

Intrusion, Avoidance, and Daily Negative Affect Among Couples Coping With Prostate Cancer: A Dyadic Investigation

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In the present study we examined how husbands' and wives' intrusive thoughts of prostate cancer (i.e., thinking about it when not meaning to) and avoidance (i.e., efforts to not think about cancer) related to their own and each other's average negative affect over a subsequent 14-day period. We examined whether congruence or similarity in intrusion about illness, but not avoidance, would be associated with less negative affect as this response to cancer could potentially facilitate adjustment. Fifty-nine husbands and wives completed measures of intrusion and avoidance after the diagnosis of prostate cancer and reported on their daily negative affect for 14 days. Using the actor-partner interdependence model, both patients and their wives who had high levels of intrusive thoughts experienced less negative affect when the other member of the couple also experienced high levels of intrusive thoughts. Those who had higher levels of avoidance had spouses who had higher levels of negative affect regardless of their own levels of avoidance. Congruence in responses to cancer may be adaptive for intrusion but not avoidance because the use of intrusive thoughts by both husbands and wives can allow couples to process the diagnosis of cancer, facilitating psychological adjustment, whereas avoidance does not. The current investigation adds to our understanding of how people within a marital dyad affect each other as they adjust to a cancer diagnosis.

Keywords: cancer, oncology, intrusion, avoidance, marriage

Approximately one in every six men will be diagnosed with prostate cancer during their lifetime (Jemal et al., 2007). Coping with a cancer diagnosis is emotionally challenging (Keuroghlian, Butler, Neri, & Spiegel, 2010; Mehnert, Berg, Henrich, & Herschbach, 2009; Whitaker, Watson, & Brewin, 2009). Treatment side effects, fears of cancer progression and reoccurrence, changes in quality of life, erectile dysfunction, and decreased libido are all problems faced by prostate cancer patients (Chism & Kunkel, 2009; Manne, Badr, Zaider, Nelson, & Kissane, 2010; Pozo-Kaderman, Kaderman, & Toonkel, 1999). As a result, substantial negative affect is common (Kim, Roscoe, & Morrow, 2002).

The distress that accompanies a prostate cancer diagnosis is often shared with a partner (Badr & Taylor, 2009). After their

husbands' prostate cancer diagnosis, wives of prostate cancer patients experience decreased quality of life and considerable stress (Kim et al., 2008; Mellon & Northouse, 2001; Segrin, Badger, & Harrington, 2011). Furthermore, spouses show similar negative affect on a daily basis as they work to resolve stressful events surrounding the cancer (Berg, Wiebe, & Butner, 2011). The way in which each member of a romantic dyad processes cancer related distress likely contributes to the other member's negative affect (Badr & Taylor, 2009; Berg & Upchurch, 2007).

As is the case with other traumatic life events, a prostate cancer diagnosis is often accompanied by intrusive thoughts related to the cancer, or avoidance when thinking about the cancer (Creamer, Burgess, & Pattison, 1992). Intrusive thoughts are characterized by thinking about an event when not meaning to, whereas avoidance is characterized by purposeful efforts not to think about the event, talk about the event, or be exposed to reminders of the event (Weiss, 2007). There has been considerable research examining how people's own levels of intrusion and avoidance impact their own negative affect after a cancer diagnosis. Those who have excessively high levels of avoidance typically have adverse psychological outcomes due to their inability to cognitively process the event (Gross & Levenson, 1993; Van der Does, 2005; Wegner, Schneider, Carter, & White, 1987). However, avoidance can sometimes alleviate distress, at least temporarily, by helping people not think about distressing thoughts and memories related to the event (Bonanno, Keltner, Holen, & Horowitz, 1995). Those who have high levels of intrusive thoughts are sometimes better able to

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process the event (Creamer et al., 1992; McIntosh, Silver, & Wortman, 1993); yet intrusive thoughts can also lead to significant distress (Primo et al., 2000; Vickberg, Bovbjerg, DuHamel, Currie, & Redd, 2000). Little is known about how one's own level of intrusion and avoidance relate to his or her partner's affect and vice versa (Primo et al., 2000; Vickberg et al., 2000). Borrowing from dyadic models of coping, the way in which one partner is affected by the other's response to stress may depend on his or her own response to stress (Berg & Upchurch, 2007; Revenson, Kayser, & Bodenmann, 2005).

One major conceptual approach to investigating how couples deal with illness together involves assessing the extent to which couples are congruent (or incongruent) in the way they respond to a given stressor (Berg & Upchurch, 2007). Congruent coping can be defined as the similarity by which both members of a dyad adopt the same coping strategy and is assessed by evaluating coping strategies individually and testing the interaction between patients' and partners' coping strategies (Revenson, 1994). According to the congruence model, couples who respond to a stressful situation with the same adaptive response will experience less distress than those who do not because congruence allows partners to mutually reinforce each other as they deal with the illness (Revenson, 1994). However, congruence in maladaptive responses (e.g., avoidance) may be especially problematic as the couple does not have adaptive ways of responding to the stressful event (Giunta & Compas, 1993).

In general, there is support for the congruence model (Berg & Upchurch, 2007), although differences may exist depending on the response to illness. Patients had better physical, psychological, and sexual functioning when their partners had similar positive illness perceptions compared to similar negative or conflicting illness perceptions (Figueiras & Weinman, 2003). Likewise, breast cancer patients reported more physical symptoms and poorer functioning if their emotion-focused coping strategies were incongruent with their partners (Ben-Zur, Gilbar, & Lev, 2001). However, in a study of couples with musculoskeletal or rheumatic disease, congruent couples did not report lower levels of distress compared to their incongruent counterparts and actually reported higher amounts of depressive affect if they both used higher amounts of problem focused coping (Revenson, 1994).

The discrepancy in the literature regarding whether congruence is beneficial may depend on how the response to the illness allows for partners to mutually reinforce each other and contribute to intimacy of the dyad (Pakenham, 1998). Congruence in intrusion may allow couples to jointly process or "work through" the distress to the illness, which could be adaptive (Lepore, 1998; Lewis et al., 2001). Congruence in intrusion may be especially beneficial for patients and their partners during the early phase of adjusting to the diagnosis of prostate cancer, a time when processing the cancer in a social context may be especially beneficial (Lepore & Revenson, 2007).

Partners who jointly use avoidant strategies to respond to the illness, in contrast, do not provide a context for jointly making meaning of the illness, which may have a detrimental effect on both partners' well-being. People who adopt an avoidant strategy are generally not willing to discuss feelings, thoughts, or necessary decisions related to the traumatic event (Horowitz, Field, & Classen, 1993). Those who are constrained and unsupportive when talking about a cancer diagnosis may exacerbate negative emotions

(Lepore & Helgeson, 1998), in contrast to those who are engaged and responsive. Thus, a context in which both the patient and his partner both engage in high avoidance in response to a diagnosis of cancer is likely disconcerting to the patient and partner (Ben-Zur, Gilbar, & Lev, 2001; Moos & Schaefer, 1993).

The present study examined congruence in intrusion and avoidance in men who were recently diagnosed with prostate cancer and their spouses to understand how spouses' intrusive thoughts and avoidance influence their own and each other's average negative affect over a subsequent 14-day period. We employed the actor-partner interdependence model (APIM) to examine the separate effects of one's own response to stress, one's spouse's response, and the interaction in predicting negative affect (Kenny, Kashy, & Cook, 2006). We hypothesized an interaction between patient and spouse intrusion such that when patients and spouses both had high levels of intrusive thoughts, patients and spouses would have lower levels of negative affect than when high levels of intrusion were not matched with the spouse. However, congruence in avoidance was expected to be especially detrimental to both patient and spouse's negative affect.

Method

Participants

The study consisted of 59 men diagnosed with localized prostate cancer (Stage I) and their partners. All were in heterosexual married relationships. The patients were 40 to 84 years of age ($M = 67.56$, $SD = 9.16$) and were mostly in long-term marriages ($M = 38.4$ years, $SD = 13.7$; range: 1–59 years). Participants were mostly White (94.7%), retired (67.8% men, 78% women), and educated beyond high school (82.8% men, 64.4% women). The wives were 38 to 80 years of age ($M = 64.8$, $SD = 9.2$). The majority (76.3%) of participants were from the dominant religion in the greater Salt Lake City area (Latter-Day Saints). Patients and their wives were recruited from oncology, radiation therapy, and surgical clinics (93%) and through advertisements in prostate cancer support group publications (7%). Couples were eligible if the husband had been diagnosed with localized prostate cancer (i.e., the cancer had not spread beyond the connective tissue surrounding the prostate gland) and were in the process of making a decision about one or more phases of treatment so they would be in the process of coping with the cancer. Eighty-nine percent of the participants were recruited during treatment consultations. Individuals were excluded if they had a prior history of cancer other than skin cancer, did not speak English, and did not have a significant other. Of the 102 eligible men approached, 29 declined to participate for various reasons (i.e., living too far away, wife did not agree to participate, other serious illness, busy with other commitments). Of the 73 (72% of eligible pool) who initially agreed to participate, 59 completed all components of the study. Nine couples withdrew before any data collection, and another five withdrew after completing baseline questionnaires. Participants frequently mentioned an illness in the family as a reason for not completing the study. For the 59 patients completing the study, the average number of days since diagnosis of prostate cancer was 83.4 (range: 1–498, $SD = 106$); 90% of the sample was recruited within 6 months of diagnosis. Twenty patients had undergone some treatment for prostate cancer by the time they completed the

daily diaries (four had undergone external beam radiation, five internal radiation, seven surgery, and four hormonal treatment prior to seeking additional treatment).

Procedure

There were three study components. First, a take-home packet of questionnaires (containing the measure of intrusion and avoidance) was given to participants at the time of clinical consultation or mailed to their homes. Patients and wives were asked to complete their packets separately. Then, approximately one to two weeks after initial recruitment, a 90-min in-home session was scheduled with each couple. During this session, the take-home packets were collected and reviewed, and patient and wife individually completed cognitive tasks and other measures not relevant to the present article (e.g., general social support, hoped-for and feared possible selves; Schindler, Berg, Butler, Fortenberry, & Wiebe, 2010). Finally, a 2-week daily diary protocol was completed. Couples completed diaries individually for 14-consecutive days and were called on Days 1, 3, 5, 7, 9, 11, and 13 during the daily diary component of the study to remind them to complete their diaries and ask if they had any questions or concerns. Actual contact with couples was made an average of five times (additional voice messages were left when personal contact was not possible). Participants returned each individual diary in a self-addressed stamped envelope each day. Patients and wives returned each of their diary entries daily in separate envelopes. Research assistants reviewed the envelopes for postmarked dates and the diaries for completeness (i.e., the absence of missing data). When diaries contained missing data, research assistants contacted participants to ensure that participants were aware of the missing data and to answer any questions. Couples who did not complete any of the daily diary component of the study were not included in any analyses reported in the following sections. Individuals each received \$19 for completing the questionnaires and home interview and \$4 each day for completing the diary.

Measures

Intrusive thoughts. The 7-item Intrusive Thoughts scale of the Impact of Events Scale (Horowitz, Wilner, & Alvarez, 1979) was used to measure the frequency with which participants had intrusive thoughts about cancer. Participants were asked to endorse the frequency of thoughts about cancer during the prior week using a 4-point Likert scale ranging from 0 (*not at all*) to 3 (*often*). Items included “I had dreams about it,” “Pictures of it popped into my mind,” and “Thought about it when I didn’t mean to.” This measure was administered before the daily diary. A summed score was calculated across the seven items. Cronbach’s alpha was .88 for patients’ intrusion and .86 for wives’ intrusion.

Avoidance. The 8-item Avoidance scale of the Impact of Events Scale (Horowitz et al., 1979) was used to measure cognitive and behavioral avoidance. Participants were asked to rate how often they attempted to avoid thinking about cancer (e.g., “I tried not to think about it”; “I tried to remove it from memory”) and how often they attempted to avoid reminders of the cancer (e.g., “I stayed away from reminders of it”). Participants were asked to endorse the frequency of these behaviors over the course of the prior week using a 4-point Likert scale ranging from 0 (*not at all*)

to 3 (*often*). This measure was also administered before the daily diary. A summed score was calculated across the eight items. Cronbach’s alpha was .80 for patients’ avoidance and .79 for wives’ avoidance.

Negative affect. The daily diary was used to obtain a reliable assessment of negative affect over a 2-week period of time. Couples received instructions and practice in completing the daily diaries at the end of the in-home session that was given to familiarize participants with the diary. Participants completed the Positive and Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1988) to assess mood each day along with other measures not relevant to the current study. This 20-item scale was based on a scale ranging from 1 (*not at all*) to 5 (*extremely*) assesses both positive and negative affective states, which have been shown to be independent dimensions (Watson et al., 1988). The current investigation uses the negative affect subscale and includes a summed score across the 10 items. We focused on negative affect because it is associated with self-reported physical symptoms in prostate cancer patients, and self-reported health complaints are associated with negative affect more than positive affect (Kim et al., 2002; Watson & Pennebaker, 1989). Reliability across days was .94 for wives and .95 for husbands. Twenty-nine couples completed all 14 diary entries. The analyses that are reported were based on an average of 10.5 consecutive days for both husbands and wives.

Data Analysis

We employed the APIM within a linear structural equation modeling (*SEM*) framework, which allows estimation of effects of multiple-predictor variables on correlated dependent variables (Kenny, Kashy, & Cook, 2006). When using *SEM* software to employ APIM, a regression model is drawn twice, once for each member of the dyad. Then, all exogenous variables are correlated across dyad members as well as all disturbances. The correlated disturbances allow for nonindependence in the data, which can be viewed as partial correlations between the *Y* variables, controlling for the partners’ *X* variables. To keep the unit of measurement the same between two dyad members, we centered all matched variables (e.g., husbands’ and wives’ intrusion variable) by subtracting the mean of the two means from each variable (Kenny et al., 2006). The analysis presented below can be interpreted in a similar way to two hierarchical multiple regressions—one predicting the patient’s negative affect, and the other predicting the partner’s negative affect. In the first step, main effects were entered; in the second step, interaction terms were entered.

Results

Means and standard deviations for all study variables are presented in Table 1. In the first step of the *SEM* model, we regressed both patients’ and wives’ negative affect (averaged over the 14-day period) on both patients’ and wives’ levels of intrusion and avoidance, $\chi^2(4) = 10.954, p = .03$, root mean square error of approximation (RMSEA) = .17, Akaike information criterion (AIC) = 90.95. There was a significant actor effect such that higher levels of wives’ avoidance was associated with higher levels of wives’ own negative affect ($b = .51, p = .01$); higher levels of patients’ avoidance was not significantly associated with

patients had high intrusive thoughts (simple slope test $b = -.58$, $p < .01$). However, this was not the case for patients with low intrusive thoughts (simple slope test, $b = .16$, $p = .48$). Thus, as predicted, congruence in intrusion resulted in lower negative affect for wives and patients. The highest level of negative affect for both husbands and wives was experienced when one's own high level of intrusive thoughts was paired with one's spouse's low levels of intrusive thoughts.

There was no significant interaction between the patient's and wife's avoidant thoughts for either the patient's or wife's negative affect. Additional ancillary analyses revealed that intrusion and avoidance did not interact. Given the association between people's own intrusive and avoidant thoughts, we ran the analyses again so that intrusive and avoidant thoughts were modeled separately across two separate equations (so they did not compete as independent variables); the significance levels of our findings remained the same. Adding time since diagnosis to the model as an additional covariate did not change the point estimates or significance levels of the findings.¹

Discussion

The results supported the hypothesis of the benefits of congruence in intrusion on husband and wife negative affect, but were not found for the detriments of avoidance. Both patients and their wives who had high levels of intrusive thoughts experienced less negative affect when the other member of the couple also experienced high levels of intrusive thoughts. Although congruence was not found for avoidance, partner effects were found such that patients who had higher levels of avoidance had wives who had higher levels of negative affect; likewise, wives who had higher levels of avoidance had patients with higher levels of negative affect. Both patients and their wives who had higher levels of avoidance also had higher levels of negative affect themselves. The results point to the importance of taking a dyadic perspective

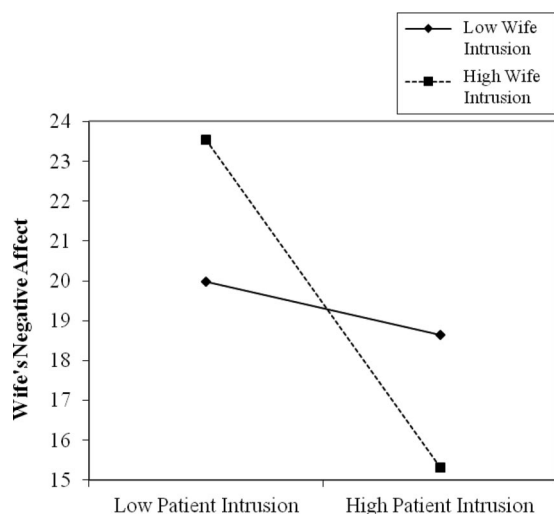


Figure 2. The moderator role of wives' intrusive thoughts in the relationship between patients' intrusive thoughts and wives' negative affect. We plotted regression lines for individuals scoring 1 standard deviation above and below the sample means on each of the predictor variables.

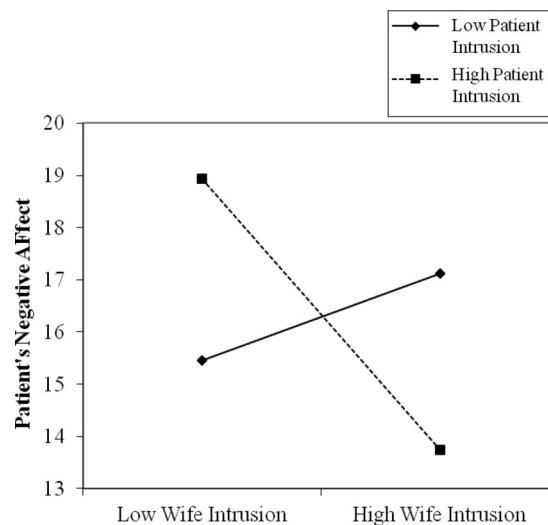


Figure 3. The moderator role of patients' intrusive thoughts in the relationship between wives' intrusive thoughts and patients' negative affect. We plotted regression lines for individuals scoring 1 standard deviation above and below the sample means on each of the predictor variables.

to the stress responses that patients and their partners have to cancer when understanding the negative affect that they experience, consistent with dyadic models of coping (Berg & Upchurch, 2007; Revenson et al., 2005).

Consistent with the congruence model of coping, when both members of the dyad had high levels of intrusive thoughts, each member experienced less negative affect. These findings suggest that the cognitive processing that is inherent in intrusive thoughts (Creamer et al., 1992) may be enhanced by the cognitive processing of one's spouse. For intrusion to be adaptive, people may need to reveal these thoughts to others because they can also be distressing (Lepore, 2001; Lewis et al., 2001). Previous work has noted how social constraints may inhibit cognitive processing of cancer (Cordova, Cunningham, Carlson, & Andrykowski, 2001). The current findings suggest that the social context may also facilitate cognitive processing of the cancer. This may be especially important for a particularly relational cancer such as prostate cancer that has important implications for the sexual and activity function not only of the husband but also of the wife.

The detriments of a lack of incongruence in coping for negative affect were especially seen when one's own high level of intrusive thoughts was paired with one's spouse having low levels of intrusive thoughts. Indeed, having high levels of intrusive thoughts may be disconcerting when experienced alone, but when experienced within a dyad, congruence may allow couples to work through their cancer experience together.

¹ We also analyzed the data by making day-to-day negative affect latent variables (the p technique), which accounted for missing day-to-day negative affect data through full information maximum likelihood (Nesselrode & Ford, 1985). Results were identical; however, the final model had poor indexes of model fit, $\chi^2(506) = 796.09$, $p < .001$, RMSEA = .99, AIC = 1042.09, which is not surprising given the small sample size and amount of parameters estimated. Thus, we elected not to present this as our final model.

Congruence in avoidance was not detrimental for patients' or wives' negative affect. However, avoidance was associated with higher levels of both patients' and wives' own negative affect, replicating the work of Giunta and Compas (1993). Those who have partners who use avoidance as a response to cancer may perceive social constraints in dealing with the cancer and also less support from them. Indeed, Badr (2004) proposed that coping behaviors that are less adaptive like avoidance and denial do not become adaptive through congruence such as neutral or positive coping behaviors. There is considerable literature to suggest that avoidance represents an inability to assimilate and integrate a traumatic event into existing schematic representations, which is needed to adjust to a traumatic event (Gross & Levenson, 1993; Van der Does, 2005; Wegner et al., 1987). Furthermore, avoidance promotes isolation, withdrawal, and distancing from people that can provide social support (Bjorvatn, Eide, Hanestad, Hamang, & Havik, 2009).

These findings suggest that patterns of dyadic coping are sometimes more prognostic for adjustment than individual patterns of coping. Prostate cancer has been frequently called a "relationship disease" because the side effects of the disease and its treatment (e.g., incontinence, erectile dysfunction, and decreased libido) affect both members of the dyad (Street et al., 2010). Future work should investigate whether patterns of dyadic coping are of equal importance when adjusting to other cancers that do not have such a strong relational component (Gray, Fitch, Phillips, Labrecque, & Klotz, 1999). This is especially the case for cancers where the female member of the relational dyad has cancer. Indeed, women are typically more involved in the care of their partner than are men (Coyne & Fiske, 1992). They are also more aware of the quality of the marital relationship than are men (Kiecolt-Glaser & Newton, 2001).

The relationships between personality and coping styles are generally quite strong among those facing severe stress (Connor-Smith & Flachsbart, 2007). For example, optimism is generally inversely related to avoidance, whereas pessimism typically promotes avoidance (Connor-Smith & Flachsbart, 2007). It is possible that the association we found between avoidance and negative affect was due, in part, by trait levels of optimism/pessimism. It is also possible that our findings could be moderated by personality factors.

Limitations

The present investigation should be interpreted in light of the following limitations. First, it is not possible to establish causality among intrusion, avoidance, and negative affect because we cannot manipulate levels of intrusion and avoidance. However, by assessing intrusion and avoidance before day-to-day negative affect, the current design does allow for directional inference because we were able to establish temporal precedence. Further, because we do not have measures of patients' and their wives' levels of intrusion, avoidance, and negative affect before the cancer diagnosis, we cannot determine whether our findings are a result of the cancer or preexisting vulnerabilities. Intrusion and avoidance are relatively stable across stressful life events (Sundin & Horowitz, 2002). Because most of the couples had been married for a considerable amount of time in our study, it is possible that the dyadic coping processes that played out during the prostate

cancer diagnosis were established during previous traumatic life events. We used a paper diary in this study rather than more sophisticated experience sampling methods that adopt smart phones or beepers because at the time of data collection, the use of daily diaries in older adult populations was limited. An important direction for future work will be to utilize an experience sampling approach that allows for moment to moment sampling (Barrett & Barrett, 2001).

Certain characteristics of our sample may limit the generalizability of the results. The current study consisted of a fairly homogeneous sample. The vast majority of men and women were highly educated and White in our study, and most were members of the Latter-Day Saints church. Previous work has demonstrated that those who are more educated use less avoidance than those who are less educated (Dunkel-Schetter, Feinstein, Taylor, & Falke, 1992). Furthermore, those who are more religious tend to be more positive when coping with a cancer diagnosis than their less religious counterparts (Dunkel-Schetter et al., 1992). Those who were avoidant may have declined to participate in the study, especially true if both the patient and wife were highly avoidant. The range of avoidance in our sample may be restricted as a result. Accordingly, the association between avoidance and negative affect may even be larger with greater distribution of avoidance.

Conclusions

Coping with prostate cancer is difficult for both husbands and wives. Both members of the dyad must cope with the threat of a potentially fatal illness, changes in the physical functioning of the patient, and difficult treatment decisions. The current investigation adds to our understanding of how husbands and wives within a marital dyad affect each other as they process the cancer diagnosis by illustrating that negative affect is associated with both one's own and one's partner's high levels of avoidance. In addition, individuals experience lower negative affect when both the individual and their partner experience high levels of intrusion.

A greater understanding of how husbands and wives mutually affect each other as they cope with a cancer diagnosis may allow physicians and mental health professionals to assist couples as they cope with this difficult time together. Health care professionals can assist in discussing the illness diagnosis and its treatment together with partners, assessing the sorts of support that may be needed for couples to process the information more fully. Our results suggest that those who might most need assistance dealing with the distress associated with a cancer diagnosis and its aftermath are individuals who use avoidance (or who have partners who use avoidance), and those who are experiencing intrusive thoughts, but whose spouse is not processing the cancer to the same extent. Couples may benefit from interventions that are focused on improving how the partner and the patient process the cancer diagnosis together to reduce negative affect. This is consistent with the growing literature on the effectiveness of coupled interventions for chronic illness (Martire, Lustig, Schulz, Miller, & Helgeson, 2004). Such interventions may be fruitfully targeted toward the dyadic coping efforts of couples, which may reap benefits not only for adjusting to chronic illnesses but also for the marital relationship more broadly.

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Correction to Low and Stocker (2005)

The article, “Family Functioning and Children’s Adjustment: Associations Among Parents’ Depressed Mood, Marital Hostility, Parent–Child Hostility, and Children’s Adjustment” by Sabina M. Low and Clare Stocker (*Journal of Family Psychology*, 2005, Vol. 19, No. 3, pp. 394–403), Figure 5 (p.401) contains an error. The correct value of the path from Mother-child hostility to Children’s Externalizing should be .17 (.03), instead of .52** (.13).

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