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Social Well-Being in Adolescent and Young Adult Cancer Survivors

Sinead M. Sinnott, MA, and Crystal L. Park, PhD

Purpose: Adolescents and young adults (AYAs) diagnosed with cancer between ages 15–39 years are a unique and vulnerable population, encountering many typical developmental challenges while also dealing with the demands of illness and its aftermath. Overwhelming evidence demonstrates the importance of social well-being in survivorship quality of life. For AYAs, social connections may be of heightened importance as they assert independence from their parents and create their own personal lives. Few studies have characterized AYA survivors' social well-being and its determinants over time, particularly how psychological adjustment might promote improved social well-being.

Methods: We assessed 83 AYA survivors at two time points across 1 year to characterize their social well-being, identify common social connection concerns, describe how social well-being changes over time, examine how psychological adjustment relates to social well-being at a given time point, and determine whether psychological adjustment predicts changes in social well-being over time.

Results: Our sample rated their quality of life as lower than population mean scores, and despite relatively high levels of social support and satisfaction, more than half of participants also reported concerns in specific social well-being domains. On average, social well-being increased across the year. Psychological adjustment was strongly positively related to various aspects of social well-being, and it predicted improved social well-being over time.

Conclusion: These results suggest that improving psychological adjustment may be important for strengthening social support networks and improving AYAs' lives in survivorship.

Keywords: social well-being, psychological adjustment, stress, social support, quality of life

Introduction

Cancer diagnosis and treatment are often stressful, involving difficult treatment regimens and life disruptions and leaving many survivors with long-lasting psychosocial sequelae.[1] Among survivors, a relatively understudied demographic group is adolescent and young adult (AYA) survivors, those diagnosed between ages 15–39 years.[2] This age group is at a critical developmental stage for social and romantic relationships.[3,4] Among AYA survivors, these typical developmental changes are accompanied by the difficulties of assimilating back into ''normal life'' during recovery, and social rehabilitation after recovery is often challenging.[5] The unique features of this developmental stage make AYA cancer survivors an important group to study.

Individuals diagnosed as AYAs, as opposed to those diagnosed during childhood, have significantly more negative psychological outcomes.[6] This disparity highlights the singular vulnerability of the AYA developmental time period, in which experiencing cancer is thought to take a greater emotional and psychological toll.[6] In one AYA survivor sample, 12% of participants had reported significant chronic distress in the year following diagnosis, and an additional 15% reported significant levels of delayed distress.[7] Furthermore, distress is inversely associated with social support among both adults and AYA cancer populations.[8,9] Therefore, understanding and promoting AYA survivors' psychosocial adjustment requires knowledge regarding how social support changes over the course of survivorship and which factors contribute to these changes.

Social well-being is a broad concept, encompassing perceived social support, relationships with other people, and a sense of how these relationships affect one's quality of life. Social well-being is an important domain in this population, given the overwhelming evidence that AYA cancer patients consider social support one of the most important resources for their recovery.[10,11] In a study using open-ended interviews, AYA survivors reported seeking social support as one of their most commonly reported coping strategies, with the most important type of social support coming from the

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Department of Psychological Sciences, University of Connecticut, Storrs, Connecticut.

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family.[10] Furthermore, 39% of AYA survivors in another sample reported having a greater need for psychosocial support than did healthy peers.[7] Given the centrality of social support in general social well-being, factors that predict changes in perceived support and overall social well-being over time are important to identify.

Salsman et al.[12] found that AYA cancer survivors in the year following treatment reported higher social well-being than did healthy controls, despite reporting significantly lower physical and emotional well-being. However, a longitudinal study of AYAs, beginning after initial diagnosis, found that while social well-being improved in the year after diagnosis, it remained significantly lower than population norms in the 24 months following diagnosis.[13] It is unclear whether these inconsistent findings are due to differences in the time frames in which the studies began (after diagnosis versus after treatment), differences in conceptualization of social well-being, or other factors.

While previous research has provided insights into how AYAs approach recovery from their illness, much remains to be learned. Social well-being in cancer survivorship has only recently been widely recognized as an important domain.[14] We know little about AYAs' social well-being, such as how it changes over time and what affects it. Evidence from other cancer populations suggests that psychological maladjustment may actually erode support networks and, thus, lead to decrements in social well-being.[15,16] For example, in a study of women undergoing treatment for early stage breast cancer, greater distress was associated with subsequent declines in social support.[16] Psychological maladjustment may limit survivors' ability or willingness to engage socially, heighten their fears of rejection, or diminish their motivation to reach out to friends. For the purposes of this study, we conceptualized psychological adjustment broadly to include the presence of depression, anxiety, general stress, and posttraumatic stress symptoms.

Few studies have examined survivors' longer term social well-being. The few, published longitudinal studies of AYAs' social well-being have focused on the time period immediately following diagnosis, when individuals are often undergoing treatment, rather than on longer post-treatment survivorship.[11,17,18] The present longitudinal study aimed to identify factors that may play an especially important role in the social well-being of AYA survivors over time and how their levels of psychological adjustment may influence social well-being. We conceptualized social well-being broadly to better capture its full range, including social quality of life, family quality of life, social support, and impact of cancer (IOC) on relationships. We attempted to answer the following questions: first, how good is the social well-being of AYAs following treatment and during the often stressful transition into survivorship, and how does it compare to the social well-being of healthy individuals; second, does social well-being change over time; third, at baseline, how does psychological adjustment relate to social well-being, and finally, how does baseline psychological adjustment predict change in social well-being over time?

We anticipated that social well-being in our sample would be at least equal to the average levels of perceived social support and quality of life in a healthy population. There is conflicting evidence regarding whether cancer survivors have higher or lower levels of social well-being compared to the general population. This is perhaps due to the difference in study time frames, before or during treatment versus after treatment.[10,11] The large majority of our sample is in the post-treatment time frame. Thus, we predicted that participants would report higher levels of social well-being than the general population, consistent with other studies conducted during the post-treatment time period.[10,11] Considering reports of improved social well-being over time following diagnosis,[11] we anticipated that participants' social well-being would improve during the year in which we followed them.

Based on previous reports of inverse relationships with various social and psychological domains,[8,9] we anticipated that higher levels of psychological adjustment, reflected in lower scores on multiple distress measures, would relate to higher levels of social well-being in our cross-sectional analysis. Furthermore, we anticipated that improved social well-being over time would be predicted by higher baseline levels of psychological adjustment.

Methods

Participants

This study was part of a longitudinal examination of cancer survivors who were diagnosed with cancer in adolescence and young adulthood (ages 15–39 years). Participants were diagnosed with cancer within 7 years of study recruitment and were at varying stages of recovery (Table 1). All participants self-identified as survivors. For purposes of this study, we define survivors as living individuals who have been diagnosed with cancer at some point in their life.[19,20] Participants were recruited by mailing materials to AYA survivors identified through the Hartford Hospital Cancer Registry, as well as through websites for AYA survivors, which directed participants to an online version of the survey. All procedures were approved by the University of Connecticut and Hartford Hospital Institutional Review Boards.

Procedure

At both time points, which were 1 year apart, participants consented to procedures before completing questionnaires. Due to administration error, individuals indicating they were married or partnered ($n = 61$, 53.5%) only received questions on the IOC relationship concerns subscale at the first time point.

Questionnaires

Measures of social well-being.

IOC scale version two. The IOC[21] measures long-term quality of life during survivorship. It includes positive impact and negative impact subscales. The relationship concerns subscale is composed of 7 of the 20 questions on the negative impact scale. These questions further divide based on partnership status: three about nonpartnered impact concerns and four about partnered impact concerns. For the relationship concerns subscale, scores range from 0 to 5. This subscale has shown good internal consistency and construct validity.[22] Within our sample, the nonpartnered relationship concerns subscale showed good reliability ($\alpha = 0.81$), and the partnered scale showed acceptable reliability ($\alpha = 0.76$).

Interpersonal support evaluation list. The interpersonal support evaluation list (ISEL), which measures tangible, appraisal, and belonging social support, has 12 items scored

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Table 1. Sample Demographics

	n (%)
Gender	113
Female	88 (77.9)
Male	25 (22.1)
Race	114
Caucasian/White	106 (93)
African American/Black	1 (0.9)
Asian/Pacific Islander	1 (0.9)
Native American	1 (0.9)
Other	5 (4.4)
Income/year	109
<$20,000	9 (8.3)
$20,000–$40,000	16 (14.7)
$40,000–$60,000	15 (13.8)
$60,000–$80,000	17 (15.6)
$80,000–$100,000	19 (17.4)
>$100,000	33 (30.3)
Education	114
Some high school	1 (0.9)
High school degree	6 (5.3)
Some college	19 (16.7)
College degree	56 (49.1)
Graduate degree	32 (28.1)
Cancer site	120
Brain	30 (25.0)
Lymphoma	27 (22.5)
Thyroid	18 (15.0)
Testicular	10 (8.3)
Cervix/uterus/ovary	7 (5.8)
Leukemia/blood	7 (5.8)
Brain	4 (3.3)
Colon/rectal	3 (2.5)
Kidney	3 (2.5)
Other (melanoma, liver, abdomen, oral)	11 (9.2)
Time since diagnosis (years)	110
≤1	23 (20.9)
2	19 (17.3)
3	13 (11.8)
4	16 (14.5)
5	13 (11.8)
>5	26 (23.6)
Time since primary Tx ended (years)	106
≤1	22 (20.8)
2	26 (26.5)
3	11 (10.4)
4	14 (13.2)
5	13 (12.2)
>5	20 (16.9)
Treatment status	
Currently in primary treatment	12 (9.8)
Evidence of recurrence	17 (14.2)

from 0 to 3. It has been found to have good validity, positively correlating with similar social support measures.[23] Within our sample, the ISEL showed excellent reliability ($\alpha = 0.91$).

Quality of life index. The quality of life index (QLI) is a measure of life satisfaction often used among patients with cancer, assessing social, family, health, and psychological well-being. The scale is 66 items, asking the same 33 questions twice, first regarding satisfaction with various areas of life, then personal importance of each area of life. Scores are weighted by multiplying the satisfaction score by the impact (importance) score for each item and range from 0 to 30 for each subscale. We selected the social and family domains for the present study. The QLI social subscale includes economic and environmental questions as a broad conceptualization of social quality of life. The QLI has good validity and reliability.[24,25] Within our sample, the reliability of the QLI family subscale was acceptable ($\alpha = 0.74$), and the QLI social subscale reliability was good ($\alpha = 0.81$).

Measures of adjustment.

Impact of event scale-revised. The impact of event scale-revised (IES-R) assesses intrusion, hyperarousal, and avoidance symptoms of post-traumatic stress. Participants responded about their symptoms in regards to their experience with cancer. This scale has shown strong internal consistency and good construct validity.[26] The scale comprises 22 items, with each item rated from 0 to 4 in terms of how distressing each symptom is. Total scores range from 0 to 88.[26] The scale demonstrated strong reliability in our sample ($\alpha = 0.91$).

Depression anxiety stress scales-21 item. The depression anxiety stress scales-21 item (DASS-21) measures symptoms of depression, anxiety, and stress. It has 21 items, with scores ranging from 0 to 3. It has demonstrated good validity within nonclinical samples.[27] We used a combined total score of the three domains. In our sample, the scale showed strong reliability ($\alpha = 0.89$).

Data analysis

Descriptive statistics was conducted to characterize social well-being. *t*-Tests were conducted to determine whether social well-being changed over time. Mean levels of these variables were compared to those of healthy controls used as comparison subjects in previous studies. Some study scales are typically only administered to populations with illnesses (e.g., the IOC Scale is only administered to cancer populations; the version of the QLI we used is specific to cancer populations). For this reason, scores for healthy controls on these scales are seldom reported. Therefore, the healthy control means we were able to locate included patients' family members. At baseline, a cross-sectional Pearson's correlation analysis was conducted to examine relationships between psychological adjustment and social well-being, which comprised survivor quality of life in family and social domains, as well as social support (ISEL) and relationship concerns related to cancer (IOC negative impact). Regression analyses to identify longitudinal psychological adjustment predictors of social well-being controlled for T1 social well-being, essentially allowing us to predict change in social well-being over time. We also controlled for age at and time of cancer diagnosis, gender, race, and ethnicity. Due to our sample size, race/ethnicity was considered as a single variable (minority/nonminority).

Results

Participants

One hundred twenty participants completed the survey at time 1 (T1) along with 13 participants excluded because of

Table 2. Mean Comparisons Between Time 1 and Time 2 and to Population Means

	T1 mean (SD)	*T2 mean (SD)*	*Comparison mean (SD)*	*T1 to T2* t-*value*	*Significance*
IOC negative impact	3.496 (1.156)	3.225 (1.201)	—	1.745	0.090*
ISEL	28.184 (6.840)	27.324 (7.276)	25.40 (4.80)[28]	0.129	0.897
QLI social	20.203 (5.019)	21.167 (4.633)	23.52 (4.38)[29]	–1.947	0.057*
QLI family	22.107 (5.492)	22.670 (5.700)	25.24 (4.73)[29]	–1.100	0.276

Note: Comparison levels of ISEL taken from a sample of healthy women.[28] Comparison levels of QLI taken from a healthy sample of family members of individuals with lung cancer.[29]

*$p < 0.10$ marginal significance.

IOC, impact of cancer; ISEL, interpersonal support evaluation list; QLI, quality of life index; SD, standard deviation; T1, time 1; T2, time 2.

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missing data (Table 1). T1 included 88 women, 25 men, and 7 individuals who did not report gender. One year later, 69% ($n = 83$) of participants completed the follow-up study at time 2 (T2). Nine of the 92 participants who partially completed T2 were excluded because of missing data. At T1, participants' ages ranged from 16 to 47 ($M = 33$). Participants' age at diagnosis ranged from 15 to 39 ($M = 29$). Mean time since diagnosis was 4 years.

Social well-being

Compared to norms from other studies, our sample of AYA survivors reported higher levels of social support (ISEL) than normed scores of a healthy female sample.[28] Contrary to our predictions, however, our sample had lower social and family QLI scores compared to a healthy sample of family members of ill individuals.[29] Furthermore, reports of concerns were common on individual IOC items regarding the IOC on specific aspects of participants' social and romantic relationships. More than half of participants reported that cancer had made them feel that people do not understand them (56%; $n = 64$), while 54% ($n = 29$) of unpartnered participants reported delaying relationships because of uncertainties about their future health. The majority of unpartnered participants (67.9%; $n = 36$) wondered how to tell a potential partner that they have had cancer, and 42% ($n = 33$) reported that cancer had made them worry about not having a partner. Among those with partners, the percentage of participants with concerns was much smaller. Out of 61 participants, 8.2% ($n = 5$) felt that their partner was not open and willing to discuss cancer with them, and only 4.9% ($n = 3$) were not open and willing to discuss cancer with their partner. Only 14.8% ($n = 9$) felt that uncertainty about their health had caused problems in their relationships, and only 4.9% ($n = 3$) worried about their partner leaving them if they were to become ill again.

Changes in social well-being

Paired sample t-tests were conducted to determine how social well-being changed over time. The analysis compared social quality of life (QLI), family quality of life (QLI), relationship concerns (IOC), and social support (ISEL) at T1 to each of the same variables at T2 (Table 2). Our sample showed marginally significant improvements in social QLI, as well as in relationship concerns (IOC). There was no significant change in family QLI or social support (ISEL).

Relationships between psychological adjustment and social well-being at baseline

A cross-sectional bivariate analysis was conducted to determine correlates of social well-being on psychological adjustment (Table 3). Our measures of psychological adjustment, the DASS-21 and the IES, were fairly highly positively correlated (Pearson $r = 0.62$, $p < 0.001$), suggesting that they are overlapping but distinct aspects of adjustment. Based on Pearson correlation analyses, both aspects of psychological adjustment were positively correlated with relationship concerns (IOC) and negatively correlated with social support (ISEL) and quality of life (QLI family and social subscales) at T1 (Table 3).

Psychological adjustment as a predictor of social well-being over time

To determine how psychological adjustment at baseline predicted changes in levels of social well-being over time, multiple regression analyses were conducted for each of the social well-being variables at T2 while controlling for social well-being at T1 and demographics (Table 4). No demographic variables predicted significant change in social well-being. Both DASS-21 and IES levels at T1 predicted QLI family scores at T2. T1 DASS-21 levels also predicted relationship concerns and social support at T2 (Table 4).

Table 3. Pearson Correlation Coefficients Between Time 1 Psychological Adjustment and Time 1 Social Well-Being

	Type of adjustment T1	
	DASS total mean T1	*IES total mean T1*
Impact of cancer		
Concerns (no partner)	0.32*	0.31*
Concerns (partnered)	0.44***	0.24
ISEL		
Total	–0.49***	–0.30**
QLI		
Social	–0.72***	–0.42***
Family	–0.58***	–0.30**

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

DASS, depression anxiety stress scales.

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Table 4. Results of Regression Analyses of Time 1 Adjustment on Social Well-Being at Time 2, Controlling for Time 1 Social Well-Being

Predictor	ΔR^2	*B*	*SE*	*β*	ΔR^2 *change*
DV: T2 IOC relationship concerns					
Block 1	0.557				
T1 IOC relationship concerns		0.900	0.158	0.748**	
Age diagnosed		0.013	0.027	0.062	
Gender		0.056	0.469	0.015	
Race		–0.008	0.639	–0.002	
Time since Dx		–0.052	0.083	–0.079	
Block 2	0.611				
T1 IOC relationship concerns		0.800	0.159	0.665**	
Age diagnosed		0.004	0.026	0.019	
Gender		0.216	0.454	0.058	
Race		0.177	0.616	0.035	
Time since Dx		–0.018	0.080	–0.027	
T1 DASS-21 mean		0.404	0.190	0.266***	0.054***
Block 1	0.557				
T1 IOC relationship concerns		0.900	0.158	0.748**	
Age diagnosed		0.013	0.027	0.062	
Gender		0.056	0.469	0.015	
Race		–0.008	0.639	–0.002	
Time since Dx		–0.052	0.083	–0.079	
Block 2	0.589				
T1 IOC relationship concerns		0.824	0.163	0.685**	
Age diagnosed		0.011	0.027	0.051	
Gender		0.195	0.469	0.053	
Race		0.108	0.631	0.022	
Time since Dx		–0.001	0.088	–0.002	
T1 IES mean		0.507	0.338	0.211	0.032
DV: T2 ISEL mean					
Block 1	0.500				
T1 ISEL mean		0.750	0.098	0.694**	
Age diagnosed		–0.008	0.100	–0.008	
Gender		–0.884	1.629	–0.047	
Race		–2.297	3.287	–0.064	
Time since Dx		–0.312	0.269	–0.104	
Block 2	0.529				
T1 ISEL mean		0.622	0.116	0.576**	
Age diagnosed		–0.015	0.098	–0.014	
Gender		–1.601	1.634	–0.086	
Race		–3.630	3.284	–0.101	
Time since Dx		–0.395	0.267	–0.132	
T1 DASS-21 mean		–1.843	0.926	–0.213***	0.029***
Block 1	0.500				
T1 ISEL mean		0.750	0.098	0.694**	
Age diagnosed		–0.008	0.100	–0.008	
Gender		–0.884	1.629	–0.047	
Race		–2.297	3.287	–0.064	
Time since Dx		–0.312	0.269	–0.104	
Block 2	0.509				
T1 ISEL mean		0.708	0.106	0.655	
Age diagnosed		–0.012	0.100	–0.011	
Gender		–1.164	1.649	–0.062	
Race		–2.710	3.307	–0.076	
Time since Dx		–0.431	0.292	–0.144	
T1 IES mean		–1.416	1.344	–0.110	0.008
DV: T2 QLI social					
Block 1	0.510				
T1 QLI social		0.620	0.094	0.672**	
Age diagnosed		0.054	0.077	0.073	
Gender		–0.392	1.227	–0.033	
Race		–1.407	2.514	–0.057	
Time since Dx		0.138	0.192	0.073	

(*continued*)

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Table 4. (Continued)

Predictor	ΔR^2	*B*	*SE*	β	ΔR^2 *change*
Block 2	0.514				
T1 QLI social		0.682	0.138	0.740**	
Age diagnosed		0.049	0.078	0.065	
Gender		–0.262	1.252	–0.022	
Race		–1.246	2.543	–0.050	
Time since Dx		0.177	0.203	0.094	
T1 DASS-21 mean		0.540	0.873	–0.095	0.004
Block 1	0.510				
T1 QLI social		0.620	0.094	0.672**	
Age diagnosed		0.054	0.077	0.073	
Gender		–0.392	1.227	–0.033	
Race		–1.407	2.514	–0.057	
Time since Dx		–0.138	0.192	–0.073	
Block 2	0.511				
T1 QLI social		0.607	0.104	0.659**	
Age diagnosed		0.055	0.078	0.074	
Gender		–0.433	1.246	–0.036	
Race		–1.441	2.540	–0.058	
Time since Dx		0.109	0.217	0.058	
T1 IES mean		–0.283	0.970	–0.036	0.001
DV: T2 QLI family					
Block 1	0.552				
T1 QLI family		0.782	0.113	0.733**	
Age diagnosed		0.012	0.099	0.013	
Gender		–0.410	1.489	–0.026	
Race		–0.693	2.759	–0.027	
Time since Dx		–0.069	0.234	–0.029	
Block 2	0.580				
T1 QLI family		0.633	0.137	0.593**	
Age diagnosed		0.041	0.098	0.047	
Gender		–0.634	1.461	–0.040	
Race		–0.693	2.759	–0.027	
Time since Dx		–0.185	0.238	–0.078	
T1 DASS-21 mean		–1.615	0.885	–0.221***	0.028***
Block 1	0.552				
T1 QLI family		0.782	0.113	0.733**	
Age diagnosed		0.012	0.099	0.013	
Gender		–0.410	1.489	–0.026	
Race		–0.693	2.759	–0.027	
Time since Dx		–0.069	0.234	–0.029	
Block 2	0.600				
T1 QLI family		0.744	0.109	0.698**	
Age diagnosed		0.004	0.095	0.005	
Gender		–0.748	1.428	–0.048	
Race		–1.327	2.646	–0.052	
Time since Dx		–0.331	0.248	–0.139	
T1 IES mean		–2.538	1.037	–0.254*	0.048*

Note: Dependent variable (DV); diagnosis (Dx); IOC relationship concerns are among unpartnered participants only.
*$p < 0.05$, **$p < 0.001$, ***$p < 0.10$ marginal significance.
SE, standard error.

Discussion

Deviating from our predictions, levels of social well-being among AYA cancer survivors in our sample relative to healthy norms varied based on domain. Social and family QLI was lower in this sample than in a healthy population. Reasons for these differences are unclear; score differences could be due to a range of factors such as a greater need for social and family connections, the quality of these relationships, or the fact that varying time points in the cancer survivorship trajectory influence survivors' perceptions of these social domains. Our hypothesis that differences in well-being may be due to the time of data collection was not supported, as time since diagnosis was not a significant predictor of social well-being. Consistent with our predictions, our sample reported higher levels of social support than the general population, yet these levels decreased over time. Perhaps social support is high in that family and friends continue to rally, but survivors remain frustrated or disappointed in aspects of relationships (e.g., fears related to future partnerships). Furthermore,

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in our sample, a high percentage of individuals without romantic partners expressed concerns with specific aspects of their social and romantic lives, suggesting a need for greater attention to social concerns within this population.

Our finding that psychological adjustment is associated with social well-being at baseline is consistent with previous studies[9] and can be expected, given the challenges involved in rehabilitating to ''normal'' life following cancer treatment. Furthermore, our results demonstrated the predictive power of psychological adjustment on social well-being over time. These findings suggest that psychological adjustment may have important implications for other domains of AYA survivors' well-being. This relationship between social well-being and psychological adjustment may function bidirectionally, although exploring this possibility is beyond the scope of this study.

Our sample's perceived relationship concerns, social QLI, and family QLI improved over time, indicating some resilience to the barriers of social reengagement that may accompany serious illness. While this increase in the average level of well-being is reassuring, it is important to note that a substantial minority of individuals were still experiencing relatively poor social well-being. Time since diagnosis and demographic variables were unrelated to psychological adjustment in this sample. More attention is needed to identify factors that help some individuals attain higher social well-being and those that inhibit others. Because increased stress, depression, anxiety, and post-traumatic stress symptoms predicted decreases in social well-being over time, psychological adjustment is a potentially actionable target for future interventions to improve social well-being. Findings from the current study are important in suggesting a need for attention to improved social well-being at a difficult and potentially isolating time for AYA survivors.

Limitations and future studies

Our study is not without limitations. We did not examine bidirectionality of the relationship between social well-being and psychological adjustment. Examining the directionality of this relationship would be an important aim for future studies. In addition, 25% of our sample was either in active treatment or had experienced evidence of recurrence. This subgroup of our sample may experience social well-being and distress differently from the rest of our sample. In addition, individuals with different forms of cancer in our sample may experience well-being differently from one another. Furthermore, our sample was fairly small, and future studies with larger samples may increase the validity of subgroup analyses, such as partnered versus unpartnered participants or cancer type. Finally, due to administration error, one questionnaire (IOC partnered) was administered only at T1.

Despite evidence of the influences of social support throughout illness, treatment, and rehabilitation, much remains to be learned about factors that contribute to social well-being across time. Future studies examining relationships between social well-being and psychological adjustment should continue to define social well-being broadly to ensure that its components are adequately captured and to improve consistency across studies. Social well-being should be operationalized to include perceived social support, family quality of life, social quality of life, and romantic quality of life. Future research should also examine whether treating psychological adjustment alleviates the burden of decrements in social well-being after treatment, when survivors are transitioning back to ''normal'' life.

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Author Disclosure Statement

No competing financial interests exist.

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Address correspondence to:
Sinead M. Sinnott, MA
Department of Psychological Sciences
University of Connecticut
406 Babbidge Road, Unit 1020
Storrs, CT 06269

Email: sinead.sinnott@uconn.edu

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