

Relationship Between Depressive Symptoms and Social Cognitive Processing in Partners of Long-Term Breast Cancer Survivors

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Purpose/Objectives: To determine (a) if depressive symptoms in partners of long-term breast cancer survivors (BCSs) could be predicted by social cognitive processing theory and (b) if partners of younger and older BCSs were differentially affected by the cancer experience.

Design: A cross-sectional, descriptive study using self-report questionnaires.

Setting: Indiana University in Bloomington and 97 ECOG-ACRIN Cancer Research Group sites in the United States.

Sample: 508 partners of BCSs diagnosed three to eight years prior to the study.

Methods: Secondary data mediation analyses were conducted to determine if cognitive processing mediated the relationship between social constraints and depressive symptoms. Age-related differences on all scales were tested.

Main Research Variables: Depressive symptoms; secondary variables included social constraints, cognitive processing (avoidance and intrusive thoughts), and potentially confounding variables.

Findings: Cognitive processing mediated the relationship between social constraints and depressive symptoms for partners. Partners of younger BCSs reported worse outcomes on all measures than partners of older BCSs.

Conclusions: As predicted by the social cognitive processing theory, cognitive processing mediated the relationship between social constraints and depressive symptoms. In addition, partners of younger BCSs fared worse on social constraints, intrusive thoughts, and depressive symptoms than partners of older BCSs.

Implications for Nursing: Results provide support for using the social cognitive processing theory in an intervention design with partners of long-term BCSs to decrease depressive symptoms.

The number of breast cancer survivors in the United States continues to increase, and, as this survivor group expands, so does the number of partners affected by the illness. An estimated 20%–40% of spouses suffer from mood disturbances, including depression, anxiety, and other affective disorders related to their spouses' illness (Braun, Mikulincer, Rydall, Walsh, & Rodin, 2007; Nakaya et al., 2010). Previous literature has reported that partners of women with breast cancer report more depressive symptoms than partners of healthy controls or the patients themselves (Moreira & Canavaro, 2013; Nakaya et al., 2010).

Although survivors' depressive symptoms tend to decrease over time, past research has found clinically significant levels of depression in 18%–27% of survivors even years after diagnosis and treatment (Champion et al., 2014). Because past studies have found varying degrees of concordance between survivor and

spousal outcomes (Hagedoorn, Sanderman, Bolks, Tuinstra, & Coyne, 2008), it is important to determine if partners also deal with depressive symptoms, making them vulnerable to long-term decreases in quality of life. Past research has demonstrated that greater depression is associated with many quality-of-life outcomes, such as sleep deprivation, fatigue, declines in general physical health (Northouse, Williams, Given, & McCorkle, 2012), and increased risk of cardiovascular disease among partners of cancer survivors (Dunn, Stommel, Corser, & Holmes-Rovner, 2009). Despite the large impact of depressive symptoms on quality of life for partners, little attention has been given to the mechanisms that may predispose a person to a depressive state.

According to the social cognitive processing theory (Lepore, 2001), depressive symptoms may, in part, be predicted by one's ability to discuss a traumatic event (i.e., cancer) with a significant other. Specifically, the social cognitive processing theory asserts that, if attempts to talk about a stressful event are blocked by social constraints or unsupportive responses, such as avoidance, denial, or minimization, a person may not be able to adequately process the event (Manne, 1999), leading to psychological distress. When partners' communication about cancer-related stress is met with social constraints, they may experience prolonged cognitive processing, which is characterized by cycling of intrusive thoughts (i.e., repetitive, unbidden, trauma-related thoughts or images) and cognitive avoidance (i.e., attempts to distance the individual from trauma-related thoughts and feelings). When prolonged, the cycling of intrusive thoughts and cognitive avoidance can lead to depressive symptoms (Lepore & Revenson, 2007). Therefore, social constraints are hypothesized to increase depressive symptoms through incomplete cognitive processing—the prolonged cycling of intrusive thoughts and cognitive avoidance of cancer-related concerns (Lepore, 2001).

The majority of research examining social cognitive processing theory has focused on survivor outcomes (Lepore & Revenson, 2007; Manne, Ostroff, Winkel, Grana, & Fox, 2005; Mosher et al., 2012; Myers et al., 2013). Although some studies have incorporated partner data, most were used to predict survivor outcomes, leaving a major gap in the literature (Badr, Pasipanodya, & Laurenceau, 2013; Pasipanodya et al., 2012). Two studies that examine partner outcomes were framed by social cognitive processing theory. Sheridan, Sherman, Pierce, and Compas (2010) found that intrusive thoughts mediated the relationship between social constraints and negative affect, and avoidance mediated the relationship between social constraints and positive affect, supporting social

cognitive processing theory. Robbins, López, Weihs, and Mehl (2014) examined the effect of patient and partner discussions about cancer on depressive symptoms through natural observation. This study focused on support and emotional engagement rather than social constraints. Their results were consistent with the social cognitive processing theory for survivors (engagement in emotional disclosure and informational conversations predicted better survivor adjustment), but partner results were nonsignificant. Nonsignificant findings could be attributed to social constraints not being recorded and a small sample size ($n = 51$ spouses), necessitating further exploration of this theory with larger samples.

Although survivor research has found that age at diagnosis is an important factor in survivorship, most survivorship studies of partners have not yet addressed age differences. Some literature indicates age and life stage are largely responsible for one's adjustment to cancer. Previous studies reported younger or middle-aged spouses experienced more psychological stress than older spouses (Harden, 2005; Nijboer et al., 2000). Similarly, younger breast cancer survivors often are more distressed than their older counterparts because of decreased fertility following treatment, having young children at home, not expecting to have a serious illness at a young age, and job stressors (Gorman, Malcarne, Roesch, Madlensky, & Pierce, 2010; Reyes-Gibby, Anderson, Morrow, Shete, & Hassan, 2012). Partners of young survivors may be distressed for similar reasons, given the relationship between survivor and partner distress. If a relationship exists between social constraints, cognitive processing, and depressive symptoms in partners of long-term survivors, then future research should focus on developing interventions throughout survivorship to improve communication between survivors and their partners.

The purpose of the current study is to examine predictors of depression in partners of long-term breast cancer survivors. The first aim is to compare differences in partners of younger survivors and partners of older survivors. The second aim is to examine social cognitive processing theory (i.e., whether cognitive processing mediates the relationship between social constraints and depressive symptoms) in partners of breast cancer survivors.

Methods

Sample

Data for this study were taken from a larger study of breast cancer survivors and their partners (Champion et al., 2014). A partner was eligible if currently living with the recruited survivor and self-identifying

as a committed partner. Gender of the partner did not determine eligibility, and information on gender was not gathered from partners. Partners were asked to participate and completed informed consent and questionnaires after their spouses were enrolled.

Using the ECOG-ACRIN Cancer Research Group database of 97 sites and the Indiana University Melvin and Bren Simon Cancer Center in Indianapolis, the authors identified eligible breast cancer survivors. Eligibility criteria for survivors included being diagnosed with breast cancer (stages I–IIIa) at age 45 years or younger or from age 55–70 years, being 3–8 years past initial treatment without a breast cancer recurrence, and having a chemotherapy regimen of doxorubicin (Adriamycin®), paclitaxel (Abraxane®), and cyclophosphamide (Cytoxan®) to reduce treatment-related variance. Younger (age 45 years or younger) and older (age 55–70 years) survivor groups were elicited to determine the differential impact of breast cancer on women who were most likely to be premenopausal and of child-bearing age at diagnosis and those who were more likely to be postmenopausal and past child-bearing age at diagnosis.

Measures

Sociodemographic information was collected, including current age, household income, education, race, religious affiliation, and the partnered survivor’s self-reported time since diagnosis. Bivariate correlations were used to determine significant relationships between demographic variables (identified in the literature) and depressive symptoms. All demographic variables that were related at $p < 0.25$ with depressive symptoms were entered as covariates in the mediation model (Warner, 2012). The authors used this conservative approach because little is known about the effects of demographic variables on depressive symptoms in partners and spurious correlations could arise.

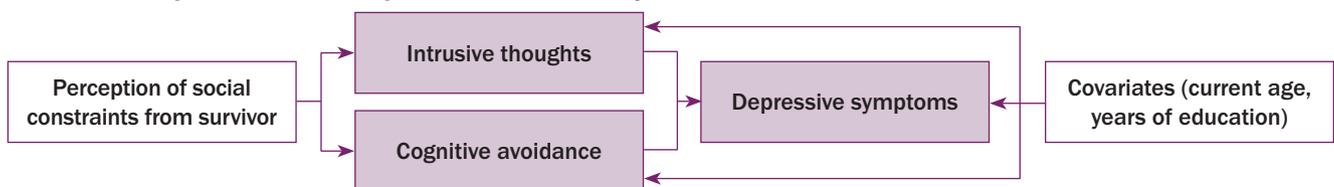
Social constraints were measured using 14 items from the Lepore Social Constraints Scale, which asks the partner’s perception of the survivor’s constraining behaviors during the past four weeks on a scale ranging from 1 (never) to 4 (often) (Lepore & Ituarte, 1999). The items were summed after reverse scoring as necessary. Total scores range from 14–56, with higher scores indicating greater social constraints from sur-

vivors. Example questions include, “How often does your partner (the survivor) tell you not to worry so much about her breast cancer?” and “How often does your partner change the subject when you try to discuss her breast cancer?” Construct validity has been established previously (Lepore & Ituarte, 1999). The Cronbach alpha coefficient for the sample was 0.861.

Cognitive processing was measured by the Impact of Event Scale (IES) (Hutchings & Devilly, 2003), which includes two subscales of cognitive processing (cognitive avoidance and intrusive thoughts). This scale has previously been used as a marker for prolonged or incomplete cognitive processing (Cohee et al., 2015; Lepore, 2001; Mosher et al., 2012). The cognitive avoidance subscale consists of seven statements, with responses ranging from 0 (not at all) to 4 (extremely), with higher scores indicating more avoidance. Total scores range from 0–28. Sample statements include, “I felt as if my partner’s breast cancer had not happened or was not real,” and, “I stayed away from reminders about my partner’s breast cancer.” The Cronbach alpha coefficient was 0.758. The intrusive thoughts subscale consists of eight statements using the same scoring, with total scores ranging from 0–32. Sample statements include, “Other things kept making me think about my partner’s breast cancer,” and, “I thought about my partner’s breast cancer when I did not mean to.” The Cronbach alpha coefficient was 0.844. Content, construct, and convergent validity have been previously established for the subscales (Sundin & Horowitz, 2002).

Depressive symptoms were measured using the Centers for Epidemiologic Studies Depression Scale (CES-D) (Radloff, 1977; Steiner, Wagner, Bigatti, & Storniolo, 2014), a 20-item summated scale with possible scores ranging from 0–60. Each item was rated on a four-point scale from 1 (rarely or none of the time) to 4 (most or all of the time). A score of 16 or greater is consistent with clinical depression. Partners were asked questions, such as how often in the past week they felt “everything I did was an effort” and “I was bothered by things that usually do not bother me.” Concurrent and construct validity were previously established in a population of patients with cancer (Hann, Winter, & Jacobsen, 1999). The Cronbach alpha coefficient for the sample was 0.846.

FIGURE 1. Proposed Relationships for Mediation Analysis



Recruitment Procedures

The study was approved through the ECOG-ACRIN Cancer Research Group, the National Cancer Institute, the institutional review board of Indiana University in Indianapolis, and all 97 cooperating ECOG-ACRIN Cancer Research Group sites. After an eligible survivor agreed to participate in the study, she was asked if she had a partner who could be contacted about participation. If a partner was available, a brochure was mailed, and telephone contact was made. Once the partner gave verbal consent, a research assistant mailed the informed consent and questionnaire, which were returned in a postage-paid envelope. Follow-up reminder telephone calls were made if the survey and informed consent were not received within two weeks.

Data Analysis

Descriptive statistics identified the presence and severity of depressive symptoms, demographic factors, social constraints, and cognitive processing components (intrusive thoughts and cognitive avoidance) in a sample of partners of breast cancer survivors. Bivariate correlations were computed between all demographic factors (i.e., current age, household income, years of education, race, religious affiliation, and time since the survivor's diagnosis) and depression to test for significant relationships.

For comparing differences in partners of younger survivors versus partners of older survivors, an analysis of variance was conducted to determine group differences on all study variables. Groups were defined as either partners of younger survivors or partners of older survivors. Contrasts between groups on all study variables (i.e., social constraints, cognitive avoidance, intrusive thoughts, and depressive symptoms) were analyzed.

For examining the social cognitive processing theory, the Preacher and Hayes (2008) method was used for mediation analyses. Although the causal steps approach to mediation analysis, popularized by Baron and Kenny (1986), is often used for testing mediation, Preacher and Hayes' (2008) newer method has gained favor by many researchers. This method includes bootstrapping, which is an empirical method for estimating and testing indirect effects, as described by Hayes (2009). It is the preferred method of testing indirect effects because of its high statistical power and lack of assumption of normality in the sampling distribution. Quantification of the indirect effect is achieved through generation of a bias-corrected confidence interval (CI) (Hayes, 2013).

Mediation analyses using the PROCESS macro, developed by Hayes (2013), were conducted to determine if each of the components of cognitive pro-

TABLE 1. Sample Characteristics by Group

Characteristic	YP (N = 226)		OP (N = 281)	
	\bar{X}	SD	\bar{X}	SD
Current age (years)	48	7.2	67.8	6.74
Education (years)	14.88	2.6	14.66	3
Characteristic	n	%	n	%
Race				
Caucasian	209	92	265	94
African American	7	3	3	1
Asian	2	1	-	-
Other	8	4	13	6
Income (\$)				
50,000 or less	30	13	94	33
50,001-100,000	109	48	116	41
100,001 or greater	82	36	56	20
Missing data	5	2	15	5
Religious affiliation				
Christian	189	84	246	88
No religious affiliation	26	12	24	9
Jewish	8	4	5	2
Other	3	1	2	1
Missing data	-	-	4	1

OP—older partners of breast cancer survivors (aged 55–70 years); YP—younger partners of breast cancer survivors (aged 45 years or younger)

Note. Because of rounding, percentages may not total 100.

cessing (intrusive thoughts and cognitive avoidance) mediated the relationship between social constraints and depressive symptoms. Parameter estimates and CIs of the total and indirect effects for this study were generated based on 5,000 random samples. All analyses were performed using SPSS®, version 22. Hypothesized relationships are illustrated in Figure 1.

Results

Participants in this study included 507 partners (partners of younger survivors = 226, partners of older survivors = 281) of breast cancer survivors, representing 55% and 68%, respectively, of those eligible and approached (see Table 1). Being a partner of a younger survivor ($F[1, 504] = 8.748, p < 0.003$) and having fewer years of education ($r = -0.074, p = 0.099$) were the only two demographic variables related to greater depressive symptoms and, therefore, the only two variables that met the inclusion criteria for mediation analyses. A clinically significant score indicating depression is generally defined as a score of 16 or greater on the CES-D (Pinquart & Sörensen, 2003). Scores between groups were significantly different ($t[396] = 2.861, p = 0.004$), with 7.6% of partners of younger survivors ($\bar{X} = 8.795, SD = 8.49$) scoring at or above 16 compared to just 6.5% of partners of older survivors ($\bar{X} = 6.881, SD = 6.02$).

TABLE 2. Measures of Depressive Symptoms and Social Cognitive Processing by Group

Measure	YP (N = 226)		OP (N = 281)		T Test
	\bar{X}	SD	\bar{X}	SD	
Lepore Social Constraints Scale	20.33	6.34	19.09	5.53	2.32*
Intrusive thoughts ^a	4.89	5.15	3.91	4.09	2.33*
Cognitive avoidance ^a	3.69	3.99	3.31	3.63	NS
CES-D	8.8	8.49	6.78	6.02	3.02*

* $p < 0.05$ ^a Measured by the Impact of Event Scale, with scores ranging from 0–60. Higher scores indicate more intrusive thoughts or avoidance.

CES-D—Center for Epidemiologic Studies Depression Scale; NS—not significant; OP—older partners of breast cancer survivors (aged 55–70 years); YP—younger partners of breast cancer survivors (aged 45 years or younger)

Note. For the Lepore Social Constraints Scale, scores range from 14–56, with higher scores indicating greater social constraints from survivors. For the CES-D, scores range from 0–60, with scores greater than 16 indicating clinical depression.

In addition, 33 (15%) of partners of younger survivors and 28 (10%) of partners of older survivors reported ever having been diagnosed with depression.

Although it is a useful tool for distress and post-traumatic stress disorder, the IES has also been used to operationalize cognitive processing within the cancer literature (Lepore, 2001; Mosher et al., 2012; Park, Chmielewski, & Blank, 2010; Roberts, Lepore, & Helgeson, 2006; You & Lu, 2014). In the current sample, scores on the IES were generally low, indicating low levels of intrusive thoughts and cognitive avoidance and, therefore, low levels of distress. Clinical cut points on the IES as a distress measure begin at 9, indicating mild distress. The mean scores for partners on the IES were subclinical for distress, with scores of 8.6. Scores for social constraints were generally low for each partner group, with 20.3 for partners of younger survivors and 19.1 for partners of older survivors (range = 14–56).

Determining Group Differences

Significant differences were found between partners of younger survivors and partners of older survivors on most study variables (social constraints, intrusive thoughts, and depressive symptoms). The partners of younger survivors reported more depressive symp-

toms ($F[1, 504] = 8.748, p = 0.003$), higher scores on intrusive thoughts ($F[1, 503] = 5.28, p = 0.022$), and more social constraints ($F[1, 505] = 5.343, p = 0.021$). Only cognitive avoidance was not significantly different for the partner groups ($p = 0.297$) (see Table 2).

Mediation Analysis

Partners of breast cancer survivors who reported more social constraints reported more intrusive thoughts (unstandardized b path coefficient = 0.304, standard error [SE] = 0.032), which led to more depressive symptoms ($b = 0.386, SE = 0.085$). Social constraints indirectly influenced depressive symptoms through intrusive thoughts (point estimate of indirect effect = 0.117, SE = 0.036, $p < 0.001$, 95% CI [0.057, 0.198]). After accounting for this mechanism, a significant effect of social constraints on depressive symptoms was found (point estimate of direct effect = 0.257, SE = 0.059, $p < 0.001$, 95% CI [0.142, 0.372]), such that partners who perceived more social constraints from their partnered survivors also experienced more depressive symptoms. Cognitive avoidance did not mediate the relationship between social constraints and depressive symptoms (95% CI [-0.08, 0.094]). Group identification (whether one was a partner of a younger survivor or a partner of an older survivor) was significant in the mediation model, with partners of younger survivors reporting more depressive symptoms (95% CI [-2.477, -0.086]); however, education was not significant (95% CI [-0.246, 0.178]) (see Table 3).

Discussion

This study sought to determine if social cognitive processing theory was an efficacious framework from which to view depressive symptoms in partners of long-term breast cancer survivors. Specifically, the authors proposed that intrusive thoughts and cognitive avoidance would mediate the relationship between social constraints and depressive symptoms in a large sample of partners of long-term breast cancer survivors. The results partially support the proposed theoretical relationships between depressive symptoms and social cognitive processing variables. Intrusive thoughts, but not cognitive avoidance, mediated the relationship between social constraints and depressive symptoms.

The relationship between social constraints and depressive symptoms remained significant in the current model even after accounting for intrusive thoughts, highlighting the direct effect that negative responses from spouses play in the psychological well-being of partners. Unlike breast cancer survivors, who may communicate their cancer-related fears to a wider circle of supports, partners may rely more on

communicating their fears to their spouses (Robbins et al., 2014; Sheridan et al., 2010). Because partners of breast cancer survivors disclose their cancer-related fears primarily to their spouses, social constraints from survivors may have a greater impact on their depressive symptoms than with survivors. Therefore, interventions designed to address communication style (i.e., decreasing social constraints) within couples who have experienced breast cancer may promote cognitive processing and directly affect depressive symptoms in partners.

The social cognitive processing theory was useful in understanding the predictors of long-term problems resulting from a spouse's breast cancer diagnosis. Although the theory has been gaining recognition in the oncology literature for predicting negative outcomes in patients and survivors (Adams, Winger, & Mosher, 2014), it has not been widely tested in partners. The authors' results are consistent with work by Sheridan et al. (2010), who also determined the relationship between social constraints and a poor psychological outcome (negative affect) was mediated by intrusive thoughts. In the current sample, cognitive avoidance did not mediate the relationship between social constraints and depressive symptoms when both variables were entered into the model because cognitive avoidance and intrusive thoughts shared variance. Experiencing persistent, unwanted thoughts or intrusions about cancer may cause more distress than if the partner is able to avoid thinking about cancer. The current study is one of only two found in the oncology literature that solely examines the relationship between social constraints experienced by partners and partner outcomes. In addition, this study advantageously studied partners of long-term survivors, a group whose depressive symptoms have

remained largely unstudied. Although the occurrence of clinically significant levels of depressive symptoms were comparable to national averages among partners of older survivors (Centers for Disease Control and Prevention, 2012), partners of younger survivors reported significantly higher levels of depressive symptoms than the national average and partners of older survivors.

Although partners of younger breast cancer survivors and partners of older breast cancer survivors did not differ on cognitive avoidance, partners of younger survivors did report significantly more depressive symptoms, intrusive thoughts, and social constraints than partners of older survivors. Partners may not expect their spouses to be diagnosed with a life-threatening illness at a young age. In earlier developmental stages, more gains (e.g., good health, child rearing, career advancement) than losses (e.g., breast cancer) are expected in young partners, and losses can be disruptive (Harden, 2005). Outside of the oncology literature, one study of partners of patients with Parkinson's disease also found that younger spouses were at greater risk for distress (Carter, Lyons, Stewart, Archbold, & Scobee, 2010). Young partners reported more strain because of a lack of personal resources and lower levels of positive outcomes, such as mutuality and derived meaning from the illness (Carter et al., 2010).

Limitations

Although this unique data set allowed the authors to examine whether cognitive processing mediated the relationship between social constraints and depressive symptoms in partners of younger and older breast cancer survivors, several limitations exist. First, partners were not asked to disclose their gender for this study. Therefore, it is unknown if a sample of

TABLE 3. Model Coefficients for Mediation Analysis for All Partners (N = 507)

Variable	M ¹ (Intrusive Thoughts) ^a			M ² (Cognitive Avoidance) ^b			Y (Depressive Symptoms) ^c		
	Coeff	SE	p	Coeff	SE	p	Coeff	SE	p
Antecedent (current age)	-0.01	0.045	0.832	-0.268	0.032	0.404	-0.094	0.074	0.21
Antecedent (years of education)	-0.138	0.126	0.276	-0.065	0.09	0.472	0.296	0.21	0.161
X (social constraints)	0.308	0.051	0.000	0.325	0.036	0.000	0.291	0.099	0.004
M ¹ (intrusive thoughts)	-	-	-	-	-	-	0.372	0.134	0.006
M ² (cognitive avoidance)	-	-	-	-	-	-	0.003	0.187	0.986
Constant	1.137	3.281	0.729	-0.647	2.351	0.783	1.157	5.467	0.833

^a R² = 0.157, F(3, 220) = 13.58, p < 0.001

^b R² = 0.28, F(3, 222) = 28.77, p < 0.001

^c R² = 0.147, F(5, 220) = 7.55, p < 0.001

Coeff—coefficient; M¹—mediator 1; M²—mediator 2; SE—standard error; X—-independent variable; Y—dependent variable

men and women partners of breast cancer survivors would respond differently to any of the measures. Second, it is possible that additional variables not included in the models could add to the understanding of depressive symptoms in partners, including marital quality, job worries, and fears for the survivors' well-being (Lewis, Fletcher, Cochrane, & Fann, 2008). Third, data from this study were taken from a cross-sectional, nonexperimental design, limiting the ability to draw causal conclusions. Longitudinal studies are needed to understand the nature of the relationship between depressive symptoms and social cognitive processing in partners. Fourth, the sample was primarily Caucasian and not representative of the larger population. Demographically representative samples of partners are needed to understand the influence of variables, such as race, education, income, and religious affiliation, on depressive symptoms.

Implications for Nursing Practice

Depression is prevalent in partners of breast cancer survivors but largely untreated. The fact that depression remained long after initial treatment and diagnosis in this study should prompt nurses to assess breast cancer survivors and their partners throughout the survivorship trajectory. Nurses often have an opportunity to interact with breast cancer survivors and their partners and may be able to assess communication skills, which affect cognitive processing and depressive symptoms. With the understanding that social constraints negatively affect cognitive processing and depressive symptoms, nurses can stress the importance of engaging in open communication rather than social constraints. Specifically, nurses can encourage and facilitate open communication about cancer-related concerns between breast cancer survivors and their partners. Nurses can provide examples of social constraints to survivors and partners and discuss the negative psychological impact of those behaviors. Nurses can also offer suggestions for alternative responses that are supportive and encourage more open communication. By promoting open communication between survivors and partners and educating survivors and spouses on the harmful effects of social constraints, nurses may decrease negative outcomes.

Conclusion

Findings from this study support the use of the social cognitive processing theory as a valuable mechanism for studying direct and indirect relationships between social constraints, intrusive thoughts, cognitive avoidance, and depressive symptoms in partners of

Knowledge Translation

- Partners of long-term breast cancer survivors report clinically significant depression.
- Partners of younger breast cancer survivors report higher levels of depressive symptoms than the national average and partners of older survivors.
- Addressing social constraints within the dyad of survivor and partner may improve depressive symptoms.

long-term breast cancer survivors. In addition, the authors found that intrusive thoughts, but not cognitive avoidance, mediated the relationship between social constraints and depressive symptoms. The direct relationship between social constraints and depressive symptoms remained significant in analyses, highlighting the need for interventions to enhance open cancer-related communication within couples. Finally, partners of younger survivors reported more social constraints, intrusive thoughts, and depressive symptoms than partners of older survivors. Partners of younger survivors may fare worse, necessitating further research into ways of helping them cope with cancer and making them a particularly important group to target in interventions.

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