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Public administration strategies to mitigate the social phenomenon of student digital addiction: A mixed methods study in Jordan and Kuwait

Asma Alibrahim[1]
Shahad Altammar[2+]

[1]*Al-Albayt University, Jordan.*
[1]*Email: Dr.a.alibra@gmail.com*
[2]*Kuwait University, Kuwait.*
[2]*Email: Dr.sha.alt@ku.edu.kw*

(+ Corresponding author)

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ABSTRACT

The rapid growth of electronic gaming throughout public societies has outpaced existing policy frameworks, causing concerns over addictive tendencies and their educational impact. This mixed-methods study addresses a public administration issue for Kuwait and Jordan by combining empirical measurement with governance analysis. In a convergent design, the quantitative strand interviewed 280 Jordanian primary school children, in which descriptive statistics indicated high rates of addictive symptoms and significant gender differences ($p < 0.001$) with no differences based on type of school. The qualitative strand consisted of 24 semi-structured interviews with Ministry of Education and Supreme Council for Planning and Development policymakers in Kuwait, which evoked responses on regulation and engagement strategies. Thematic analysis, as informed by the Advocacy Coalition Framework, yielded four priorities that span reshaping school programs to promote responsible gaming and digital citizenship, creating community-based volunteerism and physical activity, improving parental education and social awareness activities, and shaping interministerial digital regulation teams. The two strands are not set against each other but rather offer complementary evidence on prevalence and policy feasibility in similar environments. By integrating addiction screening with stakeholder-informed advice, the study provides a culturally responsive, evidence-based pathway to preventing primary school gaming addiction. The findings inform national digital policy alignment with school-level changes, detailed resource needs for implementation, and contribution to public administration knowledge in child digital and education public policy.

Contribution/Originality: This study advances public policy and administration by integrating Jordanian prevalence data with Kuwaiti governance insights to produce stakeholder-driven policy guidance on a social phenomenon. It offers new insights on gendered risk, sector-wide regulation needs, and practical resourcing for education policy design in Middle Eastern contexts.

1. INTRODUCTION

Internet use and electronic gaming have increased significantly over the past two decades with the proliferation of portable devices such as smartphones, tablets, and laptops (Oliveira et al., 2017; Wang et al., 2014). Advances in computers, mobile phones, and gaming consoles have made online games a routine element of children's daily lives. Although these technologies continue to expand across the Middle East, policy frameworks lag behind. With limited regulation of gameplay, this digital addiction has emerged as a critical public administration challenge that

undermines a child's welfare and educational outcomes. The World Health Organization (WHO) has recognized gaming disorder as a disease since 2018, and the International Classification of Diseases now includes a category for "Internet Gaming Disorder" (IGD), underscoring a global public health and governance imperative. Yet, few studies have assessed the national prevalence or policy responses in Jordan and Kuwait. Most existing research concentrates on adolescents rather than primary school children, whose early behavioral patterns tend to persist into adulthood (Gür, 2013). Against this backdrop, a clear research gap emerges. Evidence on primary school cohorts in Jordan and Kuwait is scarce, while existing studies seldom adopt a public administration lens that connects prevalence to implementable education policy tools. Moreover, few designs integrate child-level data with stakeholder insights to assess policy feasibility in context.

As younger cohorts become increasingly comfortable online and as internet speeds and technological capacity grow, online games have expanded rapidly (Park et al., 2017). Online gaming addiction is described as a pathological condition characterized by harmful and excessive behavior (Pen, Kumar, & Singh, 2018). One symptom of IGD is impulsiveness, which can adversely affect mental and social health (Wang, Abdelhamid, & Sanders, 2021). WHO further notes that digital behavior is marked by reduced self-control, with individuals often prioritizing gameplay over schooling and civic responsibilities (Karaca, Karakoc, Can Gurkan, Onan, & Unsal Barlas, 2020). The interactive appeal of online games has therefore become a central concern for education and child services administrators. Lee et al. (2019) highlight how game application appeal has driven global uptake, necessitating policy-level responses that balance educational objectives with digital engagement. A recent investigation in Chengde City, Hebei Province, China, reinforces the need for national-level policy analysis in diverse jurisdictions (Cui et al., 2021).

Effective public administration requires education policies that not only regulate digital behavior but also harness its potential for positive learning. Redirecting behavior from addiction towards mindful, constructive engagement calls for a coordinated policy mix that combines regulatory standards, stakeholder collaboration, and evidence-based interventions. This research examines how gameplay considerations can be integrated into education policy planning, identifies governance gaps, and proposes a strategic framework for implementation. Primary school children are the focus because behavioral patterns formed at this stage often endure into adulthood (Gür, 2013), offering a critical window for preventive action.

Jordan and Kuwait serve as representative contexts for the two methodological strands of this study. The quantitative survey measuring prevalence and correlates of gaming addiction was conducted in Jordan, providing statistical evidence to inform needs assessments. Qualitative interviews with education policy stakeholders were carried out in Kuwait, offering insight into governance mechanisms and intervention strategies. The strands are not compared directly; rather, they furnish complementary perspectives on digital addiction within different administrative yet similar cultural settings.

A substantial body of work documents the negative physical and mental health impacts of prolonged gaming among children. Extended play can provoke stress, anxiety, and insomnia, overstimulate the nervous system, and shorten attention spans (Huang, 2017). Neurological adaptations associated with excessive gaming may predispose children to long-term psychological disorders (Zamani, Omrani, & Nasab, 2009). The shift from face-to-face play to virtual interaction can impede social skills development and norms acquisition. Some health professionals classify digital addiction as a discrete illness, while others view it as symptomatic of broader mental health issues such as depression, anxiety, and social isolation (Shen & Cicchella, 2023). Empirical evidence also links digital addiction to poor academic performance, which poses an operational challenge for school administrations.

Public administration literature offers tools for addressing this gap. The Advocacy Coalition Framework and Kingdon's Multiple Streams Model suggest that successful policy change depends on the alignment of problem recognition, policy solutions, and political will (Kingdon, 1984; Sabatier & Weible, 2014). If case studies have recognized digital addiction as a social phenomenon, relevant policy bodies should respond accordingly. For example, in Thailand, Yan, Bhatiasevi, Rukumnuaykit, and Pholphirul (2023) surveyed 2,044 teenagers and revealed gender-

based differences in how addiction erodes quality of life. Yet institutional and regulatory responses remain underexplored. There is, therefore, an urgent need for education ministries and school boards to collaborate on age-tiered digital wellbeing curricula, screen time regulations, and monitoring mechanisms to shift from treating individual symptoms to preventing addiction through systemic governance (Alkandari, 2015; Griffiths & Nuyens, 2017).

This study investigates the social phenomenon from a public administration perspective through four objectives.

1. Measure the prevalence of this digital addiction among primary school children in Jordan, informing needs assessments.
2. Analyze differences in addiction levels by school type and gender within the Jordanian cohort, guiding targeted policy interventions.
3. Identify effective social and institutional interventions, including governance mechanisms, via qualitative interviews in Kuwait.
4. Develop actionable recommendations for education policymakers and administrators to integrate digital addiction mitigation within broader education policy frameworks and national strategies.

Adopting a convergent mixed methods design, the study combines descriptive statistics from the Jordanian survey with thematic analysis of Kuwaiti stakeholder interviews. By linking empirical findings to policy design principles, the research supports public administration efforts to develop robust, comprehensive education policies. The results will be of particular relevance to ministries of education, local school districts, child welfare agencies, and international bodies concerned with digital learning governance.

2. LITERATURE REVIEW

Digital addiction has risen steadily over the years and now poses a pressing policy challenge for education administrators worldwide. Epidemiological surveys frequently report higher prevalence among males. For example, Kweon and Park (2012) found that elementary school males scored significantly higher on digital addiction measures than females. Recent work confirms this disparity, with Wang et al. (2021) reporting that female teenagers scored almost 30% lower than males on Internet gaming disorder scales. Yan et al. (2023) surveyed 2,044 Thai teenagers across urban and rural regions, further showing gender-based differences in how compulsive gaming affects quality of life. Although much of the literature centers on individual health and performance, public administration scholarship must engage more frequently with institutional and regulatory responses to the phenomenon.

From a well-being perspective, the health consequences are clear for adolescents, yet relatively few studies focus on primary school children (Wohlwill, 2013). Yang, Ma, Zhou, Ji, and Hou (2023) used four recognized instruments to assess digital addiction, anxiety, depression, and loneliness among Chinese teenagers engaging in non-suicidal self-injury, reporting a 40.9% addiction rate with higher risk among males and campus residents. Personality correlates also appear in Hammad and Al-Shahrani's (2024) research on Saudi university students, indicating that higher aggression and impulsivity are associated with increased Internet Gaming Disorder (IGD). Despite these harms, Çar, Güler, and Konar (2022) emphasize persistent difficulties with self-regulation among gamers, underscoring the need for policy interventions that support self-control through school and community programs.

A broad reading of recent studies shows that performance-related effects are well documented. Sun, Sun, and Ye (2023) found negative correlations between behavioral, emotional, and cognitive engagement and digital addiction among 443 Jordanian college students. Although that quantitative work does not extend to primary school cohorts, it offers a policy-relevant benchmark for education needs assessments in Jordan. Farallon, Garcia, and Lopez (2022) and Wright (2011) likewise observed declines in academic performance among high school and university students, illustrating the practical challenges faced by educational institutions. In response, Zhu, Zhang, Yu, and Bao (2015) argue for stronger teacher and parent collaboration, proposing policies that formalize coordinated involvement within schools.

Health-related evidence continues to accumulate, with extensive scholarship documenting the physical and mental risks of prolonged gaming among children. A multinational meta-analysis by Paulus, Ohmann, Von Gontard, and Popow (2018) estimates that prolonged gaming doubles the risk of anxiety disorders in children aged 8-12. These findings leave education administrators balancing the pedagogical benefits of digital engagement against the potential for harmful overuse (Griffiths & Nuyens, 2017). Public administration research, therefore, needs to move beyond individual-level effects to institutional and regulatory solutions that can be embedded in national education strategies (Alkandari, 2015).

The wider social effects also expose weaknesses in current governance, while sociocultural drivers highlight the importance of tailored policy. Bishop (2015) and Ong, Peh, and Guo (2016) document how excessive gaming erodes interpersonal bonds and mirrors patterns of substance abuse, signaling a need for intersectoral approaches that integrate health, education, and child welfare mandates. In Islamic-governed societies such as Jordan and Kuwait, cultural and religious factors influence digital behaviors. Mental health providers observe that teenagers vulnerable to spiritual or psychological pressures may be more prone to addiction (Dossi, Buja, & Montecchio, 2022). Leisure norms also differ from Western digital cultures. Jalalian, Sadeghi, Shaban Nejad Shani, and Mahdavi Hamzekolaei (2023) show that Islamic practices mediate digital addiction among Iranian high school students, and Wilkens and Lee (2022) report higher male addiction rates in the Arab world. In Kuwait, Alhuwail and Dashti (2021) find that parents often rely on informal religious guidance rather than formal regulations to manage screen time, which suggests a policy lever for embedding faith-aligned digital ethics content in school curricula. While many of these studies are outside Jordan and Kuwait, they offer useful context for designing culturally sensitive policies explored in this study's qualitative strand in Kuwait.

Moreover, governance and policy frameworks are pivotal because they provide the structural basis for effective intervention. Przybylski and Weinstein (2017) outline individual-level treatments, while Salakhova et al. (2021) and Silverman (2016) extend the focus to government-led digital regulation in educational settings. International statutes, including the UK's Online Safety Act 2023 (United Kingdom, 2023), the US Children's Online Privacy Protection Act (Andrews, Walker, & Kees, 2019), and the UN Convention on the Rights of the Child (Livingstone & Bulger, 2014), offer models for child online protection policy. However, no cohesive national frameworks exist in Jordan or Kuwait, signaling a policy vacuum that this research seeks to address.

For conceptual grounding, two policy models guide the governance framing applied in this research. Kingdon's Multiple Streams aligns problem, policy, and politics, helping to read the current window for child digital wellbeing. The Coalition Framework highlights how administrators, educators, parents, and health actors coordinate over time to translate evidence into rules, linking the Jordanian prevalence patterns with Kuwaiti feasibility insights.

Finally, preventive action at the family and school levels demonstrates not only the capacity to foster healthier digital habits and resilience against addictive behaviors but also shows promise as a sustainable policy approach that can be scaled and integrated into broader education frameworks. Nogueira et al. (2022) and Bayer (2024) document how digital and information literacy initiatives promote responsible use among young people. In this study, qualitative interviews in Kuwait examine the feasibility of implementing similar programs within existing education policy structures. By integrating quantitative prevalence data from Jordan with qualitative governance insights from Kuwait, the review supports a public administration perspective on mixed methods policy research and underscores the need for evidence-based, culturally attuned, and institutionally coordinated policies to mitigate digital addiction among primary school children.

3. METHODOLOGY

This study employs a convergent mixed methods design (Creswell & Plano Clark, 2018) that combines quantitative prevalence data from Jordan with qualitative governance insights from Kuwait to generate actionable policy guidance. To ensure the goal of convergence at the interpretation stage, the Jordanian survey was administered

first to provide headline results, which were then used to inform and focus the subsequent Kuwaiti interviews. Each strand was analyzed independently to preserve its unique contribution before being integrated. This convergent design facilitates purposeful integration, enabling triangulation and the evaluation of alternative explanations (Fetters, Curry, & Creswell, 2013). Given the inherently interdisciplinary nature of social issues such as digital addiction, bringing together statistical prevalence patterns with governance perspectives helps produce a more policy-relevant account.

For the quantitative strand, approvals were obtained, and written parental consent and child assent were secured before administering the 22-item Internet Gaming Disorder Scale. Following data collection, responses were coded and analyzed in SPSS v28, with internal consistency reliability confirmed (Cronbach's $\alpha > 0.70$). The survey targeted primary school children in Irbid, Jordan (2022–2023). A simple random sample of 280 children, balanced by gender and drawn from two private and two government schools, helped ensure representativeness (Singh & Masuku, 2014). The 22-item instrument, refined through expert review (≥ 80% agreement) and demonstrating test-retest reliability (Pearson r = 0.74), provided a measure of addiction levels. Descriptive statistics profiled prevalence, while independent samples t-tests examined school type and gender differences, generating evidence to inform policy priority setting. In addition to significance tests, between-group differences were quantified using Cohen's *d* based on the pooled standard deviation for independent groups, and 95% confidence intervals were reported for *d*.

The qualitative component explored policymaker perspectives in Kuwait. Twenty-four public policy administrators, representing central and regional offices and drawn from the Ministry of Education and the Supreme Council for Planning and Development, were purposively sampled based on roles in policy formulation and/or implementation. Expert-validated interview questions guided a series of 60-minute Zoom interviews. To enhance credibility, two researchers independently coded transcripts, achieving 93% intercoder agreement, with discrepancies resolved through discussion. An audit trail was maintained along with member checking. Transcripts underwent Hsieh and Shannon's (2005) content analysis, whereby descriptive codes were aggregated into thematic categories, with frequency counts enabling percentage reporting of governance themes.

By integrating survey data from Jordan with policy insights from Kuwait, the methodology aligns with public administration objectives. The research combines a needs assessment from the quantitative prevalence component with stakeholder perspectives from the qualitative governance component. This design supports triangulation and enables the development of interventions that reflect data trends and contextual feasibility in Islamic-governed education systems. Overall, it provides a robust foundation for comprehensive, culturally responsive education policies to mitigate digital addiction among primary school children.

4. FINDINGS

In Irbid, Jordan, the quantitative results provide critical evidence base for education policy administrators. Data were analyzed to gauge the extent of electronic game addiction among primary school children and, beyond simple prevalence, to indicate policy directions for engagement and regulation. The overall level of addiction was examined first. The sample comprised 280 children with a mean of 14.46 (SD 10.32), indicating moderate variation in scores. As shown in Table 1, a one-sample t-test compared this mean with the hypothetical value of 44. With 279 degrees of freedom and a 95% confidence interval, the calculated t-value was 2.64, exceeding the critical value of 1.96. Taken together, the results show prevalence is higher than anticipated, raising concerns for future health, social relationships, and personal development, thus making the case for prompt policy action to protect child well-being.

Table 1. Digital addiction level results.

Variable	n	Mean	SD	Hypothetical mean	T value	
					(calc.)	(Tab.)
Students	280	46.14	10.32	44	2.64	1.96

The second research question examines differences by school type. The survey included 140 private school and 140 public school children. Private school children recorded a mean of 46.88 (SD 10.02), while public school children averaged 44.81 (SD 10.58). Table 2 reports an independent samples t-test (df 278, 95% CI) with t = 1.46, below the 1.96 threshold, indicating no statistically significant sectoral difference. Notably, both means exceed the hypothetical average, which points to system-wide effects on behavior, ambition, and early personality formation, and, by extension, the need for sector-wide strategies rather than targeting one school type alone. Accordingly, the school sector effect was small and imprecise (Cohen's $d = 0.20$, 95% CI [−0.03, 0.44]).

Table 2. School type differences.

School type	n	Mean	SD	Hypothetical mean	T value	
					(calc.)	(Tab.)
Private	140	46.88	10.017	44	1.457	1.96
Public	140	44.81	10.588			

The third research question investigates gender differences (Table 3). Both male and female groups comprised 140 participants. Females recorded a mean of 38.43 (SD 9.10), whereas males averaged 52.96 (SD 5.08). With df = 278 and a 95% confidence interval, the male t value was 12.47, well above 1.96, confirming a pronounced gender gap and supporting the view that males are more prone to digital addiction. In policy terms, this strengthens the rationale for gender-sensitive provision. Given the higher male scores, prevention programs that speak to males' attraction to competitive, action-oriented games can channel the same drive into academic or sporting endeavors. Taken together, these results indicate a large gender effect (Cohen's d = 1.97, 95% CI [1.69, 2.26]).

Table 3. Gender differences.

Gender	n	Mean	SD	T value	
				(calc.)	(Tab.)
Male	140	52.96	5.075	12.47	1.96
Female	140	38.43	9.097		

Policy makers can use these results to set threshold targets, for example, reducing average addiction scores below the hypothetical mean within a defined period. Descriptive statistics and t-tests should guide resource allocation and steer investment towards digital wellbeing curricula, counselling capacity, and community-based engagement schemes. Read alongside the qualitative perspectives from Kuwaiti administrators, these quantitative insights enable public administration stakeholders to design comprehensive, context-relevant policies for primary school populations.

In Kuwait, public policy administrators from the Ministry of Education and the Supreme Council for Planning and Development reviewed the Jordanian quantitative data before interviews, ensuring that their recommendations directly addressed observed prevalence patterns. Their insights form a governance-focused complement to the statistical findings. Table 4 summarizes administrators' views on the most important social interventions for mitigating children's addiction to electronic games.

Table 4. Results of public policy administrators' responses for social interventions.

Theme	n	%	Rank
Restructured school programs	24	100%	1
Volunteerism	22	92%	2
Club football events	22	92%	2
Community service	18	75%	3
Child support grants	15	63%	4
Parental education programs	13	54%	5
National awareness campaigns	10	42%	6
Book or science fairs	8	33%	7
Arts and cultural competitions	4	17%	8

Interviewees grouped social interventions into the two broad categories of physical engagement and knowledge development. All agreed that school programs should be reworked to be more engaging and enjoyable without diluting academic standards. Volunteering and football, both deeply rooted in Jordanian and Kuwaiti culture, were identified by 92% as effective measures. About 75% endorsed community service opportunities, noting that teamwork and real-world interaction can reduce reliance on electronic games. Administrators also argued for structured extracurricular activities that expose children to diverse interests and experiences. Arts and cultural competitions, though less frequently mentioned (17%), were cited as additional, physically focused options.

Knowledge development proposals included support grants (63%) to ease family financial pressures and enable investment in healthier pursuits. Parent education programs (54%) and social awareness campaigns (42%) were seen as critical for equipping caregivers to set and enforce digital boundaries. Book and science fairs were less common (33%) yet still valued for fostering curiosity and offering offline alternatives. Overall, administrators framed informed families and communities as the first line of defense. Table 5 summarizes thematic responses to the fourth research question on policy priorities amid rising addiction rates.

Table 5. Results of public policy administrators' thematic responses for key focus areas.

Theme	n	%	Rank
Responsible digital behavior	23	100%	1
Parental guidance	23	100%	1
Regulatory frameworks	18	75%	2
Content regulation	17	71%	3
School role	13	54%	4
Mental health & communication	11	46%	5
Education & awareness	9	38%	6

Interviewees converged on the need for policies that promote responsible gaming and strengthen parental guidance. Suggested measures included screen time limits, age-appropriate download controls, and restrictions on certain applications in the Jordanian and Kuwaiti markets. Eighteen administrators highlighted the creation of regulatory frameworks for digital programs as a central task, reflecting an administrative imperative to set clear parameters. They advised parents to treat gaming as a reward after essential household and homework duties, with the government stepping in where parental involvement is limited. Proposed actions for the Ministries of Telecommunications included restricting gaming to specific hours and enforcing tighter content filters. About 71% emphasized content regulation to ensure age-appropriate games that do not encourage violence, while 54% urged schools to add digital well-being workshops and counselling for children showing early signs of addictive behavior.

Although previous studies (Cui et al., 2021; Oliveira et al., 2017; Yan et al., 2023) highlighted mental health and social awareness programs, only 46% and 38% of interviewees mentioned these, respectively. This lower emphasis suggests a need for public administrators to integrate such approaches more fully into policy frameworks. Administrators agreed that open communication amongst teachers, children, and parents is essential, but it must be underpinned by proactive policy measures. They proposed quarterly information sessions, both separate and joint, for children and parents to discuss the consequences of uncontrolled gaming, including declining academic performance and social integration difficulties. Finally, several interviewees underscored the importance of time management initiatives that enable children to balance work and leisure effectively.

5. DISCUSSION

Kingdon's policy window lens helps to read these results, whereby public concern, workable policy ideas, and political momentum move in step. In both Jordan and Kuwait, the growing visibility of digital addiction forms the problem stream, feasible models surfaced through the survey, and the governance interviews supply the policy stream,

and heightened political attention to digital risks contributes to the politics stream. Viewed collectively, these strands create a timely opening for reform, especially in education policy and child digital wellbeing.

Resourcing sits at the center of that opening. Effective interventions will need budget lines for primary school digital wellbeing campaigns and grants that underwrite community volunteer programs. The digital literacy literature reaches a similar conclusion, in which awareness by itself is not enough (Bayer, 2024; Nogueira et al., 2022). Stronger and more durable results appear when education programs are paired with clear regulatory enforcement. The convergent mixed methods design here points in the same direction. Jordanian prevalence patterns align with Kuwaiti governance themes on three fronts: uniformly high scores across school types support system-wide regulation rather than sector-specific rules, the gender gap justifies male-focused extracurricular options, such as football, and the overall mean above the hypothetical threshold underlines the case for screen time caps.

Set within this window, the empirical and comparative evidence shows where health, education, and governance priorities meet. Read alongside prior work, there is broad agreement that the consequences of digital addiction are severe. As health-related comorbidities accumulate, consequently adding pressure to public health systems, ministries of education cannot act in isolation. Shared governance arrangements, consistent with Sabatier and Weible's (2014) advocacy coalition framework, therefore, argue for interministerial teams to link education, health, and telecommunications.

Earlier studies also show that males are more susceptible than females (Ko, Yen, Chen, Chen, & Yen, 2005). Social motivation and well-being suffer (Sun et al., 2023; Yang et al., 2023), and academic outcomes decline (Farallon et al., 2022; Yan et al., 2023). Wright (2011) links gaming to falling grades. The gender disparity observed here accords with regional evidence (Wilkens & Lee, 2022) and meta-analytic estimates of heightened male vulnerability (Paulus et al., 2018). By contrast, the absence of school-type differences echoes (Farallon et al., 2022), implying that digital wellbeing content belongs in national curricula rather than being left to one sector. In combination, these patterns point to system-wide standards with gender-sensitive programming. The social and educational impacts extend beyond individual children, which is consistent with Bishop (2015) and Ong et al. (2016) on weakened interpersonal ties. Because national development plans in Jordan and Kuwait rest on a skilled, reliable workforce, sustained attention to child digital health governance becomes a core human capital strategy. Aligning curriculum reform, counselling capacity, and community provision with clear regulatory parameters allows education systems to protect learning while advancing national goals.

Against this backdrop, four strands of action follow. First, digital citizenship education should be embedded in national curricula. Specialist instructors and mental health professionals can deliver life skills and responsible gaming provision. As Zhu et al. (2015) show, such input helps children build resilience against addictive behaviors. Dedicated funding for child support grants and extracurricular programs would ease family constraints and create structured alternatives to gaming. Further inquiry in Middle Eastern settings into lifestyles and daily stresses would refine targeting and strengthen program design.

Second, regulation is a matter of great importance. Screen time caps, age-appropriate download controls, and content filtering rules should be enacted and enforced through collaboration between education and telecommunications authorities. Without effective policy, risks can escalate to cyberbullying, privacy breaches, diminished attention spans, and longer-term socio-environmental harms (Huang, 2017). Given that data and social norms in Jordan and Kuwait show males enjoying more leisure time and screen use than females, gender-targeted digital policy strategies are warranted. Clear rules on permissible gaming hours, coupled with workable monitoring, would set boundaries while respecting cultural norms around leisure.

Third, gender-sensitive interventions ought to foster belonging and constructive achievement. With higher male scores, competitive, action-oriented alternatives, such as sports leagues or academic competitions, can harness similar motivations. Parent education programs, tailored with gender considerations, would equip caregivers to set and enforce appropriate rules.

Finally, knowledge development must sit alongside physical and regulatory measures. National awareness campaigns, book fairs, and science exhibitions that stimulate creativity and offer offline learning should be funded as part of wider youth development strategies. Quarterly sessions for families, delivered jointly by schools and community organizations, can reinforce balanced habits while addressing psychological and environmental drivers. Although policymakers in these data favor physically focused initiatives, experience elsewhere (Andrews et al., 2019; United Kingdom, 2023) suggests knowledge and awareness deserve equal weight. Coordinated action by parents, educators, and public policy administrators can limit harms and support mindful gaming. In turn, comprehensive policies can protect child wellbeing and advance national education and development goals.

This multifaceted approach provides a structured, inclusive route for implementing digital addiction policy in Jordan and Kuwait. By aligning objectives, managing stakeholders, designing targeted regulations, and supervising delivery, public administration leaders can ensure culturally responsive interventions that advance national education goals while safeguarding children's well-being in a sustainable way.

6. CONCLUSION

Bringing Jordanian prevalence patterns together with Kuwaiti governance themes reveals strong alignment, whereby the high addiction scores among male children mirror policymakers' emphasis on gender-sensitive interventions. The lack of variation by school type, alongside repeated calls for system-wide rules rather than sector-specific measures, further points to the need for unified national strategies. These points, in aggregate, offer a practical route for combining needs assessments with stakeholder engagement to craft culturally responsive digital wellbeing policy.

The study was intentionally delimited to a well-defined Jordanian setting for the quantitative strand and a national policymaker cohort in Kuwait for the qualitative strand. This design provided a focused needs assessment linked to real-world governance insights to suit policy development. The survey instrument demonstrated acceptable reliability, and the interview sample captured perspectives that are decision-relevant across education and planning agencies. While the strands were not designed for direct comparison across countries, practical transferability of the recommendations can be made to similar education systems in the region.

The scarcity of Middle Eastern evidence on primary school digital behavior underlines the value of longitudinal designs to track addiction trajectories and to gauge the long-term impact of policy measures. Future work that examines lifestyles as a mediating factor and maps individual stresses (Sun et al., 2023) could refine targeting and strengthen effectiveness. As a natural extension, replication across additional Jordanian governorates and neighboring systems would support scaling, while short panel follow-ups would further strengthen monitoring of policy impact without altering the core approach. By bringing statistical prevalence evidence together with governance insight, this study sets out an evidence-based, culturally attuned roadmap. Implementing the recommended curricular, regulatory, and community measures would address immediate pressures and, in doing so, position Jordan and Kuwait as regional leaders in child digital health governance, safeguarding long-term human capital goals.

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Transparency: The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.
Data Availability Statement: The corresponding author can provide the supporting data of this study upon a reasonable request.
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