


# Reintegration Into School After Treatment for a Brain Tumor: The Child's Perspective

Global Pediatric Health  
Volume 6: 1–10  
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DOI: 10.1177/2333794X19860659  
journals.sagepub.com/home/gph  


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## Abstract

This multiple case study investigated perspectives of childhood brain tumor survivors on reintegration into school over a 2-year period. Semistructured interviews were conducted with 5 children at 3 times to obtain an extensive view of their overall school experience. Thematic analysis of data resulted in 4 themes: “school life and participation,” “peer relations and friendships,” “performance and difficulties,” and “support and follow-up.” Childhood brain tumor survivors consider school attendance as part of a normal disease-free life. Social contact and friendships represent their main motivating factors for returning to school. Attitudes and feelings regarding performance, difficulties, and support vary among survivors and change over time. In conclusion, continuity in learning and social contact established before the return facilitate the reintegration process. A comprehensive assessment of their academic and psychosocial functioning should be organized on reentry. Systematic follow-up by parents, school staff, and health professionals throughout the child's school career is required.

## Keywords

Childhood brain tumor survivors, experiences, follow-up, reintegration into school, semistructured interviews

Received December 31, 2018. Received revised May 2, 2019. Accepted for publication June 5, 2019.

## Introduction

At school, children acquire knowledge and develop various skills needed for their individual development.<sup>1</sup> For children who have been treated for cancer, such as a childhood brain tumor survivors, returning to school represents an important milestone in life.<sup>2</sup> Although many children look forward to attending school again, they may experience different challenges following reentry.<sup>3</sup> The child's reintegration may be hindered by barriers associated with academic performance,<sup>4</sup> regular school attendance,<sup>5</sup> psychosocial functioning,<sup>6</sup> or the attitude of school staff.<sup>7</sup>

Among childhood brain tumor survivors, deteriorations in academic achievement due to illness and treatment are common. Numerous children demonstrate reduced performance because of impairments in concentration, executive functioning, memory, and visuospatial abilities,<sup>8,9</sup> affecting academic progress in mathematics, spelling, and reading.<sup>10,11</sup> Moreover, such

deficits often only become apparent a considerable time after returning to school. This phenomenon, known as “growing into deficit,” is caused by processes such as continuing effects of treatment, developing neural pathways, and increasing learning objectives.<sup>12</sup> Consequently, childhood brain tumor survivors show a higher likelihood of relying on special educational services<sup>13</sup> and are at risk of lower educational and vocational attainment.<sup>14</sup> In addition to reduced performance, survivors demonstrate less continuity in their school careers due

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to various obstacles. Children treated for a brain tumor frequently miss school days, are more likely to repeat a year, and complete their school career more slowly than healthy peers.<sup>4,5</sup>

Furthermore, childhood brain tumor survivors are more prone to developing psychosocial difficulties. Overall, the literature indicates adverse psychological outcomes associated with childhood cancer.<sup>15</sup> Children who have survived a brain tumor experience more psychological distress as shown by indications for depression, somatization, and anxiety.<sup>16</sup> Other undesirable outcomes faced by survivors include health concerns, altered self-image, and reduced quality of life.<sup>17,18</sup> Reconnecting with peers is one of the main social challenges for childhood cancer survivors. Children often demonstrate disruption in social skills and display inappropriate behavior toward others after prolonged absence.<sup>19</sup> These changes can lead to problems with social participation, such as exclusion, withdrawal, and bullying.<sup>20</sup> Moreover, children without salient difficulties may still report less satisfaction with friendships,<sup>21</sup> feeling estranged from others,<sup>22</sup> and less peer support.<sup>3</sup>

The child's reintegration into school is further influenced by the attitude and approach of school staff. Because teachers work intensively with the child in a learning environment, they are expected to respond or seek assistance when problems emerge.<sup>23</sup> Unfortunately, many school staff are insufficiently prepared to meet the needs of pupils with specific health conditions, especially in mainstream education.<sup>24</sup> This unpreparedness can be explained by the teacher's unfamiliarity with the condition, inadequate time to maintain individualized focus, and/or unavailability of appropriate study material for support.<sup>25,26</sup>

These consequences identified in childhood brain tumor survivors have been extensively described by researchers, but the child's own perspective on reintegration into school has not yet been investigated in depth. Few studies focus on the children's experiences after their return to school, for example, regarding aspects as performing and learning, interacting with peers, and feeling supported in class. Moreover, existing studies of the child's perspective are mainly quantitative and involve a heterogeneous group of childhood survivors of cancer and other chronic diseases. This observation makes exploring specific perspectives of survivors through qualitative research valuable, as this methodology allows participants to disclose experiences from their own points of view. In addition, the child should be questioned at different times following reentry to gain a good understanding of the reintegration process. After all, cross-sectional data provide information regarding just one moment in time, making it impossible to capture experiences of an entire period.

Therefore, we aimed to study perspectives of childhood brain tumor survivors on their reintegration process within a well-defined time frame, to generate knowledge about their experiences of this period. Stakeholders such as school staff, parents, and health professionals may keep these findings in mind, when children treated for a brain tumor or a similar condition return to school. Additionally, the results of this study could eventually be used to formulate policy recommendations regarding reintegration into school of childhood brain tumor survivors. Our research question was formulated as follows: How do childhood brain tumor survivors experience their reintegration process at school following reentry?

## Method

### Study Design

This study is part of a multiple case study<sup>27</sup> consisting of semistructured interviews with childhood brain tumor survivors who had returned to school, their parents, teachers, and health professionals. The children were interviewed at 3 predetermined times over a 2-year period, at yearly intervals. This method allowed us to study survivors' perspectives in depth and to obtain a comprehensive view of their experiences of the reintegration process. In addition, medical records and school documents were consulted to gain more insight into the child's life with particular attention to school performance, health, and well-being.

### Inclusion Criteria and Case Selection

Children between 6 and 12 years old had to attend the same school in mainstream education as before their illness, on a full-time basis. They had to have been back at school for longer than 6 months, so they were adequately readjusted to the school routine. Children who had returned to school more than 3 years ago were excluded to prevent memory bias. The cancer treatment had to be completed and the child had a good prognosis. The type of brain tumor or medical treatment was not a criterion for inclusion, as we did not focus on diagnosis or disease-specific consequences. Children who had a genetic syndrome or mental illness were excluded due to other factors potentially influencing the school career.

We chose a combination of 2 strategies for purposeful sampling<sup>28</sup>—typical case sampling and maximum variation sampling—to select a number of cases reflecting typicality and showing sufficient variation in criteria to obtain a realistic view of childhood brain tumor survivors and their school trajectories in Flanders (Belgium). In Flanders, children treated for a brain tumor can attend school in

**Table 1.** Main Characteristics of the Cases.

	Case 1	Case 2	Case 3	Case 4	Case 5
Gender	Female	Male	Male	Male	Female
Cancer diagnosis	Pilocytic astrocytoma	Anaplastic ependymoma	Medulloblastoma	Low-grade glioma	Medulloblastoma
Age at diagnosis, years	9	7	7	3	7
Medical treatment	Surgery	Surgery, radiotherapy	Surgery, radiotherapy, chemotherapy	Surgery, chemotherapy	Surgery, radiotherapy, chemotherapy
Absence from school in months	2	2	24	33	18
Education during school absence	Classroom teacher providing education at home	Limited self-study	Hospital school, classroom teacher providing education at home, and Internet-based education program	Classroom teacher providing education at home	Hospital school, classroom teacher providing education at home, and Internet-based education program
Months since return on inclusion	7	28	12	21	6
Age at inclusion, years	10	10	10	7	8
Aftercare or professional therapy	Physiotherapy, speech therapy	Speech therapy	Physiotherapy, speech therapy	Physiotherapy, speech therapy, occupational therapy	Physiotherapy, occupational therapy, psychological counselling

mainstream education where pupils follow the regular education program. However, depending on their disease-related disabilities, they may also need specialized education. In this educational system, children receive an adapted curriculum with teachers and health professionals who support them daily. The main dimensions by which diversity was established were age, medical history and aftercare trajectory, and time since returning to school. This sampling method allowed us to study a predetermined number of cases that meet the inclusion criteria without requiring subsequent sampling until data saturation.

The academic hospitals UZ Brussel and UZ Gent participated in this study. Children and their families were approached through their pediatric oncologist who informed them about the study. If they were interested, we contacted them for a meeting to explain the study. Table 1 presents the participating cases and their main characteristics. We created this particular group of 5 children, assuming that their inclusion would generate sufficient data reflecting typicality and variation, and based on reasons of practicability and feasibility.

### Data Collection

Between October 2014 and June 2017, 15 interviews were conducted with 5 childhood brain tumor survivors at 3 predetermined times. The first interview took place following school reentry, with the second 1 year later, and

the third 2 years later. During the first interview, we asked children to talk about the period following their return to school. One year later, they were questioned about their current school experiences as well as over the past year. Two years later, we asked them again to discuss current school experiences, as well as reflecting on the past 2 years of their school career. During each interview, an interview guide was used with topics derived from an explorative literature study and findings from previously conducted interviews.<sup>29</sup> In some cases, the interviewer made use of toys to encourage the child to engage in telling stories by which their experiences could be evaluated. Interviews lasted approximately between 30 and 60 minutes and were audiotaped with parental permission.

### Ethical Approval and Informed Consent

The study was approved by the ethical committees of the UZ Brussel and the UZ Gent (Reference Number BUN 143201421097). Where families agreed to participate, the children and parents were asked to sign an informed consent letter containing essential information about the study, legal regulation related to participation, and contact details.

### Data Analysis

All audiotapes were transcribed verbatim and inserted into NVivo 8 software for qualitative data management.<sup>30</sup>

**Table 2.** Summary Children's Experiences by Theme.

	Case 1	Case 2	Case 3	Case 4	Case 5
School life and participation	Low motivation to perform and little school interest  Aware of independence and commitment that are increasingly expected	Focus on achieving good grades and reconnecting with others at present  Strong desire for new learning environment in secondary education	Different challenges in classroom requiring appropriate adjustment  School life as distraction from disease and treatment	Limited participation in activities accompanied by negative feelings  Constant eagerness to learn and feeling further encouraged by teachers	Limited participation in activities accompanied by negative feelings  Less interest in study material and struggling with required effort
Peer relations and friendships	Changed relations and friendships characterized by distance and conflict	Fear of being treated differently by peers out of pity or concern	Experiencing peers' familiarity with disease as reassuring and supportive	Appreciating personal and practical support received from peers	Feeling hurt and excluded despite mutual attempts to restore contact
Performance and difficulties	Impaired attention and concentration, low tolerance for noise, and poor fine and gross motor skills  Difficulties improve rapidly over time	Reading and spelling problems that greatly improve through intervention of speech therapist	Impaired hearing, limited ability to make abstraction, poor fine and gross motor skills, reading and spelling problems, and slower work rate  Difficulties improve slowly but steady over time	Executive dysfunctions, forgetfulness, impaired attention and concentration, inadequate visuospatial skills, poor fine and gross motor skills, and problems with internalizing rules  Despite constant presence of difficulties, satisfaction with below-average performance	Fatigue, impaired hearing and vision, lack of independence, memory problems, poor fine and gross motor skills, and slow pattern of functioning  Despite improvement of various difficulties, no satisfaction with performance
Support and follow-up	Support from parents at home  Additional support from school counsellor and teacher from specialized education at school  Extra help is perceived as useful and accepted without further questions	Regular support from parents at home  Additional support from classroom teacher and school counsellor  Increased attention is difficult to accept because of desire to work independently	Support from parents at home  Additional support from classroom teacher and school counsellor  Grateful for specific adjustments in class by reason of difficulties	Increasing support from parents at home  Additional support from classroom teacher and teacher from specialized education  Pleased with adjustments because of limitations and poor performance	Support from parents at home  Additional support from classroom teacher and teacher from specialized education  Support is hard to accept resulting from desire for normality and equality

We analyzed these data using the inductive thematic analysis approach,<sup>31</sup> because it allows exploration of individual experiences without requiring a theoretical framework.<sup>32</sup> After the first round of data collection, we read each transcript and field notes several times. Next, the entire data set was coded using a codebook to identify and label units that were meaningful to the research question. This coding process was iterative, as we

constantly adjusted our codebook by integrating units based on codes. The result of this process was a final structure of units with coded data extracts to be examined for themes.<sup>33</sup> To analyze the second and third sets of data, the initial codebook was modified with information gathered during these later rounds. Units found after analysis of both sets were again investigated for themes. Our final step consisted of aggregating and comparing

themes resulting from the 3 rounds to determine overarching themes in experiences over time.

We addressed different quality criteria to establish rigor. First, the research design was developed by a team of members with different scientific backgrounds, who discussed aspects such as inclusion criteria, sampling procedure, and methods thoroughly.<sup>34</sup> Also, the main researcher (SV) received feedback and support from this team (LP, JB, AJ) while collecting, analyzing, and reporting on the data. Furthermore, we pursued data triangulation by gathering case-specific documentation as an objective source of information in addition to conducting interviews. These documents were primarily consulted to contextualize the children's experiences and to confirm what their narratives seemed to indicate. Last, SV wrote her feelings, insights, and biases down in a diary, which made her aware of her own role and perspective throughout the study.

## Results

Data analysis resulted in the identification of 4 main themes: "school life and participation," "peer relations and friendships," "performance and difficulties," and "support and follow-up." Table 2 includes a summary of the data for each case by theme: the children's experiences that best reflect their reintegration process along with their overall perspectives on this period. In addition, examples of quotes are provided in the text to illustrate the findings.

### *School Life and Participation*

All the children felt positive about going back to school, regardless of the duration of absence or difficulties due to the condition. Some children mentioned the happiness they felt when they returned. They realized they no longer had to stay at home or in the rehabilitation center and could focus on things other than their illness. However, this change was not always easy as particular circumstances required appropriate adjustment, for example, to the fixed day schedule, noise in class, and lack of the teacher's constant proximity.

There was lots of noise in the classroom, I found it difficult sometimes. And when I had a question, it was weird in the beginning when I didn't get an immediate answer. (Case 3)

As well as returning, the transition to high school was an important milestone in the children's school lives. They described feeling pleased about this new beginning, but also emphasized the greater effort expected in terms of independence and accomplishment. Others

looked forward to this transition with mixed feelings of curiosity and excitement.

I was very pleased to attend high school, away from my old class. But now, I have to study harder, otherwise my grades will not be good enough. (Case 2)

Over time, several children expressed less motivation for academic performance and had less interest in school activities, as they struggled with the greater commitment required in class. Other children continued to talk enthusiastically about their school life or became even more eager to learn, since they felt encouraged by the teacher or new study material. Moreover, the younger children showed the highest motivation to participate, both during lessons and activities.

Now, I like to learn new things in class and my teacher is so nice to me. In the beginning, I didn't like anything, I didn't want to do anything. (Case 5)

When children were unable to participate in certain activities such as gymnastics or crafts, they sometimes felt frustrated or sad. They knew they could not do what their classmates could but wanted to participate anyway. In most cases, limited participation and the accompanying disappointment were temporary because their physical skills improved. Nevertheless, such negative experiences continued to reappear in some children, as they spontaneously raised memories of this period later on. Especially the younger children described these negative feelings, as the others were better able to apprehend and cope with their limitations.

I was so sad that I couldn't participate with the others, because I have problems with my leg. It has improved, but sometimes I still cannot do the things I want and then, I don't want to be there. (Case 4)

### *Peer Relations and Friendships*

Although happiness at being back among peers was prevalent, some found feelings of relatedness to others were less strong than before. A few children sensed that their relations and friendships had changed, as they felt more distant and regularly argued. Examples included feeling hurt because classmates hardly listened to stories about their illness and treatment period or because they made little effort to reengage the child into their group of friends. Most of these interactions seemed to improve consistently as less difficulties and concerns were disclosed over time. With age, the children could discuss their social life in more detail, including their own feelings and expectations in this regard.



When I came back, they behaved differently towards me. They didn't ask me things or listen to me, I felt like, alone a lot. Today it's not so bad, I'm more with them now and we argue less. (Case 1)

Additional negative experiences children mentioned included feeling somewhat detached from peers, receiving unwanted attention or questions, and feeling like a burden on others. In a few cases, children expressed explicit fears about other pupils, such as being seen as different or abnormal and losing restored friendships due to relapse. These experiences were mainly discussed by the older children and less (explicitly) by the younger children.

I hope they don't find me weird, just because I have been sick. If I would lose my friends because of this, that would be terrible. (Case 2)

Most children spoke positively about support from peers during their readjustment to the school routine. Psychosocial and practical support was meaningful to them, for example, receiving compliments or getting help with cleaning their desk. Some children considered the company of peers the most important part of school life. When they talked about past events (eg, school trips, playground situations), attention from and interaction with schoolmates were highlighted and easily remembered.

My classmates are very kind to me, they help me when I have to clean up or get something. They also say sweet things to me, just like that. (Case 4)

Several children reported that other's familiarity with their illness and treatment period affected their own thoughts and feelings. They believed that schoolmates who knew the situation allowed them to be themselves when struggling with difficulties or experiencing stress about medical checkups. Other children described this awareness as less pleasant, assuming that peers approached them precisely because of their condition and possibly out of pity. These children longed for a new social environment and perceived the transition to high school as a positive change that they looked forward to.

When I will attend high school, nobody there will know about my disease. That must be great, because then, they will not be kind to me precisely because they know it. (Case 2)

### **Performance and Difficulties**

Children encountered difficulties in understanding, processing, and studying their subjects. The time of onset

and nature of these difficulties and their impact on classroom performance varied between cases. Some children's problems gradually lessened, while others only reported difficulties for a certain period after returning. Still others felt hampered by difficulties for the entire 2 years following reentry. For instance, children admitted that it was hard to listen and write simultaneously, to write fast enough and smoothly, and to remember what they had just read.

Writing, I still find difficult. I'm going to learn to type, to be faster in class, you see. My teacher also says that my writing has improved, but it still worries me like . . . yes. (Case 1)

When children noticed improvement in performance since their return, they believed it was the result of their own extra practice and support from teachers, parents, and health professionals (eg, speech therapist, occupational therapist). A few children claimed physical recovery from the disease and treatment was a reason for their progress in certain skills. These included fine motor skills, spelling and reading proficiency, and completing tasks in deliberate steps. This insight into (the causes of) improvement was mainly found in the older children, less in the younger children.

Because I practiced so much at home and at school, I became better in things like spelling and reading. I don't think you will improve if you don't do anything about it. (Case 3)

Children generally appeared to be satisfied with their grades, even when performance was variable or below average. Especially those who were aware of the progress they had made since reentry expressed a high level of contentment. In contrast, a few children said they were not pleased with their performance after comparing it with the pre-illness period or with classmates. Realizing they had to work harder than peers to achieve the same educational goals led to feelings of unfairness and sadness.

My grades are worse than before or than those of my classmates. It's not fair that I have to practice and study more, just because I have been sick. (Case 5)

### **Support and Follow-up**

Children received support from parents, teachers, and/or health professionals when they encountered educational needs or difficulties at school. The majority mentioned support from parents with homework or studying. Some children were increasingly able to work independently,

whereas others required more assistance as expectations at school increased. While most children did not question parental help, a few of them explicitly stated that their performance would be worse without the attention received at home. The older the children were, the more they realized they needed additional support and will continue to need it.

At school, we get more assignments and homework and yes, I need to study more. My mom helps me and sometimes my dad, because otherwise my grades wouldn't be as good, I don't think. I'm glad they help me. (Case 3)

In addition to parental support, children were temporarily or permanently monitored or supported at school by the classroom teacher, school counsellor, and/or specialized teacher. They described different types of support including teachers who ignored certain errors when correcting tests, gave them easier assignments than their classmates, and provided additional explanations of new study material. Furthermore, follow-up by teachers meant being offered the opportunity to talk about personal issues outside teaching hours, such as relations with schoolmates and thoughts or feelings in general. This psychosocial support was only offered to the older children, since they were sufficiently capable of reflecting about such issues in depth.

My teacher told me that I can always come and talk to her when I need it, and about everything I want. I have already talked about my time at home. Then, she always says something sweet. (Case 1)

School support was perceived in different ways by children. Several of them said they were happy with and grateful for the help and described it as useful, being aware of their needs or weaknesses. Others found it difficult to accept, because they did not acknowledge their problems or believed they already received sufficient support at home (from parents or health professionals). One child said she experienced the support as ambiguous, since she understood its importance for catching up with classmates, but also felt even more different from them due to constant individual attention.

She (specialized teacher) helps me to improve and get better grades, that's true, but. . . . She sits next to me or we have to go outside (the classroom) and then I just want to stay with the others and do the things they do. (Case 5)

## Discussion

In this study, we explored experiences of children treated for a brain tumor regarding reintegration into school. To

our knowledge, it is the first study that investigates experiences of childhood brain tumor survivors at different times during a 2-year period following the return to school, using a qualitative research methodology. Our results can be summarized in 3 main findings. First, participation at school is key for childhood brain tumor survivors because it represents a disease-free life for them. Second, survivors are primarily motivated to return to school by the desire for social contact and friendship. Third, experiences with regard to performance, difficulties, and support after returning to school vary among survivors and over time.

School experiences of childhood brain tumor survivors are similar to those of peers but appear to be more pronounced. Healthy peers also display strong commitment, consider contact with schoolmates as essential for school life, and differ in academic competence and need for support.<sup>35</sup> Despite these similarities, our study reveals various factors in survivors that could explain differences in school experiences with peers, as well as the complexity of their experiences. Along with physical and neurocognitive changes, the children's perspectives demonstrated specific psychological and social factors affecting their participation, development, and well-being at school.

Re-attending school helped childhood brain tumor survivors to fulfill their need for normality. Returning to the classroom or starting secondary education represented a new beginning in a context where any association with disease is lacking. Children perceived going to school as a source of joy, while not participating could cause frustration or sadness. School attendance is fundamental in childhood cancer survivors' lives since it relates to improved health-related quality of life, high levels of well-being, and peer socialization.<sup>21,36</sup> Although the children shared a positive perspective on school attendance, each of them experienced moments of losing commitment and contentment. These changes in the child's dedication are determined by both personal factors such as personality traits and situational factors related to the classroom or social environment.<sup>37,38</sup> In this study, such factors included the children's tendency to make social comparisons, their ability to process new learning material, and their attitude toward receiving extra assistance.

For these children, estimating their own performance level in the classroom is not easy. Some of them were clearly aware of their academic strengths and weaknesses, allowing them to deal with failing performance, recognize developments, and stay motivated. By contrast, others without these abilities seemed to underestimate or overestimate themselves and risked disappointment about their achievements. Having insight into learning skills and

believing educational goals are achievable are crucial for children treated for cancer, so that they remain committed and develop realistic aspirations.<sup>39,40</sup> Our findings suggest that the child's age is decisive for acquiring such insights and for readjusting in general. With age, a better understanding of or reflection on the situation may be constructive for the child's response to physical or academic difficulties and acceptance of support. Unfortunately, it can also lead to negative feelings or stress, when it comes to dealing with more school work or cognitive demands and overcoming social challenges.<sup>38,41</sup>

Social contact and friendships are the main motives for childhood brain tumor survivors to return to school. Children longed for the company of peers and intended to restore prior relationships, but this socialization process could be challenging. While some of them reported satisfaction with their social activities and felt accepted by peers, others experienced interpersonal difficulties and missed support and friendships. Both outcomes are the result of combined aspects related to the child's mentality, social skills and behavior,<sup>42,43</sup> and the reactions of peers.<sup>7,44</sup> Attitudes of other children may influence survivors' resilience after returning and prepare the ground for intimate relationships and social networks in adulthood.<sup>45</sup>

Most childhood brain tumor survivors perceived a duality in social situations, representing a conflict between embracing and detaching from condition-related vulnerabilities in the presence of others. Children appreciated additional support from teachers and attention from classmates, so that they could make progress and display limitations without shame. At the same time, they preferred environments where others did not know their condition or see them as pupils with health problems. Changes in psychosocial constructs such as identity, sense of self, and meaning-making associated with childhood survivorship<sup>46,47</sup> seem to be connected with this duality. Children need to merge their former illness identity with a renewed sense of self, which is often a difficult process of searching for new values, beliefs, and priorities in daily life.<sup>48,49</sup>

### Study Limitations

This study has some limitations. First, our results only cover experiences, not observations in real life. Direct exploration by means of participant observation at school would provide more information about childhood brain tumor survivors' progress, for example, effects of support on performance. In addition, we acknowledge that the young age of some children made it difficult to investigate their perspectives extensively. In these cases, the researcher's additional questions may

have influenced the child's answers in particular ways. Inclusion of older survivors might reveal certain aspects of reintegration more profoundly, such as more detailed insights into their own social functioning or educational needs. Furthermore, the young age at diagnosis of some children is an important point to remember. Their development investigated in this study can be considered as the starting phase of their school career, rather than the reintegration process following their return to school. Last, it is important to keep in mind that different children had returned to school at different times. This point in time may determine their overall school experience in addition to personal readjustment to school life. However, this effect was largely minimized by the organization of multiple interview rounds.

### Guidelines for Future Research

Future studies should be conducted that focus particularly on the experiences of childhood brain tumor survivors at times of transition, for instance, just after starting a new school year, changing schools, or moving to secondary school. School staff in the child's new environment benefit from knowledge about survivors' experiences at these crucial moments, by being prepared for possible difficulties associated with transition. Moreover, the children's perspectives on the future need to be examined thoroughly, as shown by our study. Such research can explore their prospective views on aspects of life such as family, social life, and hobbies, along with education. Furthermore, qualitative studies involving a longer longitudinal design are desired extended to survivors who attend secondary school and higher education. A follow-up of survivors, questioning them repeatedly about their experiences, would be a meaningful addition to the many quantitative findings on survivors in the long term.

### Implications for Practice

Our results indicate the importance of continuity in the areas of learning and social life for childhood brain tumor survivors, starting before and continuing after their return to school. Minimal disruptions of learning processes and sustained contact with peers to the extent possible facilitate readjustment at school. This progression can be achieved when parents, school staff, and health professionals have proper information about the child's functioning and make timely arrangements. Our research also emphasizes the need for organizing a comprehensive assessment of survivors, ideally at the time of their return. This evaluation would involve multiple functional aspects, allowing identification of the child's



individual boundaries as the starting point for further development. Another theme revealed by our findings is systematic follow-up of survivors' performance and well-being throughout their school career. In this way, child-specific and contextual changes during the reintegration process can be incorporated in the child's individual education plan. Such consultation between stakeholders should be planned at least at times of transition and accompanied by in-depth exploration of the child's overall school experience.

### Acknowledgments

We thank the children and their parents for participating in this study.

### Author Contributions

SV: Contributed to conception and design; contributed to acquisition, analysis, and interpretation; drafted manuscript; critically revised manuscript; gave final approval; agrees to be accountable for all aspects of work ensuring integrity and accuracy.

JB: Contributed to conception and design; contributed to analysis and interpretation; drafted manuscript; critically revised manuscript; gave final approval; agrees to be accountable for all aspects of work ensuring integrity and accuracy.

LP: Contributed to conception and design; contributed to analysis and interpretation; drafted manuscript; critically revised manuscript; gave final approval; agrees to be accountable for all aspects of work ensuring integrity and accuracy.

JVDWTB: Contributed to conception; contributed to acquisition; critically revised manuscript; gave final approval; agrees to be accountable for all aspects of work ensuring integrity and accuracy.

GL: Contributed to conception; contributed to acquisition; critically revised manuscript; gave final approval; agrees to be accountable for all aspects of work ensuring integrity and accuracy.

PP: Contributed to conception; contributed to interpretation; critically revised manuscript; gave final approval; agrees to be accountable for all aspects of work ensuring integrity and accuracy.

AJ: Contributed to conception and design; contributed to analysis and interpretation; drafted manuscript; critically revised manuscript; gave final approval; agrees to be accountable for all aspects of work ensuring integrity and accuracy.

### Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

### Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: SV received a bursary from the Jeanne and Alice Van

de Voorde Fund from the King Baudouin Foundation, as well as from the Scientific Fund Willy Gepts from the UZ Brussel, Belgium. AJ is funded by the Research Foundation Flanders.

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