



Social media usage and adolescents' mental health in the EU

ITU WTIS Conference

Beyond access: Measuring digital well-being for all

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Joint Research Centre

Science at the service of EU policies



ANTICIPATION



INTEGRATION



IMPACT

Our purpose

The JRC provides evidence-based knowledge and science, supporting European Union policies to have a positive impact on society

Well-being of young people is a high priority in the EU agenda

- 2018 General Protection Data Regulation (GDPR)
- 2022 Digital Services Act (DSA)
- 2022 Council of the European Union's Conclusions on supporting well-being in digital education
- 2023 EC COM on a comprehensive approach to mental health
- 2023 Council conclusions on a comprehensive approach to the mental health of young people
- **EU priorities (2024-2029) include activities *in preparation*:**
 1. *EU-wide inquiry on the broader impacts of social media on well-being*
 2. *Action Plan against Cyber-bullying*
 3. *At SOTEU 10 Sep 2025, EC President - options for social media age restrictions*

Complex relationship between social media use and mental health

National Academies of Sciences, Engineering, and Medicine, 2024; Borst et al., 2025

- **Time spent** on social media plays a key role in mental health outcomes and well-being (Sala et al., 2024; Blasko & Castelli, 2022)
- **Other factors** also play a role: nature of online activities, quality of interactions, individual differences in vulnerability and resilience (Orben et al., 2024; Mansfield et al., 2025)
- **Moderate social media use** (≤ 2 hours/day): linked to greater well-being, social support, social relationships and participation in social and political life (Alcott et al., 2020; Bottaro & Faraci, 2022)
- **High social media use** (> 2 hours/day): associated with increased risk of depression and low self-esteem, poor sleep, poor body image and distraction (Webster et al., 2021; Bozzola et al., 2022)

JRC recent and current work on well-being

Computers in Human Behavior Reports 14 (2024) 100404

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Computers in Human Behavior Reports

Journal homepage: www.sciencedirect.com/journal/computers-in-human-behavior-reports



Review

Social Media Use and adolescents' mental health and well-being: An umbrella review

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ABSTRACT

This umbrella review analyses the risks and opportunities for adolescents' mental health and well-being associated with Social Media Use (SMU). Mitigation proposals presented in systematic, scoping and narrative literature reviews and meta-analyses. Following the PRIOR guidelines, we exclusion criteria for Population (10-19 years), Exposure (Social Media Use) and Outcomes (Well-being, Ill-being, Mental health) and search from January 2015 to April 2023 in four databases: Scopus, Web of Science, PsycInfo, and Pubmed. We screened titles and abstracts of after conducting the quality assessment based on the AMSTAR 2 protocol, we selected 24 articles on which we performed a thematic analysis relationship between SMU and adolescents' mental health is influenced by several intervening factors: 1) individual demographic and psych 2) individual use of Social Media (SM), and 3) SM' content and design. Furthermore, we describe the risks and opportunities associated from the reviewed articles. We discuss how the limitation to collecting SM data hinders the research on the impact of SMU and how the design principles by SM platforms would contribute to introducing a societal change to achieve a population-level shift, which is harder to responsible use is only attributed to individuals' choices. Finally, we discuss the opportunities brought about by upcoming regulatory framework Digital Services Act.

Loneliness and social media use in the European Union

HIGHLIGHTS

→ Approximately 34.5% and 26.1% of respondents aged 16-30 use social networking sites and instant messaging tools for over 2 hours per day, respectively. The corresponding figures for respondents 31 or older are 13.1% and 8.0%.

→ Over one third of young respondents exhibit patterns of social media addiction. Approximately 12% of respondents aged 31 or older fall into this category.

→ Spending more than 2 hours per day on social network sites is associated with a substantial increase in the prevalence of loneliness. Intense passive use of social media is also linked with increased loneliness.

→ There is not a significant association between intensive use of instant messaging tools or active use of social media and loneliness.

→ The relationship between social media use and loneliness does not vary by age group.

→ These findings are consistent with previous research and suggest that how social media is used matters more than how often social media is used.

Background

The increasing use of social media worldwide has resulted in a level of interpersonal connectivity never seen before. This phenomenon has prompted numerous inquiries regarding the impact of social media on society.

Social media enables communication, collaboration, and the exchange of thoughts, images, and ideas between an unlimited number of people worldwide. It can help form new relationships and communities regardless of physical distance. A variety of social media tools enable us to communicate with friends and family members at any time of day and receive immediate feedback from them.

The scientific community has questioned a possible cause-and-effect relationship between the increasing use of social media and feelings of loneliness, especially among younger people. Social media users may become increasingly lonely because they replace face-to-face relationships with online connections, which lack the intimacy and quality of face-to-face relationships. This concept is known as the displacement hypothesis. The stimulation hypothesis, on the other hand, asserts that using social media can reduce loneliness by boosting existing relationships and making new ones. Recent research suggests that the motivations underlying social media use (e.g. replacing vs. enriching existing relationships) and the type of social media can influence the correlation between loneliness and social media use.

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Minors' health and social media: an interdisciplinary scientific perspective

European Centre for Algorithmic Transparency roundtables

Mansouri, S., Sala, A., Sundborg, E., Chaudhry, S., Gomez, E., Bouliotis, K., Buzola, E., Cataldo, J., Hale, L., Kent, M., Montag, C., Nivins, S., O'Reilly, M., Rubæk, L., Schatz, Thorud, H.-M., Stepanich, V., Vandenbosch, L.

2025

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Cyberbullying: Considerations towards a common definition

HIGHLIGHTS

→ The European Commission is committed to creating a safer digital environment for all citizens, especially minors and youth.

→ While the prevalence of cyberbullying continues to grow, there is no consensus yet on a standardised definition.

→ An agreed definition would i) support and inform policy making for a more effective response to cyberbullying by facilitating coordination and a globally cohesive approach, and ii) enable more accurate data collection and analysis, helping researchers and policymakers to track trends, assess the

effectiveness of interventions, and make informed decisions.

→ Almost all European Union Member States have legislation addressing bullying or cyberbullying, with 13 providing specific definitions.

→ The rapid evolution and uptake of digital technologies (e.g., generative AI) is giving rise to new kinds of behaviours that pose challenges for defining, identifying and addressing cyberbullying. Doing so effectively requires consulting with a broad range of stakeholders, including minors, young people and vulnerable groups.

1. BACKGROUND

The European Commission (EC) is committed to creating a safer digital environment for all citizens, with particular attention to minors and youth. As highlighted in President von der Leyen's 2024-2029 political guidelines and the mission letters to Commissioners Micallef, Várhelyi and Virkkunen,


efforts to combat cyberbullying and ensure social media safety are being prioritised through an Action Plan against cyberbullying and a social media inquiry (von der Leyen, 2024).

Despite the opportunities digital technology and social media offer, they also heighten the risk of cyberbullying, as highlighted by the Better Internet


Upcoming!

- Well-being in digital education
- Cyberbullying: Definitions, insights from academic literature and overview of legislation across the European Economic Area

JRC141047



SCIENCE FOR POLICY BRIEF



Social media usage and adolescents' mental health in the EU

HIGHLIGHTS

- In 2022, on a typical weekday, 96% of 15-year-olds in the EU engaged in social media activities, with 37% spending over three hours per day browsing on these platforms.
- Results from a representative sample of over 40,000 adolescents from four EU countries (Ireland, Hungary, Slovenia and Spain) show that nearly half (47%) of 15 year olds report depression and over half (53%) struggle with anxiety. Excessive social media usage (i.e., more than three hours per day) is associated with negative mental health outcomes, specifically depression and anxiety.
- Female adolescents exhibit higher intensive (over three hours per day) social media usage rates than their male peers (42% vs. 32%), and are significantly more likely to experience symptoms of depression (60% vs. 35%) and anxiety (65% vs. 41%), highlighting the need for gender-specific policy interventions and research.
- Future research and policy interventions should consider the intensity of social media use, the nature of activities, and the unique vulnerabilities of different demographic groups, particularly young females. Gender-sensitive and context-specific policies are essential to address and bridge these disparities. Media and digital literacy, as well as awareness raising for students and all educational stakeholders, are fundamental.
- Qualitative and quantitative studies are needed to better understand the underlying mechanisms driving the relationship between social media usage and poor mental health among adolescents, particularly given the challenge of establishing causality.

BACKGROUND AND POLICY RELEVANCE

Social media¹ refers to online platforms, tools and technologies that emerged during the early 2000s that enable users to create and share their own content, and engage with other users through an interactive digital environment (boyd, 2014; Kaplan and Haenlein, 2010). The most used social media platforms by the young people (15-24 years old) in the EU are Instagram (used by 76%), YouTube (69%), WhatsApp (60%) and TikTok (55%).²

¹ For the purpose of this work, we use the terms 'social media' and 'social networking sites' interchangeably.

² <https://europa.eu/eurobarometer/surveys/detail/3153>

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<https://publications.jrc.ec.europa.eu/repository/handle/JRC141047>



Research Questions

- Is there a relationship between social media usage and adolescents' mental health?
- Is this relationship affected by the intensity of social media usage?
- Are there differences across genders?

Data, Methodology and Results

Data

2022 OECD Programme for International Student Assessment (PISA) data

- 15-year-olds in school grade 7 or higher
 - **ICT survey on digital behaviour:** 22 EU MS (all EU countries except Cyprus, France, Luxembourg, Netherlands and Portugal)
 - **Well-being survey including mental health, among others:** 5 EU MS (Hungary, Ireland, Netherlands, Slovenia, Spain)

Sample of analysis:

- **ICT + Well-being surveys**
- 4 EU MS: Hungary, Ireland, Slovenia and Spain
- A representative sample of **40,102 adolescents** in 1743 schools

Methodology

1. Descriptive analysis of ICT use in 22 MS
2. Descriptive analysis of mental health in 4 MS
3. Probabilistic (Logit) model of the relationship between ICT use and mental health
 - Dependent variable: 0 for no reported anxiety or depression; 1 for reported anxiety or depression (combining different levels of intensity).
 - Covariates: gender; year of birth; Index of economic, social and cultural status; reading outcomes; family support; sense of belonging at school; experience with bullying; and country.

Results:

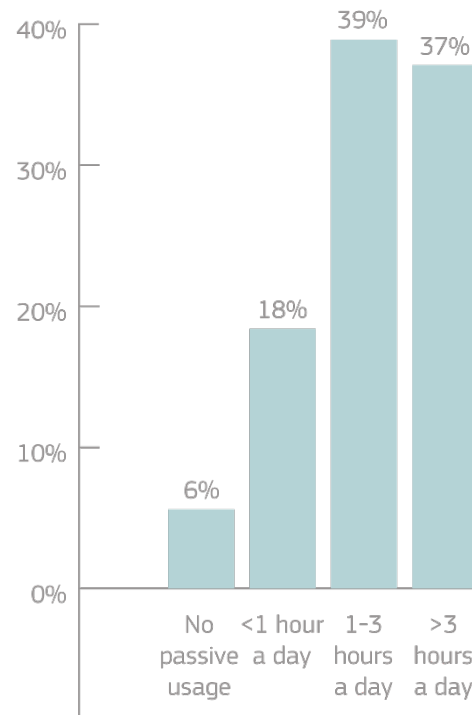
EU adolescents' social media usage patterns

During a typical weekday in 2022, 96% of 15-year-old engage in social media activities



37% of 15-year-old in the EU engage in social media activities >3 hours per day

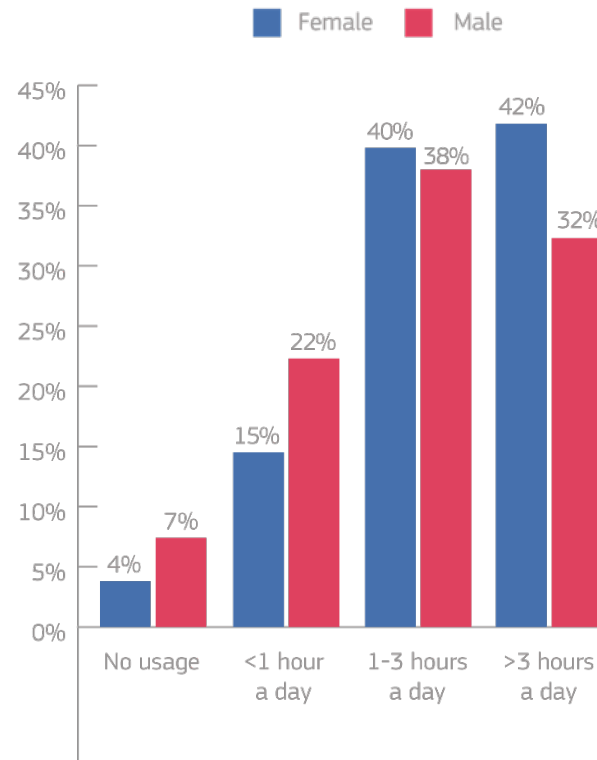
Percentage of 15-year-old by time of social media usage



Source: PISA 2022

Female users are more likely than males to spend over 3 hours a day on social media

Percentage of 15-year-old by gender and time of social media usage

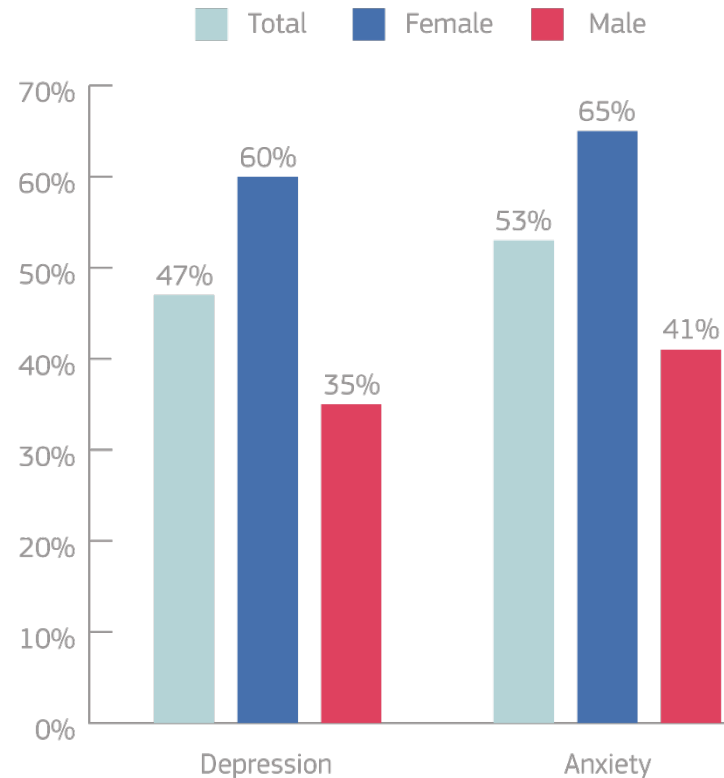


Results:

Adolescents declared mental health in 4 countries

High levels of poor adolescent declared mental health in the 4 countries (HU, IE, SI, ES) with wide gender differences

Share of 15-year-old experiencing poor mental health by gender



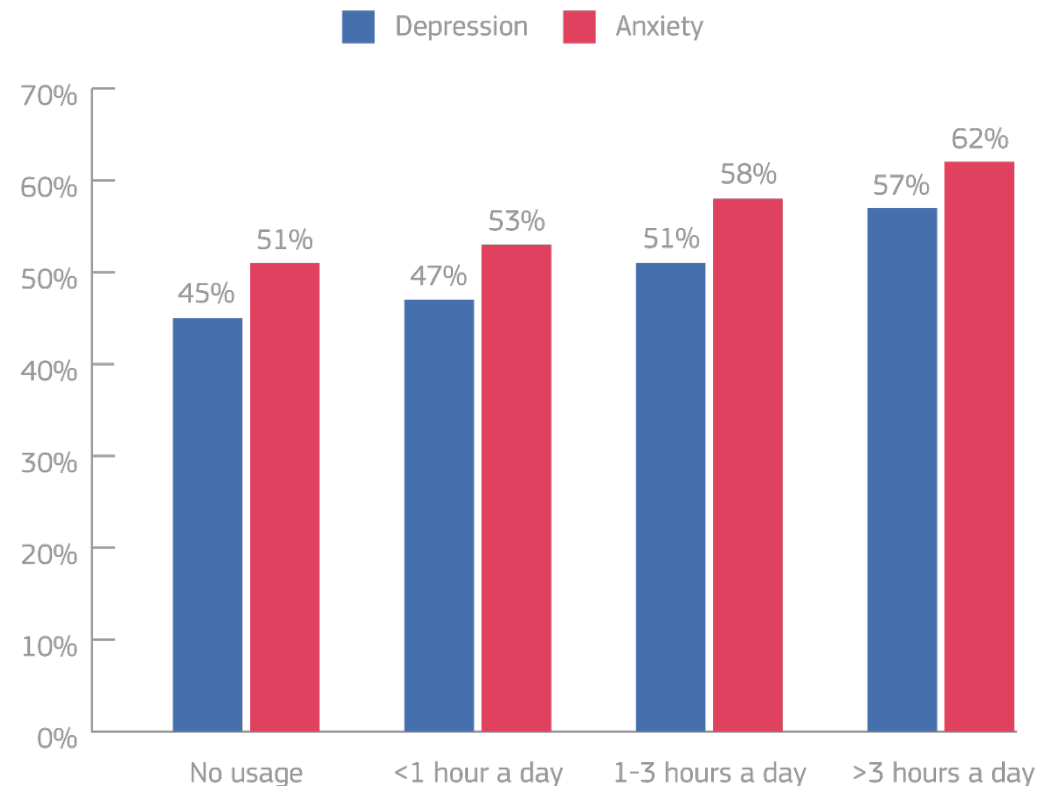
Source: PISA 2022

Results:

Correlation between adolescents'
ICT use and mental health

Positive correlation between high social media usage and self-reported poor mental health

Estimated probabilities of 15-year-old experiencing poor mental health by time spent on social media



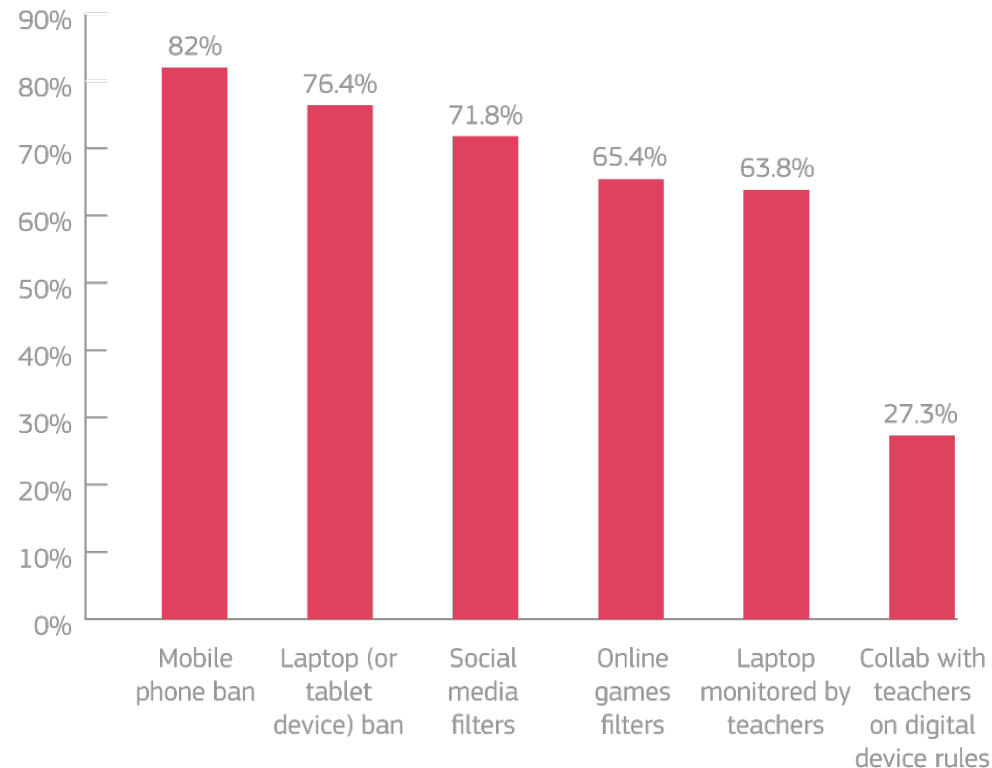
Time spent on social media has a similar effect on mental health across genders

Estimated probabilities of 15-year-old experiencing poor mental health by gender and time spent on social media



Adolescents oppose blanket tech bans but support collaborative rule-making in schools

Percentage of 15-year-old disagreeing with ICT use regulations



Source: PISA 2022.

Conclusions

Policy implications

- **Need for multi-dimensional interventions:**
 - Reducing social media's addictive features: DSA (Arts. 34 & 35-addictive design)
 - Promoting digital literacy and awareness: healthy social media use & self-regulation
 - Training educational stakeholders, including parents: opportunities and risks
- **Gender-sensitive policies**
- **Context-specific approaches**
- **Youth involvement in the dialogue**

Future research

- **Understanding the link between social media use and poor mental health** is essential for developing targeted and effective measures to mitigate the potential negative effects
 1. **Need for systematic data collection on well being and ICT use**, if possible with **longitudinal data** to monitor social media usage across the EU.
 2. **Complement** self-reported data **with actual usage data** on social media activities for deeper insights on factors influencing poor mental health.
 3. **Complementary qualitative research with participatory methods**, to capture adolescents' perspectives and needs on social media usage and its impact

Thank you



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