

## Regulating for Problematic Smartphone and Social Media Use Among Youth: A Public Health Challenge and Opportunity

### Regulação para o Uso Problemático de Smartphones e Redes Sociais entre Jovens: Um Desafio e uma Oportunidade para a Saúde Pública

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#### INTRODUCTION

The problematic use of smartphones and social media by children and adolescents has raised widespread concern across society. Although these technologies offer undeniable advantages, growing evidence indicates that they introduce significant risks.

Early and excessive exposure may affect the health, development, and social, emotional, and cognitive well-being of children and adolescents, increasing the likelihood of contact with harmful content with various risks. It can compromise healthy lifestyle habits, including sleep, socialisation, academic performance, and mental health, and is associated with anxiety, emotional dysregulation, and addiction risk.<sup>1</sup> Schools, as key settings for health promotion, should reinforce healthy behaviours and prevent risks that affect students' physical, psychological, and social well-being including from problematic and excessive social media use.

Balancing technological progress with the protection of children's and adolescents' health and well-being is essential. Regulation of smartphone and social media use should reduce exposure in early age while empowering young people for safe and conscious digital engagement.

#### Effects of Excessive Smartphone Use and Problematic Social Media Use

It is important to distinguish healthy use—characterised by clear purpose, high-quality information, moderate duration, and cognitive or behavioural benefits<sup>2</sup>—from problematic use, involving prolonged exposure, vulnerability to risky or harmful content, and negative health effects.

Excessive daily screen time is strongly associated with adverse health outcomes, including sedentary behaviour, poor posture, unhealthy diet, weight gain, sleep disturbance, and fatigue.<sup>3</sup> A systematic review found that excessive smartphone use reduces attention and concentration in school environments<sup>4</sup>, negatively impacting academic performance.

Problematic social media use shows patterns similar to substance dependence and is associated with depressive and anxiety symptoms, increased social isolation, and emotional dysregulation.<sup>3,5</sup> Among female adolescents, a consistent relationship between anxiety and problematic social media use has been documented.<sup>6</sup> Such patterns increase risks of conflict, bullying, superficial relationships, constant social comparison, and the 'fear of missing out' phenomenon.<sup>7,8</sup> Reduced face-to-face interaction time limits opportunities to develop socioemotional skills such as active listening, emotional expression, non-verbal communication and meaningful social bonding<sup>1</sup>, hindering identity formation and autonomy.

Additional risks include exposure to disinformation and harmful online content, such as sexual exploitation, online violence and aggression, hate speech, self-harm, suicide, and cyberbullying. The lack of transparency and limited data access to social media platforms hinder scientific and regulatory assessment of these phenomena.

Categories of risky or harmful content online have been categorised as follows<sup>9</sup>:

- Commercial risks: targeted advertising, spam, sponsored content, personal data collection, gambling,

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illicit financial transactions, illegal downloads, and piracy.

- Aggression/violence risks: exposure to violent or hateful content, bullying, harassment, stalking, and engagement in similar behaviours.
- Sexual risks: exposure to harmful, pornographic, or violent sexual content; interactions with strangers; or involvement in producing or sharing sexual material.
- Behavioural and value-related risks: disinformation, manipulation, biased advice, and content promoting harmful, criminal, addictive, or self-injurious behaviours; unwanted persuasion; and active promotion of risky behaviours for health and well-being among peers.

### Current Context in Portugal

In Portugal, the recent approval of Decree-Law No. 95/2025<sup>10</sup>, which regulates the use of Internet-enabled electronic devices in schools and prohibits their use by students in the first and second cycles of basic education from the next academic year, aligns with global regulatory trends.

According to the Health Behaviour in School-aged Children (HBSC) study<sup>11</sup>, 64.5% of Portuguese students from the 6th to the 10th grade exceed the WHO-recommended maximum of two hours of daily smartphone use.<sup>11</sup> A significant proportion of adolescents spend more than two hours per day on platforms such as TikTok (43.1%), WhatsApp (38.8%), Instagram (37.1%), and YouTube (32.7%).<sup>11</sup>

The EU Kids Online Portugal 2018 report found that 23% of Portuguese children and adolescents aged 9–17 had distressing online experiences.<sup>12</sup> Since 2014, bullying prevalence has doubled, reaching 24% in 2018. Additionally, 37% were exposed to sexual content, 43% to hate messages, 32% to pro-anorexia content, 45% to self-harm material, 46% to violent or disturbing content involving humans or animals, 35% to drug use content, and 29% to suicide-related material.<sup>12</sup>

### International Regulatory Interventions

Despite contextual and normative differences, there is a growing international trend towards regulating exposure to rapidly evolving digital environments. The measures summarised in Appendix 1 (Appendix\_01: <https://www.actamedicaportuguesa.com/revista/index.php/amp/article/view/23409/15793>) range from legal bans on social media access for minors under 16 to restrictions on mobile phone use in schools.

### Call to Action: Recommendations for Portugal

A structured intervention in schools and society is necessary, including the definition of minimum ages for social media use, considering that:

1. Excessive use is frequent and negatively affects mental and physical health, socioemotional, cognitive, and academic development, as well as interpersonal relationships.<sup>1,9</sup>
2. Addictive behaviour may exacerbate negative impacts and increase exposure to harmful content, including violence, hate, risky behaviours, self-harm, and disinformation.
3. Developmental stages in childhood and adolescence entail specific vulnerabilities. During childhood, limited self-regulation and critical thinking increase susceptibility to manipulation/persuasion. During adolescence, prefrontal cortex immaturity and dopaminergic reward predominance favour impulsivity, emotional dysregulation, and sensitivity to external influences<sup>13</sup>, such as algorithm-driven polarisation.
4. Face-to-face peer socialisation is fundamental to the development of identity, autonomy, and socioemotional skills which in turn are fundamental to health and well-being.<sup>1</sup>

Applying the precautionary principle, the following actions are recommended:

1. Comprehensive and transparent implementation of Decree-Law No. 95/2025<sup>10</sup>, supported by adaptation of internal school regulations.
2. Regulation of minimum age for social media use, with platforms legally required to ensure compliance.
3. Development of a national programme on digital, media, and socioemotional skills within schools, including training on conscious use, emotional regulation, critical thinking, online safety, disinformation, and mental health literacy.
4. Identification of problematic use patterns by family physicians, paediatricians, teachers, and families, indicating referencing to tailored strategies to mitigate harm, including psychological support and social prescribing (e.g., sports, cultural, or community activities promoting well-being, social skills, and reduced harmful screen exposure).
5. Promotion of academic research using social media data to assess how different content exposures affect health, well-being, academic performance, and behaviour in children and adolescents.
6. Evaluation of implemented control measures to inform the design of future evidence-based regulations.
7. Support for European regulatory frameworks aimed at reducing exposure to harmful online content.<sup>14</sup>

### CONCLUSION

Banning smartphone use in schools during early and

more vulnerable developmental stages may improve children's and adolescents' well-being and health, reduce bullying and cyberbullying, limit exposure to harmful content such as violence, hate, self-harm, and disinformation, reduce demand for psychological support, and enhance academic performance.<sup>15</sup> However, sustainable positive effects require parallel implementation of interventions that promote socioemotional skills, critical thinking, and digital and media literacy.

The success of these measures depends on coordinated action between the health and education sectors, and families, adopting an integrated approach that places children's and adolescents' health and well-being at the core of decision-making.

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## AUTHOR CONTRIBUTIONS

FC, LS, VRP: Study design and writing of the manuscript.

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## CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

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