

Review

Holistic school physical education to enhance resilience and social adaptation among children recovering from cancer

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Abstract: This narrative review offers a unique contribution by examining school physical education (PE) as a psychosocial intervention for children recovering from cancer an area that remains markedly underexplored in current literature. Existing reviews focus largely on hospital-based or clinically delivered exercise programmes, with limited attention to how everyday school environments, particularly PE classes, can support emotional recovery, peer reconnection, and social adaptation. By integrating evidence from paediatric oncology, sport science, psychology, and educational research, this review introduces a new interdisciplinary framework that conceptualises school PE not merely as physical activity, but as a therapeutic space that fosters resilience, restores normalcy, and facilitates reintegration into school life. This work is one of the first to propose structured recommendations for school-based PE participation, thereby addressing a critical gap in survivorship care and offering practical directions for educators, clinicians, and policymakers.

Keywords: physical education; paediatric oncology; psychological resilience; school reintegration; social adaptation

1. Introduction

Cancer in childhood not only poses a life-threatening medical condition but also results in substantial psychological and social disruptions [1–3]. During treatment, children face repeated hospitalisations, invasive procedures, decreased autonomy, and separation from peers, all of which can compromise their emotional stability and sense of normal development [4]. The psychosocial burdens often include anxiety, depressed mood, fear of recurrence, diminished self-confidence, and challenges in maintaining or rebuilding peer relationships [2,4,5]. These obstacles are compounded by physical deconditioning, treatment-related fatigue, and school absenteeism, leading to long-term consequences for psychological resilience and social adaptation beyond survivorship [6,7]. While significant advancements have been made in paediatric oncology to reduce mortality and enhance treatment outcomes, the holistic recovery of emotional and social functioning remains a critical unmet need [6].

A growing body of research underscores the beneficial impact of physical activity on the psychological well-being of children with cancer [6–8]. Exercise interventions have been associated with improved mood, enhanced self-esteem, reduced fatigue, and increased confidence in physical abilities [6,9]. However, most existing programmes are hospital-based or rehabilitation-centered, typically delivered in structured clinical settings by physiotherapists or exercise specialists [6,9]. While these interventions offer essential benefits, they often occur outside the everyday environments where

children form their identities, navigate social roles, and interact with peers [10]. Consequently, the potential for exercise to facilitate broader psychosocial recovery, particularly through reintegration into school life, remains under-explored [5,10].

School physical education (PE) represents a distinctive yet under-studied setting for psychosocial rehabilitation among paediatric cancer survivors [5,10]. Unlike clinical exercise programmes, school PE occurs in a familiar, socially rich, peer-supported context that is fundamental to child development [10]. It provides opportunities for cooperative play, shared task performance, emotional expression, and gradual rebuilding of physical competence [11]. Participation in PE can also mitigate feelings of isolation by restoring a sense of belonging and normalcy disrupted by prolonged treatment and absenteeism [10].

Despite its significance, the role of school PE in childhood cancer survivorship has received remarkably little scholarly attention [12]. Existing reviews have predominantly focused on general physical activity or hospital-based exercise interventions [7,8,11]. Research on school reintegration has primarily explored academic performance, peer relationships, and emotional support, yet few studies have examined PE as an integral component of psychosocial recovery [12]. This gap is important to address, as PE may activate mechanisms that are not easily captured in medical or therapeutic environments, such as spontaneous peer interactions, a sense of group belonging, embodied self-expression, and mastery experiences in a naturalistic setting [11]. These mechanisms align closely with resilience-building constructs, including self-efficacy, emotional regulation, and social connectedness [6].

The uniqueness of this narrative review lies in its interdisciplinary integration of sport science, paediatric psychology, educational research, and oncology rehabilitation to conceptualize school PE as a pathway for enhancing psychological resilience and social adjustment in children with cancer [11]. To our knowledge, no existing review has explored this topic from a school-based perspective or proposed a framework that connects PE participation to psychosocial recovery in paediatric oncology [11]. By bridging these fields, this review emphasizes the overlooked potential of school environments as therapeutic spaces and fosters a new understanding of PE as a psychosocial intervention rather than merely a physical activity requirement [11,12].

This review also addresses practical implications that are rarely discussed [8]. School PE teachers often lack adequate guidance on adapting activities for children recovering from cancer, and medical teams may not sufficiently engage with schools to facilitate successful reintegration [12]. By exploring the psychological mechanisms involved and identifying potential barriers, this paper aims to inform collaborative models wherein educators and clinicians can jointly support a child's transition back to school [9,12]. This insight is particularly critical in instances where specialized rehabilitation resources may be limited, and school-based solutions present a more accessible and sustainable approach [12].

The objectives of this narrative review are threefold: firstly, to synthesize current evidence on the psychological and social challenges faced by children with cancer, focusing on how these challenges influence resilience and social adaptation [1,2,4]; secondly, to investigate how participation in school PE may aid emotional recovery, enhance physical confidence, promote peer reintegration, and rebuild social

competencies [6,9]; and finally, to propose a conceptual understanding of school PE as an integrated psychosocial support strategy, while identifying directions for future research to validate and expand this emerging field [11,12]. By shifting the focus from clinical rehabilitation to school-based physical engagement, this review introduces a new perspective on survivorship care that prioritizes normalisation, community reintegration, and holistic well-being [12]. Recognizing how school PE can cultivate resilience and social adaptation may assist educators, families, and healthcare teams in developing more comprehensive support systems for children as they navigate recovery and reintegrate into everyday life [3,7].

2. Psychological challenges in children with cancer

A cancer diagnosis in childhood disrupts multiple dimensions of psychological, cognitive, and social development [13,14]. Unlike adults, children are still forming emotional regulation skills, social identity, and behavioral competencies; therefore, cancer treatment can interfere with milestone achievements that shape long-term well-being [13–15]. The combined effects of medical procedures, hospitalisation, and prolonged school absence generate psychological stressors that directly weaken resilience and complicate reintegration into school life, including participation in physical education (PE) [13,14,16].

One of the most immediate challenges is emotional dysregulation. Children frequently experience fear related to treatment procedures, uncertainty about the future, irritability, and episodes of sadness or withdrawal [14,16]. Chemotherapy, corticosteroids, and other treatments may amplify mood fluctuations, making emotional regulation more difficult [14]. This instability can lead to heightened sensitivity, reduced motivation, and difficulty coping with routine school activities after returning from treatment [16,17].

In addition to emotional strain, cognitive disruption is commonly reported. Treatment-related neurocognitive effects such as reduced attention span, slower information processing, and impaired working memory affect school readiness and academic performance [13,15]. Many children struggle to sustain concentration, follow instructions in group settings, or keep pace with peers during learning and physical tasks [18]. These cognitive challenges can diminish confidence and increase reluctance to re-engage in school-based activities, including PE, which often requires rapid responsiveness and coordination [15].

Social isolation represents another major barrier. Extended hospital stays and reduced physical contact with classmates lead to weakened peer relationships and a sense of separation from normal social life [13,14]. Changes in physical appearance, such as hair loss, surgical scars, or weight fluctuation, may further contribute to self-consciousness and fear of social judgment [13,14]. Some children experience bullying or unintentional exclusion when they return to school, intensifying feelings of loneliness and reducing their willingness to participate in group activities [16].

A broader and more pervasive challenge is the loss of normalcy. The normal routines that structure childhood attending school, playing with peers, engaging in sports, and pursuing hobbies are disrupted for months or even years [13,15]. The shift from active play to restricted movement during treatment often leads to reduced

physical confidence and uncertainty about their capability to participate safely in physical activities [13,15]. This perceived break from normal childhood identity can significantly impact motivation, self-worth, and overall psychological resilience [17].

Together, these psychological, cognitive, and social stressors generate a substantial barrier to re-engagement in school activities, particularly PE, which involves interpersonal interaction, physical coordination, and emotional readiness [13,15]. Understanding these challenges is essential for designing school-based physical education strategies that support instead of overwhelm children recovering from cancer [16,17]. By addressing the psychological foundations of their difficulties, schools and clinicians can create more supportive environments that foster resilience and facilitate healthier, more confident reintegration [17].

3. The role of physical activity in paediatric oncology

Physical activity has gained increasing recognition as a supportive intervention in paediatric oncology. Beyond its well-documented physiological benefits, engagement in movement-based activities provides psychological and social advantages that are essential for holistic recovery [19–21]. For children undergoing or completing cancer treatment, physical activity offers an opportunity to rebuild physical competence, regulate emotions, interact with peers, and restore aspects of normal childhood development that may have been disrupted by prolonged hospitalisation [19,20,22,23]. The following subsections outline the core physiological, psychological, social, and developmental benefits of physical activity in this population, forming the foundation for understanding the potential value of school physical education participation [23].

3.1. Physiological and psychological benefits

Cancer treatment commonly results in fatigue, reduced muscular strength, impaired coordination, and diminished cardiovascular capacity. Regular physical activity has been consistently shown to counteract these physical side effects by increasing endurance, enhancing muscular function, and improving overall physical fitness [19,21,24]. Children who engage in structured exercise often report reduced fatigue and greater capacity to participate in daily activities, including school routines [21]. The psychological impacts of physical activity are equally significant. Movement-based engagement promotes the regulation of mood and stress-related hormones, contributing to improved mood stability and sleep [21]. Mastery of physical skills such as successfully completing a task, learning a movement sequence, or improving coordination can strengthen self-confidence at a time when many children feel physically vulnerable or uncertain about their abilities; these mastery experiences reinforce a sense of capability and control, central to psychological resilience [19].

Moderate-intensity physical activity has additional benefits that may support school readiness and learning by promoting aspects of neurocognitive functioning, including attention regulation and information processing, which can be affected by treatment [24,25]. While direct causal evidence in all paediatric oncology contexts remains area-specific, converging findings from exercise interventions in paediatric

oncology and related fields suggest improvements in cognitive readiness that facilitate engagement in school activities and learning tasks [25].

3.2. Social and developmental benefits

Social development is a core component of childhood, yet it is often disrupted during cancer treatment due to reduced peer interaction and prolonged absence from school. Physical activity, particularly in group or team formats, plays a pivotal role in restoring social connections by providing structured opportunities for communication, cooperation, and shared achievement; these experiences help rebuild confidence in interacting with peers and reduce social anxiety after extended isolation [19,20]. Participation in physical activities also allows children to re-establish their identity beyond the role of “patient,” promoting a sense of normalcy and belonging that supports development and social validation [20,22].

From a developmental perspective, physical activity supports motor skill acquisition, body awareness, and self-expression through movement. These gains are particularly important for children whose physical and emotional development has been delayed or interrupted by treatment; as children gain movement confidence and experience successful peer interactions, their sense of competence and overall resilience strengthens [19,25]. Taken together, these benefits highlight the multifaceted role of physical activity in paediatric oncology and underpin the rationale for school physical education as a context to enhance psychological resilience and social adaptation in children with cancer [20,23].

Practical implications arising from these considerations include the need for school personnel to engage with clinical teams to facilitate safe participation in PE, adapt activities to individual recovery trajectories, and leverage school environments as accessible settings for sustained physical activity and social reintegration. The literature supports the development of school-based pathways and guidelines to promote ongoing physical activity participation for children recovering from cancer, including school re-entry services and coordinated hospital–school communication mechanisms [20,23].

Figure 1 summarises the multidimensional benefits of physical activity for children with cancer, highlighting three key domains: physiological benefits (reduced fatigue, improved strength, enhanced endurance), psychological benefits (mood improvement, emotional regulation, increased self-confidence), and social and developmental benefits (cooperation, communication, empathy, and peer integration). Together, these benefits contribute to overall holistic recovery during cancer survivorship.

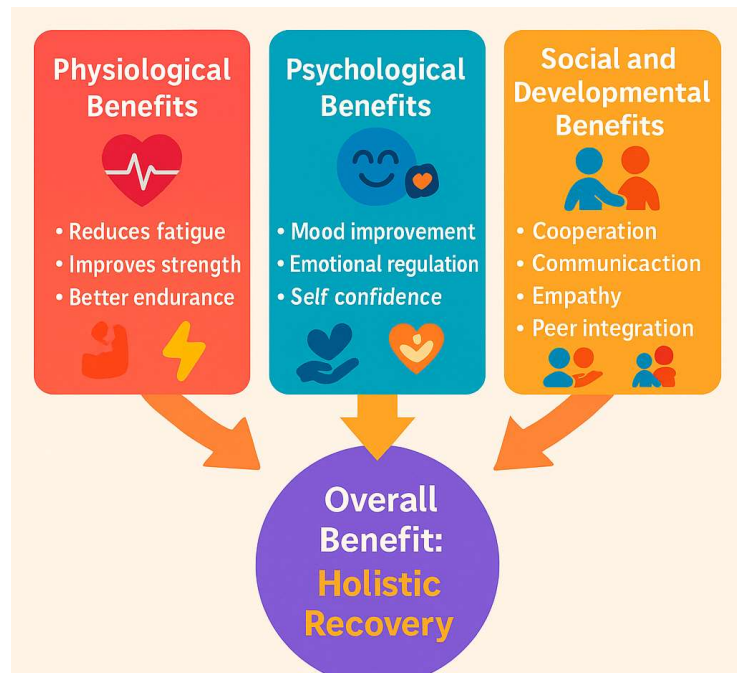


Figure 1. Benefits of physical activity in paediatric oncology.

4. Significance of school physical education in childhood cancer recovery

School physical education (PE) represents a distinctive and often overlooked opportunity to support the psychological and social recovery of children with cancer. While hospital-based rehabilitation and clinical exercise programmes are essential for restoring physical function, they do not fully replicate the social dynamics, environmental cues, or developmental experiences embedded within the school setting. School PE takes place in a familiar environment where children interact with peers, participate in shared routines, and re-engage in activities that symbolize a return to normal life. These contextual features position school PE as a powerful catalyst for resilience building and social reintegration during survivorship [26,27].

4.1. Reintegration into the school community

Returning to school is a pivotal milestone after cancer treatment, yet it is often accompanied by anxiety, self-consciousness, and uncertainty about peer acceptance. Participation in PE offers children a pathway to re-establish their presence within the school community. Through shared games, movement activities, and group participation, children regain a sense of belonging that may have been lost during prolonged hospitalisation. PE reduces feelings of being “different” by encouraging children to re-engage in routine school experiences that their peers participate in daily. This shared participation helps normalize their identity as students rather than patients, making reintegration smoother and more emotionally manageable [27,28].

4.2. Enhancement of psychological resilience

School PE provides multiple opportunities for resilience-building, especially through mastery and self-efficacy. Children recovering from cancer often experience

diminished confidence in their physical abilities, but PE allows them to experience small, progressive achievements. Learning or relearning movement skills promotes self-efficacy, reinforcing the belief that they are capable, adaptable, and strong. Physical challenge, when appropriately scaled, offers a safe avenue to experience success and regain trust in their bodies. Moreover, PE supports emotional regulation by allowing children to express stress, frustration, or excitement through movement. Cooperative games and structured group tasks also strengthen social bonds, contributing to increased psychological resilience [26,29].

4.3. Improvement in social adaptation

Social adaptation is one of the most significant challenges for children returning to school following cancer treatment. PE provides a natural, low-pressure environment for practicing essential social skills. Through team activities, partner tasks, and cooperative games, children engage in communication, teamwork, turn taking, and conflict resolution. These interactions help rebuild social confidence and provide opportunities for positive peer engagement, which may be limited in classroom settings. Because PE involves active participation rather than passive observation, children are required to negotiate roles, share responsibilities, and collaborate with classmates, fostering empathy, mutual support, and a sense of collective achievement. PE thus becomes one of the most effective settings for stimulating healthy peer interaction during survivorship [26,30].

4.4. Restoration of physical competence

Many children experience significant deconditioning during cancer treatment, leading to weakness, poor balance, and fear of physical injury. School PE offers a structured yet flexible platform for restoring physical competence. Activities can be adapted to match each child's current abilities, allowing them to regain strength, coordination, and motor skills at a comfortable pace. This gradual improvement enhances physical functioning and the child's psychological readiness to participate in broader school activities. The restoration of physical competence also contributes to improved body confidence and self-acceptance. As children observe their own progress, they begin to perceive themselves as capable and resilient, supporting emotional well-being and encouraging further engagement in physical and social activities within the school environment [26,27,31].

5. Barriers and considerations

Although school physical education (PE) offers significant psychosocial benefits for children recovering from cancer, its implementation is not without challenges. A range of medical, psychosocial, and school-related barriers may limit participation or require careful adaptation. Understanding these factors is essential to ensure that PE is safe, inclusive, and responsive to each child's needs. This section outlines the key limitations and considerations that educators and healthcare providers should address when designing school-based physical activity programmes for paediatric cancer survivors [32–34].

5.1. Medical limitations

Medical concerns represent the most immediate barriers to PE participation. Many children experience immunosuppression as a result of chemotherapy or other treatments, placing them at increased risk of infection. Participation in PE, especially in group settings or shared environments, may need to be modified during periods of low immunity [33]. Fatigue is another common limitation. Cancer-related fatigue can persist long after treatment ends and may fluctuate from day to day; children may require shorter sessions, more frequent rest breaks, or low-intensity activities to prevent overexertion [32,33]. Treatment may also lead to cardiorespiratory impairment, including reduced lung capacity, shortness of breath, or irregular heart rate responses during exertion, which necessitates gentle, progressive activity and closer monitoring during PE [33]. In addition, treatment side effects such as neuropathy, muscle weakness, joint pain, and balance difficulties can increase the risk of injury during physical activity; PE teachers must be aware of these limitations and adapt tasks to ensure safety, such as by avoiding high-impact activities or offering alternative movement patterns that reduce strain [32]. The literature on safety and feasibility of exercise in paediatric oncology supports cautious progression and individualized tailoring of activity plans to accommodate medical constraints [19,34].

5.2. Psychosocial barriers

Beyond physical health, psychosocial challenges significantly affect a child's readiness to participate in PE. Many children experience fear of being judged, particularly if they feel slower, weaker, or less coordinated than their peers; this fear may prevent them from joining group games or tasks that involve comparison [32]. Concerns about physical appearance hair loss, weight changes, or medical devices can also lead to anxiety and avoidance of activities that require changing clothes or exposure in front of others [32]. Self-consciousness related to scars or bodily changes may further inhibit participation, undermining self-confidence and contributing to avoidance behaviors that limit social interaction and physical recovery [32]. These psychosocial barriers underscore the need for sensitive communication, supportive peer environments, gradual exposure to PE tasks, and strategies to foster trust and confidence within school settings. Evidence from broader survivorship literature also highlights the importance of psychosocial support during re-entry to school and PE contexts [33].

5.3. School-level barriers

School-level constraints can impede the successful integration of children recovering from cancer into PE. A primary barrier is that teachers may be unsure how to adapt activities for children with specific medical needs; without guidance, teachers may inadvertently exclude the child or impose tasks that are too demanding. Limited communication between medical teams and schools can prevent appropriate planning of safe and suitable PE tasks, as teachers may lack clear information about restrictions, fatigue patterns, or medical risks. Schools may also lack essential resources such as modified equipment, alternative spaces, or staff training to ensure inclusive PE experiences, underscoring the need for coordinated care that translates clinical

recommendations into school practice [33]. Coordinated hospital–school communication and formal school re-entry pathways have been identified as critical components for successful reintegration and ongoing participation in PE [32].

6. Recommendations for safe and effective PE participation

To maximize the psychological and social benefits of school physical education (PE) for children recovering from cancer, participation must be carefully structured, sensitive to individual needs, and grounded in medical guidance. Safe and effective involvement requires collaboration between educators, families, and healthcare professionals. The following recommendations provide a practical framework to support PE integration while ensuring that each child’s well-being remains the central priority. The recommendations align with established guidelines and evidence from paediatric oncology exercise, school reintegration, and multidisciplinary rehabilitation programmes [35–38]. **Figure 2** outlines seven essential guidelines to support safe, inclusive, and developmentally appropriate PE participation: individualised PE plans, medical clearances and ongoing monitoring, communication and collaboration among teachers, parents, and clinicians, thoughtful activity selection with progression and adaptation, psychological monitoring and safeguarding, graduated re-entry with attendance flexibility, and teacher education with continuous professional development.



Figure 2. Seven key recommendations for safe and effective physical education participation among children with cancer.

6.1. Individualised PE plans

Develop individualized PE plans that reflect each child's recovery trajectory, fatigue pattern, mobility, and energy levels. Activities should be adjustable on a daily basis to avoid undue strain and risk, ensuring participation remains empowering rather than overwhelming [36,37]. Evidence from paediatric oncology studies emphasizes tailoring activity to the individual's capacity and progression potential. Individualized educational and physical activity plans support safe reintegration, and multidisciplinary programmes further express the necessity of personalized approaches that address both medical and psychosocial needs [38].

6.2. Medical clearance and monitoring

Obtain and maintain medical clearance, with ongoing monitoring of fatigue, symptom burden, and signs of overexertion or infection risk. Group-based activities can be safely pursued when aligned with the child's medical status, with adjustments for immunosuppression and infection risk [35]. Protocols from the RESPECT study stress staged progression and safety monitoring as core components of paediatric oncology exercise programmes [35]. Data show that carefully monitored activity can minimize fatigue while preserving safety and function [38].

6.3. Communication and collaboration

Establish clear, bidirectional communication channels among PE teachers, families, and oncology teams. Regular information exchange helps teachers select safe activities, anticipate necessary modifications, and respond promptly to fatigue or adverse symptoms, providing consistent guidance for the child [36]. Systematic reviews underscore the value of collaboration in sustaining participation and learning during reintegration [36]. School re-entry frameworks offer practical examples of interagency collaboration that can be adapted to PE contexts [35].

6.4. Activity selection, progression, and adaptation

Prioritize low to moderate-intensity activities that emphasize cooperation, movement quality, and social interaction over competition. Options include walking-based games, gentle stretching, and light relay tasks that minimize injury risk while promoting participation and peer connection [35]. Progressive loading should be adaptive, with pace, duration, and complexity tailored to daily readiness and longer-term recovery goals. iPOEG guidance supports planning progressively challenging, safety-conscious programmes [35]. Evidence suggests that carefully structured exercise improves physical capacity and reduces fatigue, facilitating gradual re-engagement in PE and school routines [38].

6.5. Psychological monitoring and safeguarding

Implement routine psychological checks during PE to detect anxiety, withdrawal, or bullying. Creating an inclusive environment and offering modifications, when necessary, helps protect emotional well-being and encourages sustained participation. Psychosocial intervention literature advocates for standardized support as part of comprehensive care, and research highlights the importance of attending to mood and

social experiences during return to PE [37]. Ongoing monitoring is essential to ensure PE positively contributes to resilience without exacerbating distress [37].

6.6. Graduated re-entry and attendance flexibility

Adopt a graduated re-entry approach, beginning with shorter sessions or non-competitive roles, and gradually progressing to full participation as confidence and fitness improve. Flexible attendance and task adjustments support pacing aligned with each child's readiness. This approach is supported by school reintegration studies that emphasize pacing and individualized progression within supportive school frameworks [37].

6.7. Teacher education and professional development

Invest in teacher education on paediatric oncology survivorship and supportive strategies for safe participation. Training enhances teachers' confidence and capability in delivering inclusive PE experiences and collaborating with healthcare teams. Systematic reviews emphasize that teacher readiness and informed practice are critical for successful reintegration [37].

6.8. Implementation frameworks and policy alignment

Ground PE programmes in established frameworks (e.g., iPOEG) and align with hospital-school collaboration policies to support consistent and scalable implementation. The iPOEG framework provides guidelines on paediatric oncology exercise and mandates appropriate modifications or advancements in activities [35]. Resources on school re-entry guidelines provide practical pathways for policy alignment and sustainable PE programmes [36]. Evidence from feasibility studies supports the translation of these frameworks into real-world PE practice [37].

7. Future directions for research

Emerging evidence suggests that school physical education (PE) can play a meaningful role in supporting the psychological and social recovery of children with cancer. However, the field remains underdeveloped and requires more rigorous investigation. To strengthen the evidence base and guide policy development, future research should address several important gaps [7].

First, there is a need for longitudinal studies that evaluate the sustained impact of PE on psychological resilience. Most existing research examines short-term outcomes, offering limited insight into whether improvements in confidence, emotional regulation, and coping skills persist months or years after reintegration into school [7]. Longitudinal designs would help determine whether school PE contributes to lasting psychosocial stability and adaptive functioning throughout survivorship [7].

Second, future studies should explore which types, intensities, and formats of physical activity best support different cancer diagnoses and treatment histories. Children with leukemia, brain tumors, musculoskeletal cancers, or those exposed to cardiotoxic therapies may have varying capabilities and risk profiles. Identifying activity-specific benefits will enable educators and clinicians to design targeted interventions that maximize safety and therapeutic value [39].

Third, culturally grounded research is needed to develop school-based PE programmes that reflect local norms, beliefs, and educational systems. Cultural expectations surrounding physical exertion, group participation, and post-illness reintegration can vary widely across regions. Tailoring programmes to cultural contexts will improve acceptability, feasibility, and relevance for diverse paediatric populations [37].

A fourth priority involves the creation of integrated frameworks linking PE with school counseling services and clinical rehabilitation. Holistic models that connect physical activity with psychological support, social skills training, and medical follow-up may provide stronger outcomes than isolated interventions. Interdisciplinary collaboration between educators, psychologists, nurses, and oncologists should be examined to identify the most effective modes of coordination [39].

Finally, researchers and policymakers should focus on developing survivorship-oriented PE guidelines for schools. Clear recommendations on activity intensity, progression, safety considerations, return-to-play criteria, and psychosocial support strategies would help standardize practice and reduce uncertainty among teachers. Such guidelines should be evidence-based, adaptable, and sensitive to the unique needs of childhood cancer survivors [39].

Collectively, these future directions highlight the need for more comprehensive, contextually informed, and interdisciplinary research. Progress in this area will support the development of school environments that not only welcome children back into daily routines but actively contribute to their long-term psychological resilience and social adaptation [39].

8. Conclusion

School physical education (PE) represents a valuable yet underutilised component of psychosocial recovery for children with cancer. While clinical exercise programme plays an important role in restoring physical function, the school environment offers unique opportunities for rebuilding confidence, re-establishing peer relationships, and supporting emotional well-being. This review highlights how PE participation can enhance psychological resilience through mastery experiences, emotional expression, and supportive social interactions, while also improving social adaptation by providing a natural setting for communication, cooperation, and inclusion. At the same time, PE promotes the gradual restoration of physical competence, helping children regain trust in their bodies and re-engage with daily activities.

Despite these benefits, meaningful participation requires thoughtful planning that addresses medical limitations, psychosocial challenges, and school-level constraints. Individualised activity plans, strong communication between clinicians and teachers, and ongoing psychological monitoring are essential to ensure that PE remains safe, inclusive, and empowering. When designed appropriately, school PE can act as a bridge between clinical recovery and everyday life, offering children a sense of normalcy during a period marked by disruption and uncertainty.

However, the evidence base remains limited, and further research is needed to clarify long-term outcomes, determine the most effective activity types, and develop

culturally relevant frameworks that integrate PE with counselling and rehabilitation. Establishing survivorship-oriented guidelines will help educators confidently support children as they return to school.

In summary, school PE has significant potential to contribute to holistic cancer survivorship in childhood. By recognising PE as not only a physical activity but also a psychosocial intervention, schools can play an active role in fostering resilience, strengthening social adaptation, and supporting healthier transitions back into everyday life.

Conflict of interest: The authors declare no conflict of interest.

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