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The impact of connectedness on social functioning in youth with brain tumors

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Abstract

Purpose: Children with brain tumors (BT) are at risk for difficulties with social functioning. Research to date has focused on deficits, with no studies identifying areas of strength or resilience. Our objective was to assess the potential influence of connectedness on social functioning in youth with BT as compared to children with other cancers.

Methods: Children with cancer (20 with BT, 33 with other diagnoses) were enrolled on a longitudinal study of psychosocial functioning. The current study included measures from Time 2 (+1 year post-enrollment; $M_{\text{age}}=13.11\pm2.31$, $M_{\text{timesince diagnosis}}=4.95\pm3.74$ years) and Time 3 (+3 years post-enrollment; $M_{\text{age}}=14.98\pm2.36$, $M_{\text{timesince diagnosis}}=6.82\pm3.81$ years). Youth completed the Hemingway Measure of Adolescent Connectedness (HMAC) at Time 2. Two years later, social functioning was assessed by the self and proxy-report versions of the Social Emotional Assets and Resilience Scale (SEARS).

Results: Youth with BT perceived that they were less connected to friends ($t(50)=-2.13$, $p=.04$), but similarly connected to peers as youth with other cancers. Youth with BT also demonstrated lower social functioning by self- and parent-report. Connectedness to friends significantly mediated the relationship between diagnostic category and self-reported social functioning, such that youth with BT who reported being more connected to friends also indicated greater social functioning. Analyses using connectedness to peers and/or parent-reported social functioning were non-significant.

Conclusions: Perceiving a connection to a friend may be a protective factor that could mitigate deficits in social functioning in youth with BT. Additional research is needed to further assess the potential benefits of this construct.

Keywords

brain tumors; connectedness; friendship; pediatric cancer; social functioning

With ever-increasing survival rates, there has been greater interest on ways to ensure that survivors of pediatric cancer are able to obtain a good quality of life after treatment.

Survivors of pediatric brain tumors (BT) are among the most studied as their disease and associated treatments frequently result in declines in neurocognitive, academic and social

functioning.^{1,2} Impairments are often severe and longstanding, resulting in reduced achievement of adult milestones, including vocational and relational success.^{3,4}

Within the realm of social functioning, significant research has focused on areas of deficit experienced by survivors of BT, with several theoretical models^{5,6} proposed to describe and explain survivors' deficits. Commonly reported concerns include loneliness, social isolation, and teasing,⁷⁻⁹ as well as deficits in social skills like problem solving and affect recognition.^{6,10} Additional research has focused on risk factors, including treatment modalities such as radiation therapy,¹¹ demographic factors such as female gender,^{7,11} and the presence of neurocognitive deficits.^{6,12,13} However, no studies have identified factors that may be protective against deficits in social functioning.

Connectedness is an aspect of social functioning that describes a sense of attachment, involvement, and engagement with others – often to family, peers, school, or neighborhood.^{14,15} In the child development literature, connectedness is typically thought of as protective, with research suggesting that it is associated with decreased bullying,¹⁶ better health outcomes and decreased engagement in risky behaviors,¹⁷ fewer depressive symptoms,¹⁸ and increased positive perceptions of the future.¹⁹ Such findings highlight the positive and protective influence of feeling connected in typically-developing youth and raise questions regarding the potential role of this construct in children with BT.

Connectedness has been primarily described as growing out of early theories of development, personality and attachment,²⁰ including social ecology and a developing understanding of relationships and contexts,^{21,22} as well as a need to belong.²³ In this way, connectedness is deemed critical for social development as the skills learned and practiced in dyadic relationships – such as the parent-child relationship or a friendship – are then applied to other relationships throughout the lifespan. The concept of connectedness thus seems particularly relevant for children with cancer whose early years are characterized by normal development, which is then disrupted by diagnosis and treatment. For many children, particularly those with non-central nervous system impacting cancers, development is presumed to continue normally post-treatment. However, for children with BT, subsequent development may be disrupted by neurocognitive late effects.²⁴ It could easily be hypothesized that children with BT may also be vulnerable to disruptions in their ability to feel connected with others – and that this impairment may result in difficulties in broader social functioning.

Two recent papers^{25,26} examined the role of connectedness in the adjustment of youth with cancer. In the first, youth with cancer reported levels of connectedness across people and settings that were similar to those reported by a typically-developing comparison group.²⁵ This study provides support for the above hypothesis that for many children, cancer is not associated with a disruption of connections to others. However, this study did not examine connectedness explicitly in children with BT. A second study suggested that connectedness to friends and peers was associated with low distress and connectedness with friends was associated with increased psychological growth.²⁶ Ultimately, the authors suggested that while connection to peers during a time of challenge may assist with coping, connection to friends during this challenge is more likely to lead to feelings of growth and positive change.

²⁶ This study highlights the particular importance of connections with friends/peers for children with cancer, but again, did not examine these constructs explicitly in children with BT.

Taken together, the literature on both connectedness and late effects in children with BT raises questions regarding levels of connectedness in children with BT as compared to children with other cancers, and how connection may subsequently influence social functioning. As such, the objectives of the current paper were twofold. First, we sought to examine levels of connectedness and social functioning in youth with BT as compared to children with other cancers. Consistent with the extant literature reporting poor social functioning in survivors of BT, but not those with other diagnoses,^{27,28} it was hypothesized that youth with BT would report lower levels of connectedness to friends and peers (self-report) and reduced social functioning (self-, parent-, and teacher-report) as compared to children with other cancers. Second, we wanted to preliminarily explore the relationship between these two domains and determine whether connectedness may serve as a protective factor that could reduce the influence of a BT diagnosis on social functioning. As such, it was hypothesized that connectedness to friends and/or peers would mediate the relationship between diagnosis and social functioning (self- or proxy-report).

Methods

Procedures

Children with cancer were enrolled on a longitudinal study of coping and adjustment. The current paper consists of a secondary analysis of data collected at the Time 2 and Time 3 assessments: approximately one (± 6 months) and three years (± 3 months), respectively, after study enrollment. The parent study was approved by the Institutional Review Board and informed consent/assent was obtained at each time point. At baseline, participants were successively recruited from outpatient medical clinics by research assistants, following initial screening from patient lists. All measures across time points were completed in a hospital-based Psychology Clinic in the presence of trained research assistants. A small proportion of participants (<15%) completed measures at home and returned them via mail. Participants and parents were provided with a small monetary incentive at each assessment. At Time 3, permission to contact teachers was obtained and a release of information form was signed. Teachers were subsequently emailed information about the study and a link to complete measures via a secure online server.

Initial eligibility criteria for the parent study included diagnosis of a malignancy, age 8 to 17 years and at least one month post-diagnosis at enrollment (range 1 month-5+ years), and ability to speak/read English. At baseline, 258 patients [68% of those approached for participation; 43 (16.7%) with BT] completed study measures. Primary reasons for non-participation were lack of interest or time. As reported previously, there were no differences between participants and non-participants at baseline based on age, gender, socioeconomic status (SES) or diagnosis.²⁹ Participation at Time 2 was less robust as a number of participants missed the evaluation due to delayed IRB approval of this time point; however 154 youth with cancer [25 (16.2%) with BT] ultimately participated. Participation rebounded at Time 3, with 214 youth with cancer [32 (15%) with BT] completing measures.

A few participants were lost to death at each timepoint (3 at Time 2 and 16 at Time 3), though this was disproportionately in the BT sample (2 at Time 2 and 9 at Time 3).

Given our interest in examining the longitudinal influence of connectedness, eligibility criteria for the current project required participation at Time 2 and Time 3: 135 youth with cancer (20 with BT) completed assessments at both timepoints. To reduce the discrepancy in sample sizes, efforts were taken to minimize differences between the two groups by restricting the range of variables that could potentially influence social functioning to match that of the BT sample: age at assessment, age at diagnosis, and SES. We then matched groups based on treatment intensity³⁰ (measure described below). This led to a final sample of 33 participants with other cancer diagnoses.

Analyses were completed to assess potential differences in responses on our primary measures of interest (described below) between participants in the BT group who completed both timepoints and those that only completed one (n=17). There were no significant differences on any subscale. There were also no differences on potentially influential medical/demographic variables (e.g., age, age at diagnosis, treatment intensity, gender).

Participants

Youth were 13.11 years old (SD=2.31, range 9–17 years) at Time 2, and 14.98 years (SD=2.36, range 10–19 years) at Time 3. Participants were 4.95 years (SD=3.74, range 1–14.42) from diagnosis at Time 2 and 6.82 years (SD=3.81, range 2.92–16.17) at Time 3. The overall sample was 60.4% (n=32) male and 69.8% (n=37) Caucasian. There were no differences between groups on any medical/demographic variables. Parents (84.9% mothers, 67.9% married, mean age 43.77±5.73 years) completed measures at Time 3. There were no differences between groups on parent variables. Twenty-seven teachers also completed measures at Time 3: 11 (55%) from the BT group and 16 (48.5%) from the other cancer group. For demographic and cancer-related information by group see Table 1.

Measures

Connectedness: The Hemingway Measure of Adolescent Connectedness (HMAC)^{31,32} is a 57-item self-report questionnaire that assesses youth's perception of their relationships with others and their feelings of connectedness to their social environment. A 5-point Likert scale ranging from "not at all true" to "very true" is used. Multiple domains are assessed, including those related to school, family, peers, neighborhood, and self. For the current project, subscales assessing connectedness to Friends (individuals that youth enjoy spending time with and trust; sample item: "I have friends that I'm really close to and trust completely") and Peers (a broader group of same-aged children such as classmates; sample item: "I get along well with the other students in my classes") were used. The HMAC has been well-validated²⁰ and Cronbach's α for the current study was .80 for the Friends subscale and .72 for the Peer subscale. The HMAC was completed at Time 2.

Social Functioning: The Social-Emotional Assets and Resilience Scales (SEARS)³³ is a strengths-based questionnaire that assesses multiple domains of functioning that contribute to social-emotional competence. It is a cross-informant measure, with self- (35 items),

parent- (39 items), and teacher-report (41 items) versions available, and questions answered on a 4-point Likert scale from “never” to “always.” Raw scores are converted to age-standardized T-scores (normative mean =50, SD=10) with higher scores indicative of better functioning. Four subscales are derived, including Self-Regulation, Empathy, Responsibility, and Social Competence. Reliability and validity with other well-known measures of social functioning (e.g., Social Skills Rating System) has been established.³³ The Social Competence subscale was of primary interest and measures the observer’s assessment of the youth’s ability to maintain friendships, communicate effectively and their overall comfort with peers. The subscale includes items such as “Is good at starting conversations,” “Other kids respect me [him/her],” and “I [S/he] make friends easily.” In a normative sample, test-retest reliability at a 2-week interval was .88 for the self- and parent-report subscales, and .92 for teacher-report. Cronbach’s α for the current study were as follows: self-report =.89, parent-report =.93, teacher-report =.94. The SEARS was completed at Time 3 (e.g., 2 years after the HMAc).

Treatment Intensity: The Intensity of Treatment Rating Scale, 2.0 (ITR-2)³⁰ is a qualitative assessment of the intensity of pediatric cancer treatments. Four categories are available, ranging from Least Intensive to Most Intensive. As brain tumors protocols are typically considered more intensive; for the current study, inclusion was limited to those patients who received more intense treatments. Specifically, “Very Intensive” includes brain tumors treated with two or more modalities, high risk acute lymphoblastic leukemia, Ewing’s sarcoma/osteosarcoma, and high-grade rhabdomyosarcoma. Most Intensive treatments include most relapse protocols, acute myeloid leukemia, and stem cell transplant.

Analytical Plan

Initial analyses evaluated group differences (BT vs. other cancer) on the HMAc and SEARS. Independent samples t-tests were used for comparisons and Hedge’s g effect sizes were calculated due to unequal sample size.³⁴ One-sample t-tests were completed to compare the BT group to the SEARS normative sample (effect size is Cohen’s d) and independent samples t-tests examined differences on both measures by treatment intensity in both groups (effect size is Hedge’s g). To protect against Type I error, a modified Hochberg Bonferroni correction was employed.³⁵

To evaluate hypotheses regarding the influence of connectedness, mediation analyses assessed whether group differences in Social Competence were at least partially accounted for by Connectedness. Four models included Connectedness to Friends and Peers, and Social Competence as rated by parent and self. Teacher ratings were not used due to the limited sample size. Mediation analyses were completed via the PROCESS macro for SPSS³⁶ Significance of the indirect effect was determined through bootstrapping, a non-parametric procedure that constructs a confidence interval for the indirect effect by calculating it in 5,000 subsamples.³⁷

Results

Group Differences in Connectedness

Connectedness to Peers did not differ by group (Table 2). There was a significant difference on Connectedness to Friends, with children with BT indicating feeling less connected to their friends than children with other cancers ($t(50)=-2.13$, $p<.05$, Hedge's $g=0.60$). In the BT group, Connectedness to Friends did not differ by treatment intensity ($t(18)=0.63$) but Connectedness to Peers did ($t(18)=4.76$, $p<.001$, Hedge's $g=2.14$): children who received the most intensive treatments reported feeling less connected to peers. Connectedness did not vary by treatment intensity in the other cancer group (all p 's $>.35$).

Group Differences in Social Functioning

Children with BT were rated as significantly less socially competent than children with other cancers by parent- and self-report (Table 2), but not teacher-report after error correction ($t(25)=-2.22$, $p=.036$, Hedge's $g=0.87$). Similarly, children with BT demonstrated impaired social competence by self- ($t(18)=-3.78$, $p<.05$, Cohen's $d=0.75$) and parent-report ($t(19)=-2.59$, $p<.025$, Cohen's $d=0.65$), but not teacher-report after error correction ($t(10)=-2.74$, $p=.02$, Cohen's $d=0.67$), as compared to normative expectations. Participants with BT who experienced more intense treatment reported significantly worse social competence by self-report ($t(17)=2.80$, $p=.01$, Hedge's $g=1.29$), but not parent- ($t(18)=1.92$, $p=.07$, Hedge's $g=0.85$) or teacher-report ($t(9)=2.15$, $p=.06$, Hedge's $g=1.35$). Social Competence did not vary by treatment intensity in the other cancer group (all p 's $>.37$).

Mediation of Group Differences in Social Functioning by Connectedness

Connectedness to Peers and Friends at Time 2 was significantly associated with Social Competence by self- and parent-report at Time 3. However, only the model using Connectedness to Friends and self-reported Social Competence was significant for mediation (Table 3; Figure 1a), with Connectedness to Friends mediating the relationship between group (BT vs. other cancer) and social functioning. More specifically, the impact of a BT diagnosis on social functioning at Time 3 was significantly reduced by higher Connectedness to Friends scores at Time 2. The other three models (Table 3, Figure 1b-1d) were non-significant for mediation.

Discussion

This longitudinal pilot study suggests that youth with BT who report feeling connected to friends also report greater social functioning two years later. In a literature base that has focused on the social deficits experienced by children with BT, and their associated risk factors, this is the first study that highlights a potential area of resilience that may support improved social functioning for these at risk youth. Moreover, findings raise the question of whether connectedness could be a potential mechanism for targeted intervention, including the possibility that helping children with BT to develop or maintain connections to friends could serve as protective against broader social distress.

It is particularly interesting that connectedness to friends and not peers mediated the relationship between diagnosis and social functioning. Typically, peer relationships and social functioning outcomes are measured by classroom-based procedures that determine a child's role in the classroom and how they get along with classmates;³⁸ this is considered a gold standard measure of peer relationships. In the few studies that have used these measures with children with BT, they are typically seen as isolated by their peers.^{7,9} The peer subscale of the HMAC asks questions that are somewhat similar to those used in these procedures – “I am liked by my classmates;” with the caveat that the questions on the HMAC reflect the perception of the participant and not that of their peers. As such, this subscale assesses children's perception of their place in the broader peer group. In contrast, the friend subscale focuses more on aspects of what we might consider friendship quality – “I have friends that I'm really close to and trust completely” – and appears to assess connectedness within the context of a dyadic relationship.

Friendship quality – that is the aspects of a relationship that define a dyadic friendship – has not been explicitly explored in children with BT, with studies more typically focusing on either broader parent-reported social functioning or peer group status.² However, there is a large body of literature highlighting the importance of close friendships for long term outcomes in typically-developing populations.³⁹ More specifically, a recent paper⁴⁰ suggests that close friendships in adolescence are associated with better adult mental health outcomes as compared to peer acceptance. This is particularly relevant for survivors of BT who have poor peer acceptance^{7,9} and long term outcomes.³ Within the context of this study, a parallel could be drawn between friendship quality and connectedness to friends, the literature for which suggests that it is a sense of involvement and engagement with others^{14,15} that may protect against broader social concerns.^{16–19} As such, our results – both group differences in connectedness to friends, and stronger social functioning when reporting greater connectedness – point to friendship quality as a key direction for future inquiry, and potentially intervention. More specifically, intervention could focus on both making friends and improving the quality of established friendships, and could occur at any point in the cancer trajectory, including during survivorship. Indeed, while social skill interventions for survivors of pediatric brain tumors have typically focused on improving broad social functioning through skill-based groups,⁴¹ results from this study may suggest that interventions explicitly focus on fostering friendships between individuals with brain tumors and other children may be beneficial (see examples for children with ADHD,⁴² youth with disabilities,⁴³ and adolescents with autism⁴⁴).

Study Limitations

The current paper is not without limitations. Perhaps most apparent is that the BT sample was small. This certainly limited our ability to examine other factors that may influence connectedness and social functioning, and there may be biases in our sample that we are unaware of. However, our effect sizes were substantial enough (even for those findings that did not reach significance post-error correction) to suggest that findings have strength and importance. A second notable limitation is that we did not have a measure of social functioning at Time 2. As such, while our findings support the hypothesis that connectedness to friends is associated with better social functioning in children with BT, we cannot make

assumptions regarding a change over time. Nor can we test a potential relationship in the opposite direction: is stronger social functioning associated with greater connectedness later on? While the extant literature supports our direction of inquiry, we cannot rule out this potential, or that of a bidirectional relationship between these constructs. Similarly, there was a mix of patients who were on and off therapy at each time point, and our mean time since diagnosis was several years, with a wide range. Therefore hypotheses regarding the potential impact of connectedness while youth are early in their disease trajectory, or prior to the advent of late effects, are premature. Finally, shared source variance is also a limitation – our mediation findings were only observed with self-report measures. Future work should continue to include both self- and proxy-reports of social functioning, but perhaps also connectedness/relationship quality, as well as neurocognitive functioning given the strong relationship between social and neurocognitive functioning in youth with BT.^{6,12} Future studies may also wish to assess youth involvement in extracurricular activities so as to better understand the social lives of youth with brain tumors, including different opportunities for spending time with others with similar interests. However, our findings, though preliminary, certainly point to several areas of future work, including longitudinal studies that assess connectedness and social functioning during the transition from on- to off-therapy, as well as the potential for interventions that seek to help children remain connected to their friends or derive new connections.

Both connectedness and social functioning are elements that could potentially be fostered within a clinical setting. Indeed, the recent Standards for Psychosocial Care for Children with Cancer and Their Families⁴⁵ strongly supported the need for consistent social interaction throughout cancer treatment as a means of promoting positive adjustment. By providing ample opportunities for social interaction – both with other cancer patients as well as helping patients maintain friendships with individuals at home – both connectedness and overall social functioning could be supported and strengthened. Relatedly, in survivorship, efforts can be made to assess the presence or absence of good friendships and provide recommendations for building friendships. More specifically, the creation of friendships could be targeted by encouraging families to provide opportunities for their children to spend one-on-one time with another child, and/or increasing participation in extracurricular activities so as to find other children with similar interests.

Ultimately, results of this preliminary study highlight a potential aspect of resilience and target for intervention in youth with BT who might otherwise be struggling socially. Future efforts need to further explore the construct of connectedness, both as it relates to changes that may occur throughout the treatment course – from diagnosis to survivorship – as well as whether this may be an area that could be strengthened as a means of improving social outcomes. However, at this time, findings indicate that while youth with BT report feeling less connected to peers, those with stronger connections also indicate better social functioning.

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Abbreviations

BT	Brain tumor
HMAC	Hemingway Measure of Adolescent Connectedness
SEARS	Social Emotional Assets & Resilience Scales
ITR-2	Intensity of Treatment Rating Scale, 2.0
CI	Confidence interval

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Figure 1.

Results of mediation models assessing the relationship between diagnostic group (BT vs. other cancer), connectedness (to friends or peers) and social competence (self- or parent-report). 1a: connectedness to friends and self-reported social competence; 1b: connectedness to peers and self-reported social competence; 1c: connectedness to friends and parent-reported social competence; 1d: connectedness to peers and parent-reported social competence ** $p < .01$ * $p < .05$

Table 1.

Demographic and treatment characteristics

	Brain Tumor (n=20)	Other Cancer (n=33)
	M±SD (range) / n (%)	M±SD (range) / n (%)
Age (Time 2)	12.75±2.34 (9–17)	13.33±2.31 (10–17)
Age (Time 3)	14.70±2.39 (10–19)	15.15±2.36 (11–19)
Gender		
Male	12 (60)	20 (61)
Female	8 (40)	13 (39)
Race		
White	16 (80)	21 (64)
Black	2 (10)	10 (30)
Other	2 (10)	2 (6)
Socioeconomic Status ^a		
Groups I & II	10 (50)	11 (33)
Group III	6 (30)	6 (18)
Groups IV & V	4 (20)	16 (49)
<i>Disease and Treatment Characteristics</i>		
Age at diagnosis (years)	8.53±3.81 (1.67–14.50)	8.63±3.88 (2.33–14.58)
Brain Tumor Diagnosis		
Medulloblastoma	10 (50)	
Ependymoma	5 (25)	
Other (e.g., glioma, pineoblastoma)	5 (25)	
Other Cancer Diagnosis		
Acute lymphoblastic leukemia		2 (6)
Acute myeloid leukemia		6 (18)
Lymphoma		3 (9)
Solid tumor		22 (67)
Treatment Intensity ^b		
Very intensive	10 (50)	19 (58)
Most Intensive	10 (50)	14 (42)
Off-Treatment Time 2	19 (95)	33 (97)
Years since diagnosis	4.62±3.75 (1.08–12.67)	5.15±3.77 (1.00–14.42)
Off-Treatment Time 3	20 (100)	33 (97)
Years since diagnosis	6.56±3.81 (2.92–14.67)	6.97±3.87 (2.29–16.17)
<i>Parent Characteristics at Time 3</i>		
Age	45.68±3.99 (36.67–53.25)	42.57±6.36 (30.08–55.50)
Relationship to Child		
Mother	17 (85)	56 (88)
Father	3 (15)	6 (9)
Other (aunt, uncle)	--	2 (3)

	<u>Brain Tumor (n=20)</u>	<u>Other Cancer (n=33)</u>
	M±SD (range) / n (%)	M±SD (range) / n (%)
Marital Status		
Single	--	7 (21)
Married	17 (85)	19 (58)
Divorced/Separated	3 (15)	7 (21)

^aSocioeconomic status (SES) was calculated using the Barratt Simplified Measure of Social Status.⁴⁶ Group I reflects higher SES, Group V lower.

^bTreatment intensity was calculated using the ITR-2³⁰

Table 2.

Differences on HMAC and SEARS variables between youth with BT and youth with other cancer diagnoses.

	Brain Tumor	Other Cancer		
	M ± SD	M ± SD	<i>t</i> (<i>p</i>)	<i>Hedge's g</i>
<i>HMAC</i>				
Friends	3.60 ± 0.80	4.06 ± 0.74	-2.13 (.04) *	0.60
Peers	3.70 ± 0.73	4.00 ± 0.74	-1.45 (.15)	0.41
<i>SEARS Social Competence^a</i>				
Self-Report	42.53 ± 8.62	54.30 ± 10.64	-4.10 (<.001) *	1.18
Parent Report	43.45 ± 11.32	51.22 ± 9.80	-2.62 (.01) **	0.75
Teacher Report ^b	43.27 ± 8.14	51.75 ± 10.70	-2.22 (.04)	0.87

Note. HMAC: Hemingway Measure of Adolescent Connectedness; SEARS: Social Emotional Assets and Resilience Scales; CI: confidence interval

* criterion $p < .05$

** criterion $p < .025$

^a T-score

^b Teacher n: BT =11, Other Cancer =16

Table 3.

Indirect effects of diagnosis on social functioning via connectedness

Predictor	Coefficient	Standard Error	p	Coefficient for indirect effect	95% bootstrap CI for indirect effect
Outcome: Self-Reported Social Competence: $R^2=.37$, $F(2, 48)=14.18$, $p<.001$					
Diagnosis	-10.39	2.76	<.001		
Connectedness to Friends	4.44	1.70	.01	-1.96	-6.28, -0.05
Outcome: Self-Reported Social Competence: $R^2=.44$, $F(2, 48)=19.12$, $p<.001$					
Diagnosis	-10.73	2.54	<.001		
Connectedness to Peers	6.28	1.69	<.001	-1.62	-5.06, 0.77
Outcome: Parent-Reported Social Competence: $R^2=.16$, $F(2, 48)=4.51$, $p=.02$					
Diagnosis	-6.28	3.11	.05		
Connectedness to Friends	2.93	1.92	.13	-1.40	-5.77, 0.40
Outcome: Parent-Reported Social Competence: $R^2=.21$, $F(2, 48)=6.52$, $p=.003$					
Diagnosis	-6.24	2.93	.04		
Connectedness to Peers	4.67	1.93	.02	-1.44	-5.31, 0.19

Note. Diagnosis = BT (1) versus Other Cancer (0); CI = Confidence interval