Research Article

PARENTAL PROTECTION BEHAVIOUR AGAINST CHILDREN'S PROBLEMATIC INTERNET USE: A SCOPING REVIEW OF EXISTING INSTRUMENTS

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Abstract

With the growing concern over children's safety online, understanding the effectiveness of parental mediation strategies through reliable questionnaires is crucial. This scoping review article examines the landscape of questionnaires designed to assess parental protection against children's problematic internet use, a critical area of research in the digital age. It aims to consolidate knowledge on developing, validating, and applying these questionnaires, identifying three key themes: theoretical foundations, validation processes, and real-world effectiveness. The review underscores the complexity of digital parenting, evidenced by the diverse theoretical frameworks that inform questionnaire development. It emphasises the importance of rigorous validation efforts to ensure these tools' reliability across various demographics, enabling a nuanced understanding of parental mediation strategies. Furthermore, the review demonstrates the practical utility of these questionnaires in enhancing children's online safety, reflecting on their role in guiding research, interventions, and policy-making. In conclusion, this review emphasises the vital role of well-designed questionnaires in advancing research on parental protection strategies against children's problematic internet use. It calls for ongoing efforts to refine these instruments to keep pace with the rapidly evolving digital environment, ensuring they remain relevant and effective in guiding interventions and policy-making to safeguard children's online experiences. This work contributes to the academic understanding of digital parenting and offers practical insights for developing targeted, evidence-based approaches to enhance online safety for children.

Keywords: Parental protection behaviour, Problematic internet use, Parent, Children, Questionnaire, Instrument, tool.

INTRODUCTION

In the digital age, children are increasingly exposed to the vast expanses of the internet, which, while offering immense learning and social opportunities, also presents significant risks to their safety and well-being (Hayes *et al.,* 2022; Oli, 2023). The complex nature of the online world, with its myriad of social platforms, applications, and content, necessitates a nuanced understanding of how parents can effectively protect their children from the potential dangers they may encounter. This necessity has led to various questionnaires to assess parental protection strategies against children's problematic internet use (Ismail *et al.,* 2020; Y.-H. & S.S.F., 2013). These tools seek to measure the efficacy of parental mediation, the strategies employed to monitor and guide children's internet activities, and their impact on children's online safety and behaviour. This scoping review aims to comprehensively examine the existing literature on questionnaires designed to assess parental protection against children's problematic internet use. By identifying and synthesising key themes from the research, this article aims to highlight the theoretical underpinnings that guide the development of these questionnaires, the processes involved in their validation, and their effectiveness in practical applications.

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Through this analysis, the review offers insights into the complex dynamics of digital parenting and the role of parental mediation in safeguarding children online. The increasing ubiquity of the internet in children's lives has underscored the critical role of parental mediation in navigating online safety challenges (Ren & Zhu, 2022; Wahyuningrum *et al.,* 2020; Zhao *et al.,* 2023). This scoping review sheds light on the valuable contributions of questionnaires designed to assess parental protection strategies, emphasising their importance in advancing our understanding of digital parenting. By examining these tools' theoretical development, validation, and effectiveness, this article contributes to the ongoing discourse on enhancing children's online safety, advocating for the continuous improvement and adaptation of these instruments in response to the evolving digital landscape.

Review Questions

- What are the theoretical frameworks underpinning the development of the existing questionnaires?
- What are the validation processes for the questionnaires?
- What is the effectiveness of the questionnaires in predicting parental protection behaviour outcomes?

METHODOLOGY

This scoping review followed the JBI Scoping Review Methodology Group's guidelines to systematically explore

existing questionnaires that assess parental protection against children's problematic internet use. The review was conducted in five stages: identifying the research question, relevant studies, study selection, charting the data, and collating, summarising, and reporting the results. Firstly, three research questions were defined to guide the review (as listed in Section 2). A comprehensive search strategy was employed to identify relevant studies, utilising SCOPUS as the primary database due to its extensive coverage of peer-reviewed literature across various disciplines. The search terms included combinations of keywords such as "parental protection", "internet", and "questionnaire". For each keyword, similar phrases were identified in dictionaries, thesauri, encyclopedias, and previous research. A search string was created in combination with Medical Subject Headings (MeSH) once all relevant phrases had been determined (Table 1).

Table 1. Search string

Search String	TITLE-ABS-KEY ((internet OR online OR cyber OR digital OR web) AND ("parental protecti* bahavi*" OR "parental mediation" OR "parental protection" OR "parental monitoring" OR "parental restriction" OR "parental control") AND (questionnaire OR scale OR measure OR tool OR survey)

The search was limited exclusively to articles published in English at the final publication stage. Only research articles (literature type) were chosen as they are the primary source of practical information. This study excluded publications in systematic reviews, meta-analyses, meta-synthesis, book series, book chapters, and conference proceedings. The chosen schedule was ten years, including articles from 2014 to 2023. During the study selection phase, two reviewers independently screened the retrieved articles' titles and abstracts to assess their relevance based on the inclusion criteria. Full-text articles of potentially relevant studies were then obtained and reviewed for eligibility. Discrepancies between reviewers were resolved through discussion, and a third reviewer was consulted if necessary. Data extraction was performed using a standardised charting form, capturing details such as the study's aim, methodology, sample characteristics, questionnaire design, validation processes, and key findings. The extracted data were collated and summarised to answer the outlined research questions. The results were synthesised narratively, providing a comprehensive overview of the current state of questionnaires on parental protection against children's PIU.

REVIEW OF STUDY

Theoretical Frameworks Underpinning Questionnaire Development:

In the burgeoning field of research concerning parental protection against children's PIU, a wide array of theoretical frameworks has been harnessed to dissect and understand the complex interactions between parental mediation strategies and children's online behaviours. These theories, drawn from diverse psychological and sociological traditions, offer a nuanced lens through which to assess and enhance the efficacy of parental interventions. The Theory of Planned Behaviour (TPB) and its variations were prominently featured in several studies, indicating its broad applicability in understanding online behaviours. For instance, Wang *et al.* (2017) manipulated subjective norms within the TPB framework to explore the decision-making process among Chinese

adolescents when choosing between online gaming and homework, highlighting the roles of peer support and parental monitoring (Wang *et al.,* 2017). Similarly, Alotaibi (2013) applied TPB to examine intentions towards cyberbullying among Saudi students, focusing on attitudes, normative beliefs, subjective norms, and perceived behavioural control (Figure 1) (Alotaibi, 2019). These studies underscore the TPB's utility in predicting online behaviour intentions, providing insights into how attitudes, perceived social pressures, and perceived control influence children's online activities and their susceptibility to risks like cyberbullying.
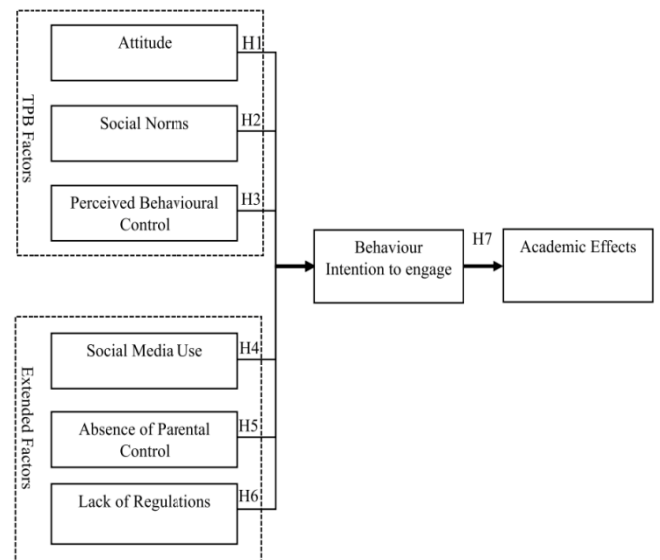

Fig. 1. Proposed model by Alotaibi (Alotaibi, 2019)

Protection Motivation Theory (PMT) also serves as a critical theoretical foundation in this research domain. Boniel-Nissim *et al.* (2019) investigated parental mediation strategies regarding children's pornography exposure through the lens of PMT, emphasising the role of threat and coping appraisals in influencing parental actions (Boniel-Nissim *et al.,* 2020). Hwang *et al.* (2017) similarly used PMT to predict parental mediation of children's smartphone use, focusing on parents' threat perceptions and efficacy perceptions (Hwang *et al.,* 2017). These applications of PMT illustrate how understanding parents' motivations to protect their children can guide the development of effective mediation strategies. Other theories, such as the Theory of Reasoned Action, Self-Determination Theory, and Social Learning Theory, further enrich the theoretical landscape of this research area. Alrusaini and Beyari (2022) combined the Theory of Reasoned Action and the Theory of Planned Behaviour to investigate the impact of artificial intelligence and parental control on child behaviour, emphasising the importance of parental and technological interventions (Alrusaini & Beyari, 2022). The Self-Determination Theory, explored by Geng *et al.,* and Social Learning Theory, applied by Low & Espelage, further elaborate on the psychological and social learning aspects influencing cyberbullying and distinguishing between cyber and non-physical bullying (Geng *et al.,* 2022; Low &Espelage, 2013). This diversity of theoretical approaches highlights the complex interplay between individual, social, and technological factors in shaping children's online behaviours and parents' strategies to safeguard them. Communication theories are pivotal in understanding the dynamics of family interactions concerning online safety, as evidenced by Rutkowski *et al.,* who delved into the differing perceptions of

parents and teens regarding online safety communication (Rutkowski *et al.,* 2021). This study underscored the significance of active mediation, technical monitoring, and the perceived positive effect of teens in enhancing family communication about online safety, illustrating the complex interplay between technological savvy and emotional intelligence in navigating online risks. The application of Information System theories by Al-Naim & Hasan elucidates how effort expectancy, performance expectancy, and perceived severity to understand Saudi parents' intention to use technical mediation tools for regulating children's internet use (Al-Naim & Hasan, 2018). The incorporation of Bourdieu's theory of social capital by Nikken & Opree and the Routine Activity Theory by Wachs *et al.* adds another layer of depth to our understanding, focusing on the social and environmental factors that contribute to the development of online behaviours (Nikken &Opree, 2018; Wachs *et al.,* 2020). These theories help to explain the socio-economic disparities in parental mediation concerns and competencies, as well as the factors predicting cyber grooming victimization among adolescents.

In addition, studies like those of Ho *et al.,* Delès, and Tan utilise the Theory of Reasoned Action, Parental Mediation Theory, and theories of framing and attribution to dissect the complex interplay between societal norms, parental influence, and media representation in shaping behaviours and perceptions related to cyberbullying and internet use (Delès, 2022; Ho *et al.,* 2017; Tan, 2022). Lastly, the integration of theories such as the Stress-Strain-Outcome (SSO) model, Attachment Theory, Flow Theory, and the Technology Acceptance Model in the works of Dhir *et al.,* Venkatesh *et al.,* Qin, Musetti & Omar, and Stewart, Brodowsky & Sciglimpaglia, respectively, underscores the multifaceted and interdisciplinary nature of research in this domain (Dhir *et al.,* 2019; Qin *et al.,* 2023; Stewart *et al.,* 2022; Venkatesh *et al.,* 2019). These studies contribute to a nuanced understanding of the antecedents and consequences of social media fatigue, the impact of children's internet addiction on parental job outcomes, the allure of problematic TikTok use, and the factors driving the adoption of internet monitoring software. These theoretical applications provide a comprehensive framework for investigating parental protection behaviours against children's problematic internet use, highlighting the complexity of factors influencing parental mediation and the necessity for multifaceted interventions.

Questionnaire Validation

The validation of questionnaires addressing parental protection against children's PIU forms a critical component of contemporary research, aiming to accurately assess and understand the nuances of parental mediation in the digital realm. This theme encompasses the development and psychometric evaluation of various instruments designed to measure different dimensions of parental engagement and control over their children's Internet use. A significant contribution to this area comes from the work of Dhir and Khalil, who developed the Internet Parenting Scale. Their research meticulously validates a 10-item scale measuring four types of Internet parenting styles: parental encouragement, permission, worry, and monitoring. The scale underwent a rigorous 3-stage investigation, demonstrating stable factorial structure, instrument validity, and reliability over time (Cronbach's alpha (α) and Composite reliability (CR) values $\geq$.70), highlighting its applicability across diverse demographic

settings, particularly in developing countries like India (Dhir & Khalil, 2018). Parallel to this, Wartberg *et al.* adapted the Young Diagnostic Questionnaire into a parental version (PYDQ) specifically for assessing adolescent problematic Internet use from the parents' perspective (Table 2) (Wartberg *et al.,* 2016). Their study validated the PYDQ within a representative German sample, confirming its excellent psychometric properties and establishing it as a suitable instrument for parental assessment of adolescent Internet use behaviours (normed χ^2 index (χ^2 /df=1.65), root mean square error of approximation (RMSEA=0.03), the weighted root mean square residual (WRMR=0.78), the Comparative Fit Index (CFI=0.99), Tucker–Lewis Index (TLI=0.99),$\alpha = .70$). This adaptation underscores the importance of providing parents with reliable tools for recognising and addressing problematic Internet use among adolescents.

Adding to the spectrum of validated instruments, Vaiopoulou *et al.* introduced the ETEA-2 scale to evaluate early childhood educational apps on dimensions including security and parental control (Vaiopoulou *et al.,* 2023). Their validation process, involving pre-service early childhood teachers, resulted in a nuanced classification of apps that can guide parental and educator choices in selecting safe and appropriate digital resources for young learners. Li *et al.* validated the Problematic Internet Use Questionnaire-Short Form (PIUQ-SF) among non-Latinx black and Latinx youth (Li *et al.,* 2019). Their work extended the instrument's applicability and confirmed its reliability and construct validity in these populations (χ^2 (24) = 36.75, p = 0.05, RMSEA = 0.048, CFI = 0.98, TLI = 0.97, SRMR = 0.042, $\alpha = .81$), emphasising the role of parental monitoring in curbing problematic Internet use among minority youth.

The study by Zhu *et al.* on parental control and adolescent Internet addiction and the moderating effect of parent-child relationships brings to light the complex dynamics influencing Internet addiction (Zhu *et al.,* 2023). Their findings on the predictive role of behavioural and psychological parental controls, moderated by the parent-child relationship quality, contribute valuable insights into effective parental strategies against internet addiction. Navarro *et al.* developed and validated the Digital Parental Mediation Attitudes Scale (DPMAS), revealing parents' diverse attitudes towards digital technology mediation (Navarro *et al.,* 2023). Their bifactor model differentiates general parenting attitudes from digital-specific strategies, providing a comprehensive framework for understanding parental mediation in the age of digital technology. Gervilla-García et al.'s Parental Mediation Scale for ICTs and Rodríguez-de-Dios et al.'s investigation into the relationship between parental mediation, adolescents' digital skills, online risks, and opportunities contribute significantly to the validation of tools measuring parental mediation's effects on children's online experiences (Gervilla-García *et al.,* 2023; Rodríguez-de-Dios *et al.,* 2018). Research by Dhir, examining the avoidance of Facebook photo tagging among young people (χ^2 = 587.50, df = 264, χ^2/df = 2.23, CFI = .92, TLI = .91, RMSEA = .06), and studies by Álvarez-García *et al.,* analysing the effects of parental control on cyber-victimization and high-risk internet behaviours ($\alpha = 0.79$), contribute to a deeper understanding of the factors influencing adolescents' online behaviour and the potential consequences of various forms of parental control and mediation (álvarez-García *et al.,* 2019; Dhir, 2017).

Table 2. Items, response distributions, and standardised factor loadings for the Parental version of the Young Diagnostic Questionnaire (PYDQ) in a representative sample of parents of adolescents aged 12–17 years

			Relative response frequencies (%) No/Yes	Standardized factor loadings
Item 1	Does your child feel preoccupied with the Internet (think about previous online activity or anticipate next online session)?		80.6 19.4	0.61
Item 2	Does your child feel the need to use the Internet with increasing amounts of time in order to achieve satisfaction?		87.9 12.1	0.77
Item 3	Has your child repeatedly made unsuccessful efforts to control, cut back, or stop Internet use?		89.5 10.5	0.60
Item 4	Does your child feel restless, moody, depressed, or irritable when attempting to cut down or stop Internet use?		77.1 22.9	0.75
Item 5	Does your child stay online longer than originally intended?		49.8 50.2	0.65
Item 6	Has your child jeopardized or risked the loss of a significant relationship, job, educational, or career opportunity because of the Internet?		92.4 7.6	0.67
Item 7	Has your child lied to family members, a therapist, or others to conceal the extent of involvement with the Internet?		84.3 15.7	0.66
Item 8	Does your child use the Internet as a way of escaping from problems or of relieving a dysphoric mood (e.g., feelings of helplessness, guilt, anxiety, depression)?		87.6 12.4	0.65

Table 3. Zero-order correlations between variables (Shin & Kang, 2015)

		1	2	3	4	5	6	7	8	9	10
1.	Time spent on the Internet	1									
2.	Playing online games with others	.24**	1								
3.	Visiting social networking sites	.29**	.11**	1							
4.	Chatting with people online	.20**	.17**	.38**	1						
5.	Restrictive mediation	−.20**	.00	−.17**	.02	1					
6.	Instructive mediation	−.10**	−.06	−.03	−.03	.30**	1				
7.	Adolescents' disclosure to parents	.01	−.12**	−.02	−.05	.18**	.30**	1			
8.	Privacy concerns	.00	−.02	.09	.11**	.06	.05	.16**	1		
9.	Willingness to disclose PII	.12**	.05	.19**	.06	−.09*	−.12**	−.03	.03	1	
10.	Actual information disclosure	.16**	.21**	.08	.13**	.09*	−.10**	.05	.00	.18**	1

$^{*}p < .05$, $^{**}p < .01$ (2-tailed).

These studies illustrate the meticulous efforts to validate questionnaires that measure various aspects of parental protection against children's problematic internet use. The development and validation of these instruments are crucial for accurately capturing the complex phenomena of digital parenting, offering valuable insights for researchers, practitioners, and policymakers aiming to support families in navigating the challenges of the digital environment.

Effectiveness of Questionnaires in Predicting Parental Protection Behaviour Outcomes

The effectiveness of questionnaires designed to assess parental protection against children's PIU is a vital area of investigation, shedding light on how parental strategies and socioeconomic factors influence online safety and risk behaviours. This theme encompasses studies exploring family communication dynamics, parental mediation strategies, and the broader family environment's impact on children's online behaviours. Pir et al.'s study emphasises the relationship between parents' socioeconomic standards and children's online safety in Bangladesh, revealing that children from high-income families are more exposed to online safety issues due to greater internet access and less parental monitoring (Pir *et al.,* 2023). This underscores the nuanced impact of socioeconomic factors on online safety and highlights the questionnaire's effectiveness in identifying vulnerabilities based on family income levels. Similarly, Rutkowski *et al.,* Steinfeld and Rodríguez-de-Dios *et al.* research contribute to understanding the communication gap between parents and teens regarding online safety (Rodríguez-de-Dios *et al.,* 2018;

Rutkowski *et al.,* 2021; Steinfeld, 2021). Steinfeld's model predicts 15-23% of the variance (F = 4.69-8.47, p < .001, R^2 = .15-.23), while Rodríguez-de-Dios et al.'s model predicts 58% of the explained variance. Their findings suggest that active mediation and monitoring, when properly applied, enhance family communication and reduce risky adolescent behaviour, thereby proving the effectiveness of questionnaires in capturing the complexity of family dynamics and their impact on children's online safety.

Chng *et al.* and Chen *et al.* further explore the moderating effects of the family environment on the relationship between parental mediation strategies and pathological internet use among youths (Chen *et al.,* 2021; Chng *et al.,* 2015). Their studies reveal that the broader family environment, including parent-child attachment and family communication, significantly influences the effectiveness of parental mediation strategies. The Homer–Lemeshow test statistic was not statistically significant at 0.43 in Chng et al.'s model, indicating that the models achieved good fit. Explained variance (Nagelkerke's R^2) in Chng et al.'s model was 11% while in Chen et al's model was 11-34%. These findings highlight the questionnaires' ability to discern the nuanced relationships between parental strategies and children's online behaviours within different family contexts. Lester *et al.,* Ren *et al.,* and Harms *et al.* delve into the implications of parental monitoring and mediation on adolescent internet use, suggesting that a combination of restrictive and active mediation strategies tailored to the family's specific circumstances is most effective in promoting online safety (Harms *et al.,* 2022; Lester *et al.,* 2015; Ren & Zhu, 2022).

These studies underscore the questionnaires' utility in evaluating the impact of varied parental mediation strategies on children's online engagement and risk behaviours. Reginasari *et al.* and Shin *et al.* focus on the role of parental mediation in shaping adolescents' privacy concerns and information disclosure online (Reginasari, Afiatin, & Patria, 2021; Shin & Kang, 2015). Their research indicates that parental mediation, particularly instructive parental mediation based on open communication, effectively enhances adolescents' online privacy concerns and reduces information disclosure. Disclosure to parents was positively related to both instructive ($R = .30$, $p < .01$) and restrictive mediation ($R = .18$, $p < .01$) (Table 3). The correlation between adolescents' disclosure and instructive mediation was significantly different from that between adolescents' disclosure and restrictive mediation ($z = 2.36$, $p < .05$) (Shin & Kang, 2015). These findings affirm questionnaires' effectiveness in capturing parental mediation's influence on adolescents' online privacy behaviours. Radanielina-Hita, Biernesser *et al.*, and Thoma provide insights into the protective role of effective parental mediation against objectionable content and its association with emerging adults' sexual attitudes and behaviours, adolescents' depression, and HIV-related sexual risk behaviours among young men who have sex with men (YMSM) (Biernesser *et al.*, 2020; Radanielina-Hita, 2015; Thoma, 2017). Their work highlights the questionnaires' effectiveness in identifying the protective factors and potential risks associated with various forms of parental mediation. Overall, these studies collectively demonstrate the effectiveness of questionnaires in assessing parental protection against children's problematic internet use. They reveal how parental strategies, socioeconomic factors, and the broader family environment influence children's online safety, risk behaviours, and the development of healthy online habits.

Conclusion

This scoping review has explored the development, validation, and effectiveness of questionnaires designed to assess parental protection against children's problematic internet use. Through a meticulous examination of diverse studies, three main themes emerged: the theoretical underpinnings of the questionnaires, their validation processes, and their effectiveness in real-world settings. The development of these questionnaires is deeply rooted in various theoretical frameworks, including the Theory of Planned Behaviour (TPB), Protection Motivation Theory (PMT), Theory of Reasoned Action, Self-Determination Theory, Social Learning Theory, communication theories, information system theories, and social, behavioural theories, highlighting the complexity of digital parenting and the multifaceted nature of internet use among children and adolescents. These theoretical foundations underscore the importance of understanding not just the direct actions of parental mediation but also the broader socio-economic, psychological, and technological contexts that influence children's online safety and behaviours (Liu & Wu, 2023; Ramos *et al.*, 2023). The process of questionnaire validation revealed a rigorous effort to ensure reliability, validity, and applicability across different demographics and cultural settings. Studies like those of Dhir and Khalil, Wartberg *et al.*, and Vaiopoulou *et al.* have demonstrated the robustness of these tools in capturing the nuances of internet parenting styles, the effectiveness of parental mediation strategies, and the assessment of educational app security (Dhir & Khalil, 2018; Vaiopoulou *et al.*, 2023; Wartberg *et al.*, 2016). These

validation efforts are crucial for developing interventions and policies that are evidence-based and tailored to the needs of diverse families (Amon *et al.*, 2022; Bartau-Rojas *et al.*, 2018). Finally, the effectiveness of these questionnaires in real-world applications has been demonstrated through studies focusing on the impact of parental mediation strategies within the family environment, the role of socioeconomic factors, and the dynamics of family communication on children's online safety and risk behaviours. Findings from studies by Pir *et al.*, Rutkowski *et al.*, and Chng *et al.*, among others, highlight the critical role of active and restrictive mediation, the significance of the broader family environment, and the influence of parental socioeconomic status on children's online experiences(Chng *et al.*, 2015; Pir *et al.*, 2023; Rutkowski *et al.*, 2021). These insights are invaluable for developing targeted parental guidance, educational programs, and policy-making to enhance children's online safety(Pereira, 2016; Reginasari, Afiatin, & Akhtar, 2021). In conclusion, this scoping review underscores the critical role of questionnaires in advancing our understanding of parental protection against children's problematic internet use. These questionnaires' theoretical depth, methodological rigour, and practical insights offer a solid foundation for future research, intervention development, and policy formulation. As the digital landscape continues to evolve, ongoing efforts to refine and adapt these tools to emerging challenges will be essential for safeguarding children's online experiences and promoting their well-being in the digital age.

Statement of Competing Interests

The authors declare no competing interests concerning this article's research, authorship, and/or publication.

List of Abbreviations

PIU: Problematic Internet Use
PMT: Protection Motivation Theory
TPB: Theory of Planned Behaviour

References

Al-Naim, A. B., & Hasan, M. M. (2018). Investigating Saudi Parents' intention to adopt technical mediation tools to regulate children's internet usage. *International Journal of Advanced Computer Science and Applications*, 9(5), 456–464. https://doi.org/10.14569/IJACSA.2018.090560

Alotaibi, N. B. (2019). Cyber Bullying and the Expected Consequences on the Students' Academic Achievement. *IEEE Access*, 7, 153417–153431. https://doi.org/10.1109/ACCESS.2019.2947163

Alrusaini, O., &Beyari, H. (2022). The Sustainable Effect of Artificial Intelligence and Parental Control on Children's Behavior While Using Smart Devices' Apps: The Case of Saudi Arabia. *Sustainability (Switzerland)*, 14(15). https://doi.org/10.3390/su14159388

Álvarez-García, D., Núñez, J. C., González-Castro, P., Rodríguez, C., &Cerezo, R. (2019). The effect of parental control on cyber-victimization in adolescence: The mediating role of impulsivity and high-risk behaviors. *Frontiers in Psychology*, 10(MAY). https://doi.org/10.3389/fpsyg.2019.01159

Amon, M. J., Kartvelishvili, N., Bertenthal, B. I., Hugenberg, K., & Kapadia, A. (2022). Sharenting and Children's Privacy in the United States: Parenting Style, Practices, and

Perspectives on Sharing Young Children's Photos on Social Media. *Proceedings of the ACM on Human-Computer Interaction*, 6(CSCW1). https://doi.org/10.1145/3512963

Bartau-Rojas, I., Aierbe-Barandiaran, A., &Oregui-González, E. (2018). Parental mediation of the Internet use of Primary students: Beliefs, strategies and difficulties. *Comunicar*, 26(54). https://doi.org/10.3916/C54-2018-07

Biernesser, C., Montano, G., Miller, E., &Radovic, A. (2020). Social media use and monitoring for adolescents with depression and implications for the COVID-19 pandemic: Qualitative study of parent and child perspectives. *JMIR Pediatrics and Parenting*, 3(2). https://doi.org/10.2196/21644

Boniel-Nissim, M., Efrati, Y., &Dolev-Cohen, M. (2020). Parental Mediation Regarding Children's Pornography Exposure: The Role of Parenting Style, Protection Motivation and Gender. *Journal of Sex Research*, 57(1), 42–51. https://doi.org/10.1080/00224499.2019.1590795

Chen, J.-K., Chang, C.-W., Wang, Z., Wang, L.-C., & Wei, H.-S. (2021). Cyber deviance among adolescents in Taiwan: Prevalence and correlates. *Children and Youth Services Review*, 126. https://doi.org/10.1016/j.childyouth.2021.106042

Chng, G. S., Li, D., Liau, A. K., & Khoo, A. (2015). Moderating effects of the family environment for parental mediation and pathological internet use in youths. *Cyberpsychology, Behavior, and Social Networking*, 18(1), 30–36. https://doi.org/10.1089/cyber.2014.0368

Delès, R. (2022). Educational inequalities in France: A survey on parenting practices during the first COVID-19 lockdown. *International Review of Education*, 68(4), 539–549. https://doi.org/10.1007/s11159-022-09965-7

Dhir, A. (2017). Why Do Young People Avoid Photo Tagging? A New Service Avoidance Scale. *Social Science Computer Review*, 35(4), 480–497. https://doi.org/10.1177/0894439316653636

Dhir, A., Kaur, P., Chen, S., &Pallesen, S. (2019). Antecedents and consequences of social media fatigue. *International Journal of Information Management*, 48, 193–202. https://doi.org/10.1016/j.ijinfomgt.2019.05.021

Dhir, A., & Khalil, A. (2018). Underpinnings of Internet Parenting Styles: The Development and Validation of the Internet Parenting Scale Using Repeated Cross-Sectional Studies. *Journal of Educational Computing Research*, 56(7), 1149–1175. https://doi.org/10.1177/07356331 17731492

Geng, J., Wang, X., Wang, Y., Lei, L., & Wang, P. (2022). "If You Love Me, You Must Do.." Parental Psychological Control and Cyberbullying Perpetration Among Chinese Adolescents. *Journal of Interpersonal Violence*, 37(9–10), NP7932–NP7957. https://doi.org/10.1177/0886260520978185

Gervilla-García, E., Lloret-Irles, D., Cabrera-Perona, V., Fernández-Martínez, I., &Anupol, J. (2023). Online risks at adolescence. Design and validation of a Parental Mediation Scale for Information and Communication Technologies. *Infancia y Aprendizaje*, 46(3), 492–528. https://doi.org/10.1080/02103702.2023.2191428

Harms, B., Hoekstra, J. C., &Bijmolt, T. H. A. (2022). Sponsored Influencer Vlogs and Young Viewers: When Sponsorship Disclosure Does not Enhance Advertising Literacy, and Parental Mediation Backfires. *Journal of Interactive Marketing*, 57(1), 35–53. https://doi.org/10.1177/10949968221075834

Hayes, B., James, A., Barn, R., & Watling, D. (2022). "The world we live in now": A qualitative investigation into parents', teachers', and children's perceptions of social networking site use. *British Journal of Educational Psychology*, 92(1). https://doi.org/10.1111/bjep.12452

Ho, S. S., Chen, L., & Ng, A. P. Y. (2017). Comparing cyberbullying perpetration on social media between primary and secondary school students. *Computers and Education*, 109, 74–84. https://doi.org/10.1016/j.compedu.2017.02.004

Hwang, Y., Choi, I., Yum, J.-Y., & Jeong, S.-H. (2017). Parental Mediation Regarding Children's Smartphone Use: Role of Protection Motivation and Parenting Style. *Cyberpsychology, Behavior, and Social Networking*, 20(6), 362–368. https://doi.org/10.1089/cyber.2016.0555

Ismail, M. Z. H., Farid, N. D. N., & Zaki, R. A. (2020). Developing and testing the psychometric properties of the parental digital security (P-Dis) questionnaire for Malaysian parents. *ASM Science Journal*, 13 (Specialissue5).

Lester, L., Waters, S., Spears, B., Epstein, M., Watson, J., & Wenden, E. (2015). Parenting Adolescents: Developing Strategies for FIFO Parents. *Journal of Child and Family Studies*, 24(12), 3757–3766. https://doi.org/10.1007/s10826-015-0183-x

Li, W., Diez, S. L., & Zhao, Q. (2019). Exploring problematic internet use among non-latinx black and latinx youth using the problematic internet use questionnaire-short form (PIUQ-SF). *Psychiatry Research*, 274, 322–329. https://doi.org/10.1016/j.psychres.2019.02.048

Liu, Q., & Wu, J. (2023). What children learn in a digital home: the complex influence of parental mediation and smartphone interference. *Education and Information Technologies*. https://doi.org/10.1007/s10639-023-12071-2

Low, S., &Espelage, D. (2013). Differentiating cyber bullying perpetration from non-physical bullying: Commonalities across race, individual, and family predictors. *Psychology of Violence*, 3(1), 39–52. https://doi.org/10.1037/a0030308

Navarro, J. L., Fletcher, A., & Jensen, M. (2023). A bifactor model of U.S. parents' attitudes regarding mediation for the digital age. *Journal of Children and Media*, 17(1), 17–36. https://doi.org/10.1080/17482798.2022.2123012

Nikken, P., &Opree, S. J. (2018). Guiding Young Children's Digital Media Use: SES-Differences in Mediation Concerns and Competence. *Journal of Child and Family Studies*, 27(6), 1844–1857. https://doi.org/10.1007/s10826-018-1018-3

Oli, L. B. (2023). Exploring the Risks and Benefits of Internet and Technological Devices for Children. *Journal of Tikapur Multiple Campus*. https://doi.org/10.3126/jotmc.v6i01.56370

Pereira, S. (2016). The Portuguese programme "One Laptop per Child" and its impact on families: A study on parents' and children's perspectives. In *Observatorio* (Vol. 10, Issue 1). https://doi.org/10.15847/obsobs1012016841

Pir, R. M. S. R., Rabbi, M. F., & Islam, M. J. (2023). An Investigation of the Relationship Between Parents' Socioeconomic Standards and their Children's Online Safety; Perspective: Bangladesh. *Economic Affairs (New Delhi)*, 68(4), 1957–1967. https://doi.org/10.46852/0424-2513.4.2023.7

Qin, Y., Musetti, A., & Omar, B. (2023). Flow Experience Is a Key Factor in the Likelihood of Adolescents' Problematic TikTok Use: The Moderating Role of Active Parental Mediation. *International Journal of Environmental*

Research and Public Health, *20*(3). https://doi.org/10.3390/ijerph20032089

Radanielina-Hita, M. L. (2015). Parental Mediation of Media Messages Does Matter: More Interaction About Objectionable Content Is Associated With Emerging Adults' Sexual Attitudes and Behaviors. *Health Communication*, *30*(8), 784–798. https://doi.org/10.1080/ 10410236.2014.900527

Ramos, R. F. S., Scatena, A., Kim, H. S., de Oliveira, W. A., & Andrade, A. L. M. (2023). Brazilian Digital Warriors: Unraveling the Nexus of Adolescent Cyber Aggressors, Problematic Internet & Smartphone Use, Emotional Struggles, and Parental Mediation. *Trends in Psychology*. https://doi.org/10.1007/s43076-023-00338-z

Reginasari, A., Afiatin, T., & Akhtar, H. (2021). The Role of Self-Esteem and Perceived Parental Mediation in Cyberbullying. *JurnalPsikologi*, *48*(2). https://doi.org/ 10.22146/jpsi.39034

Reginasari, A., Afiatin, T., & Patria, B. (2021). Adaptation for harmony: A thematic analysis study of internet parental monitoring strategy in Indonesian context. *Qualitative Report*, *26*(10), 3234–3261. https://doi.org/10.46743/2160-3715/2021.4979

Ren, W., & Zhu, X. (2022). Parental Mediation and Adolescents' Internet Use: The Moderating Role of Parenting Style. *Journal of Youth and Adolescence*, *51*(8), 1483–1496. https://doi.org/10.1007/s10964-022-01600-w

Rodríguez-de-Dios, I., van Oosten, J. M. F., &Igartua, J.-J. (2018). A study of the relationship between parental mediation and adolescents' digital skills, online risks and online opportunities. *Computers in Human Behavior*, *82*, 186–198. https://doi.org/10.1016/j.chb.2018.01.012

Rutkowski, T. L., Hartikainen, H., Richards, K. E., & Wisniewski, P. J. (2021). Family Communication: Examining the Differing Perceptions of Parents and Teens Regarding Online Safety Communication. *Proceedings of the ACM on Human-Computer Interaction*, *5*(CSCW2). https://doi.org/10.1145/3479517

Shin, W., & Kang, H. (2015). Adolescents' privacy concerns and information disclosure online: The role of parents and the Internet. *Computers in Human Behavior*, *54*, 114–123. https://doi.org/10.1016/j.chb.2015.07.062

Steinfeld, N. (2021). Parental mediation of adolescent Internet use: Combining strategies to promote awareness, autonomy and self-regulation in preparing youth for life on the web. *Education and Information Technologies*, *26*(2), 1897–1920. https://doi.org/10.1007/s10639-020-10342-w

Stewart, K., Brodowsky, G., &Sciglimpaglia, D. (2022). Parental supervision and control of adolescents' problematic internet use: understanding and predicting adoption of parental control software. *Young Consumers*, *23*(2), 213–232. https://doi.org/10.1108/YC-04-2021-1307

Tan, Y. (2022). Public Understanding of Adolescents' Risks on Facebook in Taiwan. *Adolescents*, *2*(2), 296–310. https://doi.org/10.3390/adolescents2020023

Thoma, B. C. (2017). Parental Monitoring Among Young Men Who Have Sex With Men: Associations With Sexual Activity and HIV-Related Sexual Risk Behaviors. *Journal of Adolescent Health*, *61*(3), 348–354. https://doi.org/10.1016/j.jadohealth.2017.03.004

Vaiopoulou, J., Papadakis, S., Sifaki, E., Kalogiannakis, M., &Stamovlasis, D. (2023). Classification and evaluation of educational apps for early childhood: Security matters. *Education and Information Technologies*, *28*(3), 2547–2578. https://doi.org/10.1007/s10639-022-11289-w

Venkatesh, V., Sykes, T. A., Chan, F. K. Y., Thong, J. Y. L., & Hu, P. J.-H. (2019). Children's internet addiction, family-to-work conflict, and job outcomes: A study of parent–child dyads. *MIS Quarterly: Management Information Systems*, *43*(3), 903–927. https://doi.org/10. 25300/ MISQ/2019/12338

Wachs, S., Michelsen, A., Wright, M. F., Gámez-Guadix, M., Almendros, C., Kwon, Y., Na, E.-Y., Sittichai, R., Singh, R., Biswal, R., Görzig, A., &Yanagida, T. (2020). A Routine Activity Approach to Understand Cybergrooming Victimization among Adolescents from Six Countries. *Cyberpsychology, Behavior, and Social Networking*, *23*(4), 218–224. https://doi.org/10.1089/cyber.2019.0426

Wahyuningrum, E., Suryanto, & Retno Suminar, D. (2020). Parenting in Digital Era: a Systematic Literature Review. *Journal of Educational, Health and Community Psychology*, *9*(3).

Wang, J., Liu, R.-D., Ding, Y., Liu, Y., Xu, L., & Zhen, R. (2017). What influences chinese adolescents' choice intention between playing online games and learning? Application of theory of planned behavior with subjective norm manipulated as peer support and parental monitoring. *Frontiers in Psychology*, *8*(APR). https://doi.org/10.3389/ fpsyg.2017.00589

Wartberg, L., Kriston, L., Kegel, K., &Thomasius, R. (2016). Adaptation and psychometric evaluation of the young diagnostic questionnaire (YDQ) for parental assessment of adolescent problematic internet use. *Journal of Behavioral Addictions*, *5*(2), 311–317. https://doi.org/10.1556/ 2006.5.2016.049

Y.-H., L., & S.S.F., G. (2013). Association between morningness-eveningness and the severity of compulsive internet use: The moderating role of gender and parenting style. *Sleep Medicine*, *14*(12).

Zhao, P., Bazarova, N. N., & Valle, N. (2023). Digital parenting divides: The role of parental capital and digital parenting readiness in parental digital mediation. *Journal of Computer-Mediated Communication*, *28*(5). https://doi.org/ 10.1093/jcmc/zmad032

Zhu, X., Deng, C., & Bai, W. (2023). Parental control and adolescent internet addiction: the moderating effect of parent-child relationships. *Frontiers in Public Health*, *11*. https://doi.org/10.3389/fpubh.2023.1190534

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