Received: 26 June 2018 | Revised: 2 October 2018 | Accepted: 7 October 2018

DOI: 10.1002/pon.4913

PAPER

WILEY

Social relationship coping efficacy: A new construct in understanding social support and close personal relationships in persons with cancer

Thomas V. Merluzzi[1] | Samantha Serpentini[1,2] | Errol J. Philip[1] | Miao Yang[1] | Natalia Salamanca-Balen[1] | Carolyn A. Heitzmann Ruhf[3] | Antonio Catarinella[2]

[1] Department of Psychology, University of Notre Dame, Notre Dame, IN, USA

[2] Veneto Institute of Oncology IOV-IRCCS, Padua, Italy

[3] Department of Psychiatry and Behavioral Science, Keck School of Medicine, University of Southern California, Los Angeles, CA, USA

Correspondence
Thomas V. Merluzzi, Department of Psychology, 390 Corbett Hall, Notre Dame, IN, USA.
Email: tmerluzz@nd.edu

Funding information
National Cancer Institute, Grant/Award Number: CA94914

Abstract

Objective: Social relationship coping efficacy (SRCE) is the confidence to engage in behaviors that can maintain or enhance close social relationships in the context of illness. This study focused on psychometric analyses of the SRCE scale and its role in maintaining or enhancing personal relationships, social support, and quality of life (QOL).

Method: A mixed diagnosis sample (N = 151) of cancer patients completed a variety of measures: physical debilitation, received emotional and instrumental support, SRCE, and QOL.

Results: The SRCE scale is a 10-item, one-factor, internally reliable (α = 0.965) measure with strong concurrent validity in relation to measures of social support. SRCE fully mediated the relationship between physical debilitation and both instrumental and emotional received support. SRCE also was directly related to both social/family well-being and psychological distress, and this relationship was also partially mediated by social support.

Conclusions: The results corroborated that SRCE might account for changes in both instrumental and emotional support. Also, the direct and indirect relationship (mediated by social support) of SRCE with both social/family well-being and distress indicated that interventions to increase SRCE with those at risk for social support loss may bolster social support in personal relationships as well as enhance emotional well-being and quality of life.

KEYWORDS

cancer, close personal relationships, coping, oncology, QOL, self-efficacy, social support

1 | INTRODUCTION

The general evidence on social support and positive personal relationships has reinforced their role in contributing to the well-being and quality of life (QOL) of cancer patients and survivors.[1-5] Social support and supportive close relationships have also been linked to positive outcomes such as posttraumatic growth, which can help sustain adjustment during cancer treatment and into survivorship.[6,7] Alternatively, lack of social support can have negative effects[8-10] in terms of increased cancer recurrence and mortality, and decreased QOL.[11] Thus, in the course of serious illness, loss of social support and strain on close relationships may occur due to physical limitations and stress.[12] This process can lead to "social separation,"[13] social isolation,[14] and relationship strain, which may further reduce social support and well-being.

In addition to the negative effects of loss of or deficits in social support in personal relationships, there is some research on the

detrimental effects of too much support when it is not needed.[15] Based on optimal matching theory,[16] recent evidence[17,18] suggests that the positive effects of social support can be jeopardized when the provision of support does not match its need. Thus, optimal matching is needed to facilitate positive outcomes. This approach to optimizing social support and supportive close relationships assumes that support is provided in the context of a dynamic relationship in which the provider of support must assess the need and modulate the provision of support accordingly.[19]

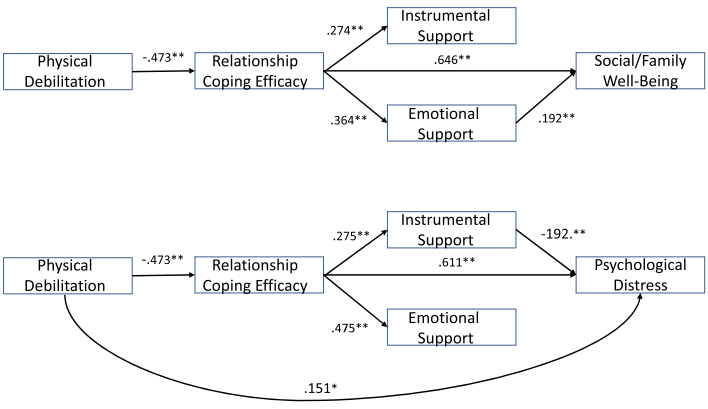
This study presents a complementary process, social relationship coping efficacy (SRCE), which represents the confidence that persons with cancer have in their ability to engage in behaviors that foster maintenance or enhancement of personal social relationships and social support. It is grounded in social learning theory, most notably self-regulation and self-efficacy theories.[20-22] SRCE may be the mechanism that cancer patients use to balance the need and provision of support. Thus, as opposed to current approaches to social support that assume that the provider of support determines the conditions of the provision of support, SRCE focuses on the assumption that patients play a role in establishing the need and provision of support in close relationships, which makes the process bidirectional.

The development of a scale to measure SRCE is presented in this study in addition to two mediation models that test the utility of SRCE as a mechanism that may account for social support as well as social/family well-being and distress. We hypothesized that the 10 items that constitute the SRCE scale would cohere around one dimension and, therefore, be highly internally consistent. In addition, because of the focus of the SRCE scale on maintaining close relationships, we hypothesized that it would be correlated with measures of social support and support seeking and not correlated with demographic variables. SRCE was also hypothesized to function as a mechanism that might foster maintenance or enhancement of social support. To test that hypothesis, two mediation models are proposed (Figure 1). In both models, SRCE is a mediator between physical debilitation and received support. The rationale for this part of the models is that physical debilitation and stress place strain on close relationships that may result in the loss of social support. SRCE is hypothesized to be a mediator, and as such, the mechanism that accounts for variability in social support in the relationship between physical debilitation and received social support. As a mediator, SRCE may transform loss of support through the creation of conditions that foster the maintenance or enhancement of support. The second portion of the mediation models proposes the mediational qualities of received support (emotional and instrumental) in the relationship between SRCE and social/family well-being in one model, and distress in the other model. The rationale for this portion of the model is that the transformative effects of SRCE are manifested in social support, which in turn enhances QOL outcomes.

2 | METHOD

2.1 | Participants

The mixed-diagnosis sample included 151 persons with a diagnosis of cancer. Females constituted 63.3% of the sample, and the mean age was 63. The most common types of cancer were breast (44.2%), prostate (18.4%), colorectal (6.8%), gynecological (5.5%), pancreatic/liver/stomach (4.9%), lymphomas (4.1%), and lung (2%). The participants reported receiving the following treatments: surgery 83.7%, chemotherapy 62.5%, and radiation 60.9% (some received more than one type of treatment). There was a broad range for time since diagnosis;



Note: Physical Debilitation=Physical Impact Scale of the Sickness Impact Inventory (Ambulation, Mobility, Body Care and Movement); Instrumental and Emotional Support=Inventory of Socially Supportive Behaviors; Social Family Well-Being Scale from the FACT; Psychological Distress Scale from the Psychosocial Adjustment to Illness Scale; Covariates: age, education, income, and time since diagnosis. Paths not specified in the path diagrams were not statistically significant. Full specification of all paths is contained in Table 3.

*p<.05
**p<.01

FIGURE 1 Social relationship coping efficacy and social support as mediators in the relationship between physical debilitation and distress and social/family well-being

however, the median was 4 years, and for over 40% of the participants, it was 3 years or less. In terms of race/ethnicity: African-American (16.3%); Caucasian-American (78.9%); Latino (2.7%); Native American (1%); multiethnic (1.4%). With regard to family income, 16.4% earned less than $25 000, 34.3% earned from $25 000 to $50 000, and 48.2% reported income greater than $50 000. About 30% completed high school, 40% attended college or had a college degree, and 30% attended graduate school or had a graduate degree.

2.2 | Measures

2.2.1 | Social relationship coping efficacy scale

The social relationship coping efficacy (SRCE) scale was developed in several stages. A pool of items was developed by a team of researchers who were familiar with self-efficacy theory as well as with current research on coping and social support in close relationships. The items were examined for redundancy and clarity. From the initial list, 13 remaining items were selected and modified to clarify meaning. Each of the 13 items was paired with a Likert-type scale that ranged from 1 (not at all confident) to 9 (totally confident) in terms of the ability to perform the specific behavior in the near future. A focus group, consisting of five cancer patients (mixed diagnoses, four women, mean age 61), was conducted after participants completed the SRCE. The facilitator of the group used a cognitive interviewing approach in order to assess if the meaning intended for each item was clearly understood by the members. Based on the focus group, three items were deleted, leaving 10 items in the final SRCE scale, which was the instrument that was completed by the sample included in this study. Table 1 contains the items of the SRCE scale.

2.2.2 | Additional measures

Validity analyses of the SRCE scale were conducted using total scores and subscale scores from a variety of well-established measures, including measures of social support and support seeking (*Inventory of Socially Supportive Behaviors*,[23,24] *Cancer Behavior Inventory*[25]), coping (*Brief COPE Scale*,[26] *Distress Screening Schedule*,[27] *Cancer Behavior Inventory*[25]), psychological distress and emotional well-being (*Psychosocial Adjustment to Illness Scale*,[28] *Center for Epidemiologic Studies-Depression*,[29] *Distress Screening Schedule*,[27] *FACT-Quality of Life*[30,31]), social well-being (*Psychosocial Adjustment to Illness Scale*,[28] *FACT-Quality of Life*[30,31]), and functional capacity/well-being (*FACT-Quality of Life*,[30,31] *Sickness Impact Profile*,[32] *Distress Screening Schedule*[27]). The Distress Screening Schedule[27] assesses distress (depression and anxiety) as well as functional capacity, social support, coping, and satisfaction with health care. Its factor structure has been confirmed, and based on concurrent validity data tailored to each scale,[27] it is highly valid. All of these measures were chosen based on their quality and relevance to test the validity of the SRCE scale. Specific subscales of the measures used in validity analyses are presented in Table 2.

2.3 | Procedures

The sample was recruited via ads in newspapers in cities in Midwestern, Western, and Southern United States. In addition, support groups were contacted in those same regions, and members were offered the opportunity to participate. Participants were also recruited via the staff at a regional clinical oncology practice and a radiation service from a community hospital in a medium-sized Midwestern city. The participants who were not from the clinical oncology and radiation oncology service were sent the consent form and survey materials through the mail, which were returned in stamped envelopes provided for their convenience. Those who were patients in the clinical oncology and radiation oncology practice were recruited by research nurses, with the permission of physicians, when they had appointments for treatment services. Those patients signed the consent form and completed survey materials after their visit in a private space in the clinics.

2.4 | Data analysis plan

The data analysis of the SRCE scale was performed in four stages. Firstly, an exploratory factor analysis (EFA) was performed to assess the factor structure of the SRCE scale. Secondly, Cronbach alpha was computed on the 10 SRCE scale items to examine reliability. Thirdly, correlations, *t* tests, and ANOVAs were computed to test

TABLE 1 Exploratory factor analysis of the social relationship coping efficacy scale

Item Number	Item	Factor Loading	*M*	SD
1	Doing my part to maintain close relationships	0.901	7.38	1.80
2	Managing stress in my relationships	0.890	7.08	1.81
5	Coping with stress in my close relationships	0.887	7.00	2.03
6	Doing my part to help family members accept/understand my diagnosis	0.878	6.75	2.06
9	Coping with the ways that cancer affects my personal relationships	0.872	6.96	2.00
8	Adjusting to the ways that cancer affects my family	0.867	7.55	1.66
10	Managing conflict with those closest to me	0.849	7.46	1.79
7	Doing my part to help my friends accept/understand my diagnosis	0.843	7.24	1.84
3	Asking for help when I need it	0.843	7.24	1.77
4	Seeking emotional support from others	0.842	6.96	1.97
Total scale			71.67	16.36

Exploratory factor analysis extracted one factor so no rotation was conducted.

TABLE 2 Concurrent validity of the social relationship coping efficacy scale with measures of social support, emotional well-being/distress, social well-being, and functional capacity/well-being

Constructs and Measures	Correlation with SRCE
Social support	
ISSB-instrumental received support	0.288**
ISSB-emotional received support	0.453**
COPE-support/advice seeking	0.354**
DSS-social support	0.653**
CBI-seeking support	0.781**
Emotional well-being/distress	
PAIS-psychological distress	−0.677**
CESD	−0.686**
DSS-distress	−0.627**
FACT-emotional well-being	0.559**
CBI-managing stress and distress	0.748**
Social well-being	
PAIS-leisure and social activities	0.521**
PAIS-extended family	0.646**
FACT-social/family well-being	0.754**
Functional capacity/well-being	
FACT-functional well-being	0.659**
SIP-physical impact scales	−0.459**
DSS-functional scale	−0.510**

Abbreviations: ISSB, Inventory of Socially Supportive Behaviors; COPE, Brief COPE Scale; DSS, Distress Screening Schedule; CBI, Cancer Behavior Inventory; PAIS, Psychosocial Adjustment to Illness Scale; CESD, Center for Epidemiological Studies Depression Scale; FACT, Functional Assessment of Cancer Therapy-Quality of Life Scales; SIP, Sickness Impact Inventory.

**$P < 0.01$.

relationships with or differences on demographic and medical variables and to compute concurrent validity coefficients. Finally, mediation models were estimated in the structural equation modeling (SEM) framework using the R package *lavaan*[33] and the full information maximum likelihood method to handle missing data.

3 | RESULTS

3.1 | Mean, standard deviation, skewness, and kurtosis

The overall mean for the SRCE scale was 71.67; the standard deviation was 16.36, and skewness and kurtosis were −1.18 and 1.05, respectively. Both skewness and kurtosis were close to the criterion of 1.0.

3.2 | Factor structure

The EFA yielded one factor, which accounted for 75.26% of the variance in SRCE scores. Table 1 contains the 10 items, with corresponding factor loadings, mean scores, and standard deviations. The results are presented in the order of descending factor loadings. All items had high factor loadings that indicated a very strong association with the single factor.

3.3 | Reliability

The Cronbach alpha for the 10-item SRCE was 0.965, which implies that the scale has high internal consistency. The results from the factor analysis and the reliability analysis would indicate that the items cohered closely around a one-dimensional construct.

3.4 | Demographic and medical variables

The SRCE scale was not correlated with age ($r = 0.031$; $P = 0.709$), education ($r = 0.097$; $P = 0.240$), income ($r = 0.146$; $P = 0.086$), or time since diagnosis ($r = 0.034$; $P = 0.682$). In addition, no differences were found as a function of sex ($t = 0.770$; $P = 0.443$), race/ethnicity ($F = 0.642$; $P = 0.634$), marital status ($F = 1.453$; $P = 0.634$), employment status ($F = 0.666$; $P = 0.574$), religious affiliation ($F = 1.506$; $P = 0.215$), or type of cancer ($F = 0.495$; $P = 0.740$).

3.5 | Concurrent validity

Correlations of SRCE with measures of social support, emotional distress/well-being, social well-being, and functional capacity/well-being were significant (Table 2). SRCE was correlated with subscales of the Inventory of Socially Supportive Behaviors (ISSB[22,23]), a measure of received support. Also, the robust correlation with the seeking support subscale of the Cancer Behavior Inventory (CBI[24]) reinforced the theoretical underpinnings of self-efficacy expectations that assume an agentic perspective on behaviors, including social support.

The correlations of the SRCE scale with measures of depression, emotional distress (both inverse), and emotional well-being (positive) indicated that SRCE may not only foster good relationships and social support but also contribute to emotional well-being in cancer patients. In addition, the associations of SRCE with social well-being reinforce the importance of personal agency in the context of close personal relationships. This is especially true of the extended family scale of the Psychosocial Adjustment to Illness Scale[28] and the social/family well-being scale from the FACT,[30] a measure of QOL. In summary, the nonsignificant correlations with demographic and medical variables indicated that those variables accounted for very little variance in SRCE scores in this sample, and the concurrent validity correlations provide initial support for the validity of the SRCE construct.

3.6 | Utility: Mediation analyses

There were two hypothesized SEM models for the mediation analyses, which are presented in Figure 1 along with the estimated values of the path coefficients. Table 3 contains the specification of all paths, unstandardized and standardized path coefficient estimates, standard error estimates, and *P* values. Based on the completeness of the results presented in Table 3, the following narration focuses on indirect effects. In the first SEM model with the FACT-social/family well-being scale as the most downstream variable, there were significant mediation effects of SRCE between physical debilitation (sickness impact profile: physical scales) and both instrumental (ISSB-Instrumental; $B = -0.130$, $P = 0.005$) and emotional received support (ISSB-

TABLE 3 Complete specification of the paths in the mediation models presented in Figure 1

Path Notation	Path Description	Est	Std. Est	SE	*P* Value
Model with the FACT Social/Family Well-Being Scale (SFWB) as the Outcome Variable					
a	SIP➔SRCE	−2.149	−0.473	0.352	0.001
b1	SRCE➔ISSB-Instrumental	0.164	0.274	0.052	0.002
b2	SRCE➔ISSB-Emotional	0.205	0.364	0.047	0.001
c1	SIP➔ISSB-Instrumental	−0.068	−0.025	0.252	0.787
c2	SIP➔ISSB-Emotional	−0.187	−0.073	0.226	0.409
d1	ISSB-Instrumental➔SFWB	0.011	0.017	0.041	0.786
d2	ISSB-Emotional➔SFWB	0.135	0.192	0.045	0.003
e	SRCE➔SFWB	0.256	0.646	0.024	0.001
f	SIP➔SFWB	−0.127	−0.070	0.111	0.253
Mediation: SIP➔SRCE➔ISSB-Instrumental (a × b1)		−0.352	−0.130	0.126	0.005
Mediation: SIP➔SRCE➔ISSB-Emotional (a × b2)		−0.441	−0.172	0.124	0.001
Mediation: SRCE➔ISSB-Instrumental➔SFWB (b1 × d1)		0.002	0.005	0.007	0.787
Mediation: SRCE➔ISSB-Emotional➔SFWB (b2 × d2)		0.028	0.070	0.011	0.014
Model with the PAIS psychological distress scale as the outcome variable					
a	SIP➔SRCE	−2.149	−0.473	0.352	0.001
b1	SRCE➔ISSB-Instrumental	0.164	0.275	0.052	0.002
b2	SRCE➔ISSB-Emotional	0.206	0.365	0.047	0.001
c1	SIP➔ISSB-Instrumental	−0.066	−0.025	0.252	0.792
c2	SIP➔ISSB-Emotional	−0.184	−0.072	0.226	0.415
d1	ISSB-Instrumental➔PAIS-Distress	−0.054	−0.192	0.019	0.004
d2	ISSB-Emotional➔PAIS-Distress	0.034	0.116	0.021	0.101
e	SRCE➔PAIS-Distress	0.102	0.611	0.011	0.001
f	SIP➔PAIS-Distress	−0.114	−0.151	0.051	0.025
Mediation: SIP➔SRCE➔ISSB-Instrumental (a × b1)		−0.352	−0.130	0.126	0.005
Mediation: SIP➔SRCE➔ISSB-Emotional (a × b2)		−0.442	−0.173	0.124	0.001
Mediation: SRCE➔ISSB-Instrumental➔Distress (b1 × d1)		−0.009	−0.053	0.004	0.034
Mediation: SRCE➔ISSB-Emotional➔Distress (b2 × d2)		0.007	0.042	0.005	0.124

Covariates = age, education, income, and time since diagnosis.

Abbreviations: SIP, Physical Impact Scale of the Sickness Impact Inventory (Ambulation, Mobility, Body Care, and Movement); SRCE, Social Relationship Coping Efficacy Scale; ISSB, Inventory of Socially Supportive Behaviors-Instrumental and Emotional Received Support Scales; FACT, Social Family Well-Being Scale of the FACT; PAIS-Distress, Psychological Distress Scale of the Psychosocial Adjustment to Illness Scale.

Emotional; B = −0.172, P = 0.001). The mediation was full in that the direct effects from physical debilitation to instrumental (B = −0.025, P = 0.787) and emotional (B = −0.073, P = 0.409) received support were not significant in the context of mediation. In the second part of the SEM model, emotional (B = 0.070, P = 0.014) but not instrumental (B = 0.005, P = 0.787) received support mediated the relationship between SRCE and social/family well-being. In addition, there was partial mediation as the direct relationship between SRCE and social/family well-being remained highly significant (B = 0.646, P = 0.001). Finally, the direct relationship between physical debilitation and social/family well-being was not statistically significant. In summary, the relationship between physical debilitation and support (both ISSB-Instrumental and ISSB-Emotional) was fully mediated by SRCE; however, the relationship between SRCE and social/family well-being was partially mediated only by emotional received support.

In the second SEM model (Figure 1) with psychological distress as the most downstream variable, the mediation effects involving SRCE were identical to the first model, as would be expected, but the mediation effects involving received support varied from the one described above. In the second part of the SEM model, received instrumental support mediated the relationship between SRCE and psychological distress (B = −0.053, P = 0.034) in contrast to the model with social/family well-being as the criterion where received emotional support was the sole mediator between SRCE and social/family well-being. The mediation involving instrumental support was partial because the direct relationship between SRCE and distress was significant (B = 0.611, P = 0.001) as in the model with social/family well-being as the outcome. As opposed to the model with social/family well-being, in the model with psychological distress as the outcome, the direct relationship between physical debilitation and distress remained significant (B = −0.151, P = 0.025).

4 | DISCUSSION

These preliminary results indicate that SRCE is a structurally sound, internally consistent, and valid construct. The SRCE scale has a unidimensional factor structure and strong internal consistency. Moreover,

across a number of related constructs, correlations support the validity of the SRCE construct. In addition, the mediation analyses support the initial utility of SRCE in understanding the relationship between physical debilitation and received social support, as well as SRCE's relationship to important outcomes such as social/family well-being and personal distress. In the context of this cross-sectional design, these findings confirm that SRCE is a mediating mechanism that accounts for social support in that the direct relationships between physical debilitation and received instrumental and emotional social support were not significant in the context of the SRCE-mediated models. In addition, SRCE is directly related to outcomes such as social/family well-being and psychological distress, and at the same time, social support partially mediates the relationship between SRCE and outcomes, although that varied as a function of outcome. These complex, yet important relationships, emphasize the role of SRCE in a chain of critical constructs that take into account the physical limitations imposed by cancer, received social support, and critical outcomes such as social/family well-being and personal distress. Moreover, the results indicate that SRCE may be a focal point for interventions and important to assess in intervention trials as a mediator of change and/or a critical outcome.

In line with prior research,[17,18,34] the partial mediation of the relationship between SRCE and social/family well-being is easily understood. Supportive close relationships would be expected to maintain or enhance the social and family environments of persons with cancer, and in this case account for some of the positive relationship between SRCE and social/family well-being. However, the sole mediational role of instrumental support in the relationship between SRCE and distress was not expected and would require further research to determine if this is a stable finding, and if so, what does it mean in terms of the mechanism involved. A speculative interpretation, assuming replication of the finding, is that the agentic underpinnings of SRCE, based on self-efficacy theory, might lead to some garnering of instrumental support which then reduces distress, thus partially accounting for the relationship between SRCE and distress. The connection between emotional support and distress was expected to be significant, in line with prior research supporting the positive role of emotional support in relation to quality outcomes.[17,18]

5 | CONCLUSIONS

5.1 | Clinical implications

The mediation models (Figure 1) provide initial support for SCRE's role in the relationship between the effects of the disease and its treatments and social support as well as its direct relationship with critical outcomes. The construct of SRCE supports the results of interventions that are used to improve communication between couples where one partner may have a serious illness-like cancer.[19] It also may be the mechanism that accounts for the success of cancer support groups that focus on maintaining a close personal social network for quality of life and well-being.[35] SRCE is also compatible with optimal matching theory[16] in that SRCE may be the mechanism by which a person with cancer is able to coordinate need with provision in a bidirectional fashion to optimize the impact of social support[18] in close relationships.

5.2 | Study limitations

With respect to limitations, the data were derived from a cross-sectional convenience sample. A more representative sample would help confirm the findings in the current study regarding the correlations with demographic and medical variables and the unidimensional factor structure. Also, as opposed to the current design, longitudinal analyses of SRCE over the course of cancer from diagnosis through survivorship or interventions to bolster SRCE would allow for causal and directional conclusions. Finally, the temporal stability and predictive validity of the SRCE scale need to be established.

6 | CONCLUSION

The current study confirmed that SRCE, which is the expectation that one can manage close personal relationships, might account for changes in both instrumental and emotional support. In addition, the results provided important insight into the direct and indirect relationship (mediated by social support) of SRCE with both social/family well-being and psychological distress. Future research could include interventions to increase SRCE with those at risk for social support loss, which may bolster social support as well as enhance quality of life.

ACKNOWLEDGEMENTS

This research was supported by a grant from the National Cancer Institute (CA94914).

CONFLICT OF INTEREST

The authors declared no conflicts of interest with respect to the research, authorship, and/or publication of this article.

ETHICAL STATEMENT

This research was approved by Memorial Hospital (South Bend, IN) Institutional Review Board (#T-4913).

ORCID

Thomas V. Merluzzi http://orcid.org/0000-0001-9320-9548
Samantha Serpentini http://orcid.org/0000-0002-0517-3416
Errol J. Philip http://orcid.org/0000-0002-1320-6708

REFERENCES

1. Helgeson V. Social support and quality of life. *Qual Life Res*. 2003;12(Suppl.1):25-31.
2. Gonzalez-Saenz de Tejada M, Bilbao A, Baré M, et al. Association of social support, functional status, and psychological variables with changes in health-related quality of life outcomes in patients with colorectal cancer. *Psychooncology*. 2016;25(8):891-897. https://doi.org/10.1002/pon.4022
3. Kayser K, Acquati C, Reese J, et al. A systematic review of dyadic studies examining relationship quality in couples facing colorectal cancer

together. *Psychooncology*. 2018;27(1):13-21. https://doi.org/10.1002/pon.4339

4. Kornblith AB, Herndon JE, Zuckerman E, et al. Social support as a buffer to the psychological impact of stressful life events in women with breast cancer. *Cancer*. 2001;91(2):443-454.
5. Manne S, Badr H. Intimacy and relationship processes in couples' psychosocial adaptation to cancer. *Cancer*. 2008;112(11 Suppl):2541-2555.
6. Cao W, Qi X, Cai D, Han X. Modeling posttraumatic growth among cancer patients: the roles of social support, appraisals, and adaptive coping. *Psychooncology*. 2018;27(1):208-215.
7. Schroevers M, Helgeson V, Sandernnan R, Sanderman R, Ranchor A. Type of social support matters for prediction of posttraumatic growth among cancer survivors. *Psychooncology*. 2010;19(1):46-53.
8. Epplein M, Zheng Y, Zheng W, et al. Quality of life after breast cancer diagnosis and survival. *J Clin Oncol*. 2011;29(4):406-412.
9. Kroenke C, Quesenberry C, Kwan M, et al. Social networks, social support, and burden in relationships, and mortality after breast cancer diagnosis in the life after breast cancer epidemiology (LACE) study. *Breast Cancer Res Treat*. 2013;137(1):261-271.
10. Nausheen B, Gidron Y, Peveler R, Moss MR. Social support and cancer progression: a systematic review. *J Psychosom Res*. 2009;67(5):403-415.
11. Haviland J, Sodergren S, Calman L, et al. Social support following diagnosis and treatment for colorectal cancer and associations with health-related quality of life: results from the UK ColoREctal wellbeing (CREW) cohort study. *Psychooncology*. 2017;26(12):2276-2284. https://doi.org/10.1002/pon.4556
12. Scarapicchia TMF, Fong A, McDonough M, Wrosch C, Sabiston C. Changes in social support predict emotional well-being in breast cancer survivors. *Psychooncology*. 2017;26:664-671.
13. Kenen R, Ardern Jones A, Eeles R. "Social separation" among women under 40 years of age diagnosed with breast cancer and carrying a BRCA1 or BRCA2 mutation. *J Genet Couns*. 2006;15(3):149-162.
14. Kroenke C, Kwan M, Neugut A, et al. Social networks, social support mechanisms, and quality of life after breast cancer diagnosis. *Breast Cancer Res Treat*. 2013;139(2):515-527.
15. De Leeuw JR, De Graeff A, Ros WJ, et al. Negative and positive influences of social support on depression in patients with head and neck cancer: a prospective study. *Psychooncology*. 2000;9(1):20-28. https://doi.org/10.1002/(SICI)1099-1611(200001/02)9:1<20::AID-PON425>3.0.CO;2-Y
16. Cutrona C, Russell D. Type of social support and specific stress: toward a theory of optimal matching. In: Sarason B, Sarason I, Pierce G, eds. *Social support: An interactional view*. New York: Wiley; 1990:319-366.
17. Carpenter K, Fowler J, Maxwell GL, Andersen B. Direct and buffering effects of social support among gynecologic cancer survivors. *Ann Behav Med*. 2010;39(1):79-90.
18. Merluzzi T, Philip E, Yang M, Heitzmann C. Matching of received social support with need for support in adjusting to cancer and cancer survivorship. *Psychooncology*. 2016;25(6):684-690.
19. Traa MJ, De Vries J, Bodenmann G, Den Oudsten BL. Dyadic coping and relationship functioning in couples coping with cancer: a systematic review. *Br J Health Psychol*. 2015;20(1):85-114. https://doi.org/10.1111/bjhp.12094
20. Carver CS, Scheier MF. *On the self-regulation of behaviour*. New York: Cambridge University Press; 1998.
21. Bandura A. *Self-efficacy: The exercise of control*. New York: Freeman; 1997.
22. Gruber-Baldini AL, Velozo C, Romero S, Shulman LM. Validation of the PROMIS® measures of self-efficacy for managing chronic conditions. *Qual Life Res*. 2017;26(7):1915-1924. https://doi.org/10.1007/s11136-017-1527-3
23. Barrera M, Sandler IN, Ramsay TB. Preliminary development of a scale of social support: studies on college students. *Am J Community Psychol*. 1981;9(4):435-447.
24. Finch JF, Barrera M Jr, Okun MA, Bryant WHM, Pool GJ, Snow-Turek AL. Factor structure of received social support: dimensionality and the prediction of depression and life satisfaction. *J Soc Clin Psychol*. 1997;16(3):323-342.
25. Merluzzi TV, Philip EJ, Heitzmann Ruhf CA, Liu H, Yang M, Conley CC. Self-efficacy for coping with cancer: revision of the cancer behavior inventory (version 3.0). *Psychol Assess*. 2018;30(4):486-499. https://doi.org/10.1037/pas0000483
26. Carver CS. You want to measure coping but your protocol's too long: consider the brief COPE. *Int J Behav Med*. 1997;4(1):92-100. https://doi.org/10.1207/s15327558ijbm0401_6
27. Merluzzi TV, Philip EJ, Heitzmann CA. *The Distress Screening Schedule: a multidimensional screening instrument for cancer patients and survivors*. 2016. Unpublished manuscript available from the first author.
28. Derogatis LR, Derogatis MF. *The Psychosocial Adjustment to Illness Scale (PAIS & PAIS-SR): administration, scoring, and procedures manual II*. Towson, MD: Clinical Psychometric Research; 1990.
29. Radloff LS. The CES-D Scale: a self-report depression scale for research in the general population. *Appl Psychol Measur*. 1997;3:385-401.
30. Cella DF, Tulsky DS, Gray G, et al. The functional assessment of cancer illness therapy scale: development and validation of the general measure. *J Clin Oncol*. 1993;11(3):570-579.
31. Cella D. *F.A.C.I.T: Manual of the Functional Assessment of Chronic Illness Therapy Scales*. Evanston, IL: Center on Outcomes, Research and Education (CORE); 1997.
32. Bergner M, Bobbit RA, Carter WB, Gilson BS. (1981). The sickness impact profile: development and final revision of a health status measure. *Med Care*. 1981;19(8):787-805. https://doi.org/10.1097/00005650-198108000-00001
33. Rosseel Y. Lavaan: an R package for structural equation modeling. *J Stat Softw*. 2012;48(2):1-36.
34. Helgeson VS, Gottleib BH. Support groups. In: Cohen S, Underwood LG, Gottlieb BH, eds. *Social support measurement and intervention: A guide for health and social scientists*. New York: Oxford University Press; 2000:221-245.
35. Hill A. Quality of life and mental health among women with ovarian cancer: examining the role of emotional and instrumental social support seeking. *Psychol Health Med*. 2016;21(5):551-561. https://doi.org/10.1080/13548506.2015.1109674

How to cite this article: Merluzzi TV, Serpentini S, Philip EJ, et al. Social relationship coping efficacy: A new construct in understanding social support and close personal relationships in persons with cancer. *Psycho-Oncology*. 2019;28:85–91. https://doi.org/10.1002/pon.4913