciones como cambios en el constructo y no como problemas de comprensión de los ítems. Esta variación temporal sugiere que las experiencias digitales positivas de los adolescentes pueden tener un componente situado y cambiante, probablemente sensible a dinámicas interpersonales, escolares, familiares y contextuales. Esta lectura también invita a una cautela metodológica, ya que las medidas retrospectivas de experiencia digital pueden estar influidas por episodios recientes, frecuentes o especialmente salientes, así como por el intervalo temporal utilizado para medir el fenómeno (Rosič et al., 2024b; Stone et al., 1999; Vandenbosch et al., 2025).

La segunda gran conclusión de la tesis es que el deporte adolescente reorganiza qué usos del smartphone resultan funcionales, cuáles se vuelven disruptivos y bajo qué condiciones puede emerger la desconexión digital. El Estudio 3 mostró que, para los adolescentes deportistas estudiados, el smartphone forma parte integrada de la experiencia de ser deportista, al incorporarse a rutinas, relaciones y formas de preparación vinculadas al entrenamiento, la coordinación, la información deportiva, la regulación emocional o la preparación para competir. Estos hallazgos convergen con trabajos previos que muestran que las tecnologías digitales

forman parte situada, corporal y relacional de la experiencia deportiva contemporánea (DesClouds & Durand-Bush, 2021; Goodyear & Bundon, 2021).

Al mismo tiempo, el valor del smartphone depende de su ajuste con las demandas de la situación. En el Estudio 3, el mismo dispositivo aparece como recurso funcional cuando sirve a un propósito reconocible dentro de la práctica deportiva, y como elemento disruptivo cuando fragmenta la atención, erosiona el descanso, favorece comparaciones frustrantes o intensifica la presión por estar disponible. Desde el marco del bienestar digital, y con la cautela de que el estudio exploró beneficios e inconvenientes percibidos más que evaluaciones globales de bienestar digital, esta lectura permite entender el smartphone como parte de una constelación cambiante de factores personales, tecnológicos y contextuales que configuran cómo se experimentan sus beneficios y sus cargas (DesClouds, 2022; Ong et al., 2024; Vanden Abeele, 2021; Van Bruyssel et al., 2024).

Una de las aportaciones más originales de la tesis aparece en el Estudio 4. Sus resultados muestran que, en el contexto deportivo adolescente estudiado, la desconexión digital puede ser facilitada por la propia configuración de la práctica deportiva. Esta desconexión emerge cuando el smartphone pierde viabilidad práctica por la separación física, el movimiento corporal y el equipamiento deportivo; pierde legitimidad social cuando las normas compartidas de atención, compromiso y respeto delimitan cuándo y dónde su uso resulta apropiado; y pierde centralidad experiencial cuando los adolescentes quedan absorbidos por las demandas atencionales y corporales de la actividad. En conjunto, estas condiciones reducen el coste subjetivo y relacional del no uso, haciendo que la desconexión sea más disponible, socialmente apoyada y experiencialmente natural durante los momentos centrales de la práctica.

Este hallazgo sitúa la tesis dentro de la literatura reciente sobre desconexión digital, que entiende la desconexión como una práctica situada, moldeada por condiciones materiales, sociales e individuales, y no como una simple expresión de autodisciplina personal (Nassen et al., 2023; Van Bruyssel et al., 2024; Vanden Abeele & Syvertsen, 2025). En el deporte adolescente, la agencia individual sigue siendo relevante, pero aparece incorporada en una cultura de desconexión que hace que el no uso resulte significativo, legítimo y socialmente esperado durante determinados momentos de la actividad. Esta interpretación debe entenderse sin idealizar el deporte como un espacio de desconexión total o uniforme. Considerados conjuntamente, los Estudios 3 y 4 permiten interpretar conexión y desconexión como expresiones cambiantes de una misma negociación situada sobre el lugar que ocupa la conectividad digital en cada momento para los adolescentes deportistas.

8.4.2. Implicaciones Prácticas

A partir de los hallazgos e ideas desarrollados en esta tesis, pueden varias implicaciones prácticas.

Implicación práctica 1. Ajustar la intervención al perfil digital del adolescente y promover respuestas proporcionadas y prevención temprana. Los resultados del Estudio 1 sugieren que los patrones de vulnerabilidad asociados al PSMU pueden organizarse en perfiles diferenciados. Esta lectura ayuda a calibrar la magnitud del fenómeno, ya que la mayoría de adolescentes se ubicó en el perfil funcional, mientras que el perfil problemático representó un grupo más reducido. Al mismo tiempo, el perfil de riesgo tiene una relevancia práctica especial, porque ya muestra signos significativos de vulnerabilidad y se asemeja al perfil problemático en buena parte de los indicadores psicológicos y académicos. Por ello, las respuestas preventivas e interventivas deberían ser proporcionadas, sensibles al perfil del adolescente y capaces de identificar vulnerabilidad sin generalizar la idea de que el uso adolescente de las redes sociales es intrínsecamente problemático. Además, la mayor presencia relativa de perfiles más severos en etapas educativas posteriores sugiere la conveniencia de iniciar la prevención antes de que estos patrones se consoliden, especialmente al final de la educación primaria y en la transición a etapas posteriores.

Implicación práctica 2. Intervenir sobre los patrones desregulados y sobre las experiencias digitales positivas, apoyándose en una evaluación combinada. Los hallazgos muestran que PSMU y florecimiento digital constituyen dimensiones diferenciadas y relacionadas de la experiencia digital adolescente. Por tanto, la reducción de indicadores problemáticos representa una parte de la promoción del bienestar digital, junto con el desarrollo de experiencias digitales positivas. Los programas dirigidos a adolescentes pueden beneficiarse de un enfoque que combine la reducción de formas de uso asociadas con conflicto, interferencia funcional o uso compulsivo, y la promoción de experiencias digitales positivas, como la conexión, la autoexpresión, la participación significativa y la autorregulación. Esta lógica requiere estrategias de evaluación que combinen indicadores de problematicidad y de florecimiento digital, por ejemplo mediante el uso conjunto de la SMD-S y la DFSA.

Implicación práctica 3. Ayudar a los profesionales del deporte a integrar el smartphone con sentido. Para entrenadores, clubes y otros profesionales del deporte, los hallazgos sugieren que el smartphone debe entenderse como parte de la experiencia deportiva adolescente contemporánea. El dispositivo puede ofrecer beneficios relevantes, como la coordinación con entrenadores y compañeros, el acceso a información útil, la activación emocional previa a la

competición o el mantenimiento de la conexión social. El reto práctico consiste en ayudar a los adolescentes a usarlo de forma más intencional y equilibrada, maximizando su valor funcional y previniendo la distracción, la sobrecarga o la intrusión innecesaria en momentos clave. Esto puede combinar límites claros con espacios de reflexión sobre cuándo, cómo y para qué se usa el dispositivo dentro de la práctica deportiva. Además, dado que la experiencia digital en el deporte está mediada por dinámicas grupales y normas compartidas, podrían explorarse estrategias basadas en iguales, como formar una figura de referencia dentro del equipo que actúe como modelo cercano y apoyo cotidiano para un uso más equilibrado del smartphone, siempre como complemento a la responsabilidad de entrenadores, clubes y adultos de referencia.

Implicación práctica 4. Reforzar y acompañar la cultura de desconexión ya presente en el deporte. Los hallazgos del Estudio 4 indican que la desconexión ya presente en el deporte podría reforzarse y acompañarse de forma más deliberada. Dado que la distancia física respecto al dispositivo apareció asociada con la desconexión en los relatos adolescentes, pueden resultar útiles estrategias ambientales sencillas, como dejar el smartphone en el vestuario, en la bolsa o fuera del alcance durante entrenamientos, reuniones de equipo y otros momentos centrales de la práctica. Además, hacer explícitos los espacios, tiempos y situaciones en los que no se espera el uso del smartphone puede reducir la incertidumbre sobre los límites y normas sociales de uso en un contexto donde la desconexión está parcialmente legitimada, aunque no siempre formalizada ni igualmente clara para todos.

Implicación práctica 5. Utilizar el deporte como contexto que facilita poner límites a la conectividad. La investigación previa ha justificado habitualmente el uso del deporte y del ejercicio físico en programas relacionados con el uso problemático de internet, el smartphone o las redes sociales por sus beneficios psicobiológicos y psicosociales. Los resultados del Estudio 4 amplían esta lógica al mostrar que el deporte competitivo también puede organizar condiciones que hacen más fácil sostener la desconexión. En este estudio, la desconexión emergió cuando el smartphone dejó de ser una opción viable, socialmente apropiada o central durante la práctica. Esto sugiere que el valor preventivo del deporte puede residir también en su capacidad para ofrecer límites a la conectividad dentro de un contexto socialmente apoyado y personalmente significativo. Esta lógica podría extenderse a otras actividades estructuradas, como música, teatro, danza, actividades al aire libre o proyectos grupales, siempre que generen espacios en los que el no uso resulte viable, legítimo y valioso.

Implicación práctica 6. Trasladar la lógica del deporte a familias y escuelas. Si una de las contribuciones del deporte consiste en crear momentos significativos, socialmente compartidos y corporalmente implicados en los que el no uso se vuelve más fácil, las familias y las escuelas podrían beneficiarse de generar contextos con características similares. En el ámbito familiar, esto puede implicar proteger momentos y actividades en los que el smartphone pierde centralidad porque la implicación compartida adquiere prioridad, como comidas, conversaciones, salidas o actividades estructuradas. En el ámbito escolar, la regulación digital podría beneficiarse de la creación de entornos educativos en los que la atención se dirija hacia actividades atractivas, socialmente valoradas y menos compatibles con la comprobación constante del dispositivo.

8.4.3. Valoración Crítica de la Tesis

La valoración crítica de la tesis muestra que su forma final quedó marcada por la trayectoria metodológica seguida y por la integración progresiva de diferentes aproximaciones a la experiencia digital adolescente. En el plano cuantitativo, las principales fortalezas se sitúan en la adecuación entre preguntas, diseños y objetivos, en el cuidado prestado a la calidad de la medición y en la transparencia analítica. El Estudio 1 utilizó un análisis de clases latentes coherente con el objetivo de identificar heterogeneidad en el PSMU, y el Estudio 2 desarrolló un proceso de validación por fases que permitió reunir evidencias sobre comprensión de ítems, estructura factorial, invariancia, consistencia interna y relaciones con variables externas. Además, el Estudio 2 fue prerregistrado y sus materiales, datos y documentación analítica se pusieron a disposición pública en OSF.

Entre las principales limitaciones del bloque cuantitativo destacan el predominio de lógicas correlacionales y, en el caso del Estudio 1, claramente transversales. Estos diseños permiten describir perfiles, examinar asociaciones y aportar evidencia sobre la estructura y funcionamiento de los instrumentos, pero no sostener inferencias causales robustas. Esta limitación es especialmente relevante en el campo de los efectos de los medios digitales, donde la dirección de los efectos sigue siendo una cuestión abierta y las asociaciones pueden reflejar dinámicas recíprocas, procesos acumulativos o la influencia de terceras variables. Además, aunque los estudios utilizaron muestras amplias, estas fueron no probabilísticas y estuvieron principalmente restringidas a adolescentes escolarizados en contextos concretos, sobre todo de la provincia de Valencia, lo que exige cautela respecto a la generalización de los resultados.

En el plano cualitativo, la calidad de los Estudios 3 y 4 puede valorarse atendiendo a la relevancia del tema, el compromiso y rigor, la transparencia y la coherencia. Una fortaleza clara

es que ambos estudios abordaron dimensiones poco exploradas de la experiencia digital adolescente en un contexto cotidiano específico, el deporte, contribuyendo a ampliar un campo que ha tendido a centrarse en usos problemáticos o en análisis descontextualizados. Una limitación importante es que el proceso de investigación se desarrolló en paralelo con mi propia formación como investigador cualitativo. Esto afectó a la madurez inicial con la que se formularon algunas preguntas, se delimitó el foco analítico y se tomaron determinadas decisiones metodológicas. Esta misma trayectoria permitió reelaborar el análisis a partir de una lectura más profunda de la literatura metodológica, una atención sostenida al material empírico y una revisión crítica de decisiones previas.

Otro aspecto relevante del bloque cualitativo fue la transparencia. Tanto en los Estudios 3 y 4 como en el capítulo metodológico, la tesis trató de hacer visible cómo algunos supuestos iniciales no encajaban plenamente con el material, cómo la crítica metodológica recibida durante el proceso de revisión obligó a reconsiderar decisiones fundamentales y cómo el análisis ganó consistencia a medida que se profundizó en la lógica de la investigación interpretativa. Esta transparencia permite comprender mejor las condiciones bajo las cuales se produjo el conocimiento presentado. En términos de coherencia, los estudios cualitativos no alcanzaron una plena articulación paradigmática y metodológica desde el inicio, pero fueron ganando ajuste entre orientación interpretativa, preguntas de investigación, métodos, análisis y forma de representar los hallazgos.

Por último, una de las principales limitaciones del conjunto de la tesis se sitúa en el plano de la integración entre el bloque cuantitativo y el bloque interpretativo. Aunque el proyecto ofrece finalmente una lectura más articulada de los hallazgos, esa integración fue construida a posteriori y no desde un diseño plenamente integrado desde el inicio. La tesis incorporó constructos como PSMU, florecimiento digital, bienestar digital y desconexión digital, procedentes de tradiciones teóricas y posiciones ontoepistemológicas no del todo coincidentes. El resultado final ofrece una visión amplia de la vida digital adolescente, pero también introduce una diversidad conceptual y metodológica que probablemente podría haberse gestionado mejor mediante una planificación más reflexiva desde el comienzo.

Esta limitación también se expresa en el grado en que los estudios cuantitativos y cualitativos examinan el mismo objeto de estudio. Aunque todos ellos se inscriben dentro del marco general de la vida digital adolescente, no operan en el mismo nivel de análisis. Los estudios cuantitativos se centran en constructos previamente definidos y operacionalizados, como PSMU y florecimiento digital. El PSMU fue abordado desde una lógica claramente

postpositivista y psicométrica, mientras que la DFSA se sitúa más cerca de un nivel experiencial y perceptivo, aunque también operacionalizado mediante una lógica cuantitativa. Los estudios cualitativos, por su parte, exploraron la experiencia digital como una realidad situada, contextual y cargada de significado. La diferencia, por tanto, remite al método empleado, al tipo de fenómeno al que cada aproximación accede y a los supuestos epistemológicos desde los que ese fenómeno se hace investigable. Por ello, la integración entre ambos bloques debe entenderse como una puesta en diálogo de contribuciones diferentes, más que como la fusión de todos los estudios en una única explicación homogénea.

8.4.4. Futuras Direcciones

Las futuras líneas de investigación derivadas de esta tesis invitan a seguir desarrollando una agenda centrada en dos cuestiones principales: refinar las bases conceptuales del florecimiento digital y examinar con mayor precisión cómo el bienestar digital adolescente se configura en el contexto del deporte competitivo.

Una primera línea podría centrarse en revisar y precisar la conceptualización del florecimiento digital en adolescentes. Los hallazgos de esta tesis sugieren que algunas experiencias digitales positivas, como la conexión con otras personas o la comparación social positiva, pueden coexistir con indicadores de desregulación. Esta coexistencia invita a clarificar si el florecimiento digital debe entenderse como la presencia de dimensiones positivas específicas de la experiencia digital, o como un patrón más amplio de funcionamiento digital en el que dichas experiencias se integran con autorregulación, intencionalidad, crecimiento y baja interferencia funcional. Futuros estudios podrían avanzar en esta dirección mediante revisiones conceptuales, estudios Delphi, paneles de expertos y procedimientos de validación de contenido que incorporen tanto la literatura especializada como la perspectiva de los propios adolescentes.

Una segunda línea podría examinar de forma más directa la relación entre deporte competitivo y bienestar digital adolescente. En este sentido, sería útil comparar adolescentes federados y no federados en distintos dominios de bienestar digital, incorporando variables individuales, familiares y contextuales que también pueden influir en la vida digital adolescente. Este tipo de estudios permitiría explorar si la participación en deporte federado se asocia con experiencias digitales más favorables una vez consideradas otras condiciones relevantes, como el bienestar general, el sueño, el apoyo familiar, el tiempo de pantalla o el PSMU.

De forma complementaria, futuros estudios podrían centrarse específicamente en adolescentes deportistas mediante diseños longitudinales, centrados en la persona y de

evaluación ecológica momentánea. Estos enfoques permitirían analizar cómo fluctúa el bienestar digital alrededor de entrenamientos, competiciones, periodos de descanso y momentos cotidianos no deportivos, así como identificar trayectorias diferenciadas de bienestar digital, implicación con el smartphone y ajuste deportivo a lo largo del tiempo.

Una tercera línea podría orientarse a consolidar una agenda cualitativa y digitalmente situada sobre la experiencia de los adolescentes deportistas. Etnografías presenciales y digitales permitirían examinar cómo las prácticas de conectividad y desconexión se despliegan en tiempo real en entrenamientos, competiciones, desplazamientos, espacios comunes, grupos de mensajería, redes sociales de equipo, plataformas de club, vídeos compartidos o aplicaciones deportivas. Esta aproximación ayudaría a comprender con mayor precisión las normas implícitas, microprácticas y formas de conectividad distribuida que organizan la experiencia deportiva adolescente.

Finalmente, sería especialmente valioso desarrollar diseños mixtos con una integración más explícita entre componentes cuantitativos y cualitativos. La combinación de evaluación ecológica momentánea con entrevistas en profundidad, diarios digitales o seguimiento etnográfico permitiría conectar las fluctuaciones intraindividuales del bienestar digital con los significados situados, normas de equipo, demandas competitivas, prácticas de desconexión y usos funcionales del smartphone que las producen. Esta integración permitiría generar explicaciones más precisas sobre cómo, cuándo, para quién y bajo qué condiciones el deporte competitivo puede contribuir a experiencias digitales más equilibradas.

8.4.5. Conclusión

En conclusión, la presente tesis muestra que la experiencia digital adolescente se caracteriza por su heterogeneidad, ambivalencia, variabilidad temporal y sensibilidad al contexto. En el polo problemático, el PSMU aparece como un fenómeno internamente diverso, organizado en perfiles funcionales, de riesgo y problemáticos que permiten una lectura más matizada que las clasificaciones dicotómicas. En el polo positivo, el florecimiento digital se presenta como un constructo multidimensional de experiencias positivas de comunicación digital, evaluable mediante la DFSA en adolescentes españoles, y parcialmente relacionado con el PSMU, lo que sugiere que determinadas experiencias digitales positivas pueden coexistir con patrones desregulados de uso. Desde el contexto deportivo, los Estudios 3 y 4 muestran que el smartphone puede funcionar como recurso o como carga según su ajuste con las demandas de la situación, y que la desconexión digital puede emerger como una posibilidad situada cuando las condiciones materiales, sociales y experienciales de la práctica deportiva reducen la

centralidad del dispositivo. En conjunto, la tesis contribuye a comprender la experiencia digital adolescente como una realidad plural, dinámica y contextualmente organizada, e invita a seguir investigando si contextos que reorganizan temporalmente la (des)conectividad, como el deporte, pueden favorecer relaciones más sostenibles con el smartphone y apoyar el bienestar (digital) adolescente.

REFERENCES



Ansari, S., Iqbal, N., Asif, R., Hashim, M., Farooqi, S. R., & Alimoradi, Z. (2024). Social media use and well-being: A systematic review and meta-analysis. *Cyberpsychology, Behavior, and Social Networking, 27*(10), 704–719. https://doi.org/10.1089/cyber.2024.0001

Antons, S., Heyder, A., Precht, L.-M., Wegmann, E., Liebherr, M., & Brailovskaia, J. (2025). The Digital Media Use Effects Scales for adolescents (d-MUsE Scales): Conceptualization and validation of a screening tool. *Computers in Human Behavior Reports*, *18*, 100621. https://doi.org/10.1016/j.chbr.2025.100621

Appel, M., Marker, C., & Gnambs, T. (2020). Are social media ruining our lives? A review of meta-analytic evidence. *Review of General Psychology, 24*(1), 60–74. https://doi.org/10.1177/1089268019880891

Appelbaum, M., Cooper, H., Kline, R. B., Mayo-Wilson, E., Nezu, A. M., & Rao, S. M. (2018). Journal article reporting standards for quantitative research in psychology: The APA Publications and Communications Board task force report. *American Psychologist, 73*(1), 3–25. https://doi.org/10.1037/amp0000191

Arango, C., Dragioti, E., Solmi, M., Cortese, S., Domschke, K., Murray, R. M., Jones, P. B., Uher, R., Carvalho, A. F., Reichenberg, A., Shin, J. I., Andreassen, O. A., Correll, C. U., & Fusar-Poli, P. (2021). Risk and protective factors for mental disorders beyond genetics: An evidence-based atlas. *World Psychiatry*, *20*(3), 417–436. https://doi.org/10.1002/wps.20894

Berk, L. E. (2022). *Development through the lifespan* (7th ed.). SAGE Publications.

Beyens, I., Pouwels, J. L., van Driel, I. I., Keijsers, L., & Valkenburg, P. M. (2020). The effect of social media on well-being differs from adolescent to adolescent. *Scientific Reports, 10*(1), Article 10763. https://doi.org/10.1038/s41598-020-67727-7

Billieux, J., Schimmenti, A., Khazaal, Y., Maurage, P., & Heeren, A. (2015). Are we overpathologizing everyday life? A tenable blueprint for behavioral addiction research. *Journal of Behavioral Addictions*, *4*(3), 119–123. https://doi.org/10.1556/2006.4.2015.009

Bishop, M. (2019). Healthcare social media for consumer informatics: Solutions for health and health care. In M. Edmunds, C. Hass, & E. Holve (Eds.), *Consumer informatics and digital health: Solutions for health and health care* (pp. 61–86). Springer International Publishing. https://doi.org/10.1007/978-3-319-96906-0_4

Blakemore, S.-J. (2019). Adolescence and mental health. *The Lancet*, *393*(10185), 2030–2031. https://doi.org/10.1016/S0140-6736(19)31013-X

Blumer, H. (1954). What is wrong with social theory? *American Sociological Review, 19*(1), 3–10. https://doi.org/10.2307/2088165

Boer, M., van den Eijnden, R. J. J. M., Finkenauer, C., Boniel-Nissim, M., Marino, C., Inchley, J., Cosma, A., Paakkari, L., & Stevens, G. W. J. M. (2022). Cross-national validation of the Social Media Disorder Scale: Findings from adolescents from 44 countries. *Addiction, 117*(3), 784–795. https://doi.org/10.1111/add.15709

Bohnert, M., & Gracia, P. (2023). Digital use and socioeconomic inequalities in adolescent well-being: Longitudinal evidence on socioemotional and educational outcomes. *Journal of Adolescence, 95*(6), 1179–1194. https://doi.org/10.1002/jad.12193

Bonfanti, R. C., Melchiori, F., Teti, A., Albano, G., Raffard, S., Rodgers, R., & Coco, G. L. (2025). The association between social comparison in social media, body image concerns and eating disorder symptoms: A systematic review and meta-analysis. *Body Image*, *52*, Article 101841. https://doi.org/10.1016/j.bodyim.2024.101841

Boniel-Nissim, M., van den Eijnden, R. J. J. M., Furstova, J., Marino, C., Lahti, H., Inchley, J., Šmigelskas, K., Vieno, A., & Badura, P. (2022). International perspectives on social media use among adolescents: Implications for mental and social well-being and substance use. *Computers in Human Behavior, 129*, Article 107144. https://doi.org/10.1016/j.chb.2021.107144

Boomgaarden, H., Tolochko, P., & Song, H. (2022). *Report on the influence of situational variables and personal networks on online resilience and digital skills*. KU Leuven: ySKILLS.

Bornmann, L., Haunschild, R., & Mutz, R. (2021). Growth rates of modern science: A latent piecewise growth curve approach to model publication numbers from established and new literature databases. *Humanities and Social Sciences Communications*, *8*(1), 224. https://doi.org/10.1057/s41599-021-00903-w

Bowen, G. A. (2019). *Sensitizing concepts*. SAGE Publications Ltd. https://doi.org/10.4135/9781526421036

Boyd, D. (2008). *Why youth (heart) social network sites: The role of networked publics in teenage social life*. In D. Buckingham (Ed.), Youth, identity, and digital media (pp. 119–142). The MIT Press.

Boyd, D. (2014). *It's complicated: The social lives of networked teens*. Yale University Press. https://doi.org/10.12987/9780300166439

Boyd, D., & Ellison, N. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication, 13*(1), 210–230. https://doi.org/10.1111/j.1083-6101.2007.00393.x

Braidotti, R. (2019). *Posthuman knowledge* (Vol. 2). Polity Press.

Brand, M., Antons, S., Bőthe, B., Demetrovics, Z., Fineberg, N. A., Jimenez-Murcia, S., King, D. L., Mestre-Bach, G., Moretta, T., Müller, A., Wegmann, E., & Potenza, M. N. (2025). Current advances in behavioral addictions: From fundamental research to clinical practice. *American Journal of Psychiatry, 182*(2), 155–163. https://doi.org/10.1176/appi.ajp.20240092

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, *11*(4), 589–597. https://doi.org/10.1080/2159676X.2019.1628806

Braun, V., & Clarke, V. (2021). *Thematic analysis: A practical guide*. SAGE Publications.

Braun, V., & Clarke, V. (2023a). Is thematic analysis used well in health psychology? A critical review of published research, with recommendations for quality practice and reporting. *Health Psychology Review*, *17*(4), 695–718. https://doi.org/10.1080/17437199.2022.2161594

Braun, V., & Clarke, V. (2023b). Toward good practice in thematic analysis: Avoiding common problems and be(com)ing a *knowing* researcher. *International Journal of Transgender Health*, *24*(1), 1–6. https://doi.org/10.1080/26895269.2022.2129597

Braun, V., & Clarke, V. (2025). Reporting guidelines for qualitative research: A values-based approach. *Qualitative Research in Psychology*, *22*(2), 399–438. https://doi.org/10.1080/14780887.2024.2382244

Broder, M. S. (2024). A brief history of media psychology (1.0). In G. J. Rich, V. K. Kumar, & F. H. Farley (Eds.), *Handbook of media psychology* (pp. 1–13). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-56537-3_1

Brown, B. B. (2004). Adolescents' relationships with peers. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (2nd ed., pp. 363–394). Wiley. https://doi.org/10.1002/9780471726746.ch12

Burr, V. (1995). *An introduction to social constructionism*. Routledge. https://doi.org/10.4324/9780203133026

Burr, V. (2015). *Social constructionism*. Routledge. https://doi.org/10.4324/9781315715421

Camerini, A. L., Marciano, L., Carrara, A., & Schulz, P. J. (2020). Cyberbullying perpetration and victimization among children and adolescents: A systematic review of longitudinal studies. *Telematics and Informatics*, *49*, 101362. https://doi.org/10.1016/j.tele.2020.101362

Camiré, M., Sabourin, C., Gladstone Martin, E., Martin, L., & Lowe, N. (2022). "My life sucks right now": Student-athletes' pandemic-related experiences with screen time and mental health. *The Sport Psychologist, 36*(4), 251–261. https://doi.org/10.1123/tsp.2022-0067

Campbell, S. W., & Russo, T. C. (2003). The social construction of mobile telephony: An application of the social influence model to perceptions and uses of mobile phones within personal communication networks. *Communication Monographs, 70*(4), 317–334. https://doi.org/10.1080/0363775032000179124

Caplan, S. E. (2010). Theory and measurement of generalized problematic Internet use: A two-step approach. *Computers in Human Behavior*, *26*(5), 1089–1097. https://doi.org/10.1016/j.chb.2010.03.012

Casale, S., & Banchi, V. (2020). Narcissism and problematic social media use: A systematic literature review. *Addictive Behaviors Reports*, *11*, 100252. https://doi.org/10.1016/j.abrep.2020.100252

Cataldo, I., Billieux, J., Esposito, G., & Corazza, O. (2022). Assessing problematic use of social media: Where do we stand and what can be improved? *Current Opinion in Behavioral Sciences*, *45*, 101145. https://doi.org/10.1016/j.cobeha.2022.101145

Cerniglia, L., Griffiths, M. D., Cimino, S., De Palo, V., Monacis, L., Sinatra, M., & Tambelli, R. (2019). A latent profile approach for the study of internet gaming disorder, social media addiction, and psychopathology in a normative sample of adolescents. *Psychology Research and Behavior Management, 12*, 651–659. https://doi.org/10.2147/PRBM.S211873

Cervantes González, E., Yañez Soria, L., Martínez González, C., Chaparro Sánchez, R., & Méndez Cortés, M. A. (2025). Vulnerabilidad infantil en dispositivos móviles: Supervisión parental y uso de Google Family Link® como estrategia educativa. *Ciencia Latina Revista Científica Multidisciplinar, 9*(5), 10286–10303. https://doi.org/10.37811/cl_rcm.v9i5.20332

Charmaraman, L., Nesi, J., Schueller, S. M., Choukas-Bradley, S., Hernandez, J. M., & Davis, K. (2025). Youth digital wellbeing and social connectedness. In D. A. Christakis & L. Hale (Eds.), *Handbook of children and screens* (pp. 223–229). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-69362-5_31

Chen, Y., Li, S., Tian, Y., Li, D., & Yin, H. (2026). Problematic social media use may be ruining our sleep: A meta-analysis on the relationship between problematic social media use and sleep quality. *International Journal of Mental Health and Addiction, 24*(1), 262–297. https://doi.org/10.1007/s11469-024-01407-9

Cheng, C., Lau, Y., Chan, L., & Luk, J. W. (2021). Prevalence of social media addiction across 32 nations: Meta-analysis with subgroup analysis of classification schemes and cultural values. *Addictive Behaviors*, *117*, Article 106845. https://doi.org/10.1016/j.addbeh.2021.106845

Ciudad-Fernández, V. (2025). *Advancing the understanding of problematic social media use: A psychometric and process-based perspective* [Doctoral thesis, Universitat de València]. https://hdl.handle.net/10550/116503

Ciudad-Fernández, V., Zarco-Alpuente, A., Escrivá-Martínez, T., Gomis-Vicent, E., Espejo, B., Lecuona, Ó., Perales, J. C., Lopez-Fernandez, O., & Baños, R. (2025). The seven deadly sins: Measuring overvaluation of social media with the Plan-net 25 scale. *BMC Psychology, 13*, Article 569. https://doi.org/10.1186/s40359-025-02801-1

Ciudad-Fernández, V., Zarco-Alpuente, A., Escrivá-Martínez, T., Herrero, R., & Baños, R. (2024). How adolescents lose control over social networks: A process-based approach to problematic social network use. *Addictive Behaviors*, *154*, Article 108003. https://doi.org/10.1016/j.addbeh.2024.108003

Collins, L. M., & Lanza, S. T. (2010). *Latent Class and Latent Transition Analysis*. *Wiley Series in Probability and Statistics*, 49–76.

Connolly, T., Atherton, G., Cross, L., Piovesan, A., & Kaye, L. K. (2021). The wild west of measurement: Exploring problematic technology use cut off scores and their relation to psychosocial and behavioural outcomes in adolescence. *Computers in Human Behavior*, *125*, 106965. https://doi.org/10.1016/j.chb.2021.106965

Cunningham, S., Hudson, C. C., & Harkness, K. (2021). Social media and depression symptoms: A meta-analysis. *Research on Child and Adolescent Psychopathology, 49*(2), 241–253. https://doi.org/10.1007/s10802-020-00715-7

Dainow, E. (2017). *A concise history of computers, smartphones, and the internet*. CreateSpace Independent Publishing Platform.

David, J. L., Powless, M. D., Hyman, J. E., Purnell, D. M., Steinfeldt, J. A., & Fisher, S. (2018). College student athletes and social media: The psychological impacts of Twitter use. *International Journal of Sport Communication, 11*(2), 163–186. https://doi.org/10.1123/ijsc.2018-0044

Davis, L. L. (1992). Instrument review: Getting the most from a panel of experts. *Applied Nursing Research*, *5*(4), 194–197. https://doi.org/10.1016/S0897-1897(05)80008-4

Davis, R. A. (2001). A cognitive-behavioral model of pathological Internet use. *Computers in Human Behavior*, *17*(2), 187–195. https://doi.org/10.1016/S0747-5632(00)00041-8

De Leeuw, R. N. H., & Buijzen, M. (2016). Introducing positive media psychology to the field of children, adolescents, and media. *Journal of Children and Media*, *10*(1), 39–46. https://doi.org/10.1080/17482798.2015.1121892

de Segovia Vicente, D. (2025). *Being (With(in)) the Feed: Rethinking Social Media as an Actor, a Channel, and a Tool* [Doctoral dissertation, Ghent University].

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01

DesClouds, P. (2022). *A mixed methods investigation of athletes' smartphone usage and its impact on sport experiences and key psychosocial variables*. [Doctoral thesis, University of Ottawa].

DesClouds, P., & Durand-Bush, N. (2021). Smartphones and varsity athletes: A complicated relationship. *Frontiers in Sports and Active Living, 2*, Article 560031. https://doi.org/10.3389/fspor.2020.560031

DesClouds, P., Durand-Bush, N., Del Bel, M., Laamarti, F., Young, B. W., & El Saddik, A. (2022). What's trending? An in vivo examination of smartphone usage among student-athletes. *Journal for the Study of Sports and Athletes in Education*, *16*(3), 193–224. https://doi.org/10.1080/19357397.2022.2084325

Di Blasi, M., Salerno, L., Albano, G., Caci, B., Esposito, G., Salcuni, S., Gelo, O. C. G., Mazzeschi, C., Merenda, A., Giordano, C., & Lo Coco, G. (2022). A three-wave panel study on longitudinal relations between problematic social media use and psychological distress during the COVID-19 pandemic. *Addictive Behaviors*, *134*, Article 107430. https://doi.org/10.1016/j.addbeh.2022.107430

Dridi, N., Souissi, M. A., Dridi, R., Ceylan, H. İ., Bragazzi, N. L., Salem, A., Fekih, S., Chtara, M., Mkaouer, B., Chtourou, H., Dergaa, I., Souissi, N., Stefanica, V., Żmijewski, P., & Morgans, R. (2026). Evening smartphone exposure impairs sleep quality and next-day performance in elite soccer players: A randomized controlled trial. *Biology of Sport, 43*(1), 227–242. https://doi.org/10.5114/biolsport.2026.152348

Du, M., Zhao, C., Hu, H., Ding, N., He, J., Tian, W., Zhao, W., Lin, X., Liu, G., Chen, W., Wang, S., Wang, P., Xu, D., Shen, X., & Zhang, G. (2024). Association between problematic social

networking use and anxiety symptoms: A systematic review and meta-analysis. *BMC Psychology*, *12*(1), 263. https://doi.org/10.1186/s40359-024-01705-w

Dunican, I. C., Martin, D. T., Halson, S. L., Reale, R. J., Dawson, B. T., Caldwell, J. A., Jones, M. J., & Eastwood, P. R. (2017). The effects of the removal of electronic devices for 48 hours on sleep in elite judo athletes. *The Journal of Strength & Conditioning Research*, *31*(10), 2832–2839. https://doi.org/10.1519/JSC.0000000000001697

Durand-Bush, N., & DesClouds, P. (2018). Smartphones: How can mental performance consultants help athletes and coaches leverage their use to generate more benefits than drawbacks? *Journal of Sport Psychology in Action*, *9*(4), 227–238. https://doi.org/10.1080/21520704.2018.1496211

Elhai, J. D., Demetrovics, Z., Casale, S., & Montag, C. (2026, in press). *Social media use is associated with, but is not a major cause of mental disorder among adolescents*. In press.

Encel, K., Mesagno, C., & Brown, H. (2017). Facebook use and its relationship with sport anxiety. *Journal of Sports Sciences*, *35*(8), 756–761. https://doi.org/10.1080/02640414.2016.1186817

Faro, H., Franchini, E., Cavalcante-Silva, D., Morais Da Silva, R. D., Barbosa, B. T., Gomes Da Silva Machado, D., & De Sousa Fortes, L. (2025). Do prolonged social media use or cognitive tasks impair neuroelectric and visuomotor performance in taekwondo athletes? A randomized and controlled trial. *Psychology of Sport and Exercise*, *76*, Article 102768. https://doi.org/10.1016/j.psychsport.2024.102768

Fast, K. (2021). The disconnection turn: Three facets of disconnective work in post-digital capitalism. *Convergence: The International Journal of Research into New Media Technologies*, *27*(6), 1615–1630. https://doi.org/10.1177/13548565211033382

Ferguson, C. J. (2016). *Media psychology 101*. Springer Publishing Company.

Ferguson, C. J., Kaye, L. K., Branley-Bell, D., & Markey, P. (2025). There is no evidence that time spent on social media is correlated with adolescent mental health problems: Findings from a meta-analysis. *Professional Psychology: Research and Practice, 56*(1), 73–83. https://doi.org/10.1037/pro0000589

Fiedler, R., Geber, J., Reichert, M., & Kellmann, M. (2024). Young athletes' mental well-being is associated with smartphone social networking application usage and moderated by performance level and app type. *Scientific Reports*, *14*(1), Article 27048. https://doi.org/10.1038/s41598-024-77418-2

Fiedler, R., Heidari, J., Birnkraut, T., & Kellmann, M. (2023). Digital media and mental health in adolescent athletes. *Psychology of Sport and Exercise*, *67*, Article 102421. https://doi.org/10.1016/j.psychsport.2023.102421

Fineberg, N. A., Demetrovics, Z., Potenza, M. N., Mestre-Bach, G., Ekhtiari, H., Roman-Urrestarazu, A., Achab, S., Kattau, T., Bowden-Jones, H., Thomas, S. A., Babor, T. F., Kidron, B., & Stein, D. J. (2025). Global action on problematic usage of the internet: Announcing a Lancet Psychiatry Commission. *The Lancet Psychiatry*, *12*(1), 11–13. https://doi.org/10.1016/S2215-0366(24)00323-7

Finlay, L. (2006). 'Rigour', 'ethical integrity' or 'artistry'? Reflexively reviewing criteria for evaluating qualitative research. *British Journal of Occupational Therapy, 69*(7), 319–326. https://doi.org/10.1177/030802260606900704

Fioravanti, G., Bocci Benucci, S., Ceragioli, G., & Casale, S. (2022). How the exposure to beauty ideals on social networking sites influences body image: A systematic review of experimental studies. *Adolescent Research Review, 7*(3), 419–458. https://doi.org/10.1007/s40894-022-00179-4

Flayelle, M., Brevers, D., King, D. L., Maurage, P., Perales, J. C., & Billieux, J. (2023). A taxonomy of technology design features that promote potentially addictive online behaviours. *Nature Reviews Psychology*, *2*(3), 136–150. https://doi.org/10.1038/s44159-023-00153-4

Fortes, L. S., Berriel, G. P., Faro, H., Freitas-Júnior, C. G., & Peyré-Tartaruga, L. A. (2022a). Can prolongate use of social media immediately before training worsen high level male volleyball players' visuomotor skills? *Perceptual and Motor Skills, 129*(6), 1790–1803. https://doi.org/10.1177/00315125221123635

Fortes, L. S., de Lima-Junior, D., Fiorese, L., Nascimento-Júnior, J. R. A., Mortatti, A. L., & Ferreira, M. E. C. (2020). The effect of smartphones and playing video games on decision-making in soccer players: A crossover and randomised study. *Journal of Sports Sciences, 38*(5), 552–558. https://doi.org/10.1080/02640414.2020.1715181

Fortes, L. S., Fonseca, F. S., Nakamura, F. Y., Barbosa, B. T., Gantois, P., de Lima-Júnior, D., & Ferreira, M. E. C. (2021a). Effects of mental fatigue induced by social media use on volleyball decision-making, endurance, and countermovement jump performance. *Perceptual and Motor Skills, 128*(6), 2745–2766. https://doi.org/10.1177/00315125211040596

Fortes, L. S., Gantois, P., De Lima-Júnior, D., Barbosa, B. T., Ferreira, M. E. C., Nakamura, F. Y., Albuquerque, M. R., & Fonseca, F. S. (2023). Playing videogames or using social media applications on smartphones causes mental fatigue and impairs decision-making performance in amateur boxers. *Applied Neuropsychology: Adult*, *30*(2), 227–238. https://doi.org/10.1080/23279095.2021.1927036

Fortes, L. S., Lima-Júnior, D. D., Gantois, P., Nascimento-Júnior, J. R. A., & Fonseca, F. S. (2021b). Smartphone use among high level swimmers is associated with mental fatigue and slower 100- and 200- but not 50-meter freestyle racing. *Perceptual and Motor Skills, 128*(1), 390–408. https://doi.org/10.1177/0031512520952915

Fortes, L. S., Lima-Junior, D., Nascimento-Júnior, J. R. A., Costa, E. C., Matta, M. O., & Ferreira, M. E. C. (2019). Effect of exposure time to smartphone apps on passing decision-making in male soccer athletes. *Psychology of Sport and Exercise, 44*, 35–41. https://doi.org/10.1016/j.psychsport.2019.05.001

Fortes, L. S., Nakamura, F. Y., Lima-Junior, D., Ferreira, M. E. C., & Fonseca, F. S. (2022b). Does Social Media Use on Smartphones Influence Endurance, Power, and Swimming Performance in High-Level Swimmers? *Research Quarterly for Exercise and Sport*, *93*(1), 120–129. https://doi.org/10.1080/02701367.2020.1810848

Fournier, L., Schimmenti, A., Musetti, A., Boursier, V., Flayelle, M., Cataldo, I., Starcevic, V., & Billieux, J. (2023). Deconstructing the components model of addiction: An illustration

through “addictive” use of social media. *Addictive Behaviors*, *143*, Article 107694. https://doi.org/10.1016/j.addbeh.2023.107694

Fuhrmann, D., Knoll, L. J., & Blakemore, S.-J. (2015). Adolescence as a sensitive period of brain development. *Trends in Cognitive Sciences, 19*(10), 558–566. https://doi.org/10.1016/j.tics.2015.07.008

Fulk, J., & Steinfield, C. (Eds.). (1990). *Organizations and communication technology*. Sage Publications.

Fulk, J., Schmitz, J., & Steinfield, C. W. (1990). A social influence model of technology use. In J. Fulk & C. Steinfield (Eds.), *Organizations and communication technology* (pp. 117–140). Sage Publications.

Gao, Y., Fu, N., Mao, Y., & Shi, L. (2021). Recreational screen time and anxiety among college athletes: Findings from Shanghai. *International Journal of Environmental Research and Public Health, 18*(14), Article 7470. https://doi.org/10.3390/ijerph18147470

Geber, S., Nguyen, M. H., & Büchi, M. (2024). Conflicting norms: How norms of disconnection and availability correlate with digital media use across generations. *Social Science Computer Review, 42*(3), 719–740. https://doi.org/10.1177/08944393231215457

Gill, D. L. (2011). Beyond the qualitative–quantitative dichotomy: Notes from a non-qualitative researcher. *Qualitative Research in Sport, Exercise and Health, 3*(3), 305–312. https://doi.org/10.1080/2159676X.2011.607184

Gobierno de España. (2026, February 3). *Sánchez asegura que España prohibirá el acceso a plataformas digitales a menores de 16 años.* https://www.lamoncloa.gob.es/presidente/actividades/paginas/2026/030226-sanchez-cumbre-gobiernos-dubai.aspx

Goodwin, C. J. (2009). *Research in psychology: Methods and design*. John Wiley & Sons.

Goodyear, V., & Bundon, A. (2021). Contemporary digital qualitative research in sport, exercise and health: Introduction. *Qualitative Research in Sport, Exercise and Health, 13*(1), 1–10. https://doi.org/10.1080/2159676X.2020.1854836

Gould, D., Nalepa, J., & Mignano, M. (2020). Coaching generation Z athletes. *Journal of Applied Sport Psychology, 32*(1), 104–120. https://doi.org/10.1080/10413200.2019.1581856

Granic, I., Morita, H., & Scholten, H. (2020). Beyond screen time: Identity development in the digital age. *Psychological Inquiry, 31*(3), 195–223. https://doi.org/10.1080/1047840X.2020.1820214

Greco, G., Tambolini, R., Ambruosi, P., & Fischetti, F. (2017). Negative effects of smartphone use on physical and technical performance of young footballers. *Journal of Physical Education and Sport, 17*(4), 2495–2501. https://doi.org/10.7752/jpes.2017.04280

Griffiths, M. (2005). A ‘components’ model of addiction within a biopsychosocial framework. *Journal of Substance Use*, *10*(4), 191–197. https://doi.org/10.1080/14659890500114359

Gunschera, L. J., Mehrhof, S. Z., Veith, C., Ong, E., Davidson, B. C., Vuorre, M., Nord, C., & Orben, A. (2026). *Does social media use show established neurocognitive signatures of addiction?* PsyArXiv. https://osf.io/preprints/psyarxiv/2eqs8_v1/

Haidt, J. (2024). *The anxious generation: How the great rewiring of childhood is causing an epidemic of mental illness*. Penguin Press.

Hales, A. H., Wesselmann, E. D., & Hilgard, J. (2019). Improving psychological science through transparency and openness: An overview. *Perspectives on Behavior Science, 42*(1), 13–31. https://doi.org/10.1007/s40614-018-00186-8

Hansen, A. (1991). The media and the social construction of the environment. *Media, Culture & Society, 13*(4), 443–458. https://doi.org/10.1177/016344391013004002

Harris, A., Gundersen, H., Mørk-Andreassen, P., Thun, E., Bjorvatn, B., & Pallesen, S. (2015). Restricted use of electronic media, sleep, performance, and mood in high school athletes: A randomized trial. *Sleep Health, 1*(4), 314–321. https://doi.org/10.1016/j.sleh.2015.09.011

Hayes, M., Filo, K., Geurin, A., & Riot, C. (2020). An exploration of the distractions inherent to social media use among athletes. *Sport Management Review, 23*(5), 852–868. https://doi.org/10.1016/j.smr.2019.12.006

Hayes, M., Filo, K., Riot, C., & Geurin, A. (2019). Athlete perceptions of social media benefits and challenges during major sport events. *International Journal of Sport Communication, 12*(4), 449–481. https://doi.org/10.1123/ijsc.2019-0026

Heale, R., & Twycross, A. (2015). Validity and reliability in quantitative studies. *Evidence-Based Nursing, 18*(3), 66–67. https://doi.org/10.1136/eb-2015-102129

Hernández, A., Hidalgo, M. D., Hambleton, R. K., & Gómez-Benito, J. (2020). International Test Commission guidelines for test adaptation: A criterion checklist. *Psicothema, 32*(3), 390–398. https://doi.org/10.7334/PSICOTHEMA2019.306

Huang, C. (2018). Social network site use and academic achievement: A meta-analysis. *Computers & Education, 119*, 76–83. https://doi.org/10.1016/j.compedu.2017.12.010

Huang, C. (2022). A meta-analysis of the problematic social media use and mental health. *International Journal of Social Psychiatry, 68*(1), 12–33. https://doi.org/10.1177/0020764020978434

Huang, L., Yang, F., & Wu, W. (2025). Adult attachment, social anxiety, and problematic social media use: A meta-analysis and meta-analytic structural equation model. *Addictive Behaviors, 160*, Article 108163. https://doi.org/10.1016/j.addbeh.2024.108163

Humphreys, L., Karnowski, V., & von Pape, T. (2018). Smartphones as metamedia: A framework for identifying the niches structuring smartphone use. *International Journal of Communication, 12*, 2793–2809.

Isaacson, W. (2014). *The innovators: How a group of hackers, geniuses, and geeks created the digital revolution*. Simon and Schuster.

Ito, M., Baumer, S., Bittanti, M., boyd, d., Cody, R., Herr-Stephenson, B., Horst, H. A., Lange, P. G., Mahendran, D., Martínez, K. Z., Pascoe, C. J., Perkel, D., Robinson, L., Sims, C., & Tripp, L. (2010). *Hanging out, messing around, and geeking out: Kids living and learning with new media*. The MIT Press.

Ivie, E. J., Pettitt, A., Moses, L. J., & Allen, N. B. (2020). A meta-analysis of the association between adolescent social media use and depressive symptoms. *Journal of Affective Disorders, 275*, 165–174. https://doi.org/10.1016/j.jad.2020.06.014

Janicke-Bowles, S. (2024). Digital flourishing in the US: Validation of the digital flourishing scale (DFS) and demographic exploration. *Communication Studies*, *75*(3), 322–341. https://doi.org/10.1080/10510974.2023.2289688

Janicke-Bowles, S. H., Buckley, T. M., Rey, R., Wozniak, T., Meier, A., & Lomanowska, A. (2023). Digital flourishing: Conceptualizing and assessing positive perceptions of mediated social interactions. *Journal of Happiness Studies, 24*(3), 1013–1035. https://doi.org/10.1007/s10902-023-00619-5

Jensen, K. B. (2016). Metamedium. In K. B. Jensen, E. W. Rothenbuhler, J. D. Pooley, & R. T. Craig (Eds.), *The international encyclopedia of communication theory and philosophy* (pp. 1–4). Wiley. https://doi.org/10.1002/9781118766804.wbiect166

Jensen, K. B. (2022). *Media convergence: The three degrees of network, mass, and interpersonal communication* (2nd ed.). Routledge.

Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed methods research. *Journal of Mixed Methods Research, 1*(2), 112–133. https://doi.org/10.1177/1558689806298224

Jones, J. J., Kirschen, G. W., Kancharla, S., & Hale, L. (2019b). Association between late-night tweeting and next-day game performance among professional basketball players. *Sleep Health*, *5*(1), 68–71. https://doi.org/10.1016/j.sleh.2018.09.005

Jones, M. J., Dawson, B., Gucciardi, D. F., Eastwood, P. R., Miller, J., Halson, S. L., Dunican, I. C., & Peeling, P. (2019a). Evening electronic device use and sleep patterns in athletes. *Journal of Sports Sciences, 37*(8), 864–870. https://doi.org/10.1080/02640414.2018.1531499

Jones, M. J., Peeling, P., Dawson, B., Halson, S., Miller, J., Dunican, I., Clarke, M., Goodman, C., & Eastwood, P. (2018). Evening electronic device use: The effects on alertness, sleep and next-day physical performance in athletes. *Journal of Sports Sciences, 36*(2), 162–170. https://doi.org/10.1080/02640414.2017.1287936

Júdice, P. B., Hetherington-Rauth, M., Magalhães, J. P., Correia, I. R., & Sardinha, L. B. (2022). Sedentary behaviours and their relationship with body composition of athletes. *European Journal of Sport Science, 22*(3), 474–480. https://doi.org/10.1080/17461391.2021.1874060

Kardefelt-Winther, D. (2014). A conceptual and methodological critique of internet addiction research: Towards a model of compensatory internet use. *Computers in Human Behavior, 31*, 351–354. https://doi.org/10.1016/j.chb.2013.10.059

Kardefelt-Winther, D., Heeren, A., Schimmenti, A., van Rooij, A., Maurage, P., Carras, M., Edman, J., Blaszczynski, A., Khazaal, Y., & Billieux, J. (2017). How can we conceptualize behavioural addiction without pathologizing common behaviours? *Addiction, 112*(10), 1709–1715. https://doi.org/10.1111/add.13763

Katz, E., Blumler, J. G., & Gurevitch, M. (1973). Uses and gratifications research. *Public Opinion Quarterly, 37*(4), 509–523. https://doi.org/10.1086/268109

Kaur-Gill, S., & Dutta, M. J. (2017). Digital ethnography. In J. Matthes, C. S. Davis, & R. F. Potter (Eds.), *The international encyclopedia of communication research methods* (pp. 1–10). Wiley. https://doi.org/10.1002/9781118901731.iecrm0271

Kaya, B. (2024). Dark triad and social media addiction: A meta-analysis. *Journal of Clinical Psychology Research, 8*(2), 310-319. https://doi.org/10.57127/kpd.26024438.1265343

Kemp, S. (2025, November 5). *Digital 2026: Spain*. DataReportal. https://datareportal.com/reports/digital-2026-spain

Keyes, C. L. M. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of Health and Social Behavior, 43*(2), 207–222. https://doi.org/10.2307/3090197

Kirkbride, J. B., Anglin, D. M., Colman, I., Dykxhoorn, J., Jones, P. B., Patalay, P., Pitman, A., Soneson, E., Steare, T., Wright, T., & Griffiths, S. L. (2024). The social determinants of mental health and disorder: Evidence, prevention and recommendations. *World Psychiatry, 23*(1), 58–90. https://doi.org/10.1002/wps.21160

Knufinke, M., Fittkau-Koch, L., Møst, E. I. S., Kompier, M. A. J., & Nieuwenhuys, A. (2019). Restricting short-wavelength light in the evening to improve sleep in recreational athletes: A pilot study. *European Journal of Sport Science, 19*(6), 728–735. https://doi.org/10.1080/17461391.2018.1544278

Kucharczuk, A. J., Oliver, T. L., & Dowdell, E. B. (2022). Social media's influence on adolescents' food choices: A mixed studies systematic literature review. *Appetite, 168*, Article 105765. https://doi.org/10.1016/j.appet.2021.105765

Kuntsman, A., & Miyake, E. (2019). The paradox and continuum of digital disengagement: Denaturalising digital sociality and technological connectivity. *Media, Culture & Society, 41*(6), 901–913. https://doi.org/10.1177/0163443719853732

Kuss, D. J., & Griffiths, M. D. (2011). Online social networking and addiction: A review of the psychological literature. *International Journal of Environmental Research and Public Health, 8*(9), 3528–3552. https://doi.org/10.3390/ijerph8093528

Laursen, B., & Faur, S. (2022). What does it mean to be susceptible to influence? A brief primer on peer conformity and developmental changes that affect it. *International Journal of Behavioral Development, 46*(3), 222–237. https://doi.org/10.1177/01650254221084103

Lee, J. W., Nam, J. J., Kang, K. D., & Han, D. H. (2021). The effect of smartphone app-use patterns on the performance of professional golfers. *Frontiers in Psychology*, *12*, 678691. https://doi.org/10.3389/fpsyg.2021.678691

Leggett-James, M. P., Veenstra, R., Kaniušonytė, G., & Laursen, B. (2026). Different peers influence different behaviors: Conformity to best friends and status-based norms across the transition into adolescence. *Development and Psychopathology*, 1–12. https://doi.org/10.1017/S0954579426101138

Lewin, K. M., Ellithorpe, M. E., & Meshi, D. (2022). Social comparison and problematic social media use: Relationships between five different social media platforms and three different social comparison constructs. *Personality and Individual Differences*, *199*, 111865. https://doi.org/10.1016/j.paid.2022.111865

Liebherr, M., Heyder, A., Brailovskaia, J., Burkardt, T. M., Latrouite, C., Montag, C., & Antons, S. (2025). The Digital Media-use Effects (d-MUsE) model: A comprehensive framework for exploring/studying functional and dysfunctional effects on adolescent wellbeing. *Journal of Behavioral Addictions, 14*(1), 100–113. https://doi.org/10.1556/2006.2025.00007

Light, B., & Cassidy, E. (2014). Strategies for the suspension and prevention of connection: Rendering disconnection as socioeconomic lubricant with Facebook. *New Media & Society, 16*(7), 1169–1184. https://doi.org/10.1177/1461444814544002

Lin, W., Cen, Z., & Chen, Y. (2025). The impact of social media addiction on the negative emotions of adolescent athletes: The mediating role of physical appearance comparisons and sleep. *Frontiers in Public Health, 12*, Article 1452769. https://doi.org/10.3389/fpubh.2024.1452769

Lincoln, Y. S. (2010). "What a long, strange trip it's been…": Twenty-five years of qualitative and new paradigm research. *Qualitative Inquiry, 16*(1), 3–9. https://doi.org/10.1177/1077800409349754

Lissens, M., Vandenbosch, L., Beullens, K., Geusens, F., Eggermont, S., Fahr, A., Maes, C., Vanhoffelen, G., Vranken, I., & Schreurs, L. (2026). *Missing the moment of change? A systematic review and re-analysis of multi-wave social media and adolescent mental well-being studies*. Research Square. https://doi.org/10.21203/rs.3.rs-9428222/v1

Liu, D., Kirschner, P. A., & Karpinski, A. C. (2017). A meta-analysis of the relationship of academic performance and social network site use among adolescents and young adults. *Computers in Human Behavior, 77*, 148–157. https://doi.org/10.1016/j.chb.2017.08.039

Liu, Y., & Marciano, L. (2024). Appnome analysis reveals small or no associations between social media app-specific usage and adolescent well-being. *Scientific Reports*, *14*(1), Article 30836. https://doi.org/10.1038/s41598-024-81665-8

Lu, Z. (2026). Mapping adolescent problematic social media use patterns across 41 countries/regions: A multilevel latent class analysis with social determinants. *Addictive Behaviors, 172*, Article 108523. https://doi.org/10.1016/j.addbeh.2025.108523

Ma, Y., Zhou, Z., Ye, C., & Liu, M. (2025). Online social support and problematic internet use: A meta-analysis. *Addictive Behaviors, 160*, Article 108160. https://doi.org/10.1016/j.addbeh.2024.108160

MacCallum, R. C., Zhang, S., Preacher, K. J., & Rucker, D. D. (2002). On the practice of dichotomization of quantitative variables. *Psychological Methods*, *7*(1), 19–40. https://doi.org/10.1037/1082-989x.7.1.19

Maciejewski, D. F., Keijsers, L., van Lier, P. A. C., Branje, S. J. T., Meeus, W. H. J., & Koot, H. M. (2019). Most fare well—But some do not: Distinct profiles of mood variability development and their association with adjustment during adolescence. *Developmental Psychology, 55*(2), 434–448. https://doi.org/10.1037/dev0000650

Malonda, E., Llorca, A., Mesurado, B., Samper, P., & Mestre, M. V. (2019). Parents or peers? Predictors of prosocial behavior and aggression: A longitudinal study. *Frontiers in Psychology, 10*, Article 2379. https://doi.org/10.3389/fpsyg.2019.02379

Mannell, K. (2019). A typology of mobile messaging's disconnective affordances. *Mobile Media & Communication, 7*(1), 76–93. https://doi.org/10.1177/2050157918772864

Marciano, L., Camerini, A.-L., & Schulz, P. J. (2020). Neuroticism in the digital age: A meta-analysis. *Computers in Human Behavior Reports*, *2*, Article 100026. https://doi.org/10.1016/j.chbr.2020.100026

Marino, C., Gini, G., Vieno, A., & Spada, M. M. (2018). The associations between problematic Facebook use, psychological distress and well-being among adolescents and young adults: A systematic review and meta-analysis. *Journal of Affective Disorders, 226*, 274–281. https://doi.org/10.1016/j.jad.2017.10.007

Márquez, J.M., Andrade, B., Guadix, I., Suárez, F., Rodríguez, F.J., González-Cabrera, J. & Rial, A. (2025). *Infancia, adolescencia y bienestar digital*. Madrid: UNICEF España, Universidad de Santiago de Compostela, Consejo General de Ingeniería en Informática y Entidad Pública Empresarial Red.es. https://doi.org/10.30923/IABD20251

Meier, A., & Reinecke, L. (2021). Computer-mediated communication, social media, and mental health: A conceptual and empirical meta-review. *Communication Research, 48*(8), 1182–1209. https://doi.org/10.1177/0093650220958224

Meng, S.-Q., Cheng, J.-L., Li, Y.-Y., Yang, X.-Q., Zheng, J.-W., Chang, X.-W., Shi, Y., Chen, Y., Lu, L., Sun, Y., Bao, Y.-P., & Shi, J. (2022). Global prevalence of digital addiction in general population: A systematic review and meta-analysis. *Clinical Psychology Review*, *92*, Article 102128. https://doi.org/10.1016/j.cpr.2022.102128

Mertens, D. M. (2010). Philosophy in mixed methods teaching: The transformative paradigm as illustration. *International Journal of Multiple Research Approaches, 4*(1), 9–18. https://doi.org/10.5172/mra.2010.4.1.009

Meynadier, J., Malouff, J. M., Loi, N. M., & Schutte, N. S. (2024a). Lower mindfulness is associated with problematic social media use: A meta-analysis. *Current Psychology, 43*(4), 3395–3404. https://doi.org/10.1007/s12144-023-04587-0

Meynadier, J., Malouff, J. M., Schutte, N. S., & Loi, N. M. (2024b). Meta-analysis of associations between five-factor personality traits and problematic social media use. *Current Psychology*, *43*(27), 23016–23035. https://doi.org/10.1007/s12144-024-06052-y

Monforte, J. (2024). Paradigmas de investigación cualitativa en CAFD. In J. Piedra, G. Ramírez Macías, & A. R. Rodríguez-Sánchez (Coords.), *Manual de iniciación a la investigación cualitativa en ciencias de la actividad física y el deporte* (pp. 21–32). Octaedro.

Monforte, J., & Smith, B. (2023). Introducing postqualitative inquiry in sport and exercise psychology. *International Review of Sport and Exercise Psychology*, *16*(1), 428–447. https://doi.org/10.1080/1750984X.2021.1881805

Monforte, J., & Smith, B. (2025). The critical posthumanities and postqualitative inquiry in psychology. *Qualitative Research in Psychology*, *22*(3), 559–570. https://doi.org/10.1080/14780887.2024.2338899

Montag, C., & Elhai, J. D. (2023). On social media design,(online-) time well-spent and addictive behaviors in the age of surveillance capitalism. *Current Addiction Reports*, *10*(3), 610–616. https://doi.org/10.1007/s40429-023-00494-3

Montag, C., Hegelich, S., Sindermann, C., Rozgonjuk, D., Marengo, D., & Elhai, J. D. (2021). On corporate responsibility when studying social media use and well-being. *Trends in Cognitive Sciences*, *25*(4), 268–270. https://doi.org/10.1016/j.tics.2021.01.002

Moreno, M. A., & Uhls, Y. T. (2019). Applying an affordances approach and a developmental lens to approach adolescent social media use. *DIGITAL HEALTH*, *5*, 2055207619826678. https://doi.org/10.1177/2055207619826678

Moreno, M. A., Gower, A. D., Pham, D., Zhao, Q., & Eickhoff, J. (2023). Adolescent media use, parent involvement and health outcomes: A latent class analysis approach. *Information, Communication & Society*, *26*(4), 746–763. https://doi.org/10.1080/1369118X.2021.1983002

Moretta, T., Buodo, G., Demetrovics, Z., & Potenza, M. N. (2022). Tracing 20 years of research on problematic use of the internet and social media: Theoretical models, assessment tools, and an agenda for future work. *Comprehensive Psychiatry, 112*, Article 152286. https://doi.org/10.1016/j.comppsych.2021.152286

Murris, K., & Bozalek, V. (2021). Dis/Identification. In K. Murris (Ed.), *A glossary for doing postqualitative, new materialist and critical posthumanist research across disciplines*. Routledge.

Nassen, L.-M., Vandebosch, H., Poels, K., & Karsay, K. (2023). Opt-out, abstain, unplug. A systematic review of the voluntary digital disconnection literature. *Telematics and Informatics*, *81*, Article 101980. https://doi.org/10.1016/j.tele.2023.101980

National Academies of Sciences, Engineering, and Medicine. (2024). *Social media and adolescent health*. National Academies Press. https://doi.org/10.17226/27396

Nennstiel, R., & Ullrich, R. (2026). The Goldilocks dilemma: Gendered patterns of social media usage and adolescent life satisfaction across OECD countries. *Large-scale Assessments in Education, 14*, Article 11. https://doi.org/10.1186/s40536-026-00284-z

Nesi, J., Burke, T. A., Bettis, A. H., Kudinova, A. Y., Thompson, E. C., MacPherson, H. A., Fox, K. A., Lawrence, H. R., Thomas, S. A., Wolff, J. C., Altemus, M. K., Soriano, S., & Liu, R. T. (2021). Social media use and self-injurious thoughts and behaviors: A systematic review and meta-analysis. *Clinical Psychology Review*, *87*, Article 102038. https://doi.org/10.1016/j.cpr.2021.102038

Nesi, J., Choukas-Bradley, S., & Prinstein, M. J. (2018). Transformation of adolescent peer relations in the social media context: Part 1—A theoretical framework and application

to dyadic peer relationships. *Clinical Child and Family Psychology Review, 21*(3), 267–294. https://doi.org/10.1007/s10567-018-0261-x

Newport, C. (2019). *Digital minimalism: Choosing a focused life in a noisy world*. Penguin.

Nguyen, M. H. (2021). Managing social media use in an "always-on" society: Exploring digital wellbeing strategies that people use to disconnect. *Mass Communication and Society, 24*(6), 795–817. https://doi.org/10.1080/15205436.2021.1979045

Nosek, B. A., Alter, G., Banks, G. C., Borsboom, D., Bowman, S. D., Breckler, S. J., Buck, S., Chambers, C. D., Chin, G., Christensen, G., Contestabile, M., Dafoe, A., Eich, E., Freese, J., Glennerster, R., Goroff, D., Green, D. P., Hesse, B., Humphreys, M., … Yarkoni, T. (2015). Promoting an open research culture. *Science*, *348*(6242), 1422–1425. https://doi.org/10.1126/science.aab2374

Odgers, C. (2018). Smartphones are bad for some teens, not all. *Nature, 554*(7693), 432–434. https://doi.org/10.1038/d41586-018-02109-8

Odgers, C. L., & Jensen, M. R. (2020). Annual Research Review: Adolescent mental health in the digital age: facts, fears, and future directions. *Journal of Child Psychology and Psychiatry*, *61*(3), 336–348. https://doi.org/10.1111/jcpp.13190

Oh, Y., Kim, Y., & Joung, Y.-S. (2021). A latent profile analysis of problematic media device use and its association with executive function and behavioral problem among children: A population-based study. *Psychiatry Investigation, 18*(9), 895–903. https://doi.org/10.30773/pi.2021.0133

Ong, N. C. H., & Chua, J. H. E. (2024). The effects of electronic device use on athlete performance and health: A systematic review. *International Journal of Sport and Exercise Psychology, 23*(7), 1086–1114. https://doi.org/10.1080/1612197X.2024.2386318

Ong, N. C. H., Kee, Y. H., Pillai, J. S., Lim, H. B. T., & Chua, J. H. E. (2023). Problematic mobile phone use among youth athletes: A topic modelling approach. *International Journal of Sport and Exercise Psychology, 21*(4), 616–637. https://doi.org/10.1080/1612197X.2022.2078856

Ong, N. C. H., Kee, Y. H., Pillai, J. S., Lim, H. B. T., & Lin, Y. C. (2024). Problematic mobile phone use among youth athletes: A qualitative investigation using focus groups. *International Journal of Sport and Exercise Psychology, 22*(3), 645–666. https://doi.org/10.1080/1612197X.2022.2152855

Orben, A. (2020). Teenagers, screens and social media: A narrative review of reviews and key studies. *Social Psychiatry and Psychiatric Epidemiology, 55*(4), 407–414. https://doi.org/10.1007/s00127-019-01825-4

Orben, A., & Przybylski, A. K. (2019). The association between adolescent well-being and digital technology use. *Nature Human Behaviour, 3*(2), 173–182. https://doi.org/10.1038/s41562-018-0506-1

Papalia, D., & Martorell, G. (2021). *Desarrollo humano* (14.ª ed.). McGraw-Hill/Interamericana Editores.

Parry, D. A., Fisher, J. T., Mieczkowski, H., Sewall, C. J. R., & Davidson, B. I. (2022). Social media and well-being: A methodological perspective. *Current Opinion in Psychology*, *45*, Article 101285. https://doi.org/10.1016/j.copsyc.2021.11.005

Pew Research Center. (2025). *Teens, social media and AI chatbots 2025.* https://www.pewresearch.org/internet/2025/12/09/teens-social-media-and-ai-chatbots-2025/

Pi, L., Wang, Y., Zou, L., Mo, X., & Guo, L. (2024). An analysis of the latent class and influencing factors of problematic mobile social media usage among Chinese college students. *Psychology Research and Behavior Management, 17*, 367–378. https://doi.org/10.2147/PRBM.S438713

Pink, S., Sinanan, J., Hjorth, L., & Horst, H. (2016). Tactile digital ethnography: Researching mobile media through the hand. *Mobile Media & Communication, 4*(2), 237–251. https://doi.org/10.1177/2050157915619958

Piteo, E. M., & Ward, K. (2020). Review: Social networking sites and associations with depressive and anxiety symptoms in children and adolescents: A systematic review. *Child and Adolescent Mental Health, 25*(4), 201–216. https://doi.org/10.1111/camh.12373

Plonsky, L., & Gass, S. (2011). Quantitative research methods, study quality, and outcomes: The case of interaction research. *Language Learning, 61*(2), 325–366. https://doi.org/10.1111/j.1467-9922.2011.00640.x

Polat, H. (2023). The effect of social media addiction on communication skills: A meta-analysis study. *RumeliDE Dil ve Edebiyat Araştırmaları Dergisi*, (Ö13), 905–921. https://doi.org/10.29000/rumelide.1379244

Pouwels, J. L., Araujo, T., van Atteveldt, W., Bachl, M., & Valkenburg, P. M. (2024). Integrating communication science and computational methods to study content-based social media effects. *Communication Methods and Measures, 18*(2), 115–123. https://doi.org/10.1080/19312458.2023.2285766

Precht, L. M., Mertens, F., Brickau, D. S., Kramm, R. J., Margraf, J., Stirnberg, J., & Brailovskaia, J. (2024). Engaging in physical activity instead of (over) using the smartphone: An experimental investigation of lifestyle interventions to prevent problematic smartphone use and to promote mental health. *Journal of Public Health*, *32*(4), 589–607. https://doi.org/10.1007/s10389-023-01832-5

Przybylski, A. K., & Weinstein, N. (2017). A large-scale test of the Goldilocks hypothesis: Quantifying the relations between digital-screen use and the mental well-being of adolescents. *Psychological Science, 28*(2), 204–215. https://doi.org/10.1177/0956797616678438

Quagliarotti, C., Coloretti, V., Dello Stritto, E., Cuccurullo, S., Acalai, J., Lepers, R., Fantozzi, S., Cortesi, M., & Piacentini, M. F. (2023). Does smartphone use affect a subsequent swimming training session? Preliminary results in amateur triathletes. *Sensors, 23*(13), Article 5837. https://doi.org/10.3390/s23135837

Raney, A. A., Janicke-Bowles, S. H., Oliver, M. B., & Dale, K. R. (2020). *Introduction to positive media psychology*. Routledge. https://doi.org/10.4324/9780429353482

Raudsepp, L., & Kais, K. (2019). Longitudinal associations between problematic social media use and depressive symptoms in adolescent girls. *Preventive Medicine Reports*, *15*, Article 100925. https://doi.org/10.1016/j.pmedr.2019.100925

Reid, A. J. (2018). *The smartphone paradox: Our ruinous dependency in the device age*. Springer International Publishing. https://doi.org/10.1007/978-3-319-94319-0

Resolución de 17 de abril de 2024, de la Conselleria de Educación, Universidades y Empleo, sobre determinados aspectos para la regulación del uso de dispositivos móviles en centros educativos no universitarios sostenidos con fondos públicos de la Comunitat Valenciana, DOGV, 9841, 18739–18743 (2024). https://dogv.gva.es/va/resultat-dogv?signatura=2024/3422

Reyero, D., Pattier, D., & García-Ramos, D. (2021). Adolescence and identity in the twenty-first century: Social media as spaces for mimesis and learning. In J. M. Muñoz-Rodríguez (Ed.), *Identity in a hyperconnected society* (pp. 75–93). Springer International Publishing. https://doi.org/10.1007/978-3-030-85788-2_6

Rosič, J. (2025). *Growing up in a digital world: Understanding the perceived positive experiences of digital media use among (disadvantaged) adolescents* [Doctoral dissertation, KU Leuven]. https://research.kuleuven.be/portal/en/project/3H200636

Rosič, J., Carbone, L., Vanden Abeele, M. M. P., Lobe, B., & Vandenbosch, L. (2024a). Measuring digital well-being in everyday life among Slovenian adolescents: The Perceived Digital Well-Being in Adolescence Scale. *Journal of Children and Media*, *18*(1), 99–119. https://doi.org/10.1080/17482798.2023.2272651

Rosič, J., Janicke-Bowles, S. H., Carbone, L., Lobe, B., & Vandenbosch, L. (2022). Positive digital communication among youth: The development and validation of the digital flourishing scale for adolescents. *Frontiers in Digital Health*, *4*, Article 975557. https://doi.org/10.3389/fdgth.2022.975557

Rosič, J., Schreurs, L., Janicke-Bowles, S. H., & Vandenbosch, L. (2024b). Trajectories of digital flourishing in adolescence: The predictive roles of developmental changes and digital divide factors. *Child Development*, *95*(5), 1586–1602. https://doi.org/10.1111/cdev.14101

Ross, M. Q., Gilbert, A., Klingelhoefer, J., Matassi, M., Nassen, L.-M., Van Bruyssel, S., Verlinden, A., & Parry, D. A. (2024). Mapping a pluralistic continuum of approaches to digital disconnection. *Media, Culture & Society*, *46*(4), 851–862. https://doi.org/10.1177/01634437241228785

Ruggiero, T. E. (2000). Uses and gratifications theory in the 21st century. *Mass Communication & Society, 3*(1), 3-37. https://doi.org/10.1207/S15327825MCS0301_02

Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology, 52*, 141–166. https://doi.org/10.1146/annurev.psych.52.1.141

Ryan, R. M., & Deci, E. L. (Eds.). (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford Press. https://doi.org/10.1521/978.14625/28806

Ryding, F. C., & Kuss, D. J. (2020). The use of social networking sites, body image dissatisfaction, and body dysmorphic disorder: A systematic review of psychological research. *Psychology of Popular Media, 9*(4), 412–435. https://doi.org/10.1037/ppm0000264

Saiphoo, A. N., & Vahedi, Z. (2019). A meta-analytic review of the relationship between social media use and body image disturbance. *Computers in Human Behavior, 101*, 259–275. https://doi.org/10.1016/j.chb.2019.07.028

Saiphoo, A. N., Dahoah Halevi, L., & Vahedi, Z. (2020). Social networking site use and self-esteem: A meta-analytic review. *Personality and Individual Differences*, *153*, Article 109639. https://doi.org/10.1016/j.paid.2019.109639

Salari, N., Zarei, H., Hosseinian-Far, A., Rasoulpoor, S., Shohaimi, S., & Mohammadi, M. (2025). The global prevalence of social media addiction among university students: A systematic review and meta-analysis. *Journal of Public Health*, *33*(1), 223–236. https://doi.org/10.1007/s10389-023-02012-1

Sanchez, A., & Jenkins, J. H. (2024). Social media & subjectivity: Adolescent lived experiences with social media in a Southern California middle school. *Social Science & Medicine, 353*, Article 116839. https://doi.org/10.1016/j.socscimed.2024.116839

Sawyer, S. M., Azzopardi, P. S., Wickremarathne, D., & Patton, G. C. (2018). The age of adolescence. *The Lancet Child & Adolescent Health, 2*(3), 223–228. https://doi.org/10.1016/S2352-4642(18)30022-1

Schaefer, A. (2018). *Student athletes' perception of smartphone use and its effects on sleep quality, anxiety, and depression* [Master's thesis, Northern Michigan University].

Schnauber-Stockmann, A., Weber, M., Reinecke, L., Schemer, C., Müller, K., Beutel, M., & Stark, B. (2021). Mobile (self-)socialization: The role of mobile media and communication in autonomy and relationship development in adolescence. *Mass Communication and Society, 24*(6), 867–891. https://doi.org/10.1080/15205436.2021.1964538

Schreurs, L., & Vandenbosch, L. (2026). Enhancing adolescents' emotion regulation in the social media context: a cluster randomized controlled trial of the Vibe Check social media literacy intervention. *Educational Psychology*, 1–19. https://doi.org/10.1080/01443410.2025.2593545

Schreurs, L., Meier, A., & Vandenbosch, L. (2023). Exposure to the positivity bias and adolescents' differential longitudinal links with social comparison, inspiration and envy depending on social media literacy. *Current Psychology*, *42*(32), 28221–28241. https://doi.org/10.1007/s12144-022-03893-3

Sekiguchi, T., Hagiwara, Y., Momma, H., Tsuchiya, M., Kuroki, K., Kanazawa, K., Yabe, Y., Yoshida, S., Koide, M., Itaya, N., Itoi, E., & Nagatomi, R. (2018). Excessive game playing is associated with musculoskeletal pain among youth athletes: A cross-sectional study in Miyagi prefecture. *Journal of Sports Sciences, 36*(16), 1801–1807. https://doi.org/10.1080/02640414.2017.1420453

Seligman, M. E. P. (2011). *Flourish: A visionary new understanding of happiness and well-being*. Free Press.

Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55*(1), 5–14. https://doi.org/10.1037/0003-066X.55.1.5

Sepas, A., Bangash, A. H., Nielsen, R. E., Yang, W., & El-Hussuna, A. (2024). The association between problematic Instagram use, psychological distress, and well-being: A systematic review and meta-analysis. *Cyberpsychology, Behavior, and Social Networking, 27*(9), 641–650. https://doi.org/10.1089/cyber.2023.0222

Shannon, H., Bush, K., Villeneuve, P. J., Hellemans, K. G. C., & Guimond, S. (2022). Problematic social media use in adolescents and young adults: Systematic review and meta-analysis. *JMIR Mental Health, 9*(4), Article e33450. https://doi.org/10.2196/33450

Sharma, A., & Vidal, C. (2023). A scoping literature review of the associations between highly visual social media use and eating disorders and disordered eating: A changing landscape. *Journal of Eating Disorders, 11*(1), 170. https://doi.org/10.1186/s40337-023-00898-6

Shiffman, S., Stone, A. A., & Hufford, M. R. (2008). Ecological momentary assessment. *Annual Review of Clinical Psychology*, *4*(1), 1-32. https://doi.org/10.1146/annurev.clinpsy.3.022806.091415

Silva, J., Costa, C. L. A., & Bonuzzi, G. M. G. (2026). No “brain rot” effect on motor learning: Mental fatigue induced by social media does not impair motor skill acquisition in adolescents. *International Journal of Sport and Exercise Psychology*. https://doi.org/10.1080/1612197X.2026.2662260

Simsir-Gokalp, Z., & Akyurek, M. I. (2024). Self-control and problematic social media use: a meta-analysis. *Journal of Education in Science, Environment and Health, 10*(3), 199–215. https://doi.org/10.55549/jeseh.722

Singh, B., Zhou, M., Curtis, R., Maher, C., & Dumuid, D. (2026). Social media use and well-being across adolescent development. *JAMA Pediatrics*, *180*(3), 288–297. https://doi.org/10.1001/jamapediatrics.2025.5619

Smith, B., & McGannon, K. R. (2018). Developing rigor in qualitative research: Problems and opportunities within sport and exercise psychology. *International Review of Sport and Exercise Psychology, 11*(1), 101–121. https://doi.org/10.1080/1750984X.2017.1317357

Society for Media Psychology and Technology (Division 46). (2026). Society for Media Psychology and Technology. https://www.apadivisions.org/division-46

Solmi, M., Radua, J., Olivola, M., Croce, E., Soardo, L., Salazar de Pablo, G., Shin, J. I., Kirkbride, J. B., Jones, P., Kim, J. H., Kim, J. Y., Carvalho, A. F., Seeman, M. V., Correll, C. U., & Fusar-Poli, P. (2022). Age at onset of mental disorders worldwide: Large-scale meta-analysis of 192 epidemiological studies. *Molecular Psychiatry, 27*(1), 281–295. https://doi.org/10.1038/s41380-021-01161-7

Sparkes, A. C. (2015). Developing mixed methods research in sport and exercise psychology: Critical reflections on five points of controversy. *Psychology of Sport and Exercise, 16*, 49–59. https://doi.org/10.1016/j.psychsport.2014.08.014

Sparkes, A. C., & Smith, B. (Eds.). (2014). *Qualitative research methods in sport, exercise and health: From process to product*. Routledge.

Steinberg, L. (2005). Cognitive and affective development in adolescence. *Trends in Cognitive Sciences*, *9*(2), 69–74. https://doi.org/10.1016/j.tics.2004.12.005

Steinberg, L. (2020). *Adolescence* (13th ed.). McGraw-Hill.

Stinson, L., & Dallery, J. (2023). Reducing problematic social media use via a package intervention. *Journal of Applied Behavior Analysis, 56*(2), 323–335. https://doi.org/10.1002/jaba.975

Stone, A. A., Bachrach, C. A., Jobe, J. B., Kurtzman, H. S., & Cain, V. S. (Eds.). (1999). *The science of self-report: Implications for research and practice*. Psychology Press. https://doi.org/10.4324/9781410601261

Subrahmanyam, K., & Michikyan, M. (2022). Methodological and conceptual issues in digital media research. In J. Nesi, E. H. Telzer, & M. J. Prinstein (Eds.), *Handbook of adolescent digital media use and mental health* (pp. 9–38). Cambridge University Press. https://doi.org/10.1017/9781108976237.003

Subrahmanyam, K., & Smahel, D. (2011). *Digital youth*. Springer New York. https://doi.org/10.1007/978-1-4419-6278-2

Syvertsen, T. (2020). *Digital detox: The politics of disconnecting*. Emerald Publishing Limited. https://doi.org/10.1108/9781787693395

Throuvala, M. A., Griffiths, M. D., Rennoldson, M., & Kuss, D. J. (2019). Motivational processes and dysfunctional mechanisms of social media use among adolescents: A qualitative focus group study. *Computers in Human Behavior, 93*, 164–175. https://doi.org/10.1016/j.chb.2018.12.012

Toh, S. H., Howie, E. K., Coenen, P., & Straker, L. M. (2019). "From the moment I wake up I will use it…every day, very hour": A qualitative study on the patterns of adolescents' mobile touch screen device use from adolescent and parent perspectives. *BMC Pediatrics, 19*(1), Article 30. https://doi.org/10.1186/s12887-019-1399-5

Tolman, E. C. (1959). Principles of purposive behavior. In S. Koch (Ed.), Psychology: A study of a science (Vol. 2, p. 152). McGraw-Hill.

Tracy, S. J. (2010). Qualitative quality: Eight "big-tent" criteria for excellent qualitative research. *Qualitative Inquiry, 16*(10), 837–851. https://doi.org/10.1177/1077800410383121

Trainor, L. R., & Bundon, A. (2021). Developing the craft: Reflexive accounts of doing reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health, 13*(5), 705–726. https://doi.org/10.1080/2159676X.2020.1840423

Trull, T. J., & Ebner-Priemer, U. (2013). Ambulatory assessment. *Annual review of clinical psychology*, *9*(1), 151–176. https://doi.org/10.1146/annurev-clinpsy-050212-185510

Tsaliki, L. (2022). Constructing young selves in a digital media ecology: Youth cultures, practices and identity. *Information, Communication & Society, 25*(4), 477–484. https://doi.org/10.1080/1369118X.2022.2039747

Twenge, J. M. (2017, September). Have smartphones destroyed a generation? *The Atlantic*. https://www.theatlantic.com/magazine/archive/2017/09/has-the-smartphone-destroyed-a-generation/534198/

Uhls, Y. T., van der Wal, A., Ellison, N., Collier, A., Subrahmanyam, K., & Valkenburg, P. M. (2025). Adolescents' online communication practices in a digital world. In D. A. Christakis & L. Hale (Eds.), *Handbook of children and screens* (pp. 215–221). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-69362-5_30

Vahedi, Z., & Zannella, L. (2021). The association between self-reported depressive symptoms and the use of social networking sites (SNS): A meta-analysis. *Current Psychology, 40*(5), 2174–2189. https://doi.org/10.1007/s12144-019-0150-6

Valkenburg, P. M. (2022). Social media use and well-being: What we know and what we need to know. *Current Opinion in Psychology*, *45*, Article 101294. https://doi.org/10.1016/j.copsyc.2021.12.006

Valkenburg, P. M., & Peter, J. (2013). The differential susceptibility to media effects model. *Journal of Communication, 63*(2), 221–243. https://doi.org/10.1111/jcom.12024

Valkenburg, P. M., Pouwels, J. L., Beyens, I., van Driel, I. I., & Keijsers, L. (2021). Adolescents' social media experiences and their self-esteem: A person-specific susceptibility perspective. *Technology, Mind, and Behavior, 2*(2), 166–177. https://doi.org/10.1037/tmb0000037

Van Bruyssel, S., De Wolf, R., & Vanden Abeele, M. M. P. (2024). From bliss to burden: An ethnographic inquiry into how social, material and individual obstacles to digital well-being shape everyday life. *New Media & Society, 28*(1), 212–229. https://doi.org/10.1177/14614448241288159

Van den Eijnden, R. J. J. M., Lemmens, J. S., & Valkenburg, P. M. (2016). The Social Media Disorder Scale. *Computers in Human Behavior*, *61*(3), 478–487. https://doi.org/10.1016/j.chb.2016.03.038

Van der Wal, A., Beyens, I., Janssen, L. H. C., & Valkenburg, P. M. (2026). Diverse platforms, diverse effects: Evidence from a 100-day study on social media and adolescent mental health. *Current Psychology, 45*(1), Article 36. https://doi.org/10.31234/osf.io/qe9rn

Van der Wal, A., Valkenburg, P. M., & van Driel, I. I. (2024). In their own words: How adolescents use social media and how it affects them. *Social Media+ Society*, *10*(2), 20563051241248591. https://doi.org/10.1177/20563051241248591

Van Slingerland, K. J., Durand-Bush, N., Bradley, L., Goldfield, G., Archambault, R., Smith, D., Edwards, C., Delenardo, S., Taylor, S., Werthner, P., & Kenttä, G. (2019). Canadian Centre for Mental Health and Sport (CCMHS) Position Statement: Principles of Mental Health in Competitive and High-Performance Sport. *Clinical Journal of Sport Medicine*, *29*(3), 173 –180. https://doi.org/10.1097/JSM.0000000000000665

Vanden Abeele, M. M. P. (2021). Digital wellbeing as a dynamic construct. *Communication Theory, 31*(4), 932–955. https://doi.org/10.1093/ct/qtaa024

Vanden Abeele, M. M. P., & Syvertsen, T. (2025). Theorizing dis/connection: A mutual invitation to mobile media and digital disconnection scholars. *Mobile Media & Communication*, Article 20501579251360886. https://doi.org/10.1177/20501579251360886

Vanden Abeele, M. M. P., De Wolf, R., & Ling, R. (2018). Mobile media and social space: How anytime, anyplace connectivity structures everyday life. *Media and Communication, 6*(2), 5–14. https://doi.org/10.17645/mac.v6i2.1399

Vanden Abeele, M. M. P., Šaradín Lebedíková, M., Van Gaeveren, K., de Segovia Vicente, D., & Murphy, S. L. (2026). Measuring the benefits and drawbacks of ubiquitous connectivity: The Digital Well-Being Scale. In M. J. Dennis & P. Königs (Eds.), *The future of digital well-being: Interdisciplinary perspectives on human flourishing in the age of AI*. Routledge.

Vandenbosch, L., Beullens, K., Vanherle, R., & Schreurs, L. (2025). Digital media uses and effects: The contributing roles of time. *Journal of Children and Media*, *19*(1), 71–76. https://doi.org/10.1080/17482798.2024.2438690

Vaterlaus, J. M., Aylward, A., Tarabochia, D., & Martin, J. D. (2021). "A smartphone made my life easier": An exploratory study on age of adolescent smartphone acquisition and well-being. *Computers in Human Behavior*, *114*, Article 106563. https://doi.org/10.1016/j.chb.2020.106563

Vorderer, P., Hefner, D., Reinecke, L., & Klimmt, C. (Eds.). (2017). *Permanently online, permanently connected: Living and communicating in a POPC world*. Routledge. https://doi.org/10.4324/9781315276472

Vossen, H. G. M., van den Eijnden, R. J. J. M., Visser, I., & Koning, I. M. (2024). Parenting and problematic social media use: A systematic review. *Current Addiction Reports, 11*(3), 511–527. https://doi.org/10.1007/s40429-024-00559-x

Vygotsky, L. S. (1978). *Mind in society: Development of higher psychological processes*. Harvard University Press.

Walton, C. C., Rice, S. M., & Purcell, R. (2022). Mental health in youth elite athletes. In C. L. Reardon (Ed.), *Mental health care for elite athletes* (pp. 209–213). Springer International Publishing. https://doi.org/10.1007/978-3-031-08364-8_22

Wang, X., & Yu, G. (2025). Reliability, Validity and measurement invariance of digital flourishing scale among chinese college students. *Chinese Journal of Clinical Psychology*, *33*(1), 135–139. https://doi.org/10.16128/j.cnki.1005-3611.2025.01.025

Wartella, E., & Reeves, B. (1985). Historical trends in research on children and the media: 1900–1960. *Journal of Communication, 35*(2), 118–133. https://doi.org/10.1111/j.1460-2466.1985.tb02238.x

Weinstein, E. (2018). The social media see-saw: Positive and negative influences on adolescents' affective well-being. *New Media & Society, 20*(10), 3597–3623. https://doi.org/10.1177/1461444818755634

Weller, B. E., Bowen, N. K., & Faubert, S. J. (2020). Latent Class Analysis: A Guide to Best Practice. *Journal of Black Psychology*, *46*(4), 287–311. https://doi.org/10.1177/0095798420930932

Wolfers, L. N. (2024). A social constructivist viewpoint of media effects: Extending the social influence model of technology use to media effects. *Communication Theory, 34*(4), 178–190. https://doi.org/10.1093/ct/qtae015

Wolfers, L. N., & Baumgartner, S. (2026). *Short but still valid: Validating single-item measures for key communication science constructs for experience sampling research* [Preprint]. OSF. https://osf.io/8d3wx/

World Health Organization. (1948). *Constitution of the World Health Organization*. World Health Organization.

World Health Organization. (2022). *World mental health report: Transforming mental health for all*. World Health Organization.

Wu, W., Huang, L., & Yang, F. (2024). Social anxiety and problematic social media use: A systematic review and meta-analysis. *Addictive Behaviors, 153*, Article 107995. https://doi.org/10.1016/j.addbeh.2024.107995

Xiao, T., Jiao, C., Yao, J., Yang, L., Zhang, Y., Liu, S., Grabovac, I., Yu, Q., Kong, Z., Yu, J. J., & Zhang, J. (2021). Effects of basketball and Baduanjin exercise interventions on problematic smartphone use and mental health among college students: a randomized controlled trial. *Evidence-Based Complementary and Alternative Medicine*, *2021*(1), Article 8880716. https://doi.org/10.1155/2021/8880716

Yardley, L. (2017). Demonstrating the validity of qualitative research. *The Journal of Positive Psychology, 12*(3), 295–296. https://doi.org/10.1080/17439760.2016.1262624

Yau, J. C., & Reich, S. M. (2019). "It's just a lot of work": Adolescents' self-presentation norms and practices on Facebook and Instagram. *Journal of Research on Adolescence, 29*(1), 196–209. https://doi.org/10.1111/jora.12376

Yigiter, M. S., Demir, S., & Dogan, N. (2024). The relationship between problematic social media use and depression: A meta-analysis study. *Current Psychology, 43*(9), 7936–7951. https://doi.org/10.1007/s12144-023-04972-9

Yusoff, M. S. B. (2019). ABC of content validation and content validity index calculation. *Education in Medicine Journal*, *11*(2), 49–54. https://doi.org/10.21315/eimj2019.11.2.6

Zarco-Alpuente, A., Ciudad-Fernández, V., Ballester-Arnal, R., Billieux, J., Gil-Llario, M. D., King, D. L., Montoya-Castilla, I., Samper, P., & Castro-Calvo, J. (2021). Problematic internet use prior to and during the COVID-19 pandemic. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, *15*(4), Article 1. https://doi.org/10.5817/CP2021-4-1

Zarco-Alpuente, A., Ciudad-Fernández, V., Carrique-Martínez, M., Serrano-Pastor, L., Malonda-Vidal, E., Llorca-Mestre, A., García-Ros, R., & Samper-García, P. (2025). Unravelling social network usage patterns: A study based on unsupervised learning. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, *19*(4), Article 7. https://doi.org/10.5817/CP2025-4-7

Zhang, J., Wang, Y., Li, Q., & Wu, C. (2021). The relationship between SNS usage and disordered eating behaviors: A meta-analysis. *Frontiers in Psychology, 12*, Article 641919. https://doi.org/10.3389/fpsyg.2021.641919

Zhang, L., Yuan, L., & Du, X. (2022). *Relationship between Athletes' Phubbing and Team Cohesion: A Moderated Mediation Model*. *Forest Chemicals Review,* 441–451.

Zhang, X., Yang, H., Zhang, K., Zhang, J., Lu, X., Guo, H., Yuan, G., Zhu, Z., Du, J., Shi, H., Jin, G., Hao, J., Sun, Y., Su, P., & Zhang, Z. (2023). Effects of exercise or tai chi on Internet addiction in college students and the potential role of gut microbiota: A randomized controlled trial. *Journal of Affective Disorders*, *327*, 404–415. https://doi.org/10.1016/j.jad.2023.02.002

Zhou, W., Yan, Z., Yang, Z., & Hussain, Z. (2023). Problematic social media use and mental health risks among first-year Chinese undergraduates: A three-wave longitudinal study. *Frontiers in Psychiatry*, *14*, Article 1237924. https://doi.org/10.3389/fpsyt.2023.1237924

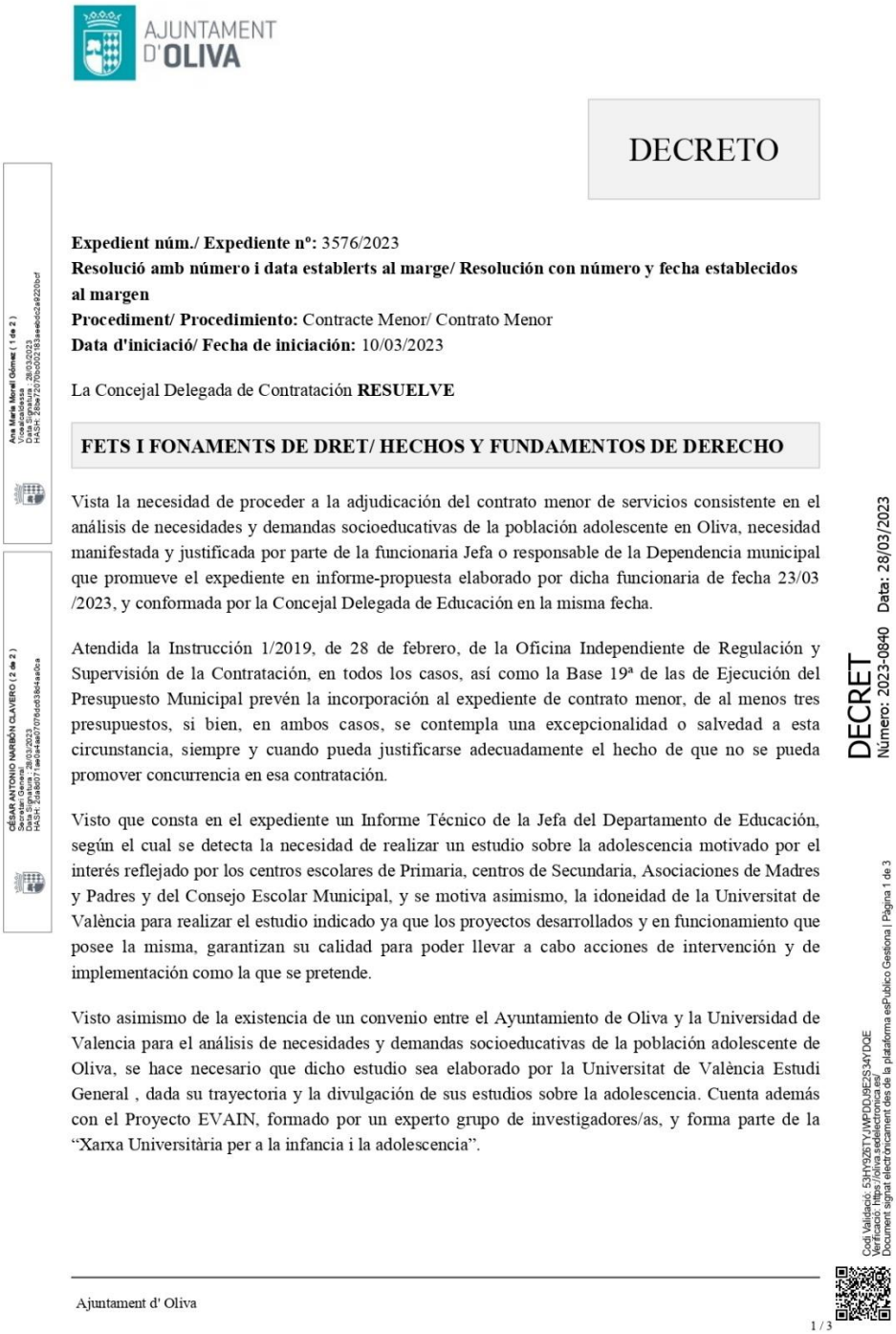
ANNEXES



Annexes. 1 Ethics Committee Approval

Ethics approval for Study 1

Study 1 was conducted within the framework of a research project funded through a service contract between the Ajuntament d'Oliva and the Universitat de València, aimed at analysing the socioeducational needs of the adolescent population. I was formally employed under this project (CPI-23-317) as a non-PhD researcher (PIND) through a scientific-technical research contract.



AJUNTAMENT D'OLIVA

DECRETO

Ana Maria Morell Gómez (1 de 2)
Vicesecretària
Data Signatura : 28/03/2023
HASH: 26be72070bd0021838eebd02a9220bdf

CÉSAR ANTONIO NARBÓN CLAVERO (2 de 2)
Secretari General
Data Signatura : 28/03/2023
HASH: 2da8807f1ae0b4ab07070bdd38d4aa0ca

Expedient núm./ Expediente nº: 3576/2023
Resolució amb número i data establerts al marge/ Resolución con número y fecha establecidos al margen
Procediment/ Procedimiento: Contracte Menor/ Contrato Menor
Data d'iniciació/ Fecha de iniciación: 10/03/2023

La Concejal Delegada de Contratación **RESUELVE**

FETS I FONAMENTS DE DRET/ HECHOS Y FUNDAMENTOS DE DERECHO

Vista la necesidad de proceder a la adjudicación del contrato menor de servicios consistente en el análisis de necesidades y demandas socioeducativas de la población adolescente en Oliva, necesidad manifestada y justificada por parte de la funcionaria Jefa o responsable de la Dependencia municipal que promueve el expediente en informe-propuesta elaborado por dicha funcionaria de fecha 23/03 /2023, y conformada por la Concejal Delegada de Educación en la misma fecha.

Atendida la Instrucción 1/2019, de 28 de febrero, de la Oficina Independiente de Regulación y Supervisión de la Contratación, en todos los casos, así como la Base 19ª de las de Ejecución del Presupuesto Municipal prevén la incorporación al expediente de contrato menor, de al menos tres presupuestos, si bien, en ambos casos, se contempla una excepcionalidad o salvedad a esta circunstancia, siempre y cuando pueda justificarse adecuadamente el hecho de que no se pueda promover concurrencia en esa contratación.

Visto que consta en el expediente un Informe Técnico de la Jefa del Departamento de Educación, según el cual se detecta la necesidad de realizar un estudio sobre la adolescencia motivado por el interés reflejado por los centros escolares de Primaria, centros de Secundaria, Asociaciones de Madres y Padres y del Consejo Escolar Municipal, y se motiva asimismo, la idoneidad de la Universitat de València para realizar el estudio indicado ya que los proyectos desarrollados y en funcionamiento que posee la misma, garantizan su calidad para poder llevar a cabo acciones de intervención y de implementación como la que se pretende.

Visto asimismo de la existencia de un convenio entre el Ayuntamiento de Oliva y la Universidad de Valencia para el análisis de necesidades y demandas socioeducativas de la población adolescente de Oliva, se hace necesario que dicho estudio sea elaborado por la Universitat de València Estudi General , dada su trayectoria y la divulgación de sus estudios sobre la adolescencia. Cuenta además con el Proyecto EVAIN, formado por un experto grupo de investigadores/as, y forma parte de la "Xarxa Universitària per a la infancia i la adolescencia".

DECRET
Número: 2023-0840 Data: 28/03/2023

Cod. Validació: 53H92ETYWP0DJ9E2S34YDQE
Verificació: https://oliva.sedipualba.es/
Document signat electrònicament des de la plataforma esPublico Gestiona | Pàgina 1 de 3

Ajuntament d' Oliva
1 / 3

AJUNTAMENT D'OLIVA

Atendido que se da cumplimento a lo previsto en la Base 19ª de las de Ejecución del Presupuesto Municipal en relación con la instrucción 1-2020 de contratos menores, al haberse motivado la no concurrencia en la oferta, vistas las características específicas del objeto del contrato y por concurrir circunstancias de calidad, diseño, innovación, **conveniencia técnica** o exclusividad.

A la vista de lo anteriormente expuesto, a petición de la Concejal-Delegada de Educación se ha solicitado un único presupuesto a la UNIVERSITAT DE VALÈNCIA ESTUDI GENERAL, por ser el más conveniente técnicamente para este Ayuntamiento, concretado en un total de 14.950 Euros (18.089,50€ IVA incluido).

Vista la citada propuesta que aparece conformada por parte de la Concejal Delegada municipal correspondiente, en orden a que se adjudique el contrato menor que nos ocupa a favor de la UNIVERSITAT DE VALÈNCIA ESTUDI GENERAL, CIF Q-4618001-D , por importe de 18.089,50 euros, IVA incluido.

El contrato pretendido es subsumible como contrato de servicios, según las prestaciones que señala el artículo 17 de la Ley 9/2017, de 8 de Noviembre, de Contratos del Sector Público (LCSP), y además, como contrato menor por razón de su cuantía y objeto en los términos de lo previsto en el art. 118 LCSP, en su redacción otorgada por el Real decreto ley 3/2020, de 4 de febrero.

Por razón de su cuantía y objeto, y a tenor de este artículo 118 mencionado, el contrato menor podrá adjudicarse directamente a cualquier empresario con capacidad de obrar y que cuente con la habilitación profesional necesaria para realizar la prestación, todo y cumpliendo con el resto de normas contempladas en este artículo, en el cual se especifica que, en este tipo de contratos menores la tramitación del expediente solo requerirá la justificación motivada de la necesidad del contrato y que no se está alterando su objeto con el fin de evitar la aplicación de los umbrales previstos por este tipo de contratos.

Visto el informe propuesta emitido por la Jefa o Responsable de la Dependencia que promueve el expediente, y la validación del expediente efectuada por el departamento de Contratación.

Considerando, que a tal efecto, existe crédito suficiente para atender el gasto pretendido en la aplicación presupuestaria 32301-2270000 del Presupuesto Municipal, RC núm. 220230003928.

Visto el artículo 17 y los artículos 118 y 131.3 de la Ley 9/2017, de 8 de Noviembre, de Contratos del Sector Público (LCSP)

En uso de las funciones y competencias que me otorga la Disposición Adicional Segunda de la Ley 9 /2017, de Contratos del Sector Público, y teniendo en cuenta la delegación de facultades de la Alcaldía en favor de la concejal delegada de Contratación según Decreto 2021/2397 de 22 de septiembre de 2021, modificado por el Decreto 2021/2743 de 27 de octubre de 2021.

RESOLUCIÓ/ RESOLUCIÓN

PRIMERO.- Adjudicar el contrato menor de servicios consistente en el análisis de necesidades y demandas socioeducativas de la población adolescente en Oliva a favor de la UNIVERSITAT DE

DECRET
Número: 2023-0840 Data: 28/03/2023

Codi Validació: 53HY9Z6TYJWPDDJ9E2S34YDQE
Verificació: https://oliva.sedelectronica.es/
Document signat electronicament des de la plataforma esPublico Gestiona | Pàgina 2 de 3

AJUNTAMENT D'OLIVA

VALÈNCIA ESTUDI GENERAL , CIF Q-4618001-D, con domicilio social en Av. Blasco Ibañez,13 Valencia C.P. 46010, por importe total de **dieciocho mil ochenta y nueve euros con cincuenta céntimos (18,089,50€), IVA incluido**, siendo el IVA que debe soportar esta administración de 21% lo cual representa un importe de 3.139,50€ en concepto de IVA , sobre una base imponible de 14.950,00 €.

SEGUNDO.- Los citados servicios se realizarán de acuerdo con la oferta presentada por dicho empresario individual o empresa adjudicataria, y concretada en su presupuesto de fecha 13/03/2023.

TERCERO.- Aprobar el gasto que comporta este contrato a cargo de la aplicación presupuestaria , RC núm. del vigente Presupuesto Municipal. El pago se realizará una vez realizados los trabajos contratados, mediante la presentación de la correspondiente factura que será visada por la delegación municipal correspondiente.

En todo caso, la factura se remitirá electrónicamente, presentándola a través del Punto General de Entrada de Facturas Electrónicas (Plataforma FACe).

Los códigos de registro contable de las unidades del Ayuntamiento de Oliva que deben incluirse en las facturaciones electrónicas que se realicen a este Ayuntamiento a través de FACe (https:/face.gob.es) son los que seguidamente se facilitan:

UNIDADES	CÓDIGOS	ROL
OFICINA CONTABLE	L01461810	Fiscal - ContabOliva
ÓRGANO GESTOR	L01461810	Receptor - AytoOliva
UNIDAD TRAMITADORA	L01461810	Pagador - AdmonOliva

CUARTO.- El plazo de duración del presente contrato será de **DOCE (12) MESES**, contado desde el día siguiente a la recepción de la notificación de esta Resolución.

QUINTO.- Que se dé cuenta de esta Resolución, al empresario o empresa adjudicatario/a, al Departamento que promueve el expediente, al Departamento de Contratación Administrativa y a las oficinas de Intervención y Tesorería municipal a los efectos procedentes.

En Oliva, a la fecha de la firma electrónica que figura al margen.

DOCUMENT SIGNAT ELECTRÒNICAMENT/ DOCUMENTO FIRMADO ELECTRÓNICAMENTE

DECRET
Número: 2023-0840 Data: 28/03/2023

Codi Validació: 53HY9Z6TYJWPDDJ9E2S34YDQE
Verificació: https://oliva.sedelectronica.es/
Document signat electrònicament des de la plataforma esPublico Gestiona | Pàgina 3 de 3

Ethics approval for Study 2

The ethics approval for Study 2 was developed in collaboration with Dr. Ciudad-Fernández due to the convergence of our research objectives, both focused on exploring different aspects of adolescent digital experiences. This collaboration also allowed us to carry out a joint recruitment effort for the study.

Referencia de la solicitud 2023-MAG-2675827

El comité Ético de Investigación en Humanos de la Comisión de Ética en Investigación Experimental de la Universitat de València,

CERTIFICA:
Que el Comité d'Ètica d'Investigació en Humans, en la reunión celebrada el día , una vez estudiado el proyecto de tesis doctoral: *"Análisis del uso problemático de las redes sociales a través del Learning to lose control model"*,
Cuyo/a responsable es D/Dña.
VICTOR CIUDAD FERNANDEZ, dirigida por D/Dña. ROSA MARIA
BAÑOS RIVERA
ha acordado informar el mismo.

Y para que conste, se firma el presente certificado

Av. Blasco Ibáñez, 13 tel: 963864109 vicerec.investigacio@uv.es
València 46010 fax: 963983221 www.uv.es/serinves

Firmado digitalmente por PEDRO JESUS PEREZ ZAFRILLA
Fecha: 08/11/2023 00:05:48 CET

Id: UV-INV_ETICA-2675827 Cod. Verificació: 6F68LJAU30Y51EZ5
URL Verif: https://seu.uv.es/

Ethics approval for Studies 3 and 4

Application Reference 2024-PSILOG-3668590

The Ethics Committee of Research in Humans of the Ethics Commission in Experimental Research of University of Valencia,

CERTIFY:
Hereby certify that the Ethics Committee of Research in Humans, in the session which took place on enero 09, 2025, analysed the project of doctoral thesis entitled *"EXPLORING DIGITAL FLOURISHING IN ADOLESCENT ATHLETES"*, whose researcher in charge is
ALFREDO ZARCO ALPUENTE, and principal investigator is PAULA SAMPER GARCIA, who is agreed with this project.

And in witness whereof, I hereby sign this certificate

Av. Blasco Ibáñez, 13 tel: 963864109 vicerec.investigacio@uv.es
València 46010 fax: 963983221 www.uv.es/serinves

Firmat per PEDRO JESUS PEREZ ZAFRILLA - NIF:***0965** -
13/01/2025 12:50:20

Annexes. 2 Summary of Evidence on Digital Media Use in Adolescent Athletes

Table S1

Synthesis of Quantitative and Qualitative Evidence on the Impact of Digital Use in Athletes[2]

Area	Quantitative findings	Qualitative findings	Reading of the state of the question
A. Negative-oriented evidence			
Mental fatigue and sport-specific performance	Around 30 min of smartphone, videogame, or social media use before a task has been linked to greater mental fatigue and poorer decision-making or sport-specific performance in soccer, volleyball, swimming, and boxing (Fortes et al., 2019, 2020, 2021a, 2021b, 2022a, 2022b, 2023; Greco et al., 2017). However, effects are not universal. Some studies found no significant impairment in endurance, countermovement jump, sprint performance, swimming performance, or taekwondo-specific visuomotor performance under some conditions (Faro et al., 2025; Fortes et al., 2021a, 2021b; Quagliarotti et al., 2023; Silva et al., 2026).	Athletes describe smartphones as sources of distraction, disengagement, and loss of focus in training and competition, and problematic mobile phone use has also been linked to distraction, loss of focus, and negative sport-related effects (DesClouds & Durand-Bush, 2021; Ong et al., 2024).	This is one of the clearest quantitative negative areas, especially for cognitively demanding and decision-making outcomes, with qualitative findings converging in athletes' accounts of distraction, disengagement, and loss of focus.

[2] All references cited in this table are included in the main References section of the thesis (from p. 250 onward).

Area	Quantitative findings	Qualitative findings	Reading of the state of the question
		A. Negative-oriented evidence	
Sleep, rest, and recovery	Several studies found little or no effect of evening device use or restriction on sleep or next-day performance (Dunican et al., 2017; Harris et al., 2015; Jones et al., 2018, 2019b). Other studies reported greater perceived difficulty falling asleep (Knufinke et al., 2019), app-specific links with poorer sleep and recovery (Fiedler et al., 2024), poorer sleep quality as a mediator of negative emotions (Lin et al., 2025), and poorer sleep quality, shorter sleep, greater sleep onset latency, and lower sleep efficiency after repeated pre-bedtime smartphone exposure (Dridi et al., 2026).	Smartphone use is often perceived as taking time away from sleeping, resting, and recovering, especially under high academic and sporting demands; youth athletes also describe insufficient time and sleep/tiredness among the negative consequences of problematic phone use (Camiré et al., 2022; Ong et al., 2023, 2024).	The evidence is mixed, but qualitative accounts help explain why sleep and recovery may be affected when smartphone use occurs late, becomes difficult to regulate, or competes with limited recovery time.
Stress, anxiety, and negative affect	Digital use has been linked to higher anxiety (Gao et al., 2021), concentration disruption and worry before competition (Encel et al., 2017), poorer well-being in relation to some apps (Fiedler et al., 2024), and negative emotions through social media addiction, physical appearance comparison, and sleep quality (Lin et al., 2025). Longer social media use and digital media addiction have also been linked to greater negative affect and disordered eating, mediated by social comparison and sleep (Fiedler et al., 2023).	Athletes report stress and anxiety linked to pressure to respond, permanent availability, fear of missing out, critical comments, and competitor-related content; stress is a central negative theme in varsity athletes' smartphone use, and youth athletes also report dysregulated use-related and emotionally adverse effects (DesClouds & Durand-Bush, 2021; Hayes et al., 2020; Ong et al., 2024).	The emotional risk signal is consistent across quantitative and qualitative studies, especially when digital use involves comparison, pressure to respond, notifications, criticism, or competition-related content.

Area	Quantitative findings	Qualitative findings	Reading of the state of the question
		A. Negative-oriented evidence	
Time displacement, procrastination, and overload	Evidence is limited, although some studies indirectly suggest displacement of recovery or healthy routines through app use, sleep disruption, or emotion-related pathways (Fiedler et al., 2024; Lin et al., 2025).	Athletes describe wasting time, extending breaks, procrastinating, and losing time that could be devoted to sleep, study, recovery, or face-to-face interaction. Pandemic-related work also points to screen-time guilt and mental health strain in student-athletes (Camiré et al., 2022; DesClouds & Durand-Bush, 2021; Ong et al., 2023, 2024).	This is a strong qualitative theme, while quantitative evidence remains more indirect; overall, smartphones appear problematic when they displace sleep, study, recovery, or face-to-face interaction.
Team and relational strain	Evidence is limited. Phubbing has been associated with lower team cohesion through relationship satisfaction (Zhang et al., 2022).	Smartphone use is often perceived as reducing in-person engagement, generating teammate disengagement, and weakening social presence in sport settings; some studies also describe conflictive behaviours linked to problematic use (DesClouds & Durand-Bush, 2021; Ong et al., 2024).	Relational strain is supported by emerging quantitative evidence on phubbing and by qualitative accounts of reduced presence, teammate disengagement, and weaker cohesion in sport settings.

Area	Quantitative findings	Qualitative findings	Reading of the state of the question
		A. Negative-oriented evidence	
Physical consequences	Evidence is emerging. Electronic gaming for more than 3 h has been associated with musculoskeletal pain (Sekiguchi et al., 2018), and greater total screen time, especially smartphone use, has been associated with higher fat mass (Júdice et al., 2022).	Physical implications are mostly described indirectly, especially through tiredness, poorer rest, sleep disruption, and reduced time for recovery rather than clearly delimited physical outcomes (Camiré et al., 2022; DesClouds & Durand-Bush, 2021; Ong et al., 2023, 2024).	Physical costs are less central in the literature, but quantitative associations with gaming, sedentary screen use, and body composition align with qualitative accounts of tiredness, poor rest, and reduced recovery time.
Area	Quantitative findings	Qualitative findings	Reading of the state of the question
		B. Positive/adaptive evidence	
Communication, support, and belonging	Evidence for positive relational effects is scarcer, but some findings suggest that psychosocial functioning does not simply worsen in heavier users over time (DesClouds et al., 2022).	Smartphones and social media help athletes stay connected with friends, family, teammates, and coaches, especially during travel, isolation, or demanding periods. They are described as supporting communication, perceived support, belonging, and connectedness (David et al., 2018; DesClouds & Durand-Bush, 2021; Hayes et al., 2020).	This is one of the clearest positive areas, mainly supported by qualitative findings and compatible with quantitative evidence showing that heavier smartphone use does not necessarily imply poorer psychosocial functioning.

Area	Quantitative findings	Qualitative findings	Reading of the state of the question
		B. Positive/adaptive evidence	
Self-regulation, planning, and organisation	Limited evidence suggests that app type may matter, as more serious use of apps helps athletes with their self-regulation processes, such as self-control and organisation, and is associated with more favourable performance-related outcomes than use for entertainment purposes (Lee et al., 2021).	Athletes repeatedly describe the smartphone as a tool for planning, scheduling, organising, monitoring, preparing, reviewing information, and regulating routines across sport, study, and personal life (DesClouds & Durand-Bush, 2021; Hayes et al., 2020).	The evidence suggests that smartphones can support self-management when use is purposeful and sport-related, with quantitative findings indicating that app type may matter more than total use.
Access to sport-relevant information and preparation	Evidence is still limited, although Lee et al. (2021) provides indirect support by showing that greater use of "serious apps", including swing analysis, education, scheduling, reference, and camera-related apps, was associated with improved golf performance.	Athletes describe using smartphones to access information about training, opponents, competition logistics, technical issues, and preparation routines. These technologies appear embedded in everyday preparation and sport management (DesClouds & Durand-Bush, 2021; Hayes et al., 2020).	This is mainly a qualitative area, but the available evidence suggests that smartphones are embedded in athletes' preparation routines rather than functioning only as sources of distraction.
Emotional regulation and coping	Support is indirect. Some studies suggest that outcomes depend on app type, social comparison, and sleep-related pathways rather than exposure alone (Fiedler et al., 2024; Lin et al., 2025).	Athletes report using smartphones and social media to relax, distract themselves from pressure, regulate mood, and cope with demanding situations; social media has also been described as helping athletes manage moods and competition pressure (DesClouds & Durand-Bush, 2021; Hayes et al., 2020).	Smartphones appear to have ambivalent emotion-regulatory functions, helping athletes relax or cope in some situations while becoming problematic when use is avoidant, uncontrolled, or comparison-based.

Area	Quantitative findings	Qualitative findings	Reading of the state of the question
		B. Positive/adaptive evidence	
Advocacy, identity expression, and cohesion-building uses of social media	Evidence is very limited.	Social media may help athletes express themselves, advocate for causes, receive moral support, and reinforce cohesion. Twitter use, for example, has been linked to advocacy, moral support, and team cohesion in college student-athletes, and smartphones more broadly have been linked to social connectedness (David et al., 2018; DesClouds & Durand-Bush, 2021).	This is an emerging qualitative area that highlights athletes as active users of social media for identity, support, advocacy, and cohesion, although quantitative evidence remains scarce.

Note. This table does not derive from a systematic review of the literature. It presents a targeted synthesis of selected quantitative and qualitative studies considered relevant to the present doctoral thesis.

Annexes. 3 Explanation of the First Approach to the Qualitative Studies

This annex briefly explains the original design of the qualitative component of the thesis before the later analytical and methodological reorientation. At the time the first focus groups were planned, the study was conceived as an exploratory qualitative extension of findings from Studies 1 and 2.

Before the first round of focus groups, participants completed an online questionnaire. This questionnaire had a limited and mainly practical function. First, it allowed the collection of basic sociodemographic and sport-related information, which helped guide purposeful sampling. Second, it provided a descriptive overview of participants' digital practices through two brief validated measures: the Social Media Disorder Scale and the Digital Flourishing Scale for Adolescents. Third, it facilitated the organisation of the focus groups. These questionnaire responses were used exclusively for sample characterisation and to inform the broader context of the group discussions, without being incorporated into quantitative analyses or statistical inference.

From the current perspective adopted in this thesis, this initial design is also understood as part of the conditions that shaped the qualitative material. The review process of the manuscript submitted to *Psychology of Sport and Exercise* prompted a more explicit reflection on how prior instruments can influence participants' sense-making before group interaction. In this case, completing measures focused on problematic and positive aspects of digital experience likely foregrounded evaluative ways of thinking about smartphone and social media use before participants entered the focus groups.

This annex therefore provides a transparent account of the study's initial starting point. Making this first approach visible helps clarify the methodological trajectory of the thesis and the subsequent emphasis on examining how prior framing can shape the narratives produced in qualitative settings. In line with this reflection, no questionnaires were administered prior to the additional focus group conducted after the analytical reorientation of the project.

Participants and Sampling

A total of 20 adolescents took part in the study, aged between 14 and 19 years, who met the following inclusion criteria: being actively engaged in competitive sport (federated athletes) and regularly using a personal smartphone. In order to capture a diversity of experiences, a stratified purposive sampling strategy was applied (Robinson, 2014), prioritising internal heterogeneity in terms of gender (boys and girls) and type of sport (individual and team-based). Data collection began with a

pilot group (n = 2), recruited through personal contacts of the first author, and continued with four main groups (n = 18). Three groups were organised with the support of an educational centre in Valencia (Spain), which acted as an intermediary in identifying students who met the criteria and were willing to participate, with 83 adolescents volunteering. Although the first group took place without incident, only one participant attended the second, which required a readjustment of the plan in order to complete the remaining groups with the available volunteers. This unexpected limitation introduced complications for sample stratification, as not all predefined diversity criteria could be equally met across the groups. As explained later, it also led to a change in facilitation arrangements, with one of the focus groups being conducted by the second author for logistical reasons. Finally, to expand the sample beyond the same school context, a fourth group was organised with first-year university students, recruited via collaborating lecturers.

Instruments and Sample Characteristics

To provide a more detailed characterisation of the sample, a self-administered questionnaire was used that included measures of digital experiences and problematic social media use, as well as open-ended questions and descriptive data on sporting activity and smartphone use. This is not a quantitative data analysis, but rather a characterisation of the sample, with no intention of methodological integration or statistical inference. Scores are shown in Table 1.

Digital Flourishing Scale for Adolescents (DFSA)

The DFSA scale (Rosič et al., 2022; Zarco-Alpuente et al., 2025) assesses adolescents' positive perceptions of their digital communication experiences, understood as a set of interactions that can contribute to their well-being. It consists of 21 items distributed across five factors: connectedness (feeling connected and supported), civil participation (respectful online interactions), positive social comparison (inspirational social comparison), authentic self-presentation (genuine self- expression) and self-control (ability to initiate or end digital interactions). A five-point response scale was used, ranging from 1 (not at all true for me) to 5 (very true for me), with an additional "not applicable" option.

Social Media Disorder Scale (SMD-S)

The SMD-S (Boer et al., 2020) measures symptoms associated with problematic social media use, such as loss of control, interference with other activities, tolerance or withdrawal. It consists of 9 items (e.g., "How often have you felt bad because you couldn't use social media?"). An adapted version was used with a 6-point Likert response format (1–6), following the proposal by Savci et al. (2018).

Digital Characteristics

As part of the questionnaire, an open-ended question asked about smartphone use over the past month ("*Which smartphone functionalities have you used in the past month?").* Participants mentioned a wide variety of apps, organised into functional categories. For social media, they highlighted Instagram, TikTok and X; for instant messaging, WhatsApp, Telegram and Messenger. In terms of video games, they mentioned FIFA, Fortnite, Brawl Stars, 8 Ball Pool, chess, Clash Royale, Minecraft, Pokémon, Clash of Clans and EA FC 25. For music platforms, Spotify and YouTube were cited. For web browsing, they listed Safari, Chrome, Google, Google Scholar, digital newspapers and Sofascore. In the area of health and fitness, they used Zeep Life, Basic Fit, Strava, GVA Salut, Train2go, Garmin, MyFitnessPal, and apps to track macros or health status. For streaming, they mentioned Netflix, YouTube, Amazon Prime, Prime Video, Disney+, Twitch and Crunchyroll. Finally, they also cited learning tools such as Duolingo, ReadEra and Wattpad.

These categories were expanded during the focus groups, where adolescents also reported using official apps of sports federations (basketball, football, taekwondo, swimming, chess, etc.). They added specific platforms such as LaLiga Sports TV, Flashscore and OneFootball. They also mentioned new social media platforms such as Snapchat, other music sources like SoundCloud, and new games such as Chess.com, GeoGuessr, Rugby Nations 22, Pokémon GO and Play Football Bingo. In addition, they described using their phone to record themselves during training, make video calls, read books in PDF format, and buy clothes online through websites like Shein or Zara.

Sporting Characteristics

Among the individual sports represented in the sample were taekwondo, athletics, chess (2 participants), swimming (2 participants), cycling and rhythmic gymnastics. Team sports included basketball (6 participants), football (2 participants), futsal (2 participants), rugby and handball.

In response to the question about their sporting expectations, participants (n = 20) reported an average certainty level of 5.45 (median = 5.50; SD = 2.96; range = 1–10) regarding their likelihood of reaching elite level in their sport.

As for competition category, most participants (11 out of 20; 55%) belonged to the *juvenil* category (Under-18), followed by *senior* (18+; 3 participants, 15%) and *cadete* (Under-16; 1 participant, 5%). The remaining 25% (5 participants) competed in *other* categories that did not fit this standard progression, such as Under-23 (*Sub-23*), *Preferente*, *Rendimiento II*, or regional/divisional levels.

Table S2

Digital and Sporting Characteristics of the Sample

	n or *M*	% or *SD*
Digital Flourishing Scale (DFSA)		
Connectedness	3.43	.75
Authentic self-presentation	4.04	.71
Positive social comparison	3.21	.84
Civil participation	4.04	.71
Self-control	3.20	.60
Social Media Disorder Scale (SMD-S)	20.25	10.71
Expectations of reaching elite sport	5.50	2.96
Competition category		
Cadetes (Under-16)	1	5%
Juvenil (Under-18)	11	55%
Senior (18+)	3	15%
Other	5	25%

Note. M = mean; *SD* = standard deviation. "Other" includes U-23, Preferente, Rendimiento II, and regional/autonomous divisions.

Annexes. 4 DFSA scale

Escala de Florecimiento Digital para Adolescentes Españoles

Las siguientes preguntas se centran en conocer más acerca de tus hábitos y experiencias de **comunicación online**[3] durante el último mes. Nos referimos a la comunicación online para incluir conversaciones y participación en una variedad de actividades online. Ejemplos de comunicación online son el **correo electrónico**, el **chat** (por ejemplo, a través de herramientas de mensajería directa como WhatsApp o Telegram o en chats de videojuegos), interactuar en **redes sociales** (por ejemplo, publicar, comentar o dar "me gusta" en publicaciones en Instagram, Tik-Tok, Snapchat, Twitter, BeReal, YouTube u otras redes sociales), **conversaciones telefónicas** o **videollamadas** (por ejemplo, FaceTime, Zoom o Discord).

No hay respuestas correctas o incorrectas. Estamos interesados simplemente en tus opiniones más sinceras. **Por favor, indica cuánto te identificas con los siguientes comportamientos online durante el <u>ÚLTIMO MES</u>** utilizando las opciones desde 'No es cierto en absoluto para mí' hasta 'Muy cierto para mí'. Si nunca participaste en alguno de los comportamientos de comunicación en línea mencionados a continuación, selecciona 'No lo sé/No es aplicable para mí'.

Las siguientes afirmaciones se refieren a tus **experiencias al conectarte con otras personas online**. Al evaluar las afirmaciones, **piensa en el último mes**.

	No es cierto en absoluto para mí	No es cierto para mí	En parte no es cierto, en parte es cierto para mí	Es cierto para mí	Muy cierto para mí	No lo sé/ No es aplicable para mí
Siento que formo parte de un grupo social cuando me comunico con otros/as online.						

[3] El texto resaltado y subrayado corresponde al cuestionario original entregado a los adolescentes.

Mi comunicación online (por ejemplo, chatear con compañeros/as, jugar en línea con otros/as) es muy importante para mí.	
Me siento estrechamente conectado/a a los grupos sociales con los que me conecto online.	

Las siguientes afirmaciones se refieren a **cómo expresas tu opinión online**. Al evaluar las afirmaciones, **piensa en el último mes**.

	No es cierto en absoluto para mí	No es cierto para mí	En parte no es cierto, en parte es cierto para mí	Es cierto para mí	Muy cierto para mí	No lo sé/ No es aplicable para mí
Cuando hablo con otras personas online, sé cómo compartir mi punto de vista sin ofenderlos/as.						
Cuando me comunico online, tengo cuidado de adaptar mis comentarios y mi manera de expresarme para que sean apropiados para quien los lea (por ejemplo, mis amigos/as, mis profesores/as, mis padres, niños/as más jóvenes).						
Cuando hablo con otras personas online sobre algo importante para mí, sé cómo defenderlo de manera educada.						

Cuando hablo con otros/as online sobre temas de actualidad (por ejemplo, deporte, política o famosos/as), sé cómo hacerlo de manera educada.						
Cuando algo que otros/as dicen o hacen online me hace sentir enfadado/a, soy capaz de responder de manera tranquila.						

Las siguientes afirmaciones se refieren a **compararte con otros en las redes sociales u otras aplicaciones online**. Al evaluar las afirmaciones, **piensa en el último mes.**

	No es cierto en absoluto para mí	No es cierto para mí	En parte no es cierto, en parte es cierto para mí	Es cierto para mí	Muy cierto para mí	No lo sé/ No es aplicable para mí
Ver los logros de otras personas online me inspira a esforzarme más.						
Observar cómo otras personas se muestran online me motiva a realizar cambios en mi propia vida.						
Compararme con otros/as online me motiva a lograr las cosas que deseo en la vida.						
Comparo mi vida con la de esas personas online que me motivan a ser mejor (por ejemplo, compañeros/as, influencers).						

Las siguientes afirmaciones se refieren a **cómo te muestras online**. Al evaluar las afirmaciones, **piensa en el último mes.**

	No es cierto en absoluto para mí	No es cierto para mí	En parte no es cierto, en parte es cierto para mí	Es cierto para mí	Muy cierto para mí	No lo sé/ No es aplicable para mí
Cuando estoy online, muestro mi verdadero yo.						
Cuando me comunico online, me siento cómodo/a mostrando la persona que soy en realidad.						
Lo que publico online refleja quién soy realmente.						
Me siento cómodo/a mostrando online quién soy realmente, de la misma manera en que lo hago offline (fuera de línea).						
Permito que las personas con las que me conecto online vean quién soy realmente.						

Las siguientes afirmaciones se refieren al **control que tienes sobre la comunicación online**. Al evaluar las afirmaciones, **piensa en el último mes.**

	No es cierto en absoluto para mí	No es cierto para mí	En parte no es cierto, en parte es cierto para mí	Es cierto para mí	Muy cierto para mí	No lo sé/ No es aplicable para mí
Siento que tengo el control sobre cuándo empezar y cuándo parar de pasar tiempo comunicándome online.						
Siento que tengo el control sobre cuánto tiempo paso comunicándome con otras personas online (por ejemplo, en conversaciones de WhatsApp, en publicaciones de Instagram, en chats de videojuegos).						
Cuando navego por contenido online, siento que tengo el control sobre cómo paso mi tiempo.						
Soy capaz de desconectar de mi comunicación online cuando necesito un descanso.						

Annexes. 5 Supplementary Material of Chapter 3[4]

Supplementary material 1. Variables Included in the Study and Empirical Evidence on Their Relationship with PSMU

Table S3

Variables Included in the Study and Empirical Evidence on Their Relationship with PSMU

Variable	Conceptual definition	Empirical evidence in relation to PSMU
Anxiety	Emotional state characterised by feelings of restlessness, nervousness, tension, fear, or excessive worry in response to specific or undefined problems (García-Campayo et al., 2010).	Several meta-analyses and systematic reviews with adolescent and young populations show a positive and consistent association between PSMU and anxiety symptoms, with small to moderate effect sizes (approx. *r* = .29–.44), which are larger when specific forms such as social anxiety or FoMO are assessed (Augner et al., 2023; Du et al., 2024).
Depression	Dimensional mood phenomenon encompassing a continuum of affective experiences, ranging from normative emotional states to clinical syndromes characterised by persistent low mood and other depressive symptoms (Fonseca-Pedrero et al., 2023).	Several meta-analyses and systematic reviews with adolescent and young populations show a positive and consistent association between PSMU and depressive symptoms, with small but robust effect sizes (approx. *r* = .28–.32), which remain even in estimates corrected for publication bias (Augner et al., 2023; Yigiter et al., 2024).

[4] These materials are also available online on the OSF platform at the following link: https://osf.io/f7yd5

Variable	Conceptual definition	Empirical evidence in relation to PSMU
Self-esteem	Global attitude that a person holds towards their own worth and personal value (Rosenberg, 1965).	Meta-analytic evidence shows a negative and consistent association between PSMU and self-esteem in adolescents and young people, with small effect sizes (approx. *r* = -.17 to -.24) (Huang, 2022; Jing et al., 2025). In addition, longitudinal evidence suggests that self-esteem acts as a negative predictor of PSMU over time (Wang, 2024).
Resilience	Capacity to cope with and positively adapt to adverse or challenging life circumstances (Johnson et al., 2010).	Evidence synthesised in systematic reviews and meta-analyses on problematic internet use (PIU) shows a negative association between resilience and PIU, with moderate effect sizes (approx. *r* = -.27) (Hidalgo-Fuentes et al., 2023). In the specific field of PSMU, individual empirical studies suggest that resilience may play a moderating role, buffering the relationship between PSMU and internalising variables (Chen & Shi, 2026; Ebrahimian et al., 2026; Yildiz Durak et al., 2026).
Emotional self-efficacy	Beliefs about one's own ability to manage one's emotions adequately (Caprara et al., 2008).	Several empirical studies consistently show that higher levels of emotional or self-regulatory self-efficacy are associated with a lower risk of maladaptive digital experiences (Akman et al., 2025; Calandri et al., 2021; Çelikkaleli et al., 2025). Specifically, a longitudinal study with adolescents examined the moderating role of emotional self-efficacy in the relationship between social media use and different indicators of psychological adjustment, showing that it modulates the association between greater involvement in social media and emotional outcomes (Calandri et al., 2021).

Variable	Conceptual definition	Empirical evidence in relation to PSMU
Academic performance	Indicator of school functioning that reflects students' level of academic achievement or performance, assessed through self-reported grade point average.	Meta-analytic evidence shows a small but consistent negative association between problematic smartphone use and academic performance in adolescents and young people ($r \approx -.11$), with stronger effects in earlier educational stages (Paterna et al., 2024). Convergently, a meta-analysis on general social media use also identifies a small negative relationship with academic achievement indicators (Liu et al., 2017). In addition, systematic reviews and empirical studies suggest that intensive or dysregulated social media use is associated with poorer school adjustment, including lower grades, higher absenteeism, or behavioural difficulties, partly through intermediate processes such as sleep disruption, inattention, or procrastination (Asadipour & Rostami, 2026; Giunchiglia et al., 2018; Legkauskas & Steponavičiūtė-Kupčinskė, 2020; Schwartz et al., 2019; Vannucci & Ohannessian, 2019).
Academic burnout	Negative and persistent emotional response characterised by a sense of chronic fatigue, disinterest in schoolwork, and feelings of academic inefficacy (Kiuru et al., 2008).	Empirical evidence suggests a positive association between problematic or excessive use of digital technologies and academic burnout in adolescents. In a longitudinal study with Finnish adolescents, excessive internet use predicted higher levels of school burnout, which in turn was subsequently associated with an increase in depressive symptoms (Salmela-Aro et al., 2017). Convergently, recent reviews indicate that the relationship between problematic social media use and academic burnout may be bidirectional, such that burnout may act as both an antecedent and a consequence of dysregulated social media use (Du & Wang, 2024).

Variable	Conceptual definition	Empirical evidence in relation to PSMU
Academic engagement	Energy or vigour, dedication, and absorption in the performance of academic tasks. Energy refers to a positive approach to schoolwork, dedication to a positive cognitive attitude and the perception of studying as meaningful, and absorption to full concentration in academic activities (Schaufeli et al., 2002; Salmela-Aro & Upadaya, 2014).	Empirical evidence suggests that social media use is differentially related to academic engagement depending on whether its character is adaptive or problematic. Whereas functional use may be positively associated with academic engagement, different studies indicate that problematic or dysregulated internet and social media use is negatively related to academic engagement and to self-regulated learning processes (Liu et al., 2017; Roque Herrera et al., 2025). Recent research also suggests that the ability to manage time and limit social media use when it conflicts with academic goals is associated with higher levels of academic engagement (Du & Wang, 2024).
General academic self-concept	Students' evaluation of their own abilities and of their performance or success in their studies (APA, 2023). Domain of self-concept related to students' knowledge and perceptions of themselves in the academic context (Esnaola et al., 2018).	The available empirical evidence suggests a negative association between problematic or excessive social media use and academic self-concept in adolescents. In this line, different studies indicate that adolescents with more dysregulated social media use tend to show lower academic self-concept than their peers with more normative use, with poorer levels observed especially in groups with greater severity of problematic use (Malo-Cerrato et al., 2018; Ruiz et al., 2020).

Note. PSMU = problematic social media use; PIU = problematic internet use; FoMO = fear of missing out; *r* = Pearson correlation coefficient.

References

Akman, T., Akman, E., & Çitak, Ş. (2025). The mediating role of phubbing in the relationship between self-efficacy and problematic Instagram use. *BMC Psychology, 13*(1), Article 958. https://doi.org/10.1186/s40359-025-03327-2

American Psychological Association. (2023). *Academic self-concept*. In *APA dictionary of psychology*. https://dictionary.apa.org/academic-self-concept

Asadipour, Y., & Rostami, R. (2026). The multifaceted effects of digital media addiction on mental health and academic performance in adolescents and young adults: A systematic review. *Iranian Journal of Public Health*. https://doi.org/10.18502/ijph.v55i1.20976

Augner, C., Vlasak, T., Aichhorn, W., & Barth, A. (2023). The association between problematic smartphone use and symptoms of anxiety and depression: A meta-analysis. *Journal of Public Health, 45*(1), 193–201. https://doi.org/10.1093/pubmed/fdab350

Calandri, E., Graziano, F., & Rollé, L. (2021). Social media, depressive symptoms and well-being in early adolescence. The moderating role of emotional self-efficacy and gender. *Frontiers in Psychology, 12*, Article 660740. https://doi.org/10.3389/fpsyg.2021.660740

Caprara, G. V., Di Giunta, L., Eisenberg, N., Gerbino, M., Pastorelli, C., & Tramontano, C. (2008). Assessing regulatory emotional self-efficacy in three countries. *Psychological Assessment, 20*(3), 227–237. https://doi.org/10.1037/1040-3590.20.3.227

Çelikkaleli, Ö., & Ata, R. (2025). The effect of basic need dissatisfaction and lack of social support on problematic internet use in emerging adults: The mediating role of regulatory emotional self-efficacy. *Acta Psychologica, 254*, Article 104857. https://doi.org/10.1016/j.actpsy.2025.104857

Chen, X., & Shi, M. (2026). The impact of internet addiction on depressive symptoms among college students: The chain mediating roles of psychological resilience and hope. *Scientific Reports, 16*, Article 4050. https://doi.org/10.1038/s41598-025-34157-2

Du, J., & Wang, Y. (2024). High school students' social media use predicts school engagement and burnout: The moderating role of social media self-control. *Frontiers in Child and Adolescent Psychiatry, 3*, Article 1269606. https://doi.org/10.3389/frcha.2024.1269606

Du, M., Zhao, C., Hu, H., Ding, N., He, J., Tian, W., Zhao, W., Lin, X., Liu, G., Chen, W., Wang, S. L., Wang, P., Xu, D., Shen, X., & Zhang, G. (2024). Association between problematic social networking use and anxiety symptoms: A systematic review and meta-analysis. *BMC Psychology, 12*(1), Article 263. https://doi.org/10.1186/s40359-024-01705-w

Ebrahimian, S., Rostami, M., Ehyaie, S., & Ghalandary, P. (2026). Negative childhood experiences and internet addiction in adolescents: The mediating role of perceived social support and resilience. *International Journal of Adolescence and Youth, 31*(1), Article 2608765. https://doi.org/10.1080/02673843.2025.2608765

Esnaola, I., Elosua, P., & Freeman, J. (2018). Internal structure of academic self-concept through the Self-Description Questionnaire II-Short (SDQII-S). *Learning and Individual Differences, 62*, 174–179. https://doi.org/10.1016/j.lindif.2018.02.006

Fonseca-Pedrero, E., Díez-Gómez, A., Pérez-Albéniz, A., Al-Halabí, S., Lucas-Molina, B., & Debbané, M. (2023). Youth screening depression: Validation of the Patient Health Questionnaire-9 (PHQ-9) in a representative sample of adolescents. *Psychiatry Research, 328*, Article 115486. https://doi.org/10.1016/j.psychres.2023.115486

García-Campayo, J., Zamorano, E., Ruiz, M. A., Pardo, A., Pérez-Páramo, M., López-Gómez, V., Freire, O., & Rejas, J. (2010). Cultural adaptation into Spanish of the Generalized Anxiety Disorder-7 (GAD-7) scale as a screening tool. *Health and Quality of Life Outcomes, 8*, Article 8. https://doi.org/10.1186/1477-7525-8-8

Giunchiglia, F., Zeni, M., Gobbi, E., Bignotti, E., & Bison, I. (2018). Mobile social media usage and academic performance. *Computers in Human Behavior, 82*, 177–185. https://doi.org/10.1016/j.chb.2017.12.041

Hidalgo-Fuentes, S., Martí-Vilar, M., & Ruiz-Ordoñez, Y. (2023). Problematic internet use and resilience: A systematic review and meta-analysis. *Nursing Reports, 13*(1), 337–350. https://doi.org/10.3390/nursrep13010032

Huang, C. (2022). A meta-analysis of the problematic social media use and mental health. *International Journal of Social Psychiatry, 68*(1), 12–33. https://doi.org/10.1177/0020764020978434

Jing, Z., Yang, W., Lei, Z., Junmei, W., Hui, L., & Tianmin, Z. (2025). Correlations between social media addiction and anxiety, depression, FoMO, loneliness and self-esteem among students: A systematic review and meta-analysis. *PLOS ONE, 20*(9), Article e0329466. https://doi.org/10.1371/journal.pone.0329466

Johnson, J., Gooding, P. A., Wood, A. M., & Tarrier, N. (2010). Resilience as positive coping appraisals: Testing the schematic appraisals model of suicide (SAMS). *Behaviour Research and Therapy, 48*(3), 179–186. https://doi.org/10.1016/j.brat.2009.10.007

Kiuru, N., Aunola, K., Nurmi, J. E., Leskinen, E., & Salmela-Aro, K. (2008). Peer group influence and selection in adolescents' school burnout: A longitudinal study. *Merrill-Palmer Quarterly, 54*(1), 23–55. https://doi.org/10.1353/mpq.2008.0008

Legkauskas, V., & Steponavičiūtė-Kupčinskė, I. (2020). Links between in-class use of social media and school adjustment of high-school pupils. *Education and Information Technologies, 26*(3), 2853–2861. https://doi.org/10.1007/s10639-020-10389-9

Liu, D., Kirschner, P. A., & Karpinski, A. C. (2017). A meta-analysis of the relationship of academic performance and social network site use among adolescents and young adults. *Computers in Human Behavior, 77*, 148–157. https://doi.org/10.1016/j.chb.2017.08.039

Malo-Cerrato, S., Martín-Perpiñá, M. M., & Viñas-Poch, F. (2018). Excessive use of social networks: Psychosocial profile of Spanish adolescents. *Comunicar, 26*(56), 101–109. https://doi.org/10.3916/C56-2018-10

Paterna, A., Alcaraz-Ibáñez, M., Aguilar-Parra, J. M., Salavera, C., Demetrovics, Z., & Griffiths, M. D. (2024). Problematic smartphone use and academic achievement: A systematic review and meta-analysis. *Journal of Behavioral Addictions, 13*(2), 313–326. https://doi.org/10.1556/2006.2024.00014

Roque Herrera, Y., Alonso-García, S., Tenelanda López, D. V., & López Núñez, J. A. (2025). Predictive capacity of social media addiction on academic engagement in university students. *Education Sciences, 15*(12), Article 1677. https://doi.org/10.3390/educsci15121677

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton University Press.

Salmela-Aro, K., & Upadyaya, K. (2014). School burnout and engagement in the context of demands–resources model. *British Journal of Educational Psychology, 84*(1), 137–151. https://doi.org/10.1111/bjep.12018

Salmela-Aro, K., Upadyaya, K., Hakkarainen, K., Lonka, K., & Alho, K. (2017). The dark side of internet use: Two longitudinal studies of excessive internet use, depressive symptoms, school burnout and engagement among Finnish early and late adolescents. *Journal of Youth and Adolescence, 46*(2), 343–357. https://doi.org/10.1007/s10964-016-0494-2

Schaufeli, W. B., Martínez, I. M., Marques-Pinto, A., Salanova, M., & Bakker, A. B. (2002). Burnout and engagement in university students: A cross-national study. *Journal of Cross-Cultural Psychology, 33*(5), 464–481. https://doi.org/10.1177/0022022102033005003

Schwartz, D., Kelleghan, A., Malamut, S., Mali, L., Ryjova, Y., Hopmeyer, A., & Luo, T. (2019). Distinct modalities of electronic communication and school adjustment. *Journal of Youth and Adolescence, 48*(8), 1452–1468. https://doi.org/10.1007/s10964-019-01061-8

Vannucci, A., & McCauley Ohannessian, C. (2019). Social media use subgroups differentially predict psychosocial well-being during early adolescence. *Journal of Youth and Adolescence, 48*(8), 1469–1493. https://doi.org/10.1007/s10964-019-01060-9

Wang, H. (2024). Relationship between self-esteem and problematic social media use amongst Chinese college students: A longitudinal study. *Psychology Research and Behavior Management, 17*, 679–689. https://doi.org/10.2147/PRBM.S452603

Yigiter, M. S., Demir, S., & Dogan, N. (2024). The relationship between problematic social media use and depression: A meta-analysis study. *Current Psychology, 43*(9), 7936–7951. https://doi.org/10.1007/s12144-023-04972-9

Yildiz Durak, H., Yahşi Sari, H., Dilmaç, B., & Durak, A. (2026). Social anxiety and self-control desire for social media users: The mediating roles of resilience and social media usage. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 44*(1). https://doi.org/10.1007/s10942-026-00640-6

Supplementary material 2. Sociodemographic Data

Table S4

Sample Description

Demographics	*n* o *M*	% o *SD*
Age	14.00	1.96
Gender		
Male	409	45.34%
Female	474	52.55%
Other	19	2.11%
Educational level		
Year 7	128	14.21%
Year 8	148	16.43%
Year 9	98	10.88%
Year 10	184	20.42%
Year 11	166	18.42%
Year 12	84	9.32%
Year 13	49	5.44%
Intermediate vocational training	25	2.77%
Advanced vocational training	19	2.11%

Note. M = mean; *SD* = standard deviation. Depending on the type of variable (categorical or quantitative), frequencies or means and percentages or standard deviations are presented.

Supplementary material 3. Complementary Analyses

This document presents the complementary analyses conducted to strengthen the methodological justification of the latent class analysis and to assess the robustness of the main results. Specifically, three blocks of analyses are presented: first, the stability of the latent class solutions and the classification quality of the retained solution; second, the models with age and educational stage as concomitant covariates; and third, a sensitivity analysis of the external associations using means weighted by posterior probabilities of class membership.

The main fit indices of the two- to six-class models are presented in Table 2 of Chapter 3. Likewise, the distribution of the profiles by educational stage is reported in Table 5, whereas the ANOVAs and post hoc analyses are presented in Tables 6 and 7, respectively. Therefore, this supplementary material focuses on the additional analyses that support the interpretation of those results.

Stability of the latent class solutions

First, the stability of the two- to six-class models was examined using 1000 random starts. This analysis makes it possible to assess the extent to which each solution consistently reproduces the best log likelihood value and reduces the risk of interpreting unstable solutions or solutions associated with local maxima.

As shown in Table S5, the two-class solution was the most stable, with complete replication of the best log likelihood. The three-class solution also showed high stability, with replication of the best log likelihood in 995 of the 1000 starts and only three distinct log likelihood values. The four-class solution showed acceptable stability, although lower than that of the three-class solution, whereas the five- and six-class solutions showed clearly lower stability.

Table S5

Estabilidad de las soluciones y replicación del mejor log likelihood

Classes	Starts	Successful estimations	Best log likelihood replicated	% replication	Distinct log likelihood values	Mean iterations	Max. iterations
2	1000	1000	1000	100.0%	1	86.9	107
3	1000	1000	995	99.5%	3	497.0	1806
4	1000	1000	802	80.2%	10	963.0	3313
5	1000	1000	334	33.4%	32	1122.0	5000
6	1000	1000	117	11.7%	98	2153.0	5000

Overall, the two-class solution was the most parsimonious and stable, whereas the four-class solution showed similar fit on some criteria, but lower entropy and lower stability. In this context, the three-class solution offered an adequate balance between fit, parsimony, stability, classification quality, class size, and substantive interpretability.

Once the three-class solution had been retained, classification quality was examined through the mean posterior probabilities of membership in the assigned class. This analysis makes it possible to assess the degree of separation between profiles. Higher values on the diagonal indicate that participants assigned to a class show a high mean posterior probability of belonging to that same class.

Table S6

Mean Posterior Probabilities in the Three-Class Solution

Assigned class	Prob. functional class	Prob. at-risk class	Prob. problematic class
Functional	.895	.103	.002
At-risk	.104	.841	.056
Problematic	.005	.162	.833

The mean posterior probabilities of the assigned class were .895 for the functional profile, .841 for the at-risk profile, and .833 for the problematic profile. These values indicate reasonable separation between profiles, although they also reflect some classification uncertainty, especially in the proximity between the at-risk and problematic profiles.

Models with age and educational stage as concomitant covariates

Given that educational stage showed a significant association with membership of the latent profiles in the manuscript, $\chi^2(6) = 17.83$, $p = .007$, $V = .101$, this block extends the exploration of the role of developmental and school-related variables through two complementary approaches. First, the distribution of profiles by educational stage and the adjusted standardised residuals were examined, with the aim of identifying which cells contributed most to the observed association. Second, models with age and educational stage as concomitant covariates were estimated, in order to assess whether these variables provided additional information about the probability of class membership.

As shown in Table S7, the main deviations from the expected frequencies corresponded to the overrepresentation of the functional profile in 7th grade of primary education, the overrepresentation of the problematic profile in post-compulsory education, the underrepresentation of the problematic profile in 6th grade of primary education, and the underrepresentation of the functional profile in post-compulsory education. The at-risk profile did not show relevant deviations from the expected frequencies at any educational level.

Table S7

Distribution of Latent Profiles by Educational Stage and Adjusted Standardised Residuals

Educational stage	Profile	*n*	% within stage	Adjusted standardised residual
7th grade of primary education	Functional	87	69.05%	2.23
7th grade of primary education	At-risk	37	29.37%	−1.04
7th grade of primary education	Problematic	2	1.59%	−2.43
First cycle of Compulsory Secondary Education	Functional	139	58.65%	−0.51
First cycle of Compulsory Secondary Education	At-risk	80	33.76%	0.13
First cycle of Compulsory Secondary Education	Problematic	18	7.59%	0.77
Second cycle of Compulsory Secondary Education	Functional	208	61.36%	0.63
Second cycle of Compulsory Secondary Education	At-risk	114	33.63%	0.11

Educational stage	Profile	*n*	% within stage	Adjusted standardised residual
Second cycle of Compulsory Secondary Education	Problematic	17	5.01%	−1.46
Post-compulsory education	Functional	89	52.66%	−2.18
Post-compulsory education	At-risk	60	35.50%	0.64
Post-compulsory education	Problematic	20	11.83%	3.10

Note. Percentages were calculated within each educational stage. Adjusted standardised residuals with absolute values greater than 1.96 indicate relevant deviations from the expected frequencies (Agresti, 2019). The analysis was conducted with n = 871 due to one case without valid educational stage information among the participants included in the LCA.

Next, to explore this issue in greater detail, two three-class models were estimated, one with age and the other with educational stage as a concomitant covariate. These models make it possible to assess whether these variables provide information on the probability of belonging to each class.

The models with covariates were compared with unconditional models estimated in the same subsamples. As shown in Table S8, the inclusion of age and educational stage improved the log likelihood and reduced the AIC. However, the BIC was higher in the models with covariates, especially in the model that included educational stage.

Table S8

Comparison Between Unconditional Models and Models With Concomitant Covariates

Model	Log likelihood	Parameters	AIC	BIC	*n*
3-class unconditional, age subsample	−3533	29	7124	7262	863
3-class with age	−3529	31	7119	7267	863
3-class unconditional, educational stage subsample	−3562	29	7181	7320	871
3-class with educational stage	−3551	35	7172	7339	871

Note. The unconditional models were re-estimated in the same subsample used for each model with a covariate, so that the comparison between models was equivalent. The model with age included participants with complete responses on the nine SMD-S items and valid age (*N* = 863). The model with educational stage included participants with complete responses on the nine SMD-S items and valid educational stage (*N* = 871).

The stability of these models was also examined using 1000 random starts. As shown in Table S9, the models with covariates were less stable than the unconditional three-class solution. The model with age replicated the best log likelihood in 456 of the 1000 starts, whereas the model with educational stage did so in 340 of the 1000 starts. By comparison, the main unconditional three-class solution replicated the best log likelihood in 995 of the 1000 starts.

Table S9

Stability of the Unconditional Solution and of the Models With Concomitant Covariates

Model	Starts	Successful estimations	Failed estimations	Best log likelihood replicated	% replication	Distinct log likelihood values	Mean iterations	Max. iterations
3-class unconditional	1000	1000	0	995	99.5%	3	497.0	1806
3-class with age	1000	999	1	456	45.6%	67	763.0	5000
3-class with educational stage	1000	1000	0	340	34.0%	104	538.0	3737

These results suggest that age and educational stage may provide some descriptive information on the distribution of the profiles, although the improvement was not unequivocal and the models with covariates showed lower stability than the unconditional solution.

Sensitivity analysis of the external associations

The external comparisons between profiles were conducted in the manuscript through ANOVA and post hoc tests after assigning each participant to the class with the highest posterior probability of membership. This procedure facilitates interpretation, but it does not fully incorporate the classification uncertainty inherent to latent class analysis.

As a sensitivity check, means weighted by posterior probabilities of class membership were calculated. In this analysis, each participant contributes to each profile according to their posterior probability of belonging to that profile.

As shown in Table S10, the weighted means were very similar to the means obtained through modal assignment. The differences were small across all variables examined and did not modify the substantive pattern of results. The functional profile maintained more favourable values in the psychological and academic indicators, whereas the at-risk and problematic profiles continued to show more unfavourable values compared with the functional profile and relatively similar values to each other in most indicators.

Table S10

Comparison Between Modal Means and Means Weighted by Posterior Probabilities in External Variables

Variable	Profile	Modal *n*	Modal mean	Weighted *n*	Weighted mean	Difference
GAD-7	Functional	523	4.88	498.69	4.85	-0.03
GAD-7	At-risk	292	7.90	308.53	7.71	-0.19
GAD-7	Problematic	57	8.44	64.79	8.36	-0.08
PHQ-9	Functional	523	6.00	498.69	5.98	-0.03
PHQ-9	At-risk	292	9.38	308.53	9.15	-0.24
PHQ-9	Problematic	57	10.25	64.79	10.20	-0.05
RSE positive	Functional	523	3.29	498.69	3.29	0.00
RSE positive	At-risk	292	2.97	308.53	2.98	0.02
RSE positive	Problematic	57	2.82	64.79	2.84	0.02
RSE negative	Functional	523	1.98	498.69	1.97	-0.01
RSE negative	At-risk	292	2.39	308.53	2.37	-0.02
RSE negative	Problematic	57	2.63	64.79	2.59	-0.04
RESE: positive emotions	Functional	523	16.33	498.69	16.32	-0.01
RESE: positive emotions	At-risk	292	15.52	308.53	15.55	0.03
RESE: positive emotions	Problematic	57	14.51	64.79	14.84	0.33
RESE: despondency	Functional	523	12.87	498.69	12.91	0.04
RESE: despondency	At-risk	292	11.37	308.53	11.43	0.06

Variable	Profile	Modal *n*	Modal mean	Weighted *n*	Weighted mean	Difference
RESE: despondency	Problematic	57	11.09	64.79	11.10	0.01
RESE: anger	Functional	523	12.08	498.69	12.15	0.07
RESE: anger	At-risk	292	10.55	308.53	10.57	0.02
RESE: anger	Problematic	57	10.14	64.79	10.14	0.00
RAS: social support	Functional	523	16.53	498.69	16.51	-0.02
RAS: social support	At-risk	292	15.57	308.53	15.65	0.08
RAS: social support	Problematic	57	13.89	64.79	14.21	0.31
RAS: emotional coping	Functional	523	13.90	498.69	13.94	0.04
RAS: emotional coping	At-risk	292	12.01	308.53	12.07	0.06
RAS: emotional coping	Problematic	57	11.23	64.79	11.41	0.18
RAS: situational coping	Functional	523	15.35	498.69	15.39	0.03
RAS: situational coping	At-risk	292	13.85	308.53	13.92	0.07
RAS: situational coping	Problematic	57	13.28	64.79	13.33	0.05
Previous year GPA	Functional	523	7.60	498.69	7.59	-0.00
Previous year GPA	At-risk	292	7.20	308.53	7.23	0.04
Previous year GPA	Problematic	57	7.09	64.79	7.09	0.01
Current year GPA	Functional	523	8.29	494.45	8.29	-0.00
Current year GPA	At-risk	292	7.75	303.91	7.79	0.04
Current year GPA	Problematic	57	7.77	64.64	7.81	0.04

Variable	Profile	Modal *n*	Modal mean	Weighted *n*	Weighted mean	Difference
SBI	Functional	523	23.99	498.69	24.00	0.00
SBI	At-risk	292	30.07	308.53	29.59	-0.48
SBI	Problematic	57	30.54	64.79	30.48	-0.06
UWES	Functional	523	3.07	498.69	3.07	0.00
UWES	At-risk	292	2.76	308.53	2.79	0.03
UWES	Problematic	57	2.73	64.79	2.71	-0.02
SDQ	Functional	523	14.07	498.69	14.07	0.00
SDQ	At-risk	292	12.38	308.53	12.49	0.12
SDQ	Problematic	57	12.95	64.79	12.95	0.00

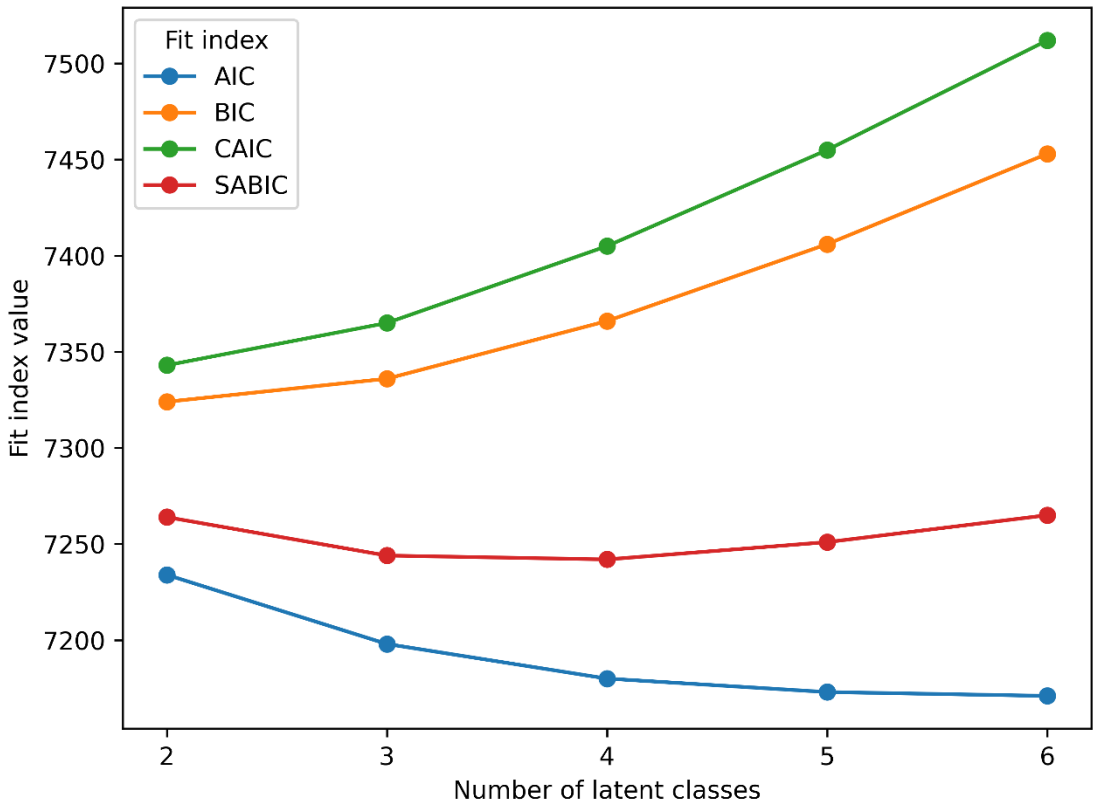
Note. GAD-7 = anxiety symptoms; PHQ-9 = depressive symptoms; RSE positive = positive self-esteem; RSE negative = negative self-esteem; RESE: positive emotions = emotional self-efficacy for expressing positive emotions; RESE: despondency = emotional self-efficacy for managing despondency; RESE: anger = emotional self-efficacy for managing anger; RAS: social support = perceived social support; RAS: emotional coping = emotional coping; RAS: situational coping = situational coping; Previous year GPA = self-reported academic performance for the previous academic year; Current year GPA = self-reported academic performance for the first assessment period of the current academic year; SBI = academic burnout; UWES = academic engagement; SDQ = academic self-concept.

The weighted analysis is presented as a descriptive sensitivity check and does not replace formal auxiliary procedures designed to correct for classification error, such as BCH or three-step. Overall, this analysis suggests that the descriptive pattern of external associations does not depend exclusively on modal assignment. Even so, the external comparisons should be interpreted with caution, since the weighted analysis partially incorporates classification uncertainty, but does not constitute a formal correction for classification error.

Supplementary Material 4. Fit Index Values for the Latent Class Models

Figure S1

Fit Index Values for the Latent Class Models



Note. AIC = Akaike Information Criterion; CAIC = Consistent Akaike Information Criterion; SABIC = Sample-Size Adjusted Bayesian Information Criterion; BIC = Bayesian Information Criterion.

Annexes. 6 Supplementary Materials of Chapter 4[5]

Supplementary material 1. Changes made to the DFSA[6]

1. Changes in the General Structure

Based on the feedback from the cognitive interviews several changes were made to the questionnaire's structure: gender-inclusive language in Spanish was implemented, and small variations in the bold text from the original scale were introduced to improve readability and emphasize key points, based on participant feedback. The introductory text was revised using more relevant terms with which Spanish adolescents are more familiar, such as replacing "online applications" with "online activities" and removing references to SMS text messages. Additionally, specific platforms and activities were updated: Viber was replaced by Telegram, video game chats were added, and mentions of Twitter, BeReal, and other social media were included.

2. Changes in the Items

The instructions in the connectedness section were refined by adding bolded text to highlight the overall theme of the dimension. That is, the introductory sentence stating that the following questions address experiences connecting with others online was highlighted in bold. Terms like "group" were changed to "social group" to enhance specificity, and phrases like "very important" were adjusted to "very important to me" for greater personal relevance. These changes were also applied to the other subscales.

In the civil participation section, the term "behaviours" was replaced with "ways of expressing myself" to better align with adolescents' communication styles. Additionally, "politics" was changed to "current affairs" to make the content more relevant to their interests, as seen in the revised item: "When I talk to others online about current affairs (e.g., sports, politics, or celebrities), I know how to do it politely."

Adjustments were made to both phrasing and examples of positive social comparison section. For instance, "present online" was revised to "show online," and the item "I compare my life with those people online who motivate me to be better (e.g., peers, influencers)" has been simplified for clarity.

[5] These materials are also available online on the OSF platform at the following link: https://osf.io/be4wh
[6] The material concerning the changes introduced to the scale is presented in Spanish. The remaining material has been translated. A version of all materials in both languages can be found on OSF.

In the section on authentic self-presentation the item "I show my true self online" was changed to "When I am online, I show my true self," while "presenting who I really am online, in the same way I do offline" was reworded to "showing who I really am online, in the same way I do offline."

Finally, in the self-control section a phrase "when to stop spending time in online communication" was simplified to "when to stop spending time communicating online." In the item "I feel in control of how much time I spend communicating with others online" examples like "in WhatsApp conversations, in Instagram posts, in video game chats." Were included. The statement "I can disconnect" was also modified to "I am able to disconnect" to improve clarity.

The changes introduced will be detailed one by one below in Spanish.

CHANGES INTRODUCED

- Cambio generalizado para que el género sea inclusivo
- Cambios en la negrita para facilitar la lectura y resaltar los aspectos importantes (p. ej. **Último mes → <u>ÚLTIMO MES)</u>**
- Texto introductorio:
    - Aplicaciones online → actividades online
    - Mensajes de texto SMS en el smartphone ELIMINADO
    - Viber → Telegram
    - Se ha añadido: chats de videojuegos
    - Se ha añadido: Twitter, BeReal u otras redes sociales
    - FaceTime, Zoom, etc. → videollamadas (por ejemplo, FaceTime, Zoom o Discord)
- Conectividad
    - Añadir negrita en la introducción en la parte que refleja la temática general de la dimensión [Este cambio se aplicó en las siguientes apariciones]
    - En línea → Online [Este cambio se aplicó en las siguientes apariciones]
    - Grupo → Grupo social [Este cambio se aplicó en las siguientes apariciones]
    - Muy importante →Muy importante para mí.

- Participación civil
    - Comportamientos → Manera de expresarme
    - Cuando hablo con otros/as online sobre política (por ejemplo, sobre el gobierno, el/la presidente/a, las elecciones), sé cómo hacerlo de manera educada → Cuando hablo con otros/as online sobre temas de actualidad (por ejemplo, deporte, política o famosos/as), sé cómo hacerlo de manera educada.
- Comparación social positiva
    - Presentan online → Muestran online
    - Comparo mi vida con la de esas personas online (por ejemplo, compañeros, influencers) que me van a motivar a ser mejor → Comparo mi vida con la de esas personas online que me motivan a ser mejor (por ejemplo, compañeros/as, influencers).
- Autopresentación auténtica
    - Muestro mi verdadero yo online → Cuando estoy online, muestro mi verdadero yo.
    - Presentando la persona que soy → Mostrando la persona que soy en realidad
    - Presentando quién soy realmente online, de la misma manera en que lo hago fuera de línea → Mostrando online quién soy realmente, de la misma manera en que lo hago offline (fuera de línea).
- Autocontrol
    - Cuando dejar de pasar tiempo en la comunicación online → cuándo parar de pasar tiempo comunicándome online
    - En su mayoría, siento que tengo el control sobre cuánto tiempo paso comunicándome con otras personas online (por ejemplo, chateando con amigos/as, publicando en Instagram, jugando online con otros/as) → Siento que

tengo el control sobre cuánto tiempo paso comunicándome con otras personas online (por ejemplo, en conversaciones de WhatsApp, en publicaciones de Instagram, en chats de videojuegos).

- Puedo desconectar → Soy capaz de desconectar

Supplementary material 2. Sociodemographic data of the cognitive interview sample

The first group interview was conducted with the first 8 participants, the second with the last 2 participants. The first interview lasted about one and a half hours. The second interview lasted about 40 minutes.

Table S11

Sociodemographic Data of the Cognitive Interview Sample

Gender	Course	Age	SMD-S score
Girl	1st Baccalaureate	16	6
Girl	3rd year of compulsory secondary education	14	5
Boy	1st Baccalaureate	16	3
Girl	1st Baccalaureate	15	1
Girl	1st Baccalaureate	16	4
Boy	1st Baccalaureate	15	3
Boy	1st year of vocational training	16	6
Girl	2nd Baccalaureate	17	1
Girl	1st Baccalaureate	16	3
Girl	3rd year of compulsory secondary education	14	4

Note. SMD-S scores range from 0 to 9.

Supplementary material 3. Comparative of the original and the Spanish version after the cognitive interviews

The DFSA scale is presented below after the translation process, along with the final version used after implementing the changes suggested by the adolescents during cognitive interviews (DFSA Cog Int). The details and explanations of these changes are discussed in depth in the manuscript. An English translation can be found in the OSF document "DFSA Comparative" at https://osf.io/be4wh.

Original DFSA
Las siguientes preguntas se centran en conocer más acerca de tus hábitos y experiencias de comunicación online durante el último mes. Nos referimos a la comunicación online para incluir conversaciones y participación en una variedad de aplicaciones online. Ejemplos de comunicación online son el correo electrónico, el chat (por ejemplo, mensajes de texto SMS en el smartphone, herramientas de mensajería directa como WhatsApp o Viber), interactuar en redes sociales (por ejemplo, publicar, comentar o dar "me gusta" en publicaciones en Snapchat, Instagram, TikTok o YouTube), conversaciones telefónicas, FaceTime, Zoom, etc. **No hay respuestas correctas o incorrectas. Estamos interesados simplemente en tus opiniones más sinceras. Por favor, indica qué tan ciertos fueron los siguientes comportamientos para ti en el último mes utilizando las opciones desde 'No es cierto en absoluto para mí' hasta 'Muy cierto para mí'. Si nunca participaste en alguno de los comportamientos de comunicación en línea mencionados a continuación, selecciona 'No aplicable para mí'.**
DFSA after the cognitive interviews
Las siguientes preguntas se centran en conocer más acerca de tus hábitos y experiencias de **comunicación online** durante el último mes. Nos referimos a la comunicación online para incluir conversaciones y participación en una variedad de actividades online. Ejemplos de comunicación online son el **correo electrónico**, el **chat** (por ejemplo, a través de herramientas de mensajería directa como WhatsApp o Telegram o en chats de videojuegos), interactuar en redes sociales (por ejemplo, publicar, comentar o dar "me gusta" en publicaciones en Instagram, Tik-Tok, Snapchat, Twitter, BeReal, YouTube u otras redes sociales), **conversaciones telefónicas** o **videollamadas** (por ejemplo, FaceTime, Zoom o Discord). No hay respuestas correctas o incorrectas. Estamos interesados simplemente en tus opiniones más sinceras**. Por favor, indica cuánto te identificas con los siguientes comportamientos online durante el ÚLTIMO MES** utilizando las opciones desde 'No es cierto en absoluto para mí' hasta 'Muy cierto para mí'. Si nunca participaste en alguno de los comportamientos de comunicación en línea mencionados a continuación, selecciona 'No lo sé/No es aplicable para mí'.

DFSA	DFSA Cog Int
Conectividad	
Las siguientes afirmaciones se refieren a tus experiencias al conectarte con otras personas en línea. Al evaluar las afirmaciones, **piensa en el último mes**.	Las siguientes afirmaciones se refieren a tus **experiencias al conectarte con otras personas online**. Al evaluar las afirmaciones, **piensa en el último mes**.
Siento que formo parte de un grupo cuando me comunico con otros/as online.	Siento que formo parte de un grupo social cuando me comunico con otros/as online.
Mi comunicación online (por ejemplo, chatear con compañeros/as, jugar en línea con otros/as) es muy importante.	Mi comunicación online (por ejemplo, chatear con compañeros/as, jugar en línea con otros/as) es muy importante para mí.
Me siento estrechamente conectado/a a los grupos con los que me conecto online.	Me siento estrechamente conectado/a a los grupos sociales con los que me conecto online.

DFSA	DFSA Cog Int
Participación civil	
Las siguientes afirmaciones se refieren a cómo expresas tu opinión en línea. Al evaluar las afirmaciones, **piensa en el último mes**.	Las siguientes afirmaciones se refieren a **cómo expresas tu opinión online**. Al evaluar las afirmaciones, **piensa en el último mes**.
Cuando hablo con otras personas online, sé cómo compartir mi punto devista sin ofenderlos.	Cuando hablo con otras personas online, sé cómo compartir mi punto de vista sin ofenderlos/as.
Cuando me comunico online, tengo cuidado de adaptar mis comentarios y comportamientos para que sean apropiados para quien los lea (por ejemplo, mis amigos/as, mi profesor/a, mis padres, niños/as más jóvenes).	Cuando me comunico online, tengo cuidado de adaptar mis comentarios y mi manera de expresarme para que sean apropiados para quien los lea (por ejemplo, mis amigos/as, mis profesores/as, mis padres, niños/as más jóvenes).
Cuando hablo con otras personas online sobre algo importante para mí, sé cómo defenderlo de manera educada.	Cuando hablo con otras personas online sobre algo importante para mí, sé cómo defenderlo de manera educada.
Cuando hablo con otros/as online sobre política (por ejemplo, sobre el gobierno, el/la presidente/a, las elecciones), sé cómo hacerlo de manera educada.	Cuando hablo con otros/as online sobre temas de actualidad (por ejemplo, deporte, política o famosos/as), sé cómo hacerlo de manera educada.
Cuando algo que otros/as dicen o hacen online me hace sentir enfadado, soy capaz de responder de manera tranquila.	Cuando algo que otros/as dicen o hacen online me hace sentir enfadado/a, soy capaz de responder de manera tranquila.

DFSA	DFSA Cog Int
Comparación social positiva	
Las siguientes afirmaciones se refieren a compararte con otros en las redes sociales u otras aplicaciones en línea. Al evaluar las afirmaciones, **piensa en el último mes.**	Las siguientes afirmaciones se refieren a **compararte con otros en las redes sociales u otras aplicaciones online**. Al evaluar las afirmaciones, **piensa en el último mes.**
Ver los logros de otras personas online me inspira a esforzarme más.	Ver los logros de otras personas online me inspira a esforzarme más.
Observar cómo otras personas se presentan online me motiva a realizar cambios en mi propia vida.	Observar cómo otras personas se muestran online me motiva a realizar cambios en mi propia vida.
Compararme con otros online me motiva a lograr las cosas que deseo en la vida.	Compararme con otros/as online me motiva a lograr las cosas que deseo en la vida.
Comparo mi vida con la de esas personas online (por ejemplo, compañeros, influencers) que me van a motivar a ser mejor.	Comparo mi vida con la de esas personas online que me motivan a ser mejor (por ejemplo, compañeros/as, influencers).

DFSA	DFSA Cog Int
Autopresentación auténtica	
Las siguientes afirmaciones se refieren a cómo te presentas en línea. Al evaluar las afirmaciones, **piensa en el último mes.**	Las siguientes afirmaciones se refieren a **cómo te muestras online**. Al evaluar las afirmaciones, **piensa en el último mes.**
Muestro mi verdadero yo online.	Cuando estoy online, muestro mi verdadero yo.
Cuando me comunico online, me siento cómodo/a presentando la persona que soy.	Cuando me comunico online, me siento cómodo/a mostrando la persona que soy en realidad.
Lo que publico online refleja quién soy realmente.	Lo que publico online refleja quién soy realmente.
Me siento cómodo/a presentando quién soy realmente online, de la misma manera en que lo hago fuera de línea.	Me siento cómodo/a mostrando online quién soy realmente, de la misma manera en que lo hago ofline (fuera de línea).

DFSA	DFSA Cog Int
Autocontrol	
Las siguientes afirmaciones se refieren al control que tienes sobre la comunicación en línea. Al evaluar las afirmaciones, **piensa en el último mes.**	Las siguientes afirmaciones se refieren al **control que tienes sobre la comunicación online**. Al evaluar las afirmaciones, **piensa en el último mes.**
Siento que tengo el control sobre cuándo empezar y cuándo dejar de pasar tiempo en la comunicación online.	Siento que tengo el control sobre cuándo empezar y cuándo parar de pasar tiempo comunicándome online.
En su mayoría, siento que tengo el control sobre cuánto tiempo paso comunicándome con otras personas online (por ejemplo, chateando con amigos/as, publicando en Instagram, jugando online con otros/as).	Siento que tengo el control sobre cuánto tiempo paso comunicándome con otras personas online (por ejemplo, en conversaciones de WhatsApp, en publicaciones de Instagram, en chats de videojuegos).
Cuando navego por contenido online, siento que tengo el control sobre cómo paso mi tiempo.	Cuando navego por contenido online, siento que tengo el control sobre cómo paso mi tiempo.
Puedo desconectar de mi comunicación online cuando necesito un descanso.	Soy capaz de desconectar de mi comunicación online cuando necesito un descanso.

Supplementary material 4. Cognitive interviews guide

FIRST COGNITIVE INTERVIEW

We are conducting a series of tests to see how this questionnaire works. For that, I am going to give you the questionnaire and I am going to ask you to fill it out as if we were conducting the survey. At this stage, what we are interested in is knowing how the questionnaire is functioning. That's why I'm going to ask you ***to think out loud*** *as you complete it. That is, say out loud everything that comes to mind as you answer the questions.*

For each question, I will ask more questions about the wording, instructions, and response options. It is important for you to keep in mind that we want to know if the questionnaire works. Don't hesitate to tell me if something seems confusing to you and if something can beimproved.

Before we begin, do you have any questions?

Practice: To get used to thinking out loud, let's practice with the first section of the questionnaire. From the second section onwards, we will formally start the interview.

To practice, we will do this part of sociodemographic information.How old are you?___

What is your gender?

- Male
- Female
- Non-binary
- Prefer not to answer
- Other:

What city do you live in? ____

Do you have access to social media, either through your own device or through the device ofyour parents or legal guardians?

- Yes
- No

If there are any issues and we believe that a member should practice: "Try to visualize your home right now, start walking through your house, through the living room, the dining room, the kitchen, the bedrooms, the bathrooms... Now please tell me what you are seeing during thistour. Now tell me what you're thinking as you see your house."

Digital Flourishing Scale

Okay, let's formally begin the interview... Before starting to answer the questions, could you tell me in your own words the instructions you just read?

The following questions focus on learning more about your habits and experiences of online communication over the past month. We refer to online communication to include

conversations and participation in a variety of online applications. Examples of online communication include email, chat (e.g., SMS text messages on smartphones, direct messaging tools like TikTok or Viber), interacting on social networks (e.g., posting, commenting, or liking posts on Snapchat, Instagram, TikTok, or YouTube), phone calls, FaceTime, Zoom, etc.

There are no right or wrong answers. We are simply interested in your most honest opinions. Please indicate how true the following behaviours were for you in the past month using options from 'Not true at all for me' to 'Very true for me'. If you never engaged in any of the online communication behaviours mentioned below, select 'Not applicable to me.'

Tell me what comes to mind when you see this response scale

Not true atall for me	Not truefor me	Partly not true, partly true for me	True forme	Very truefor me	I don't know/Not applicable to me

I use social media to keep up with what's happening in the world.

The following statements refer to your experiences when connecting with others online. When evaluating the statements, think about **the past month.**

- *Can you tell me in your own words what I just asked you?*

I feel like I belong to a group when I communicate with others online.

- *How much does this question apply to your experience?*

My online communication (e.g., chatting with peers, gaming online with others) is very important.

- *What does the term (closely connected) mean to you in this question?*

I feel closely connected to the groups I connect with online.

- *Could you give me some examples?*

The following statements refer to how you express your opinion online. When evaluating the statements, think about **the past month**.

- *What aspects are included in the term (without offending)?*

When I talk with others online, I know how to share my viewpoint without offending them.

- *Can you summarize the statement I just read?*

When communicating online, I am careful to adapt my comments and behaviours to be appropriate for the reader (e.g., my friends, my teacher, my parents, younger children).

- *What does the word (polite) mean to you in this question?*

When I talk with others online about something important to me, I know how to defend it politely.

- *What were you thinking when I asked you about politics?*

When I talk with others online about politics (e.g., government, the president, elections), Iknow how to do so politely.

- *What do you understand by angry? And calm?*

When something others say or do online makes me angry, I am able to respond calmly.

The following statements refer to comparing yourself with others on social media or otheronline applications. When evaluating the statements, think about **the past month.**

- *Can you give me an example?*

Seeing the achievements of others online inspires me to strive harder.

- *What do you understand by "presenting oneself online"?*

Observing how others present themselves online motivates me to make changes in my ownlife.

- *If your answer was different from the first question in this section, could you explain why? Do you see a difference between striving harder and achieving your desires inlife?*

Comparing myself with others online motivates me to achieve the things I desire in life.

- *Can you tell me in your own words what I just asked you? How could we make this question clearer?*

I compare my life with those people online (e.g., peers, influencers) who will motivate me to be better.

The following statements refer to how you present yourself online. When evaluating the statements, think about **the past month.**

- *What do you understand by "my true self"? Can you think of any clarification that could make it clearer?*

I show my true self online.

- *If, for example, "the person I truly am" were added, would it be clearer? Can you think of another option to make it clearer?*

When I communicate online, I feel comfortable presenting the person I am.

- *What differences do you find between this item and "I show my true self online"?*

What I post online reflects who I truly am.

- *What differences do you find between this item and "When I communicate online, I feel comfortable presenting the person I am"?*

I feel comfortable presenting who I truly am online, just as I do offline.I allow the people I connect with online to see who I truly am.

The following statements refer to the control you have over online communication. When evaluating the statements, think about **the past month.**

- *What do you understand by "I have control"? What would then be "losing control"?*

I feel that I have control over when to start and when to stop spending time on online communication.

- *Can you give me an example?*

Mostly, I feel that I have control over how much time I spend communicating with othersonline (e.g., chatting with friends, posting on Instagram, playing online with others).

When browsing online content, I feel that I have control over how I spend my time.

- *Would you say that always happens to you? Or would you say that varies depending on something?*

I can disconnect from my online communication when I need a break.

SECOND COGNITIVE INTERVIEW

We are conducting a series of tests to see how this questionnaire works. For that, I am going to give you the questionnaire and I am going to ask you to fill it out as if we were conducting the survey. At this stage, what we are interested in is knowing how the questionnaire is functioning.

That's why I'm going to ask you ***to think out loud*** *as you complete it. That is, say out loud everything that comes to mind as you answer the questions.*

For each question, I will ask more questions about the wording, instructions, and response options. It is important for you to keep in mind that we want to know if the questionnaire works. Don't hesitate to tell me if something seems confusing to you and if something can be improved.

We will take approximately 90 minutes in the whole process. Before we start, do you have any questions?

Practice: To get used to thinking out loud, let's practice with the first section of the questionnaire. From the second section onwards, we will formally start the interview.

For practice, we will do this part of sociodemographic information. How old are you? _

What is your gender?

- Male
- Female
- Non-binary
- Prefer not to answer
- Other:

What city do you live in? ___

Do you have access to social media, either through your own device or through the device of your parents or legal guardians?

- Yes
- No

If there are any issues and we believe that a member should practice: "Try to visualize your home right now, start walking through your house, through the living room, the dining room, the kitchen, the bedrooms, the bathrooms... Now please tell me what you are seeing during this tour. Now tell me what you're thinking as you see your house."

Digital Flourishing Scale

The following questions focus on learning more about your habits and experiences of online communication over the past month. We refer to online communication to include conversations and participation in a variety of online applications. Examples of online communication include email, chat (e.g., direct messaging tools like WhatsApp or Telegram), interacting on social networks (e.g., posting, commenting, or liking posts on Instagram, TikTok, Snapchat, or YouTube), phone calls, FaceTime, Zoom, etc.

- *Do you think the examples in parentheses are appropriate? Would you add or remove any?*

There are no right or wrong answers. We are simply interested in your most honest opinions. Please indicate how true the following behaviours were for you in the past month using options from 'Not true at all for me' to 'Very true for me'. If you never engaged in any of the online communication behaviours mentioned below, select 'Not applicable to me'.

Tell me what comes to mind when you see this response scale:

I don't know/Not applicable to me	Not true at all for me	Not true for me	Partly not true, partly true for me	True for me	Very true for me

I use social media to keep up with what's happening in the world.

- *Would you keep "I don't know/Not applicable to me" at the beginning of the scale or would you put it at the end?*

The following statements refer to your experiences when connecting with others online. When evaluating the statements, think about **the past month**.

- *Between the question you just read and the next one: "I feel more integrated into a group when I communicate with others online" Which one do you prefer? Can you think of another way to make it simpler?*

I feel like I belong to a group when I communicate with others online.

My online communication (e.g., chatting with peers, gaming online with others) is very important.

- *Between the question you just read and the next one: I feel more integrated into a*

group when I communicate with others online. Which one do you prefer? Can you think of another way to make it simpler?

I feel closely connected to the groups I connect with online.

The following statements refer to how you express your opinion online. When evaluating the statements, think about **the past month.**

When I talk with others online, I know how to share my viewpoint without offending them.

- *What do you understand by behaviours? Would it be more understandable if " behaviours" were changed to "my way of expressing myself"? And if it were added in parentheses?*

When I communicate online, I am careful to adapt my comments and behaviours to be appropriate for the reader (e.g., my friends, my teacher, my parents, younger children).

When I talk with others online about something important to me, I know how to defend it politely.

- *Can you think of another example of current topics you debate online?*

When I talk with others online about current topics (e.g., sports, politics, or fashion), I know how to do so politely.

When something others say or do online makes me angry, I am able to respond calmly.

The following statements refer to comparing yourself with others on social media or other online applications. When evaluating the statements, think about **the past month.**

Seeing the achievements of others online inspires me to strive harder.

- *What do you understand by "presenting oneself online"?*

Observing how others present themselves online motivates me to make changes in my own life.

- *What does comparing mean to you? [If it describes something with negative connotations] How could we express it so it's not solely a negative comparison?*

Comparing myself with others online motivates me to achieve the things I desire in life.

I compare my life with those people online who will motivate me to be better (e.g., peers, influencers).

The following statements refer to how you present yourself online. When evaluating the

statements, think about **the past month.**

- *Do you prefer "I show myself online as I am?" or "I show my true self online"?*

I show my true self online.

- *If, for example, "the person I truly am" were added, would it be clearer? Can you think of another option to make it clearer?*

When I communicate online, I feel comfortable presenting the person I am. What I post online reflects who I truly am.

I feel comfortable presenting who I truly am online, just as I do ofline. I allow the people I connect with online to see who I truly am.

The following statements refer to the control you have over online communication. When evaluating the statements, think about **the past month.**

I feel that I have control over when to start and when to stop spending time on online communication.

- *Do the examples in parentheses clarify the question? Do you think they are unnecessary?*

I feel that I have control over how much time I spend communicating with others online (e.g., chatting with friends, posting on Instagram, playing online with others).

- *Would it be clearer if instead of "navigate online content" it said "explore online content"?*

When I navigate online content, I feel that I have control over how I spend my time.

- *Would you say that always happens to you? Or would you say that varies depending on something?*

I can disconnect from my online communication when I need a break.

Supplementary material 5. ITC Guidelines

Table S12

Adaptation and Validation Process According to ITC Guidelines

ITC guidelines	Assessment criteria	Not applicable	Not acceptable	Acceptable	Excellent
PC1: Obtain the necessary permission from the holder of the intellectual property rights relating to the test before carrying out any adaptation.	PC1-1: If adaptation is the best option, ask the copyright owners for permission to adapt the test, even if the test is going to be used for research purposes only.				**X**
PC2: Evaluate that the amount of overlap in the definition and content of the construct measured by the test and the item content in the populations of interest is sufficient for the intended use (or uses) of the scores.	PC2-1: Provide theoretical and empirically-based evidence that the construct of interest is relevant to the target population.				**X**
	PC2-2: Consider whether the meaning of the construct can be generalized across cultures, and ensure and be able to justify that translation/adaptation is preferable to creating a brand new test for the target population.			**X**	
PC3: Minimize the influence of any cultural and linguistic differences that are irrelevant to the intended uses of the test in the populations of interest	PC3-1: If adaptation is the best option, check cultural and linguistic differences before starting the adaptation process and take them into consideration in the adapted version so as to prevent bias and to design studies to control for potential bias.				**X**

ITC guidelines	Assessment criteria	Not applicable	Not acceptable	Acceptable	Excellent
TD1: Ensure that the translation and adaptation processes consider linguistic, psychological, and cultural differences in the intended populations through the choice of experts with relevant expertise.	TD1-1: Form a multidisciplinary team composed of: a) professional translators who are proficient in the source and target languages (if different languages are involved) and have knowledge of the cultures involved, b) experts in the construct to be measured, c) experts in the cultures involved, and d) experts in test construction. In some cases, the same team member may be an expert in more than one of these aspects, for example, the languages and cultures, the construct and cultures, etc.			X	
TD2: Use appropriate judgmental designs and procedures to maximize the suitability of the test adaptation in the intended populations	TD2-1: Use recommended translation designs and justify the choice. Forward, backward or simultaneous translations may be used, depending on the purpose of the adaptation, the scope of the project, the number of cultures involved, and whether or not it will be necessary to compare scores of individuals from different cultures. Independent translators (at least two professionals or two teams) are involved in forward and backward translations. If a test is intended to be used cross-culturally from its inception, use simultaneous / concurrent development of multiple language versions of the test from the outset.				X

ITC guidelines	Assessment criteria	Not applicable	Not acceptable	Acceptable	Excellent
	TD2-2: Have several translators that work independently and form a committee of experts to review and compare the proposed translations in order to compile judgmental reviews, resolve possible discrepancies, and produce a consensus version.				X
TD3: Provide evidence that the test instructions and item content have similar meaning for all intended populations.	TD3-1: Ensure that the instructions are clear and comprehensible, using terms that are familiar to the target population.				X
	TD3-2: Ensure that the item content is clear and expressed with similar levels of commonality and diffi culty in the source and target cultures. Linguistic elements that could hinder the understanding of the translated version, such as words with different meaning, double negations, etc., should be avoided. Non-linguistic elements (such as images and pictures) must be contextualized for considering the target population.				X

ITC guidelines	Assessment criteria	Not applicable	Not acceptable	Acceptable	Excellent
TD4: Provide evidence that the item formats, rating scales, scoring categories, test conventions, modes of administration, and other procedures are suitable for all intended populations.	TD4-1: Try to ensure that the item format, response options, scoring rubrics, if any, and administration mode are similar in both versions,				**X**
	TD4-2: Ensure that the target population is suffi ciently familiar with the procedures used (item format, response scales, scoring rubrics (if any), test conventions, and administration mode) in the adapted tests.				**X**
TD5: Collect pilot data on the adapted test to enable item analysis, reliability assessment and small-scale validity studies so that any necessary revisions to the adapted test can be made.	TD5-1: Check the psychometric quality (item analysis, reliability, and validity) of the scores from the adapted test in a pilot sample of the target population and, based on the results, make any necessary revisions for the final version of the test. Pilot samples have to be large enough to carry out the statistical analysis involved in the pilot study		**X**		
C1: Select sample with characteristics that are relevant for the intended use of the test and of suffi cient size and relevance for the empirical analyses.	C1-1: Ensure that the target sample is large enough to carry out the necessary statistical analyses and to adequately represent the population.			**X**	

ITC guidelines	Assessment criteria	Not applicable	Not acceptable	Acceptable	Excellent
	C1-2: When the focus of interest is on cross-cultural comparisons, ensure that the source and target samples are comparable for all relevant variables except for language and/or cultural background.	**X**			
C2: Provide relevant statistical evidence about the construct equivalence, method equivalence, and item equivalence for all intended populations.	C2-1: When there is interest in comparing the source and target populations, use statistical procedures to ensure that construct equivalence holds across populations.	**X**			
	C2-2: When there is interest in comparing the source and target populations, check for method equivalence (instrument characteristics, administration process, and sample characteristics).	**X**			
	C2-3: When there is interest in comparing the source and target populations, assess DIF between the cultural groups to be compared using statistical procedures appropriate to the item format, sample size, and test dimensionality.	**X**			

ITC guidelines	Assessment criteria	Not applicable	Not acceptable	Acceptable	Excellent
	C2-4: In the event that DIF is detected at meaningful levels, carry out analyses to understand the reasons for the DIF (e.g., linguistic or method effects) across cultures.	**X**			
C3: Provide evidence supporting the norms, reliability and validity of the adapted version of the test in the intended populations.	C3-1: Ensure that the type of reliability indicators reported is adequate for the type of test, using adequate statistical analysis and sample sizes. The obtained values must be satisfactory and the standard error of measurement must be reported.				**X**
	C3-2: Provide validity evidence consistent with the intended use of the test scores, using adequate statistical analysis and sample sizes.				**X**
	C3-3: Ensure and verify that the norms are adequate for interpreting the test scores of the target population.	**X**			
C4: Use an appropriate equating design and data analysis procedures when linking score scales from different language versions of a test.	C4-1: When cross-cultural/cross-lingual assessment is the objective, and comparability of scores across groups is necessary but some items are functioning differentially, use appropriate linking designs and data analysis procedures before comparison.	**X**			

ITC guidelines	Assessment criteria	Not applicable	Not acceptable	Acceptable	Excellent
A1: Prepare administration materials and instructions to minimize any culture- and language-related problems that are caused by administration procedures and response modes that can affect the validity of the inferences drawn from the scores.	A1-1: For all administration materials and instructions the requirements specified in the development guidelines have been checked (TD3 to TD5). The experience accumulated when administering the original version of the test in the source population should be taken into account to prevent possible administration problems in the target population.			**X**	
N A2: Specify testing conditions that should be followed closely in all populations of interest.	A2-1: When cultural comparisons are of interest, ensure that the testing conditions (administration mode, time restrictions, information about the test purpose, etc.) are standardised across groups. If changes are necessary, data should be collected to evaluate the possible impact of different testing conditions.	**X**			
	A2-2: Ensure that the interviewers or test administrators have the credentials required for the type of test to be administered. Test administrators should submit a signed pledge to conduct their activities in accordance with the code of ethics and principles of professional practice established by the relevant national professional associations and bodies.				**X**

ITC guidelines	Assessment criteria	Not applicable	Not acceptable	Acceptable	Excellent
SSI1: Interpret any group score differences with reference to all relevant available information.	SSI1-1: When score comparisons are justifi ed on the basis of measurement invariance analysis, consider a number of interpretations of cross-cultural differences, taking into account the information that has been systematized and documented in PC3-1 (G3, C4) regarding cultural and linguistic distance. To understand the differences in the observed scores, the role of these variables (e.g., religiosity, individualism, different response tendencies) should be considered	**X**			
SSI2: Only compare scores across populations when the level of invariance has been established on the scale on which scores are reported.	SSI2-1: To compare individual scores of people belonging to different cultures, and/ or mean scores across cultures, ensure that measurement equivalence (a.k.a. lack of DIF) is assessed and supported, at least for a meaningful number of items.	**X**			
Doc-1: Provide technical documentation of any changes, including an account of the evidence obtained to support equivalence, when a test is adapted for use in another population.	Doc-1-1: Create a number of documents and make them accessible to relevant stakeholders, providing information about the 8 issues listed in the evaluative checklist.			**X**	

ITC guidelines	Assessment criteria	Not applicable	Not acceptable	Acceptable	Excellent
Doc-2: Provide documentation for test users that will support good practice in the use of an adapted test with people in the context of the new population.	Doc-2-1. Make sure that the materials and documentation which accompany the test (e.g., the test manual) are clear (instructions, description of the scope of application, practical examples of its use, etc.) so as to ensure that the test is adequate for the intended population, that the test administration is standardised, and that scores are interpreted adequately (see administration and scoring sections).				**X**

Supplementary material 6. Comprehensibility of the Spanish translation of the items

Table S13

Comprehensibility of the Spanish Translation of the Items

Item	*N* (%)		
	1	2	3
I feel like I belong to a group when I communicate with others online.	0 (0%)	3 (23%)	10 (77%)
My online communication (e.g., chatting with peers, gaming online with others) is very important.	0 (0%)	1 (8%)	12 (92%)
I feel closely connected to the groups I connect with online.	3 23%)	3 (23%)	7 (54%)
When I talk with others online, I know how to share my viewpoint without offending them.	1 (8%)	5 (38%)	7 (54%)
When communicating online, I am careful to adapt my comments and behaviours to be appropriate for the reader (e.g., my friends, my teacher, my parents, younger children).	0 (0%)	2 (15%)	11 (85%)
When I talk with others online about something important to me, I know how to defend it politely.	0 (0%)	2 (15%)	11 (85%)
When I talk with others online about politics (e.g., government, the president, elections), I know how to do so politely.	1 (8%)	2 15%)	10 77%)
When something others say or do online makes me angry, I am able to respond calmly.	0 (0%)	2 (15%)	11 (85%)
Seeing the achievements of others online inspires me to strive harder.	1 (8%)	3 (23%)	9 (69%)
Observing how others present themselves online motivates me to make changes in my own life.	1 (8%)	1 (8%)	11 (85%)
Comparing myself with others online motivates me to achieve the things I desire in life.	1 (8%)	5 (38%)	7 (54%)
I compare my life with those people online (e.g., peers, influencers) who will motivate me to be better.	3 23%)	2 (15%)	8 (62%)
I show my true self online.	2 15%)	1 (8%)	10 (77%)
When I communicate online, I feel comfortable presenting the person I am.	0 (0%)	3 (23%)	10 (77%)

Item	*N* (%)		
	1	2	3
What I post online reflects who I truly am.	1 (8%)	3 (23%)	9 (69%)
I feel comfortable presenting who I truly am online, just as I do offline.	2 15%)	1 (8%)	10 (77%)
I allow the people I connect with online to see who I truly am.	0 (0%)	3 (23%)	10 (77%)
I feel that I have control over when to start and when to stop spending time on online communication.	0 (0%)	3 (23%)	10 (77%)
Mostly, I feel that I have control over how much time I spend communicating with others online (e.g., chatting with friends, posting on Instagram, playing online with others).	0 (0%)	2 (15%)	11 (85%)
When browsing online content, I feel that I have control over how I spend my time.	2 15%)	4 (31%)	7 (54%)
I can disconnect from my online communication when I need a break.	1 (8%)	2 (15%)	10 (77%)

Note. 1 = I don't understand anything; 2 = I understand it well, but not completely; 3 = I understand it perfectly.

Supplementary material 7. Sociodemographic data of the study sample 2

Table S14

Sociodemographic Data of Study Sample 2

	M (*SD*) or *n* (%)
Age	15.22 (1.62)
Course	
1st year of Compulsory Secondary Education	80 (4.0%)
2nd year of Compulsory Secondary Education	402 (20%)
3rd year of Compulsory Secondary Education	524 (22%)
4th year of Compulsory Secondary Education	476 (20%)
1st year of Baccalaureate	269 (11%)
2nd year of Baccalaureate	227 (9.6%)
Intermediate Vocational Training	196 (8.3%)
Advanced Vocational Training	57 (2.4%)
Other	33 (1.4%)
City	
Valencia	2,131 (90%)
Madrid	230 (9.7%)
Gender	
Boy	1,154 (49%)
Girl	1,156 (49%)
Non-binary	11 (.5%)
Other	3 (.1%)
Prefer not to answer	30 (1.3%)
Nationality	
Spanish	2,052 (87%)
Other	305 (13%)

Do you have access to social media on your phone, computer, or your parents'/guardians' device?	
Yes	2,361 (100%)
No	0 (0%)
Do you frequently use social media, such as WhatsApp, TikTok, Instagram, Twitch, YouTube, etc., more than 3 times a week?	
Yes	2,302 (98%)
No	54 (2.3%)

Note. M = mean; *SD* = standard deviation; CI = confidence interval.

Supplementary material 8. Confirmatory Factor Analysis of the BSBPN Scale

Table S15

Confirmatory Factor Analyses of the Autonomy, Competence, Relatedness Subscales

Model	χ^2	*df*	CFI	TLI	RMSEA	SRMR
3-factor model	453.928*	51	.930	.909	.080 [.073, .086]	.038

Note. χ^2 = Chi-Square; *df* = Degrees of Freedom; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardised Root Mean Square Residual. *$p < .05$.

Table S16

Standardised Factor Loadings (β) for the Three-Factor Model

Factor	Item	β (Std.)	*p*
Autonomy	1	.660	< .001
Autonomy	4	.733	< .001
Autonomy	7	.669	< .001
Autonomy	10	.739	< .001
Competence	2	.670	< .001
Competence	5	.690	< .001
Competence	8	.785	< .001
Competence	11	.659	< .001
Relatedness	3	.648	< .001
Relatedness	6	.807	< .001
Relatedness	9	.430	< .001
Relatedness	12	.705	< .001

Note. β = standardised factor loading; Std. = standardised estimate; *p* = probability value.

Table S17

Latent-Factor Covariances (Standardised)

Latent-factor pair	*r (Std.)*	*p*
Autonomy - Competence	.895	< .001
Autonomy - Relatedness	.687	< .001
Competence - Relatedness	.632	< .001

Note. *r* = standardised latent-factor covariance; Std. = standardised estimate; *p* = probability value.

Supplementary material 9. Sociodemographic data of the study sample 3

Table S18

Sociodemographic Data of Study Sample 3

	M (*SD*) or *n* (%)
Age	15.78 (1.37)
Course	
1st year of Compulsory Secondary Education	0 (0%)
2nd year of Compulsory Secondary Education	0 (0%)
3rd year of Compulsory Secondary Education	40 (13.6%)
4th year of Compulsory Secondary Education	126 (42.9%)
1st year of Baccalaureate	78 (26.5%)
2nd year of Baccalaureate	0 (0%)
Intermediate Vocational Training	24 (8.2%)
Advanced Vocational Training	16 (5.4%)
Other	10 (3.4%)
City	
Valencia	296 (100%)
Madrid	0 (0%)
Gender	
Boy	149 (50.7%)
Girl	141 (48%)
Non-binary	1 (.3%)
Other	1 (.3%)
Prefer not to answer	2 (.7%)
Nationality	
Spanish	253 (86.1%)
Other	41 (13.9%)
Do you have access to social media on your phone, computer, or your parents'/guardians' device?	
Yes	294 (100%)

	M (*SD*) or *n* (%)
No	0 (0%)
Do you frequently use social media, such as WhatsApp, TikTok, Instagram, Twitch, YouTube, etc., more than 3 times a week?	
Yes	291 (99%)
No	2 (0.7%)
Missing value	1 (0.3%)

Note. M = mean; *SD* = standard deviation.

Annexes. 7 Supplementary Materials of Chapter 5

Supplemental Material 1: Table with the Composition of Participants in the Pilot Study and Focus Groups

Table S19

Composition of Participants in the Pilot Study and Focus Groups for Study 3

Focus group	Gender	Sport	Age
Pilot study	Male	Basketball	14 years old
	Male	Swimming	16 years old
First Focus Group	Female	Basketball	16 years old
	Female	Taekwondo	16 years old
	Male	Football	16 years old
	Male	Athletics	16 years old
	Female	Basketball	16 years old
Second Focus Group	Female	Chess	19 years old
	Male	Futsal	19 years old
	Male	Basketball	17 years old
	Male	Swimming	17 years old
Third Focus Group	Female	Basketball	16 years old
	Male	Handball	19 years old
	Male	Rugby	17 years old
	Male	Chess	17 years old
Fourth Focus Group	Female	Rhythmic Gymnastics	19 years old
	Female	Cycling	19 years old
	Male	Futsal	19 years old
	Male	Football	19 years old
	Male	Basketball	19 years old

Supplemental Material 2. Focus Group Guides (English and Spanish)

FOCUS GROUP GUIDE ENGLISH

Hello everyone!

Thank you for participating in this discussion about how smartphone use affects your sports life. We are very interested in learning about your experiences and opinions, and I want to remind you that everything you say will be kept confidential. Nothing you share will be disclosed outside the research team in a way that could identify who said it. As stated in the informed consent form you have signed, this conversation will be recorded and transcribed for analysis. However, no identifying data will be included, since your contributions will be linked to a code instead of your name.

In this focus group, we are going to talk about how you use your smartphone and how it impacts your experience as athletes and your daily life. I will ask you some questions to guide the discussion, but what we are most interested in is that you talk among yourselves. If any question is unclear, please feel free to ask me to repeat or clarify it.

The common characteristic you share is that you are athletes in a developmental stage. We are not looking for any specific answer, nor do we consider smartphone use as something inherently positive or negative. We want to explore how you perceive it, both the benefits and the difficulties you have experienced.

Before moving on to the specific questions, I'd like to read you a brief finding from a study conducted with professional golfers during an international competition. This study showed that those players who used health, sports technique, or performance apps during the competition were able to improve their results. In contrast, those who spent more time on entertainment applications, such as social media, not only failed to improve, but some even saw their performance negatively affected. Now I'm going to ask you a couple of questions to give you an idea of the kinds of topics we will explore.

1. How do you think this difference could be explained?
2. This study shows that the type of smartphone use can make a difference in athletes' performance. Do you think smartphone use has a positive or negative effect on you as athletes?

Main Questions:

Now we are going to talk about how you use your smartphone both in your everyday life and in the sports context. We are interested in exploring how these uses affect your experience and well-being, whether inside or outside of sports. At certain points, we will ask you to focus specifically on the uses that influence your life as athletes.

1. **A. What uses do you make of your smartphone?**

   B. Can you identify any uses that arise specifically from your sports practice?

2. **A. What benefits do you get from using the apps or smartphone features you mentioned earlier?**

   B. And what impact do they have on your sports experience?

3. **A. What disadvantages do you experience when using the apps or smartphone features you mentioned earlier?**

   B. And how do they affect your sports experience?

4. **Now we're going to explore your smartphone use in the different contexts of your life.**

Family Context

1. **Management:** How do you manage your phone use at home?
2. **Limits:** In your family, who decides how and when you can use your phone? What kinds of rules or limits do you have at home?
    - If there are limits and/or rules, how were they explained to you? What role did you have in the decision-making process?
3. **Impact:** How do these rules or decisions make you feel? Do you think they help you or cause you frustration?

School Context

1. **Management:** How do you use your phone in the school context? Do you use it during classes, during breaks, or outside school?
2. **Limits:** Do your teachers set limits on phone use? If so, how do they manage those limits?

- If there are limits and/or rules, how were they explained to you? What role did you have in the decision-making process?

3. **Impact:** How do those rules or decisions make you feel? What impact do the rules about mobile phone use at school have on your academic experience or on your relationships with classmates and teachers?

Sport context

1. **Management:** How do you manage your smartphone use in the sports context? Do you use it before, during, or after training or competition?
2. **Limits:** Does your coach establish rules about how and when to use your smartphone in the sports setting?
    - If there are rules and/or limits, how were they explained to you? What role did you have in the decision-making process?
3. **Impact:** How do these rules or decisions make you feel? What impact do these rules have on your athletic performance or on your relationship with your coach and teammates?

Finally, is there anything related to smartphone use in sports that we haven't discussed and that you would like to share?

GUÍA FOCUS GROUP ESPAÑOL

¡Hola a todos/as!

Gracias por participar en esta conversación sobre cómo el uso del smartphone afecta vuestra vida deportiva. Nos interesa mucho conocer vuestras experiencias y opiniones, y quiero recordaros que todo lo que digáis será confidencial. Nada de lo que comentéis será compartido fuera del equipo de investigación de manera que se pueda identificar quién lo dijo. Tal como se indica en el documento de consentimiento informado que habéis firmado, esta conversación será grabada y transcrita para su análisis. Sin embargo, no se incluirán datos que puedan identificaros, ya que vuestras intervenciones estarán asociadas a un código en lugar de vuestro nombre.

En este grupo focal, vamos a hablar sobre el uso que hacéis del smartphone y cómo impacta en vuestra experiencia como deportistas y vuestra vida diaria. Os haré preguntas para guiar la conversación, pero lo que más nos interesa es que debatáis entre vosotros/as. Si alguna pregunta no queda clara, no dudéis en pedirme que la repita o la aclare.

La característica que compartís es que sois deportistas en una etapa formativa. No buscamos ninguna respuesta específica, ni consideramos el uso del smartphone como algo positivo o negativo en sí mismo. Queremos explorar cómo vosotros/as lo percibís, tanto los beneficios como las dificultades que habéis experimentado.

Antes de pasar a las preguntas específicas, quiero leeros un breve hallazgo de un estudio con golfistas profesionales en una competición internacional. Este estudio muestra que aquellos jugadores que usaron apps de salud, técnica deportiva o rendimiento durante la competición lograron mejorar sus resultados. En cambio, quienes pasaron más tiempo en aplicaciones de entretenimiento, como redes sociales, no solo no mejoraron, sino que algunos incluso vieron afectado negativamente su rendimiento. Ahora os voy a hacer un par de preguntas para que vayáis haciendo una idea del tipo de temas que exploraremos.

1. ¿Cómo creéis que se podría explicar esta diferencia?
2. Este estudio nos muestra que el tipo de uso del smartphone puede marcar una diferencia en el rendimiento de los deportistas. ¿Creéis que el uso del smartphone tiene un efecto positivo o negativo sobre vosotros como deportistas?

Preguntas principales:

Ahora vamos a hablar sobre cómo usáis el smartphone tanto en vuestro día a día general como en el contexto deportivo. Nos interesa explorar cómo estos usos afectan a vuestra experiencia y bienestar, ya sea dentro o fuera del deporte. En algunos momentos, os pediremos que os centréis específicamente en los usos que influyen en vuestra vida como deportistas.

1. **A. ¿Qué usos hacéis del smartphone?**

   B. ¿Identificáis algunos usos derivados específicamente de vuestra práctica deportiva?

2. **A. ¿Qué beneficios obtenéis al usar las aplicaciones o funcionalidades del smartphone antes descritas?**

   B. ¿Y qué impacten en vuestra experiencia deportiva?

3. **A. ¿Qué inconvenientes tienes al usar las aplicaciones o funcionalidades del smartphone antes descritas?**

   B. ¿Y que afecten a vuestra experiencia deportiva?

4. **Ahora vamos a explorar el uso del móvil en los distintos contextos de tu vida.**

Contexto Familiar

1. **Gestión**: ¿Cómo gestionas el uso de tu móvil en casa?
2. **Límites**: ¿En tu familia quién decide cómo y cuándo puedes usar el móvil? ¿Qué tipo de reglas o límites tienes en casa?
    - En caso de que existan límites y/o normas, ¿cómo se os han explicado? ¿qué rol habéis tenido en la toma de decisiones?
3. **Impacto**: ¿Cómo te hacen sentir esas reglas o decisiones? ¿Crees que te ayudan o te generan frustración?

Contexto Escolar

1. **Gestión**: ¿Cómo es el uso de tu móvil en el contexto escolar? ¿Lo usas durante las clases, en los descansos, o fuera de la escuela?
2. **Límites**: ¿Tus profesores/as te ponen límites sobre el uso del móvil? Si es así, ¿cómo gestionan esos límites?

- En caso de que existan límites y/o normas, ¿cómo se os han explicado? ¿qué rol habéis tenido en la toma de decisiones?

3. **Impacto**: ¿Cómo te hacen sentir esas reglas o decisiones? ¿Qué impacto tienen las reglas de uso del móvil en la escuela sobre tu experiencia académica o tus relaciones con compañeros/as y profesores/as?

Contexto Deportivo

1. **Gestión:** ¿Cómo gestionas el uso de tu teléfono inteligente en el contexto deportivo? ¿Lo usas antes, durante o después del entrenamiento o la competición?
2. **Límites:** ¿Tu entrenador establece reglas sobre cómo y cuándo usar tu teléfono inteligente en el entorno deportivo?

    - Si existen reglas y/o límites, ¿cómo te fueron explicados? ¿Qué papel tuviste en el proceso de toma de decisiones?

3. **Impacto:** ¿Cómo te hacen sentir estas reglas o decisiones? ¿Qué impacto tienen en tu rendimiento deportivo o en tu relación con tu entrenador y tus compañeros de equipo?

Finalmente, ¿hay algo relacionado con el uso del smartphone en el deporte que no hayamos discutido y que te gustaría compartir?

Supplementary Material 3. Visual Examples of the Reflexive Thematic Analysis Process

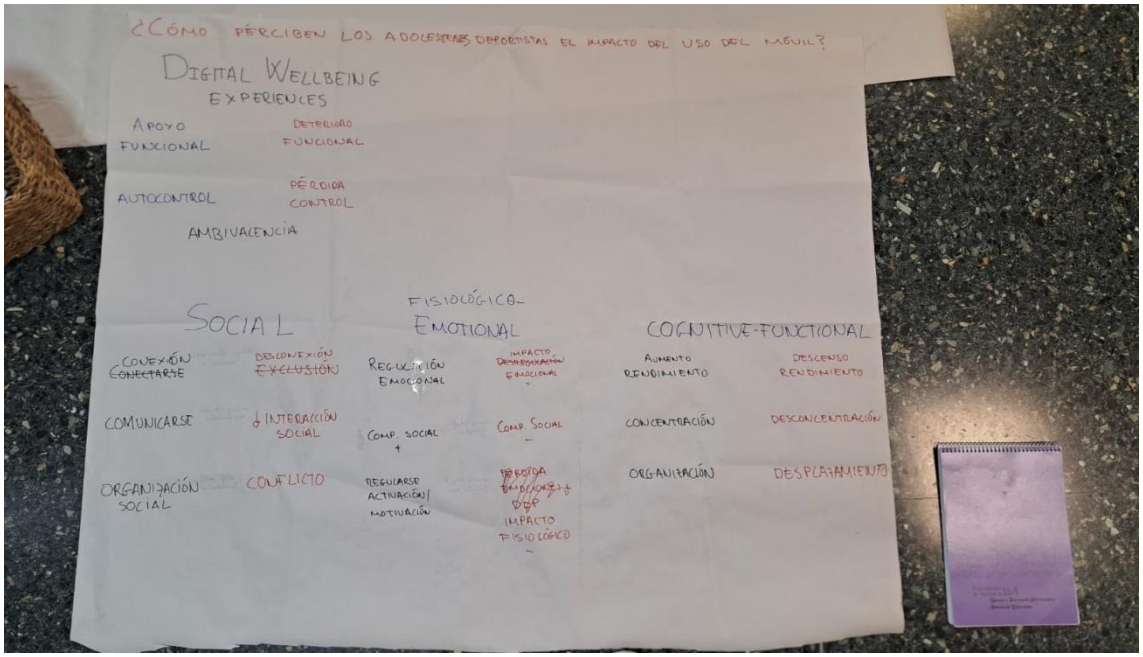
Figure S2

Example of the Initial Organisation of Codes During the Reflexive Thematic Analysis



Figure S3

Example of the Development of Provisional Thematic Areas From Coded Data



Annexes. 8 Supplementary Materials of Chapter 6

Supplementary Material 1

Table S20

Composition of Participants in the Pilot Study and Focus Groups for Study 4

Focus group	Gender	Sport	Age
Pilot study	Male	Basketball	14 years old
	Mal	Swimming	16 years old
First Focus Group	Female	Basketball	16 years old
	Female	Taekwondo	16 years old
	Male	Football	16 years old
	Male	Athletics	16 years old
	Female	Basketball	16 years old
Second Focus Group	Female	Chess	19 years old
	Male	Futsal	19 years old
	Male	Basketball	17 years old
	Male	Swimming	17 years old
Third Focus Group	Female	Basketball	16 years old
	Male	Handball	19 years old
	Male	Rugby	17 years old
	Male	Chess	17 years old
Fourth and Five Focus	Female	Rhythmic Gymnastics	19 years old
Group	Female	Cycling	19 years old
	Male	Futsal	19 years old
	Male	Football	19 years old
	Male	Basketball	19 years old

Supplementary Material 2

Figure S4

Setting in Which Focus Group 5 Was Conducted

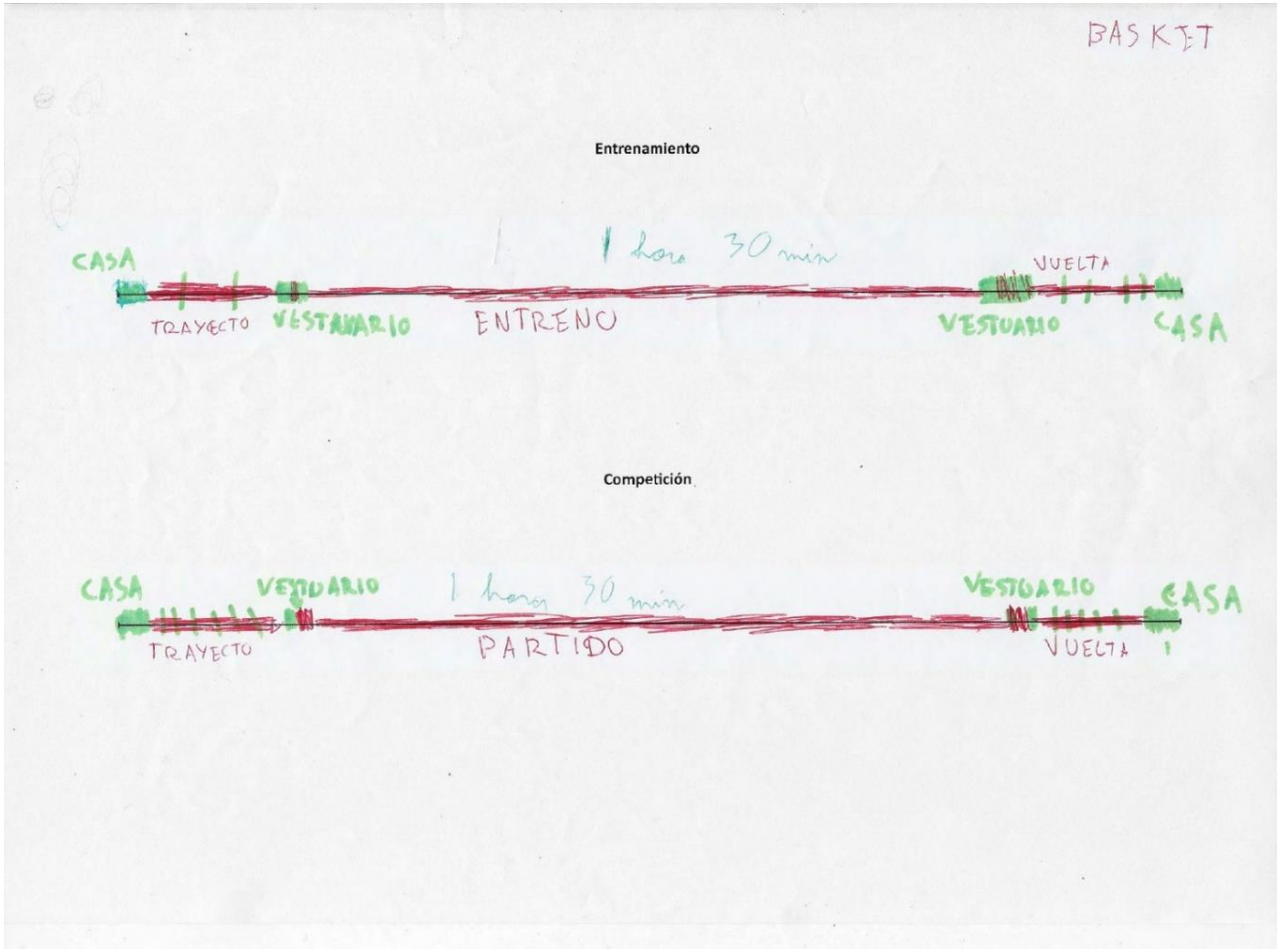


Note. The focus group took place on the shaded bench visible on the right side of the image.

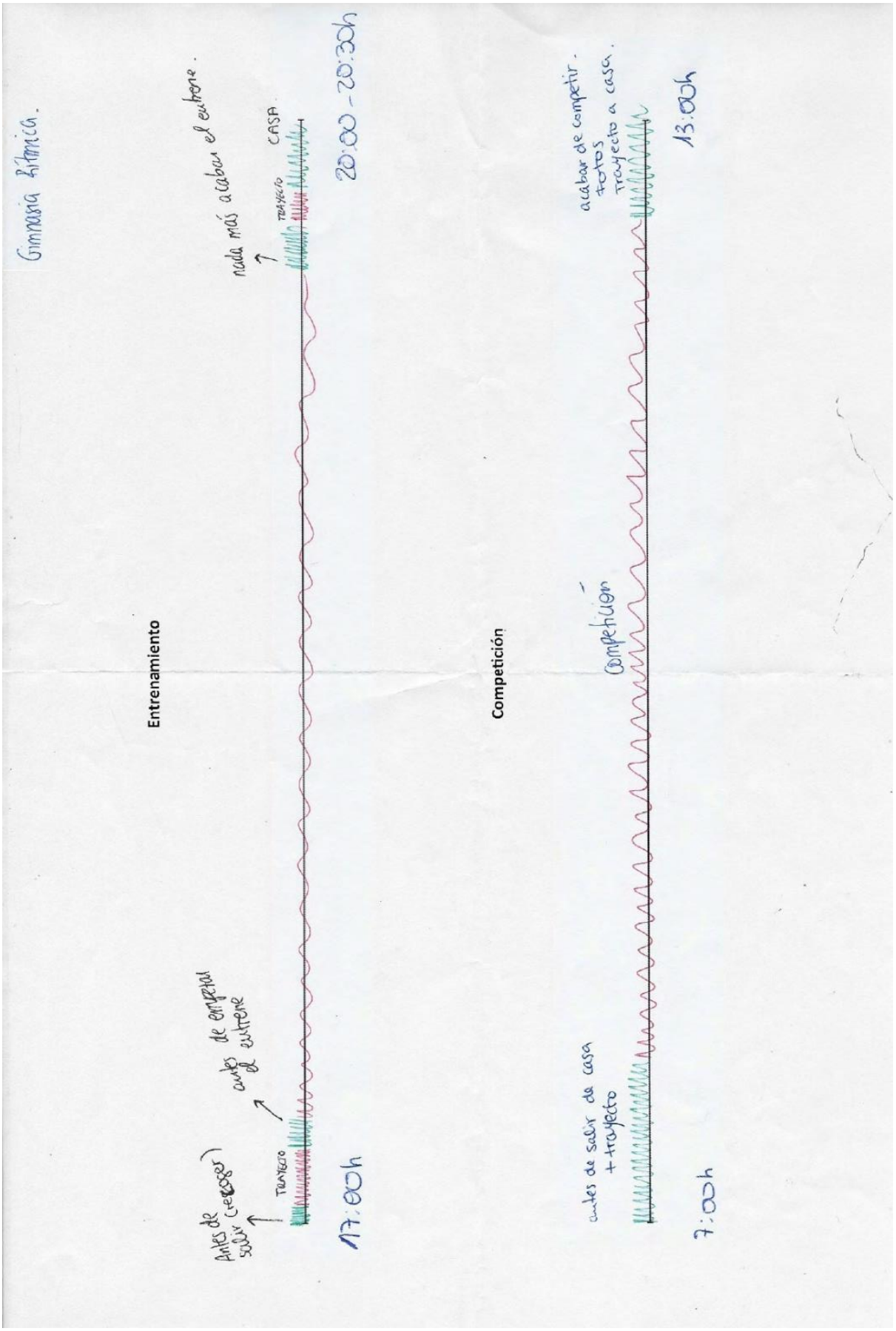
Supplementary Material 3

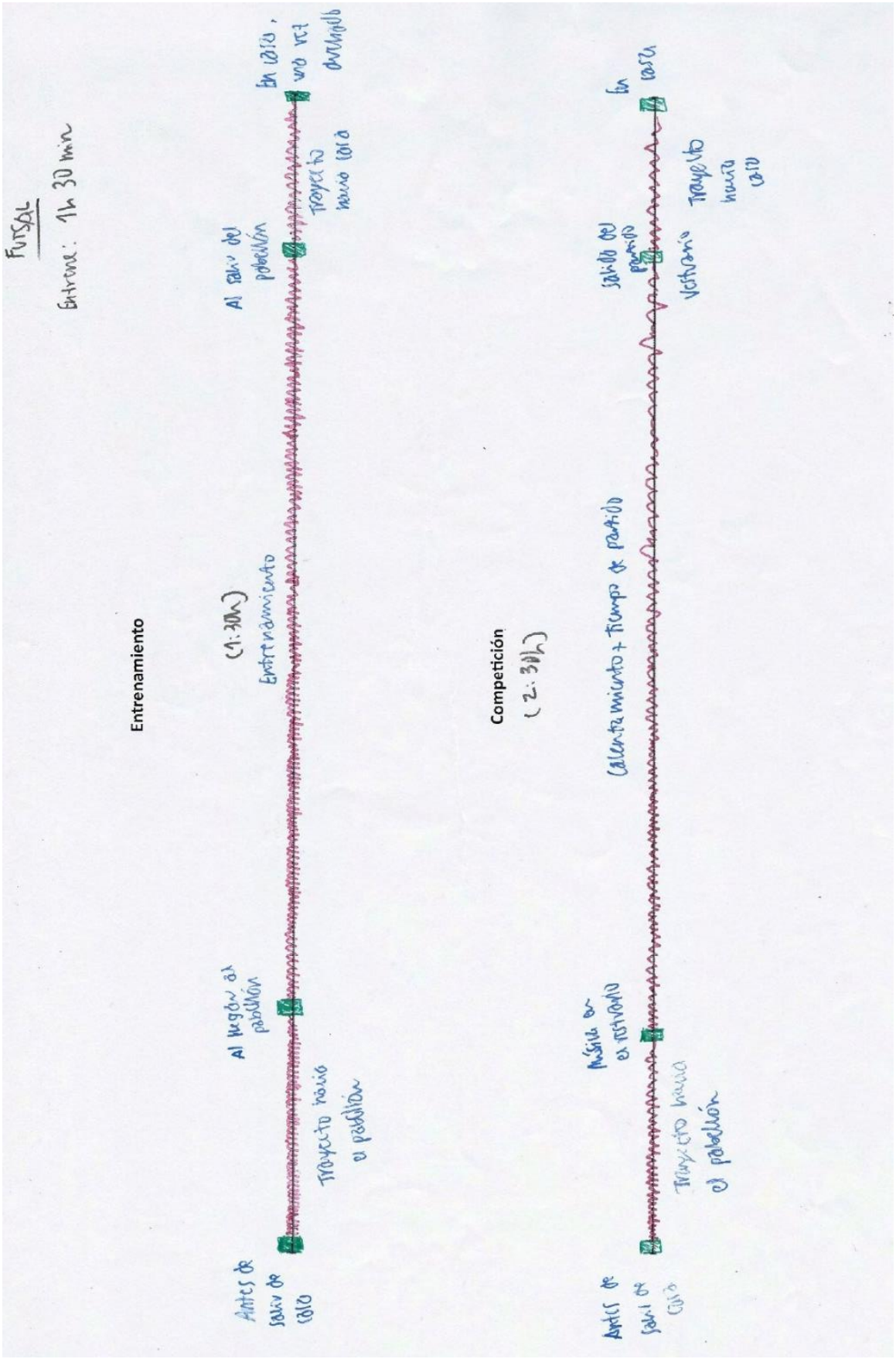
Figure S5

Original Illustration of the Timelines of (Dis)connection During Training Sessions and Matches




Fútbol
Entrenamiento
Competición
Entrada al vestuario
20:30
Entrada al vestuario
19:45

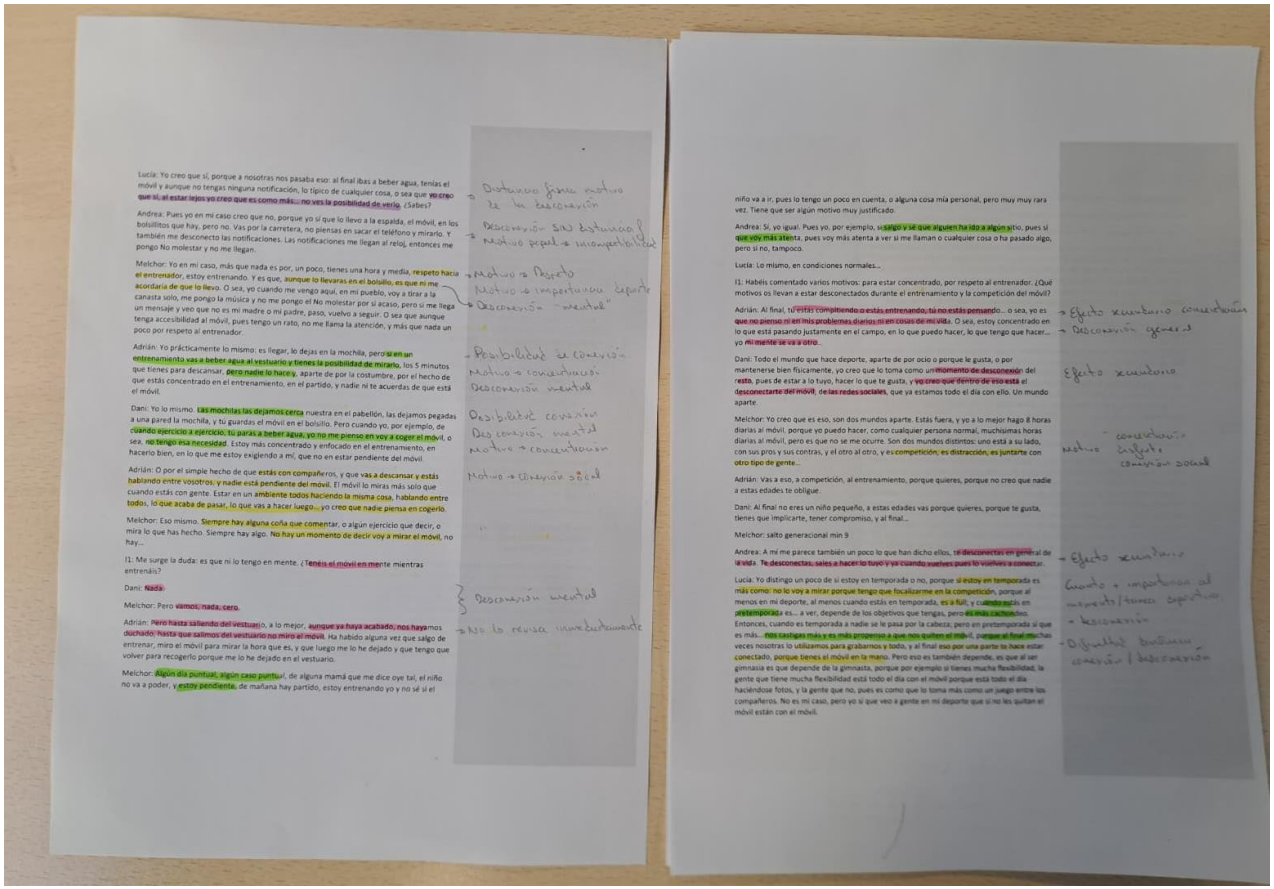

Gimnasia Rítmica.
Entrenamiento
Antes de cenar
salir corriendo
trayecto
antes de empezar el entreno
nada más acabar el entreno
trayecto
CASA
17:00h
20:00 - 20:30h
Competición
antes de salir de casa
+ trayecto
Competición
acabar de competir.
fotos
trayecto a casa.
7:00h
13:00h


FUTSAL
Entreno: 1h 30 min
Entrenamiento
(1:30h)
Competición
(2:30h)

Supplementary Material 4

Figure S6

Example of Manual Coding During the Second Phase of the Reflexive Thematic Analysis



Annexes. 9 Supplementary Materials of Chapter 1 and 7

Table S21[7]

Number of Publications by Media Type Within Psychology per Decade (1900–2025)

Decade	Press	Radio	TV	Social media	Smartphone
1900	2	0	0	0	0
1910	1	0	0	0	0
1920	2	0	0	0	0
1930	3	0	2	0	0
1940	21	1	3	0	0
1950	88	6	81	2	0
1960	403	9	388	8	0
1970	910	52	1122	57	0
1980	1498	73	1487	688	0
1990	8365	188	2606	1613	14
2000	9513	379	5519	3667	501
2010	8334	783	10493	26451	6625
2020	4491	595	5805	42320	11116

Note. Data were retrieved from the Web of Science database as of March 24, 2026. The search was restricted to the psychology research area and conducted using the following terms: ("radio" OR "radio broadcasting"), ("newspaper" OR "press"), ("television" OR "TV"), ("smartphone" OR "mobile phone"), and ("social media" OR "social network*"). Publication counts were aggregated by decade.

[7] These data have been used in Chapter 1 (p. 4).

Table S22[8]

Descriptive Statistics for DFSA Dimensions and SMD

Variable	*n*	*M*	*SD*	Min	Max	Skewness	Kurtosis
DFSA Connectedness	1723	2.50	0.92	0	5	-0.29	-0.05
DFSA Civil Participation	1723	2.93	0.69	0	5	-0.42	1.02
DFSA Positive Social Comparison	1723	2.23	0.96	0	5	0.12	-0.01
DFSA Authentic Self-Presentation	1723	2.69	0.87	0	5	-0.12	0.44
DFSA Self-Control	1723	2.58	0.84	0	5	-0.30	0.06
SMD	1723	21.19	9.51	0	52	0.16	0.09

Note. DFSA = Digital Flourishing Scale for Adolescents; SMD = Social Media Disorder; *M* = mean; *SD* = standard deviation. These data were used in Chapter 7.

[8] These data have been used in Chapter 7 (p. 192)

Figure S7

Spearman Correlation Matrix Among DFSA Dimensions and SMD-S

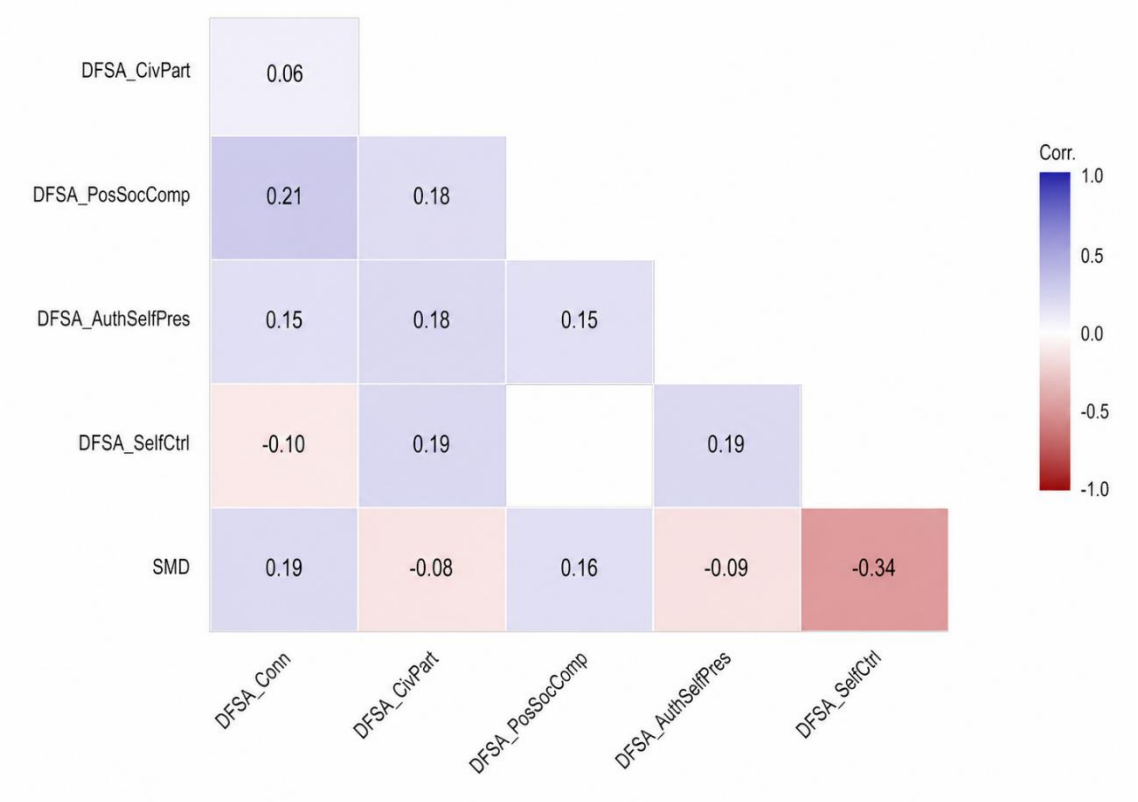


Table S23

Associations Between DFSA Dimensions and SMD

	Pearson *r*	95% CI	*p*	Spearman ρ	*p*
Connectedness	.179	[.133, .224]	< .001	.185	< .001
Civil Participation	-.061	[-.108, -.014]	.011	-.079	< .001
Positive Social Comparison	.141	[.094, .187]	< .001	.156	< .001
Authentic Self-Presentation	-.062	[-.109, -.015]	.010	-.086	< .001
Self-Control	-.324	[-.365, -.281]	< .001	-.342	< .001

Note. Pearson correlations are reported as the main coefficients, with 95% confidence intervals. Spearman's rho correlations are included as a sensitivity analysis. CI = confidence interval; *p* = probability value.

Digital Experiences in Adolescence: A Multiple-Methods Approach to Digital Media Use in Everyday Life and Sport

The integration of smartphones and social media into everyday life has transformed how adolescents communicate, learn, make sense of and manage emotional experiences, and participate in social relationships. Public and scientific debates have often focused on the risks associated with digital media use, particularly problematic social media use. At the same time, growing evidence suggests that adolescents may also derive meaningful benefits from their digital experiences. This dissertation aimed to provide a more comprehensive understanding of adolescents' digital lives by examining both problematic and positive experiences across multiple methodological approaches.

Through four complementary studies, this thesis identified distinct profiles of problematic social media use, adapted and validated a measure of digital flourishing for Spanish adolescents, and explored how adolescent athletes experience smartphone use within their everyday and sporting lives. The findings showed that adolescents' digital experiences cannot be reduced to a simple distinction between benefits and harms. Instead, they reflect a dynamic balance between opportunities and challenges that varies across individuals, situations, and contexts.

The thesis highlights the importance of considering adolescents' own perceptions when studying digital media use and demonstrates that contexts such as sport can shape how connectivity and disconnection are experienced and managed. In particular, sport emerged as an environment in which moments of digital disconnection naturally occur through shared norms, physical engagement, and the demands of participation.

Taken together, these findings support context-sensitive approaches to adolescent digital well-being. They suggest the value of assessing problematic patterns and positive digital experiences in combination, attending to the meanings adolescents attribute to their digital practices, and creating everyday environments in which connection and disconnection can be negotiated in more balanced and sustainable ways.

VNIVERSITAT DE VALÈNCIA Facultad de Psicología y Logopedia