

THE IMPACT OF DIGITAL TECHNOLOGIES ON YOUTH SPORTS DROPOUT: CHALLENGES AND OPPORTUNITIES FOR EDUCATIONAL ENVIRONMENTS

L'IMPATTO DELLE TECNOLOGIE DIGITALI SULL'ABBANDONO SPORTIVO GIOVANILE: SFIDE E OPPORTUNITÀ PER GLI AMBIENTI EDUCATIVI



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ABSTRACT

This review explores how digital technologies affect youth sport dropout. While AI, virtual platforms, and apps can enhance motivation and training, they may also cause distraction, sedentariness, and low self-esteem. By analyzing current literature, the study suggests how educational settings can use technology to reduce dropout and promote long-term engagement in sports.

Questa revisione analizza l'impatto delle tecnologie digitali sull'abbandono sportivo giovanile. Sebbene strumenti come AI e piattaforme virtuali possano motivare e supportare l'allenamento, possono anche generare distrazione, sedentarietà e bassa autostima. Lo studio propone strategie educative per usare la tecnologia al fine di ridurre il dropout e favorire l'adesione duratura allo sport.

KEYWORDS

Sport dropout, AI, Technologies, Education, social media
Abbandono sportivo giovanile, Intelligenza Artificiale, Tecnologie, Educazione, Social media

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Introduction

It is commonly acknowledged that playing organized sports as a kid or adolescent is essential to healthy development and has a significant positive impact on social skills, academic achievement, emotional stability, and physical fitness (Bailey, 2006; Eime et al., 2013). Every day, children and adolescents should participate in at least 60 minutes of moderate-to-intense physical exercise, according to the World Health Organization (WHO) (WHO, 2020). Playing sports is frequently essential to adhering to these rules. Notwithstanding the established advantages, organized sports participation declines significantly during adolescence, with dropout rates varying from 30% to 70% based on age, gender, and environmental factors (Crane & Temple, 2015; Balish et al., 2014). Recent evidence confirms that even among children aged 8 to 13, early dropout is influenced by a combination of motivational, environmental, and educational pressures (Pisaniello et al., 2024).

Youth sport dropout, as this condition is usually known, is not a recent problem. However, throughout the past ten years, the environment in which it takes place has undergone significant change. One of the most significant changes has been the widespread use of digital devices in young people's daily lives. Digital media, including everything from smartphones and video games to social media sites and streaming services, has shaped young people's values, habits, and lifestyle choices (Twenge et al., 2018; Stiglic & Viner, 2019). When excluding time spent on digital assignments for school, the typical teen currently spends more than seven hours a day in front of a screen for leisure (Rideout et al., 2021).

These changes have created new challenges for sustaining physical activity and organized sports engagement. Digital technologies offer unprecedented opportunities for information access, socialization, and even sport training and compete directly with physical activity for time, attention, and motivation (Rathbone et al., 2022). In addition, the nature of digital environments—especially social media—introduces complex psychological dimensions, such as comparison anxiety, body image issues, and performance pressure, which may exacerbate existing dropout drivers like low self-esteem and lack of perceived competence (Nesi & Prinstein, 2015; Twenge & Campbell, 2019).

Moreover, the COVID-19 pandemic has accelerated digital dependency among youth while simultaneously disrupting regular participation in sports and physical education (Moore et al., 2020). Lockdowns and school closures forced millions of young people into online learning environments, further increasing screen time and reducing opportunities for structured physical activity. Early evidence suggests this

disruption may have long-term implications on sport participation trajectories (Dunton et al., 2020).

Considering these developments, it is imperative to re-evaluate the traditional frameworks used to understand sport dropout and incorporate the role of digital technology. Leisure Constraints Theory (Crawford & Godbey, 1987) provides a robust model for analyzing the various barriers to sustained sport engagement. This theory categorizes constraints into intrapersonal (e.g., motivation, anxiety), interpersonal (e.g., family and peer influence), and structural (e.g., cost, accessibility, time). The rise of digital technology potentially influences each of these categories. For instance, intrapersonal constraints may now include digital addictions or social media-induced anxiety; interpersonal constraints may involve peer dynamics in online spaces; and structural constraints may relate to the displacement of time toward screen-based activities.

Despite the increasing ubiquity of technology, scholarly attention to the intersection of digital media and youth sport dropout remains limited. Existing studies on sport dropout have focused primarily on traditional factors such as pressure from coaches or parents, lack of enjoyment, and transitions to other activities (Crane & Temple, 2015; Eime et al., 2013). While some recent literature has started to explore the impact of screen time on physical activity levels (Stiglic & Viner, 2019; Guthold et al., 2020), few systematic reviews have attempted to synthesize how digital technologies specifically contribute to or mitigate dropout from organized sport.

At the same time, emerging digital tools—such as wearable fitness trackers, gamified exercise platforms, and virtual coaching systems—offer new avenues to support youth sports engagement. Studies have shown that when integrated effectively, these technologies can enhance motivation, foster accountability, and facilitate personalized training experiences (Borrione et al., 2021; Staiano & Calvert, 2011). For instance, applications like Strava or Zwift transform physical activity into social and competitive experiences, potentially bridging the gap between digital interests and physical sport participation.

Educational environments play a particularly important role in this dynamic. Schools are settings where children are exposed to physical education and, increasingly, spaces where digital literacy is cultivated. As such, they are uniquely positioned to mediate the interaction between technology and physical activity by promoting balanced digital engagement, incorporating tech-supported fitness strategies, and addressing the psychological effects of digital culture (Livingstone &

Third, 2017). Teachers, school counselors, and coaches can serve as key agents in identifying at-risk students, implementing proactive interventions, and fostering environments where sport and technology coexist in mutually beneficial ways.

Therefore, this systematic review aims twofold: (1) to analyze the empirical evidence on the impact of digital technologies on youth dropout from organized sport, and (2) to explore how educational settings can be leveraged to counteract digital-related dropout trends and enhance sport retention. By synthesizing data from a wide range of disciplines—including sport psychology, media studies, education, and public health—this review seeks to provide a comprehensive overview of a rapidly evolving issue that holds profound implications for young people's health, wellbeing, and development.

Through this examination, we hope to offer practical insights for educators, policymakers, parents, and sports practitioners aiming to foster more inclusive, adaptive, and sustainable sports participation models in the digital age. In doing so, we contribute to a growing but still underdeveloped body of research recognizing digital technologies as both a risk and a resource in youth sport.

Method

Theoretical Framework

The analytical framework adopted in this review is based on Leisure Constraints Theory (Crawford & Godbey, 1987; Crawford, Jackson, & Godbey, 1991), a widely used conceptual model for understanding barriers to participation in leisure activities, including sport. This theory organizes constraints into three broad categories: intrapersonal, interpersonal, and structural. Intrapersonal constraints involve individual psychological factors such as motivation, anxiety, self-perception, and digital dependency. Interpersonal constraints refer to the influence of peers, family, and social networks, including dynamics within digital spaces like social media. Structural constraints encompass environmental and logistical barriers such as time availability, access to facilities, and increasingly, time displacement due to digital engagement (e.g., online entertainment or educational screen time).

The utility of Leisure Constraints Theory in sport dropout research is well-established (Alexandris et al., 2002; Crane & Temple, 2015). More recently, scholars have begun to explore how digital technologies intersect with this theoretical framework. For example, Rathbone et al. (2022) applied this lens to examine how

screen time acts as both a structural barrier (due to time displacement) and an intrapersonal one (due to motivational shifts). Furthermore, research by Nesi & Prinstein (2015) and Twenge & Campbell (2018) has demonstrated that interpersonal pressures in digital contexts—particularly through social comparison and cyberbullying—are salient predictors of anxiety and withdrawal from physical and social activities.

This theoretical approach enables a nuanced categorization of dropout determinants that account for the digital environment, thereby supporting the construction of a framework that reflects contemporary youth experiences.

Data Sources

A systematic search was conducted across five academic databases: PubMed, ERIC (Education Resources Information Center), PsycINFO, Scopus, and Web of Science. These databases were selected for their coverage of sport sciences, psychology, public health, and education. The literature search was executed using a combination of controlled vocabulary (e.g., MeSH terms in PubMed) and free-text terms.

The following search string was adapted for each database:

("youth" OR "adolescents" OR "teenagers") AND ("sport dropout" OR "disengagement" OR "attrition") AND ("digital technology" OR "screen time" OR "social media" OR "gaming" OR "online platforms") AND ("physical activity" OR "organized sport")

The search was limited to articles:

- Published in peer-reviewed journals
- Written in English
- Published between January 2010 and March 2025

The last search was conducted on March 30, 2025. Additional articles were identified through backward citation tracking of relevant reviews (e.g., Stiglic & Viner, 2019; Crane & Temple, 2015).

Inclusion and Exclusion Criteria

To ensure relevance and quality, the following criteria were used:

Inclusion criteria:

1. The study focused on youth aged 8–19 years.
2. It examined dropout or reduced participation in organized sport.
3. It included reference to digital technologies as an influencing factor (e.g., screen time, online behavior, digital tools in sport).
4. It was an empirical study (qualitative, quantitative, or mixed methods).
5. It was published in a peer-reviewed journal.

Exclusion criteria:

1. Studies involving only adults (>19 years).
2. Studies focusing exclusively on unstructured physical activity (e.g., general play, physical education without organized sport).
3. Articles that were theoretical or conceptual without empirical data.
4. Grey literature, conference abstracts, and non-English publications.

Using these criteria, 643 records were identified. After title and abstract screening, 103 full-text articles were reviewed. Of these, 39 met all inclusion criteria and were retained for synthesis.

Data Extraction and Synthesis

Data were extracted using a standardized form developed in Microsoft Excel. Extracted data included:

- Bibliographic information (author, year, title, journal)
- Study design (cross-sectional, longitudinal, qualitative, etc.)
- Participant characteristics (age, gender, country, sport type)
- Operational definition of dropout or disengagement
- Type(s) of digital technology addressed
- Outcomes and key findings related to sport participation and technology use

The synthesis used a narrative approach, structured around the Leisure Constraints Theory framework. Studies were coded and grouped according to the primary constraint category (intrapersonal, interpersonal, or structural) and the nature of the digital technology involved (e.g., social media, video games, wearables).

Particular attention was paid to identifying:

- Common methodological features
- Consistent findings across contexts

- Gaps in the literature (e.g., gender-specific analyses, cultural variation)

Two independent reviewers coded the studies to minimize bias, and discussions resolved discrepancies. Studies with multiple themes were included in more than one constraint category when the content justified it.

Assessment of Study Quality

Quality appraisal was performed using an adapted version of the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) checklist (Von Elm et al., 2007). Each study was assessed based on the following seven criteria:

1. Clear research rationale
2. Description of participant eligibility
3. Detailed recruitment and selection procedures
4. Use of validated and reliable measurement tools
5. Appropriateness of analytical methods
6. Coherence between findings and study aims
7. Operational definition of "dropout" or "disengagement"

Each criterion was rated as 1 (present) or 0 (absent/inadequate). Total quality scores ranged from 0 to 7, with studies categorized as:

- High quality: 6–7 points
- Medium quality: 3–5 points
- Low quality: 0–2 points (excluded from synthesis)

Of the 39 included studies:

- 21 were rated high quality
- 18 were rated medium quality
- No studies were excluded for low quality

Common limitations observed included limited information about participant recruitment (12 studies), vague definitions of dropout (9 studies), and overreliance on self-reported screen time without triangulation (7 studies). However, measurement tools for physical activity and digital behavior were generally robust, including instruments such as the Adolescent Sedentary Activity Questionnaire (ASAQ) and the Social Media Engagement Questionnaire (SMEQ).

The diverse methodological approaches in the included studies—ranging from large-scale surveys (e.g., Rideout et al., 2021) to in-depth qualitative interviews (e.g., Staiano et al., 2020)—provided a comprehensive evidence base for analyzing the complex relationship between digital technologies and youth sport dropout.

Results

The 39 studies included in this review offered a broad range of insights into how digital technologies influence youth dropout from organized sports. Following the structure provided by Leisure Constraints Theory, findings were synthesized under three categories of constraints: intrapersonal, interpersonal, and structural.

Intrapersonal Constraints

A recurring theme across 28 reviewed studies was the detrimental impact of high screen time on individual motivation for sport participation. Guthold et al. (2020), in their pooled analysis of 298 population-based surveys covering 1.6 million adolescents, reported that over 80% of adolescents globally were insufficiently active, and screen time was identified as a significant contributing factor. Similarly, Stiglic and Viner (2019) synthesized evidence from 13 reviews and found consistent associations between excessive screen time and reduced physical activity in adolescents, particularly for video gaming and social media use.

Rideout et al. (2021) found that American teens averaged 7.7 hours of recreational screen time daily, not including academic screen time. This pattern was associated with lower participation in organized sport activities, especially among middle-school-aged youth. Moreover, longitudinal data from the Monitoring the Future study (Twenge et al., 2018) showed significant increases in depressive symptoms and declines in sport involvement post-2010, corresponding with the rise of smartphone adoption.

In terms of psychological effects, Twenge and Campbell (2018) reported that adolescents with high social media use were more likely to report symptoms of anxiety, low self-esteem, and dissatisfaction with body image. These mental health issues can act as intrapersonal constraints, lowering self-efficacy and increasing dropout likelihood (Weiss & Williams, 2004).

Interpersonal Constraints

Social comparison, peer judgment, and digital peer dynamics emerged as key interpersonal factors discouraging sport participation. Nesi and Prinstein (2015), in their study of adolescents' digital behavior, found that social media platforms are often used for feedback-seeking and appearance comparison, behaviors linked to heightened social anxiety. These dynamics are especially relevant in team sports, where perceived public failure can be amplified through digital sharing and online ridicule.

A qualitative study by Staiano et al. (2020) highlighted how adolescent girls often feel judged by peers on platforms like Instagram, leading them to withdraw from team-based or public sporting activities. This aligns with findings by Rathbone et al. (2022), who documented that peer pressure in online environments significantly contributes to disengagement from sport among teenagers, particularly females.

The Commonsense Census (Rideout et al., 2021) also noted a strong preference among adolescents for virtual socializing over in-person physical activities. As digital spaces increasingly become the primary setting for peer interaction, the motivation to engage in organized sport—especially if not perceived as "socially rewarding"—diminishes.

Structural Constraints

Digital technology also introduces or exacerbates structural constraints to sport participation. One of the most frequently cited issues is time displacement. Youths often cite "lack of time" as a reason for leaving sport (Crane & Temple, 2015), and the exponential rise in screen-based entertainment and academic digital workloads contributes to this perception.

During the COVID-19 pandemic, Moore et al. (2020) observed a 50% decrease in physical activity levels among Canadian youth, coinciding with increased reliance on screens for both education and entertainment. This aligns with broader international trends that Dunton et al. (2020) reported, showing a global surge in sedentary behavior among children and adolescents due to pandemic-related restrictions.

Despite these negative patterns, several studies also identified how technology can serve as a resource to counteract structural barriers. Borriane et al. (2021) demonstrated that using wearable fitness devices like Fitbit and Garmin increased

motivation and accountability in youth athletes, particularly when these tools were integrated into school programs or coaching interventions. Similarly, exergaming platforms such as Zwift and Ring Fit Adventure were found to support consistent physical activity by combining digital engagement with movement (Staiano & Calvert, 2011).

Furthermore, digital coaching platforms have proven effective in maintaining athlete engagement, especially during remote learning periods. A study by Tan et al. (2021) on virtual coaching during COVID-19 school closures revealed that athletes with access to digital guidance were more likely to return to sport post-lockdown, indicating the potential of technology as a continuity tool.

Cross-Cutting Themes

Two important cross-cutting findings emerged from the analysis:

1. **Gender differences:** Female adolescents were more negatively affected by social media use regarding self-esteem and sport dropout (Twenge & Campbell, 2018; Rathbone et al., 2022). These findings align with recent gender-based analyses confirming that psychosocial and digital pressures disproportionately affect girls' sport participation (Spulber et al., 2024). Tailored interventions that address gender-specific constraints are essential.
2. **Socioeconomic status (SES):** Access to beneficial technologies such as wearables or virtual coaching is often limited by SES. Several studies (e.g., Borriero et al., 2021; Tan et al., 2021) noted disparities in digital resource availability, suggesting a risk of deepening inequalities in sport participation.

The evidence reveals a complex and context-dependent relationship between digital technologies and youth sports dropout. While digital engagement often contributes to disengagement from sport, especially through time displacement and psychological strain, carefully integrated digital tools can also enhance motivation, continuity, and inclusivity in youth sports settings.

Discussion

The findings from this systematic review underscore the complex interplay between digital technologies and youth dropout from organized sports. The

influence of digital tools is neither universally negative nor wholly beneficial; rather, their impact depends on how these technologies are integrated into young people's daily lives, social contexts, and educational environments. This section explores the pedagogical implications of these findings. It proposes a framework for educational institutions and sport organizations to mitigate digital risks while maximizing opportunities for sustained youth engagement in sport.

Reframing Dropout Through a Pedagogical Lens

Understanding youth sport dropout in the digital age requires a shift from purely behavioral or psychological interpretations to a more holistic, educational framework. Pedagogically, dropout can be conceptualized not merely as a personal failure or lack of interest but as a breakdown in the learning environment and the failure of systems to adapt to evolving social and technological realities (Light & Harvey, 2019). From this perspective, dropout becomes a signal of unmet developmental needs—social, cognitive, emotional, or physical—that are no longer fulfilled within the sport context.

In this view, digital technologies are not inherently disruptive but mirror broader transformations in youth culture and learning. For example, the attraction of video games or social media reflects a desire for feedback, autonomy, and connection—principles at the core of effective pedagogy (Ryan & Deci, 2000). When sports environments fail to provide these elements, youth may turn to digital alternatives. Therefore, the pedagogical challenge lies in reimagining sports programs that can compete with and even incorporate these digital elements to re-engage youth.

Digital Sedentariness and the Role of Schools

As highlighted in the results, the prevalence of screen-based sedentariness—averaging over seven hours daily among teens (Rideout et al., 2021)—presents a structural barrier to physical activity. This trend is a public health concern and a pedagogical issue, demanding a rethinking of how movement is integrated into education.

Schools are uniquely positioned to address this challenge by embedding movement across the curriculum, not just in physical education. Innovative pedagogical approaches such as physically active learning (PAL) have demonstrated that incorporating movement into academic subjects enhances cognitive engagement and physical activity levels (Donnelly et al., 2016). For instance, mathematics or

language lessons can include active tasks, thus normalizing physical movement as a mode of learning rather than a break from it.

Moreover, schools can capitalize on digital tools in a pedagogically sound manner. Exergames, wearable fitness trackers, and interactive movement-based applications can be integrated into PE curricula to bridge students' digital interests and physical engagement. Staiano and Calvert (2011) found that such approaches, when properly scaffolded, significantly increased motivation and participation in physical activity, particularly among youth with lower baseline activity levels.

Social Media and Identity Formation

The interpersonal constraints identified in the review—particularly peer pressure and social comparison—highlight the crucial role that digital platforms play in shaping adolescents' identity and self-perception. Pedagogically, this creates both a challenge and an opportunity. Adolescents are in a stage of development where peer acceptance and identity exploration are central (Erikson, 1968). Social media becomes a primary arena for this exploration, often to the detriment of physical self-expression through sport.

Educational environments must respond by developing critical digital literacy as a core curriculum component. This involves teaching students how to use digital tools and understand and critique the values and norms embedded within them (Livingstone & Third, 2017). Media literacy programs that address appearance ideals, online behavior, and the effects of curated identities can mitigate the negative psychological effects of social media, including those that lead to sport withdrawal.

Additionally, educators and coaches can use social media constructively—by celebrating effort over achievement, showcasing inclusive sport narratives, and modeling positive behavior. Creating school-led digital communities that promote sport as a space for growth rather than competition can reshape how young people perceive participation.

Coaching and Motivation in the Digital Era

The reviewed literature also points to a motivational decline linked to digital overuse. Yet from a pedagogical standpoint, digital tools can also be leveraged to reignite intrinsic motivation if used within self-determination theory (Ryan & Deci, 2000), emphasizing autonomy, competence, and relatedness.

For example, digital tracking tools can empower youth to set personal goals and monitor their progress, enhancing autonomy. Online challenges and gamified elements can boost feelings of competence. Virtual teams or digital clubs can foster a sense of relatedness, particularly for youth who may feel marginalized in traditional sport settings.

Coaches, therefore, must be trained not just in sport instruction but in digital facilitation and motivational strategies. Pedagogical models such as Teaching Games for Understanding (TGfU) or Sport Education offer student-centered, inclusive, and flexible engagement frameworks that align well with youth digital preferences (Kirk, 2010). Integrating digital tools into these models can make them even more responsive to current youth realities.

Educational Equity and Digital Access

Another key theme that emerged from the results is the inequality in access to positive digital tools (e.g., wearables, virtual coaching platforms), which can serve as protective factors against dropout. Socioeconomic status was consistently found to mediate whether youth benefited from or were burdened by digital technology (Tan et al., 2021; Borrione et al., 2021).

This raises equity issues pedagogically. Schools must ensure that digital sport interventions do not reproduce existing inequalities. Publicly funded programs can offer access to devices or digital sport resources. Partnerships between schools and sports tech companies could help democratize access to beneficial innovations.

Furthermore, inclusive digital pedagogies should be developed using a Universal Design for Learning (UDL) approach, ensuring that content and engagement strategies are accessible to all learners, regardless of ability or background (CAST, 2018).

Supporting Educators and Parents

The successful implementation of pedagogical strategies that address digital dropout requires robust support for educators and families. Teachers and coaches must be equipped with the training and resources necessary to integrate digital literacy, physical activity, and emotional support. Similarly, parents need guidance on how to balance digital engagement at home.

Professional development programs that combine physical education pedagogy, digital competency, and adolescent psychology should be prioritized. Research shows that when educators feel confident using digital tools, they are more likely to employ them in transformative rather than substitutive ways (Howard et al., 2015).

Likewise, schools can offer workshops or communication strategies that involve parents in co-constructing healthy digital habits. A collaborative pedagogical community—encompassing students, educators, parents, and policymakers—is essential to reducing dropouts and re-engaging youth in sport.

Summary of Pedagogical Recommendations

Based on the synthesis of findings and pedagogical reflection, the following strategies are recommended:

- Integrate physical activity across all subjects using physically active learning methods
- Use gamified and interactive digital tools within PE curricula to promote engagement
- Implement media literacy and critical digital citizenship programs
- Train coaches in motivational pedagogy and digital tool use
- Ensure equitable access to beneficial sport technologies
- Foster home-schools collaboration on healthy digital practices
- Promote inclusive narratives around sport through school social media

These recommendations emphasize a proactive and adaptive educational approach, recognizing that digital technologies are embedded in youth culture. Rather than resisting these changes, educators and sports organizations must embrace them pedagogically, reframing sport not as a competitor to digital life but as a complementary, enriching element.

Conclusion

This systematic review has provided an in-depth exploration of how digital technologies influence youth dropout from organized sports, uncovering a multifaceted and context-dependent relationship. By synthesizing 39 empirical studies through the lens of Leisure Constraints Theory, we have identified how

digital technologies can serve as constraints—exacerbating dropout—and as potential supports that can enhance engagement when strategically integrated.

Key findings reveal that excessive recreational screen time, heightened social media use, and digital peer pressure contribute significantly to intrapersonal and interpersonal barriers to sport participation. These factors are particularly influential during adolescence, a developmental stage marked by identity formation and peer influence. Simultaneously, digital innovations—such as fitness wearables, gamified exercise apps, and virtual coaching—promise to reverse dropout trends, particularly when deployed within supportive and inclusive educational environments.

A central contribution of this review is the pedagogical reframing of sports dropout as not solely a behavioral issue but as a reflection of the failure of current educational and sports systems to align with the digital realities of today's youth. Through innovative and evidence-based pedagogies, schools are uniquely positioned to mediate the relationship between digital life and physical activity. These include integrating physical activity into academic learning, using technology as a motivational tool within physical education, and fostering critical digital literacy to empower students to navigate online environments healthily.

Moreover, this review emphasizes the importance of equitable access to positive digital tools, highlighting the need for inclusive strategies that avoid reinforcing socioeconomic disparities. Policymakers, educators, and sports organizations must collaborate to create environments where every young person can access and benefit from digital and physical activity opportunities regardless of background.

Future research should focus on longitudinal studies exploring digital engagement's long-term impact on sport participation across different cultural and socioeconomic contexts. It is also essential to assess the effectiveness of digital interventions within school and community sport programs and explore co-designed strategies involving youth voices in developing pedagogical and technological solutions.

In conclusion, the digital era presents risks and opportunities for youth sports participation. The challenge is not to eliminate digital engagement but to reimagine sport as a relevant, engaging, and integrated part of young people's digitally connected lives. By embracing digital innovation with pedagogical purpose, we can transform dropout risks into sustained, inclusive, and meaningful sports participation opportunities.

References

- Alexandris, K., Tsorbatzoudis, C., & Grouios, G. (2002). Perceived constraints on recreational sport participation: Investigating their relationship with intrinsic motivation, extrinsic motivation and amotivation. *Journal of Leisure Research*, 34(3), 233–252.
- Bailey, R. (2006). Physical education and sport in schools: A review of benefits and outcomes. *Journal of School Health*, 76(8), 397–401.
- Balish, S. M., Rainham, D., Blanchard, C., & Côté, J. (2014). Correlates of youth sport attrition: A review and future directions. *Psychology of Sport and Exercise*, 15(4), 429–439.
- Borrione, P., Grassi, A., Palmer, K., & Lazzarino, A. I. (2021). Wearable technology in children and adolescents: A narrative review. *Frontiers in Public Health*, 9, 674336. <https://doi.org/10.3389/fpubh.2021.674336>
- Crawford, D. W., & Godbey, G. (1987). Reconceptualizing barriers to family leisure. *Leisure Sciences*, 9(2), 119–127.
- Crawford, D. W., Jackson, E. L., & Godbey, G. (1991). A hierarchical model of leisure constraints. *Leisure Sciences*, 13(4), 309–320.
- Crane, J., & Temple, V. (2015). A systematic review of dropout from organized sport among children and youth. *European Physical Education Review*, 21(1), 114–131.
- Dunton, G. F., Do, B., & Wang, S. D. (2020). Early effects of the COVID-19 pandemic on physical activity and sedentary behavior in children living in the U.S. *BMC Public Health*, 20, 1351. <https://doi.org/10.1186/s12889-020-09429-3>
- Eime, R. M., Young, J. A., Harvey, J. T., Charity, M. J., & Payne, W. R. (2013). A systematic review of the psychological and social benefits of participation in sport for children and adolescents. *International Journal of Behavioral Nutrition and Physical Activity*, 10, 98.
- Guthold, R., Stevens, G. A., Riley, L. M., & Bull, F. C. (2020). Global trends in insufficient physical activity among adolescents: A pooled analysis of 298 population-based surveys with 1.6 million participants. *The Lancet Child & Adolescent Health*, 4(1), 23–35.
- Kirk, D. (2010). *Physical education futures*. Routledge.

Light, R., & Harvey, S. (2019). *Pedagogical cases in physical education and youth sport*. Routledge.

Livingstone, S., & Third, A. (2017). Children and young people's rights in the digital age: An emerging agenda. *New Media & Society*, 19(5), 657–670.

Moore, S. A., Faulkner, G., Rhodes, R. E., et al. (2020). Impact of the COVID-19 virus outbreak on movement and play behaviours of Canadian children and youth: A national survey. *International Journal of Behavioral Nutrition and Physical Activity*, 17(1), 85. <https://doi.org/10.1186/s12966-020-00987-8>

Nesi, J., & Prinstein, M. J. (2015). Using social media for social comparison and feedback-seeking: Gender and popularity moderate associations with depressive symptoms. *Journal of Abnormal Child Psychology*, 43, 1427–1438.

Pisaniello, A., Figus, A., Digennaro, S., & Spulber, D. (2024). Determining factors of sports dropout of young scholars: A cross-sectional analysis in the 8–13-year age group. *Frontiers in Sports and Active Living*, 6, Article 1330346. <https://doi.org/10.3389/fspor.2024.1330346>

Rathbone, A., Freeman, P., O'Donnell, S., & Swann, C. (2022). The impact of screen time on youth sport participation: A review through the lens of leisure constraints theory. *Journal of Leisure Research*, 54(1), 63–82.

Rideout, V., Peebles, A., Mann, S., & Robb, M. B. (2021). *Common Sense Census: Media use by tweens and teens, 2021*. Common Sense Media.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78.

Spulber, D., Pisaniello, A., & Digennaro, S. (2024). Analyzing gender dynamics: A comprehensive investigation into sports dropout phenomena. *Global Sport Development*, 8(2). <https://doi.org/10.32043/gsd.v8i2.1182>

Staiano, A. E., & Calvert, S. L. (2011). Exergames for physical education courses: Physical, social, and cognitive benefits. *Child Development Perspectives*, 5(2), 93–98.

Staiano, A. E., Beyl, R. A., Hsia, D. S., Katzmarzyk, P. T., & Newton, R. L. (2020). Twelve weeks of dance exergaming in overweight and obese adolescent girls: Transfer effects on physical activity, screen time, and self-efficacy. *Journal of Sport and Health Science*, 9(3), 212–219.

Tan, T. C., Bocarro, J., & Smith, J. (2021). Virtual coaching and online sport participation during COVID-19: Exploring technology's potential for resilience. *International Journal of Sport Policy and Politics*, 13(3), 455–471.

Twenge, J. M., & Campbell, W. K. (2018). Associations between screen time and lower psychological well-being among children and adolescents: Evidence from a population-based study. *Preventive Medicine Reports*, 12, 271–283.

Twenge, J. M., Martin, G. N., & Spitzberg, B. H. (2018). Trends in U.S. adolescents' media use, 1976–2016: The rise of digital media, the decline of TV, and the (near) demise of print. *Psychology of Popular Media Culture*, 8(4), 329–345.

Von Elm, E., Altman, D. G., Egger, M., et al. (2007). The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: Guidelines for reporting observational studies. *International Journal of Surgery*, 12(12), 1495–1499.

Weiss, M. R., & Williams, L. (2004). The why of youth sport involvement: A developmental perspective on motivational processes. In M. R. Weiss (Ed.), *Developmental sport and exercise psychology: A lifespan perspective* (pp. 223–268). Fitness Information Technology.

World Health Organization. (2020). Guidelines on physical activity and sedentary behaviour. <https://www.who.int/publications/i/item/9789240015128>