

Social Support, Basic Psychological Needs, and Social Well-Being Among Older Cancer Survivors

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Abstract

This study examined the contribution of social support and satisfaction of basic psychological needs in predicting social well-being among older cancer survivors, from the perspective of self-determination theory. The sample for this study derived from the third wave of the National Survey of Midlife Development in the United States. Participants consisted of 376 cancer survivors who had completed cancer treatment. The results of this study suggested that social support from family members and friends was a significant predictor of social well-being. Satisfaction of the basic psychological needs (autonomy, competence, and relatedness) was a significant predictor of social well-being. The fulfillment of basic psychological needs among older cancer survivors is important to the experience of greater social well-being, a finding that contributes to the development of a dynamic model of motivation, engagement in social activity, and successful reintegration into one's community.

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basic psychological needs, self-determination theory, cancer survivorship, psychosocial well-being, social support, older adults

Introduction

The number of people living with a history of being diagnosed with cancer increases with age, highlighting a gradually growing population of cancer survivors among older adults as a result of improvement in early detection and medical treatment (Bluethmann, Mariotto, & Rowland, 2016; Ferlay et al., 2015). For some, cancer survivorship may represent a stage wherein the danger of cancer treatment has passed. Nevertheless, the impact of cancer brings about long-term adjustments in every aspect of the remaining part of a person's life (Deimling, Kahana, & Schumacher, 1997).

Compared with older adults who do not have a history of cancer, cancer survivors are more likely to develop progressive, recurrent, secondary cancers, or other chronic diseases (Yabroff, Lawrence, Clauser, Davis, & Brown, 2004). Older adults' experience of cancer survivorship, particularly with respect to their psychosocial well-being, would seem to be of crucial importance to the design and delivery of quality care (Aaronson et al., 2014; Levit, Balogh, Nass, & Ganz, 2013). The topic of well-being has often been studied with the practical aim of improving people's lives (Heo, Chun, Lee, & Kim, 2016). Social well-being has been studied as part of the overall health of a person. In general, research on social well-being examines an individual's appraisal of their social relationships, how others react to them, and how they interact with social institutions and communities (Keyes, 1998; Larson, 1993; Ryff & Keyes, 1995).

Studies have found that a supportive environment is associated with well-being and thus enhances a person's ability to meet life's challenges (Lamont, Nelis, Quinn, & Clare, 2017; McDonough, Sabiston, & Wrosch, 2014; Thoits, 1995). A study conducted by Nieboer and Cramm (2017) found that older adults' social well-being varied based on one's environment and neighborhood. Specifically, older adults who lived in neighborhoods that lack social belongingness and social cohesion experienced lower social well-being (Nieboer & Cramm, 2017). Although the awareness of the potential importance of social well-being for thriving in old age is not new, the empirical research on it to date is very limited. In the case of cancer survivorship, studies have found that support from family members and friends is associated with greater experience of well-being (McDonough et al., 2014; Soler-Vila, Kasl, & Jones, 2003; Thoits, 1995). For example, a study conducted by Ashing-Giwa, Padilla, Bohorquez, Tejero, and Garcia (2006) found that female breast cancer survivors were most likely to find support among their family members and other breast cancer

survivors, suggesting that these relationships are crucial to psychological well-being (PWB) during the period of survivorship.

Despite these well-known factors that promote optimal functioning and well-being through supportive relationships, the importance of satisfying the basic psychological needs of cancer survivors has been an overlooked area in cancer care. Self-determination theory (SDT) is an organismic metatheory for the study of human motivation, personality, and development (Deci & Ryan, 2000; Ryan & Deci, 2017). SDT posits that humans possess an innate tendency toward vitality and effective functioning under environmental conditions that provide opportunities to satisfy an individual's basic psychological needs for autonomy, competence, and relatedness (Deci & Ryan, 2000; Ryan & Deci, 2017). Autonomy refers to the experience of volition and the feeling of self-endorsement of one's own life and actions (DeCharms, 1968; Deci & Ryan, 2000); competence refers to the desire to master one's environment and reach valued outcomes within it (Deci & Ryan, 2000; White, 1959); relatedness refers to a feeling of being connected to others and having a sense of support and belongingness (Baumeister & Leary, 1995; Deci & Ryan, 2000).

According to Deci and Ryan (2000), the basic psychological needs for autonomy, competence, and relatedness can be viewed as innate psychological nutriment that are essential for a person's continual psychological growth, integrity, and well-being (Deci & Ryan, 2000; Ryan & Deci, 2017). More important, satisfaction of these basic psychological needs is influenced by the environmental context in which an individual functions. From this perspective, supportive social contexts are those that promote need satisfaction and well-being, whereas coercive or neglectful contexts thwart need satisfaction, leading to ill-being (Deci & Ryan, 2000; Ryan & Deci, 2017).

Deci and Ryan (2000) posit that the importance of satisfying the basic psychological needs for autonomy, competence, and relatedness is consistent across people from different age groups and different cultures, and indeed, there is increasing empirical evidence to support this claim (Lynch, Vansteenkiste, Deci, & Ryan, 2011). Although the needs are considered to be universal, their manner of fulfillment, however, may be specific to the culture and individual (Deci & Ryan, 2000). In spite of the limited number of studies that specifically examine the importance of satisfying the basic psychological needs among cancer survivors, quite a few have examined, from an SDT perspective, the importance of basic psychological needs for the outcome of well-being in various life domains (e.g., education and relationships; Milyavskaya & Koestner, 2011; Taylor, Lekes, Gagnon, Kwan, & Koestner, 2012).

This research used the SDT framework to understand the contributions of social support, in general, and basic psychological needs, in particular, in predicting social well-being among older cancer survivors. More specifically, the study herein attempts to answer the following overarching research question: Do social support (from family and friends, as typically conceptualized in the

literature) and satisfaction of basic psychological needs for autonomy, competence, and relatedness predict greater social well-being in older cancer survivors? We made the following predictions: *Hypothesis 1 (H1)*: There will be a statistically significant, positive relationship between basic psychological need satisfaction and social support from family and friends (because both are forms of support, the former being more specific and the latter being more general); *Hypothesis 2 (H2)*: In line with the previous literature on cancer survivorship, social support from family and friends will be positively associated with social well-being; *Hypothesis 3 (H3)*: Drawing on SDT, satisfaction of the basic psychological needs (autonomy, competence, and relatedness) will be positively associated with social well-being; and *Hypothesis 4 (H4)*: Satisfaction of the basic psychological needs (autonomy, competence, and relatedness) will be more strongly associated with social well-being than will social support from family members and friends. Hypotheses H3 and H4 represent this study's original predictions, and H4, in particular, stems from SDT's strong definition of a need, as that which is essential for growth, integration, and well-being (Ryan & Deci, 2017). We expect that both social support, more generally speaking (from friends and from family), and the more specific form of basic need support, will contribute to social well-being independently.

Method

Participants

This study used an existing dataset derived from the third wave of the National Survey of Midlife Development in the United States (MIDUS 3), collected from 2013 to 2014 (Ryff et al., 2015). Of the 3,294 respondents in the MIDUS 3 sample, 376 survivors were included in the final analyses (Table 1). Participants were cancer survivors between 60 and 89 years old ($M = 72.64$, $SD = 7.24$), who were no longer undergoing cancer treatment at the time of data collection. The participants self-identified as Caucasian/White (89.4%), African American/Black (2.1%), Native American/Alaska Native (0.5%),

Table 1. Descriptive Statistics of Variables.

	<i>M</i>	<i>SD</i>	Minimum	Maximum	α
Age	72.64	7.20	60	89	–
Gender	1.00	0.50	–	–	–
Income	51,309.59	63,224.02	0.00	500,000	–
Family social support	3.61	0.49	1.00	7.00	.78
Friends' social support	3.36	0.57	1.00	7.00	.83
Basic psychological needs	5.42	0.94	1.00	7.00	.78
Social well-being	4.75	0.88	2.36	6.79	.81

Native Hawaiian/Pacific Islander (0.3%), Hispanic/Latino (1.9%), and other ethnicities (5.8%). The overall sample was selected from working telephone banks. Respondents were invited to participate in telephone interviews and also completed questionnaires.

Measures

Measures for this study were compiled in several ways, using scales that were previously developed and well validated. Each participant's age, gender, and income were included as control variables in the main analyses. The key outcome variable was social well-being, with explanatory variables being social support (from family and from friends) and satisfaction of basic psychological needs.

Social well-being scale. A 14-item version of Keyes' (1998) measure of social well-being was used to measure the five components of the social well-being outcome (meaningfulness of society, social integration, acceptance of others, social contribution, and social actualization). Participants were asked to rate their agreement with statements regarding their social well-being by using a 7-point Likert scale, from 1 = *strongly disagree* to 7 = *strongly agree*, with higher scores representing greater social well-being. Negatively worded items were reverse coded prior to all analyses. Scores were computed as the average across responses. Social well-being scale demonstrated adequate internal consistency in the cancer survivor sample, with Cronbach's $\alpha = .81$.

Social support from family. One aspect of the explanatory variable, social support, was measured using a family support subscale to assess family relationship quality (Ryff et al., 2012; Schuster, Kessler, & Aseltine, 1990). The subscale uses four items to measure the degree of emotional support provided by family members, including brothers, sisters, parents, and children who did not live with them (Brim, Ryff, & Kessler, 2004). The following example question was asked: "How much do they really care about you?" All items for family support were coded using a 4-point Likert scale, ranging from 1 = *never* to 4 = *often* (Ryff et al., 2012). Scores were computed as the average across responses. Internal consistency using Cronbach's α for support from family was .78, in the present sample.

Social support from friends. Social support from friends was measured using a four-item scale to measure the degree of emotional support provided by friends (Ryff et al., 2012; Schuster et al., 1990). The following example question was asked: "How much can you rely on them for help if you have a serious problem?" All items for support from friends were also coded using a 4-point Likert scale, ranging from 1 = *never* to 4 = *often* (Ryff et al., 2012). Scores were

computed as the average across responses. Internal consistency using Cronbach's α for support from friends was .85, in the present sample.

Satisfaction of basic psychological needs. Several subscales from Ryff's (1989) 42-item PWB scale were used to test satisfaction of basic psychological needs for autonomy, competence, and relatedness. Participants in the MIDUS study were asked to rate their agreement on a 7-point Likert scale, from 1 = *strongly disagree* to 7 = *strongly agree*. Scores were computed as the average across responses. There is substantial affinity between Ryff's perspective and that endorsed by SDT. In particular, of the six dimensions of Ryff's PWB scale (autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, self-acceptance), three are closely aligned conceptually with what in SDT are considered basic psychological needs: autonomy, environmental mastery, and positive relations with others (Ryff & Singer, 2006). These dimensions of Ryff's scale closely resemble the basic needs of autonomy, competence, and relatedness found in SDT (Brown & Ryan, 2003; Deci & Ryan, 2000) and, as such, were treated in the present study as predictors rather than outcomes reflecting satisfaction of SDT's basic needs.

Further, exploratory factor analysis (EFA) on the total sample from MIDUS 3 ($N = 3,294$) and then confirmatory factor analysis (CFA) on the selected cancer survivor subsample ($N = 376$) were conducted to determine the underlying structure of items used to represent SDT's three basic psychological needs. The CFA is done on a second (cancer survivors), to confirm the factor structure that we initially found with the EFA that was conducted on both cancer survivors and noncancer survivors sample, which is also the total sample size in the third-wave MIDUS dataset. In the interest of brevity, full results of these analyses are not provided here but are available upon request. In sum, this two-step factor analysis (EFA, followed by CFA) resulted in retaining 11 of Ryff's original 42 items; these 11 items were also among those approved by an independent panel of SDT experts who reviewed Ryff's items for conceptual consistency with SDT's three basic needs and are presented in Appendix. In light of these findings, from this point onward, the SDT labels will be adopted: The term *environmental mastery* will be replaced with *competence*, and *positive relations with others* will be replaced with *relatedness*, in the interest of consistency and ease of interpretation. Because we were interested in need satisfaction in general, the mean of the 11 items was used in subsequent analyses, with higher scores representing greater perceived satisfaction of basic psychological needs (Deci & Ryan, 2000; Orkibi & Ronen, 2017). The internal consistency reliability coefficients of the total score for basic psychological needs was $\alpha = .78$ (11 items).

Analytic Strategy

Statistical analyses were conducted using SPSS software (version 24). Bivariate correlation analysis was used to test H1 (predicting positive associations among the various forms of support, including basic need support). To test H2 to H4, hierarchical regression analysis was used. Specifically, at Step 1, key demographic variables were entered; at Step 2, the social support and basic psychological needs variables were entered (allowing them to compete for variance in the outcome).

Results

Bivariate Analysis

The results of the bivariate correlation analysis (Table 2) showed that gender was significantly correlated with income ($r = -.31, p < .01$) and basic psychological needs ($r = -.14, p < .01$). Income was positively correlated with social well-being ($r = .14, p < .05$) and basic psychological needs ($r = .14, p < .05$). The results also indicated that social well-being was significantly correlated with basic psychological needs ($r = .45, p < .01$). Moreover, social well-being was significantly correlated with social support from family members ($r = .33, p < .01$) and friends ($r = .35, p < .01$). Finally, satisfaction of the basic psychological needs significantly correlated with social support from family ($r = .31, p < .01$) and friends ($r = .34, p < .01$).

Multivariate Analysis

Table 3 shows the hierarchical regression model predicting older cancer survivors' social well-being. In Step 1 of the hierarchical regression, only income yielded a significant multivariate effect: Income ($\beta = .16, p < .01$) significantly predicted social well-being. The model was able to account for 3% of the

Table 2. Correlations of Sociodemographics Variables, Social Well-Being, Basic Psychological Needs, Family Social Support, and Friends Social Support ($N = 376$).

Variables	1	2	3	4	5	6
1. Age	–					
2. Gender	-.07	–				
3. Income	-.08	-.31**	–			
4. Social support from family	.08	.03	.06	–		
5. Social support from friends	-.06	.10*	.03	.49**	–	
6. Basic psychological needs	.03	-.14**	.14*	.31**	.34**	–
7. Social well-being	-.03	-.01	.14*	.33**	.35**	.45**

Note. * $p < .05$. ** $p < .01$.

Table 3. Summary of Hierarchical Regression Analysis for Variables Predicting Social Well-Being ($N = 376$).

Variable	Step 1			Step 2		
	<i>B</i>	<i>SE-B</i>	β	<i>B</i>	<i>SE-B</i>	β
Age	-.00	.01	-.03	-.01	.01	-.04
Gender	.13	.10	.07	.12	.09	.07
Income	.20**	.01**	.16**	.15**	.00**	.10**
Social support from family support				.22**	.10**	.12**
Social support from friends				.27**	.09**	.18**
Basic psychological needs				.32**	.05**	.35**
R^2		.03**			.27**	
R^2 change					.25**	
<i>F</i> change		2.830			36.851	

Note. * $p < .05$. ** $p < .01$.

variance in social well-being, $F(3, 372) = 2.830$, $p < .01$. In Step 2, social support and satisfaction of the three basic psychological needs were significantly related to higher social well-being, together accounting for 27% of the variance, $F(5, 367) = 36.851$, $p < .001$, after controlling for sociodemographics. The findings in Step 2 indicated that income remained a significant predictor of social well-being ($\beta = .10$, $p < .05$). Social support from family ($\beta = .12$, $p < .01$) and social support from friends ($\beta = .18$, $p < .01$) were significant predictors of social well-being. The result also indicated that satisfaction of the basic psychological needs significantly predicted social well-being ($\beta = .35$, $p < .01$). In this sample, satisfaction of the basic psychological needs was a stronger predictor of the outcome than was social support from either family or friends, as indicated by the magnitudes of the respective standardized coefficients.

Discussion

The present study examined the contribution of social support and basic psychological needs in predicting social well-being among older cancer survivors. The first hypothesis predicted a statistically significant and positive relationship between the study's main explanatory variables, satisfaction of the basic psychological needs and social support. We included this hypothesis mainly to test our assumption that these different types of support, although conceptually and statistically distinct, would still be associated with each other; at the same time, the magnitude of the correlation could be used to argue that the constructs are, in fact, distinct. Our results showed a significant relationship between satisfaction of the basic psychological needs and social support from family members. Therefore, results supported our prediction.

Consistent with previous findings, our findings supported H2. The results of this study found that social support from both family members and friends was indeed positively correlated with social well-being. Schrovers, Helgeson, Sanderman, and Ranchor (2010), who conducted a study on 206 long-term cancer survivors, also found that social support from family and friends had a positive effect of helping cancer survivors find positive meaning during survivorship, which leads to improved well-being. Further, when entering social support variables into the regression model, we found that social support from family and social support from friends were significant predictors of cancer survivors' social well-being, even after controlling for the impact of key demographic variables. Specifically, in the present study, social support from friends ($\beta = .18, p < .01$) and social support from family ($\beta = .12, p < .01$) accounted for unique variance in cancer survivors' social well-being. Again, this is consistent with previous finding suggesting that social support from family and friends was linked to positive outcomes among older cancer survivors (Helgeson & Cohen, 1996). The present findings further strengthen our understanding on the role of social relationships and the type of support older cancer survivors could benefit from to enhance their social well-being outcomes.

Importantly, the results of this study partially supported H3. The present study used SDT (Deci & Ryan, 1985, 2000) and its conception of basic psychological needs to further elucidate cancer survivors' social well-being. The present study indicated that satisfaction of the basic psychological needs was positively associated with cancer survivors' social well-being, providing the first evidence that fulfillment of basic psychological needs serves as a potential explanatory variable linking cancer survivorship to social well-being. Further, the regression model showed that satisfaction of the basic psychological needs predicted social well-being ($\beta = .35, p < .01$), even after controlling for demographic variables, suggesting the importance specifically of need satisfaction for cancer survivors' social well-being. That is, the satisfaction of basic psychological needs significantly predicted social well-being, as demonstrated in past findings with noncancer survivors (Tong et al., 2009). Although SDT claims that basic psychological needs play a universally important role for well-being (Ryan & Deci, 2000), it is important to point out that this does not rule out the possibility that there could be important individual differences (i.e., physical disability after cancer treatment) in how people get their basic psychological needs satisfied from a contextual event.

As previously suggested, correlations in the present study between the satisfaction of basic psychological needs and social well-being may be construed as providing some support for the study's prediction with regard to basic needs. Importantly, we found that satisfaction of the basic psychological needs was a stronger predictor of social well-being than was social support from either family or friends, although the differences in standardized beta coefficients are relatively modest. The inclusion of basic needs thus represents an important contribution of the present study. Thus, the results provided some support for H4. Taken together,

findings in the current study revealed that basic psychological needs and social support more broadly defined are distinct constructs and contribute independently and uniquely to cancer survivors' social well-being.

The results from this study provide concrete evidence to support SDT's proposition that needs satisfaction is important among older cancer survivors. By examining the satisfaction of the three basic psychological needs as well as social support, in a variety of contexts, we may learn more about the mechanisms that can potentially be used to promote an individual's sense of agency and well-being throughout his or her life.

There were several limitations to this study, some of which might serve to inform future research. First, the sample used was predominantly composed of White/Caucasian Americans. As such, overall results likely cannot be directly generalized to the United States population as a whole. Future studies should include a more diverse sample of older cancer survivors that reflects the current census of the United States. In addition, a more diverse age-group of older cancer survivors could allow future researchers to capture the distinct experiences of various age groups of older cancer survivors.

Second, the current study proposed to reinterpret a set of items drawn from Ryff's (1989) PWB scale to represent the three basic psychological needs as they are construed within the SDT tradition. This could, accordingly, limit or alter the interpretation of the findings. As indicated earlier, however, the inclusion of a panel of SDT experts to review the items for theoretical consistency with SDT was intended at least in part to anticipate and address this concern. It is however important to exercise caution when interpreting the results. Future research could perhaps use well-validated measures of the basic psychological needs from within the SDT tradition (e.g., Chen, Van Assche, Vansteenkiste, Soenens, & Beyers, 2015).

Finally, the questionnaires administered to participants in the MIDUS study did not include items that could identify respondents who are in palliative care. Given that individuals who are in cancer palliative care are not, technically, considered cancer survivors, it is important for future studies to identify participants who will fall under this category so that their specific needs and concerns can be addressed.

Despite these limitations, the current study highlights the importance for cancer survivors of satisfying the basic psychological needs proposed by SDT. Given the significant relationship between basic psychological needs and social well-being, it is imperative that counselors and other mental health professionals help cancer survivors locate resources that could help them fulfill their basic psychological needs for autonomy, competence, and relatedness. For example, counselors could encourage cancer survivors to practice mindfulness or reflection with respect to their intrinsic goals, which could produce sense of meaning and purpose in life (Deci & Ryan, 2008). This is particularly important to cancer survivors' motivation to make informed choices regarding lifestyle adjustments.

Our study helps complement previous studies by providing a more comprehensive understanding of the contribution of social support and satisfaction of the three basic psychological needs to older cancer survivors' social well-being. Specifically, this study highlighted that satisfaction of the three basic psychological needs specified by SDT yielded a unique contribution to cancer survivors' social well-being, above and beyond that of social support from family members and friends, more broadly speaking.

As the United States continues to experience a demographic shift toward a growing aging population, it is important for researchers and health-care workers to continue to develop interventions to address the specific needs among subpopulations, such as older cancer survivors, who remain an underresearched segment within this extremely heterogeneous group.

Appendix

Table A1. Retained Items From Exploratory Factor Analysis and Confirmatory Factor Analysis on Basic Psychological Needs.

Variables	Factor 1 Autonomy	Factor 2 Environmental mastery (competence)	Factor 3 Positive relations with others (relatedness)
I am not afraid to voice my opinions, even when they are in opposition to the opinion of most people.	.53		
My decisions are not usually influenced by what everyone else is doing.	.40		
It is difficult for me to voice my own opinions on controversial matters.	.51		
I tend to be influenced by people with strong opinions.	.65		
The demands of everyday life often get me down.		.70	
I often feel overwhelmed by my responsibilities.		.75	
I have difficulty arranging my life in a way that is satisfying to me.		.74	
Maintaining close relationships has been difficult and frustrating for me.			.73
I often feel lonely because I have few close friends with whom to share my concerns.			.72

(continued)

Table A1. Continued.

Variables	Factor 1 Autonomy	Factor 2 Environmental mastery (competence)	Factor 3 Positive relations with others (relatedness)
I have not experienced many warm and trusting relationships with others.			.47
I know that I can trust my friends, and they know they can trust me.			.73
Cronbach's alpha (α)	.55	.78	.69

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