Published in final edited form as:

J Fam Psychol. 2015 February ; 29(1): 69–79. doi:10.1037/fam0000042.

Capitalizing on Everyday Positive Events Uniquely Predicts Daily Intimacy and Well-Being in Couples Coping with Breast Cancer

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Abstract

Capitalization is the relational process of savoring positive life events by sharing them with responsive relationship partners. The purpose of the present study was to use dyadic intensive longitudinal methods to examine novel hypotheses regarding links between capitalization processes and daily intimacy and well-being in women with breast cancer and their intimate partners. While couples coping with cancer often experience an increase in negative daily life events, we hypothesized that it would be important for them also to share and capitalize on positive events in addition to sharing negative events. Female patients with early-stage breast cancer and their intimate partners (99 couples) completed electronic daily diaries for 7 to 10 consecutive days tapping everyday processes of sharing negative and positive events with each other. Dyadic multilevel process modeling revealed that on days when capitalization attempts (i.e., sharing the best event of the day) occurred, daily feelings of intimacy in the sharer were higher for both patients and partners. Moreover, greater perceived partner responsiveness (PPR) to capitalization attempts was associated with increases in the sharer's daily feelings of intimacy and decreases in the sharer's daily negative affect. When the patient's partner was the sharer, PPR was also associated with increased daily positive affect. Importantly, all effects of capitalization were observed above and beyond the effects of event positivity and sharing negative events (i.e., social support attempts). Findings suggest that, even in the midst of significant life adversity, sharing daily good news with intimate partners enhances relationship well-being independently of sharing bad news.

Keywords

capitalization; breast cancer; marriage; daily events; intimacy; emotional well-being

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Shared joy is a double joy; shared sorrow is a half sorrow. – Swedish proverb

Positive events typically outnumber negative events in people's daily lives (Gable & Haidt, 2005), yet comparatively little published research has explored positive life events and how people respond to them. A common reaction after experiencing a positive event is the desire to share the good news with another person, typically a significant other. Estimates of how frequently positive events are shared differ, but research has shown it is a widespread phenomenon; studies have variously reported 60% to 80% of positive events being shared with a close other (e.g., Algie & Haidt, 2009; Gable, Reis, Impett, & Asher, 2004; Reis et al., 2010). Coined by Langston (1994), *capitalization* is the interpersonal process of disclosing positive events to close others, which has been linked to individual and relationship well-being (i.e., lower emotional distress and increased intimacy; see Gable & Reis, 2010). The opening proverb suggests that sharing both the good and bad experiences we have in our lives with close others reduces the burden of negative ones and increases the grace of positive ones. Is there some truth to this adage? Moreover, does sharing the good times matter during bad times?

Although prior research has produced evidence generally supporting the intra- and interpersonal benefits of the capitalization process for relationship partners, its effects have yet to be examined in couples actively coping with significant life stress or adversity—a context providing a strong test of the degree to which capitalization processes can matter. Does capitalizing on positive events uniquely help members of couples who are coping with significant adversity maintain daily relationship and individual well-being? For example, couples coping with a partner's serious illness may experience a relative increase in negative daily life events, and medical illnesses can influence both the patient and the partner as a joint relational and emotional system (Belcher et al., 2011; Hagedoorn, Sanderman, Bolks, Tuinstra, & Coyne, 2008).

Moreover, the literature is clear on the importance of sharing difficulties with and receiving support from a responsive intimate partner on psychosocial adjustment when coping with a medical illness, such as cancer (Figueiredo, Fries, & Ingram, 2004; Lichtman, Taylor, & Wood, 1988). Manne and Badr's (2008) relationship intimacy model of couple adaptation to cancer posits that couples engage in relationship-enhancing behaviors (e.g., partner responsiveness) or relationship-compromising behaviors (e.g., avoidance) that influence the couple's relationship as well as the each partner's psychological adaptation to cancer via relationship intimacy as a mediating mechanism (Manne & Badr, 2008). Findings in support of the model underscore the value of considering the cancer experience in the context of intimate relationships (Manne & Badr, 2010; Weihs, Enright, & Simmens, 2008; Yang & Schuler, 2009). However, does the sharing of positive events in this context also matter?

Examining the effects of processes reflecting the sharing of both positive events (i.e., capitalization) as well as negative events (i.e., social support) in the context of responsive partners dealing with significant life adversity would fill an important gap the literature. Thus, the goal of the present study was to replicate and extend existing research on capitalization using dyadic electronic daily diary methods to assess the unique influence of

sharing positive versus negative events on positive and negative affect as well as feelings of intimacy in women with early-stage breast cancer and their intimate partners.

The Capitalization Process and Its Benefits

Drawing from Gable and Reis (2010), capitalization can be understood as an interpersonal process involving two primary components: (1) the sharer disclosing about a positive event to the responder; and (2) the reaction, or the *perceived* reaction, of the responder. The first component can be thought of as a *capitalization attempt* which we conceptualize as an emotional disclosure that reflects an invitation on the part of the sharer to connect with one's partner through shared positive affect (e.g., "Hey, I got the raise in salary I have been working toward."). One of the likely motivations for sharing this good news derives from a desire to relive, accentuate, and amplify the feelings surrounding the event, also known as savoring (Bryant, 1989; Langston, 1994). The second component reflects the notion that further reaping the benefits of the capitalization process (or fully "capitalizing" on a positive event) depends not only on whether or not a positive event is shared, but also on how positively the responder reacts. *Perceived partner responsiveness* to the capitalization attempt involves the partner responding to the positive disclosure with enthusiasm (e.g., "That is really great! I know how hard you have been working on that."). This type of response increases the perceived value of the both the event as well as the sharer himself/herself and promotes savoring of the positive feelings (Reis et al., 2010). It is through this mechanism that capitalization is hypothesized to predict greater individual well-being.

This conceptualization of capitalization has many similarities to descriptions of the relational processes underlying intimacy more generally. According to the interpersonal process model of intimacy (Reis & Shaver, 1988), intimacy is the personal, subjective experience of connectedness that develops through behavioral interactions between relationship partners in which one person self-discloses personal information, his or her partner responds to the self-disclosure, and the discloser interprets that response as conveying understanding, validating, and caring (Laurenceau et al., 2005; Prager, 1995). In a central way, capitalization can be conceptualized as a manifestation of a more general process of intimacy focused on self-disclosure of positive self-relevant information and the perception of a partner's active and constructive response. Thus, in addition to benefits of individual well-being, capitalization is also expected to promote increased intimacy and connectedness.

The sharing of positive life events has shown benefits for both the sharer and the relationship between the sharer and responder. For the sharer, capitalization has been tied to increased daily positive affect and life satisfaction (Gable et al., 2004), increased self-esteem and decreased loneliness (Reis et al., 2010), and decreased negative affect (e.g., Gable & Reis, 2010). Capitalization has also been associated with increased relationship satisfaction and feelings of trust on the part of the sharer and decreased reports of daily relational conflict (Gable et al., 2004). Reported relationship quality, satisfaction, and commitment (Gable, 2007, as cited in Gable & Reis, 2010; Gable et al., 2006), security (Gable & Maisel, 2009, as cited in Gable & Reis, 2010), and stability (decreased likelihood of separating) (Gable et al., 2006), as well as feelings of intimacy (Gable et al., 2004), liking and closeness (Reis et al.,

2010), and connectedness (Gable & Maisel, 2009, as cited in Gable & Reis, 2010) have all also been positively correlated with sharing positive events.

To better understand when and why capitalization occurs, work has focused also on the types of positive events sharers normally elect to disclose. Research by Gable et al. (2004) and Reis et al. (2010) suggests that the relative positivity (e.g., “amazing” versus simply “good”) and importance of the event in question play a role in how likely someone is to tell another person about that event, with more positive and important events being shared more often. Another factor to consider is to whom sharers disclose positive events. A number of studies have suggested that the overwhelming majority of responders are “close others,” most often an intimate partner, close friend, or family member (e.g., Gable et al., 2004).

Role of Perceived Partner Responsiveness

As mentioned earlier, the responder’s reaction to sharing good news is an integral part of the capitalization process and may have its own benefits for relationship well-being. According to Reis and Shaver’s (1988) interpersonal process model of intimacy, perceived partner responsiveness plays an important mediating role in the development of intimacy between interaction partners. Although responsiveness generally occurs when the listener’s responses are intended to address the needs, wishes, or actions of the discloser, the model posits that responsive behaviors and expressions must ultimately convey understanding, validation, and caring towards the partner who is self-disclosing (Reis & Patrick, 1996). There have been several empirical examinations of and theoretical arguments for the central role that perceived partner responsiveness plays in intimate relationships and the processes that maintain them (Prager, 2005; Reis, 2012). Of particular importance to the present study, Manne and colleagues (2004) also examined this model in the context of women with breast cancer and their intimate partners discussing both relationship- and cancer-related concerns. Findings supported the role of perceived partner responsiveness as an important mechanism linking self-disclosure and intimacy, consistent with Reis and Shaver’s (1988) interpersonal process model.

Gable and Reis (2010) outlined several types of responses that a relationship partner can have to capitalization attempts. Active responses often take the form of engaged conversations about the event as well as nonverbal behaviors communicating interest and attention, whereas passive responses do not convey interest (e.g., “That’s nice.”), and may not involve much, if any, acknowledgement of the positive event. Constructive responses convey positive feelings about the capitalization attempt, while destructive responses do not and can even include behaviors such as negative reframing of the event. It follows that inappropriate responses to capitalization attempts can actually be associated with negative relationship outcomes (Gable et al., 2004).

Relationship well-being has been positively associated with active-constructive responses to shared good news but negatively correlated with active-destructive, passive-destructive, and, interestingly, passive-constructive responses (Gable et al., 2004). Preliminary results from Gable and colleagues (2006) also suggest that responding in more passive or destructive ways may predict future relationship quality and stability. This suggests that even

constructive responses can negatively impact the relationship if a certain degree of enthusiasm is not conveyed. Reis (2012) noted that feelings toward both the event in question and toward the relationship with one's partner are affected by the type of response offered by the partner in reaction to a capitalization attempt. It has also been posited that the capitalization process is iterative, with perceived partner responsiveness playing a major role in encouraging or discouraging future attempts at sharing positive events (Gable & Reis, 2010). These findings all clearly underscore the importance of perceived enthusiastic reactions of the responder to capitalization attempts.

Capitalization versus Social Support

Although they both involve disclosing a personal and impactful life event to another person and are important parts of everyday relationship life, it is important to distinguish between capitalization (the process of sharing and responsiveness to positive events) and social support (the process of sharing and responsiveness to negative events). One of the central goals of sharing a negative event with an intimate partner is to help alleviate or lessen the negative effects of the event (Reis et al., 2010). Partners whose responses are supportive and reassuring communicate a shared concern about the negative impacts and a desire to help, which ultimately contributes to confidence that the partner will be responsive and helpful again in the future. In addition to buffering against decreases in well-being, partner supportive behavior has been found to promote intimacy (Belcher et al., 2010; Johnson, Hobfoll, & Zalcberg-Linetzy, 1993). In broadest terms, social support is typically described as a means of lessening or protecting against the distressing effects of negative outcomes by turning to responsive others for help, whereas the purpose of capitalization is to savor or intensify the effects of positive outcomes by turning to responsive others for validation (Gable & Reis, 2010).

Although the exact relationship between capitalization and social support has been debated in the literature (Shorey & Lakey, 2011), these processes are likely not mirror images of each other or opposite ends of the same continuum (Gable & Reis, 2010). If it reflects an important yet different process than social support, capitalization should be uniquely related to relationship outcomes. In one of the only published works we could find to examine this issue, Gable, Gonzaga, and Strachman (2006) found responsiveness to a disclosed positive event was more strongly linked to relationship well-being than responsiveness to a disclosed negative event. Because this study's findings were based on dating couples in a controlled laboratory setting, it would be important to determine whether they generalize to the context of everyday life in long-term, committed intimate partnerships coping with adversity.

Rationale for Present Study and Hypotheses

An extension of research on capitalization to the context of everyday life of couples coping with significant life stress would be a robust test of capitalization's effects. The aim of the present study was to replicate and extend the existing body of research on capitalization and well-being in a sample of women with breast cancer and their intimate partners. This is an important group in which to explore the benefits of capitalization as these couples experience non-cancer-related life stressors, which have been shown to negatively impact

quality of life in patients with newly-diagnosed cancer (Lehto, Ojanen, Väkevä, Aromaa, & Kellokumpu-Lehtinen, 2008). However, in addition to normal life stressors, these couples also face a number of other stressors specifically related to the process of breast cancer diagnosis and treatment, including medical appointments, procedures, related financial issues, and side effects of treatment. Because of the increase in negative daily life events that couples coping with breast cancer experience and the need for mutual support for maintaining connectedness during adversity (Belcher et al., 2011), knowing whether these couples may benefit additionally from capitalizing on the daily positive events that occur would be worthwhile. In addition to individual daily well-being, we focus on daily intimacy as a focal outcome in this study because of theory and growing evidence that relationship intimacy is an important determinant of psychological adaptation to illness, as highlighted in Manne & Badr's (2008) relationship intimacy model of couple adaptation to cancer.

In the present study, we used a daily diary methodology to examine the effects of capitalization on daily positive and negative affect and feelings of intimacy among women with breast cancer and their partners. This type of intensive longitudinal design requires less retrospection on the part of the participants and allows for the measurement of psychological phenomena as they naturally unfold (Bolger, Davis, & Rafaeli, 2003; Bolger & Laurenceau, 2013; Redelmeier & Kahneman, 1996). Longitudinal methods of this type also allow for the identification of within-person (compared to between-person) relationships where daily variables can be modeled to reflect how they are linked within a typical individual over time which can be different from how these same variables are linked between individuals (Curran & Bauer, 2011). Identifying within-person links between daily event sharing and relationship intimacy would also have more direct potential implications for application and intervention and was thus the primary focus of the present study.

Specifically, it was hypothesized that, above and beyond the effects of sharing daily negative events, and controlling for how positive the best event was, sharing daily positive events with one's partner would be associated with increases in the sharer's daily intimacy (H1a) and positive affect (H1b) and decreases in daily negative affect (H1c). Moreover, on days that positive events were shared, it was also hypothesized that more enthusiastic perceived partner responses would be associated with increases in the sharer's daily intimacy (H2a) and positive affect (H2b) and decreases in daily negative affect (H2c). In addition to these hypothesized actor effects, potential benefits of the capitalization process to the responder (i.e., partner effects; Kenny, Kashy, & Cook, 2006) were also explored.

Method

Participants

Participants were English-speaking couples in which a female patient had been diagnosed with early-stage breast cancer (defined as Stage 0 (ductal carcinoma in situ/DCIS), Stage I, Stage II, or Stage IIIA). All couples were heterosexual, with the exception of one lesbian couple. All patients received breast cancer surgery (either lumpectomy or mastectomy) as part of their treatment. All participants were recruited from a mid-Atlantic community cancer center.

Although combined for the purposes of the present study, data were originally collected from two independent samples. These two samples were drawn from the same population of couples, were demographically similar, and met identical recruitment criteria. One sample was asked to complete a 7-day daily diary ($N = 45$ couples/90 individuals; additional information about this sample is given in Belcher et al. (2011)), while the other was asked to complete a 10-day daily diary ($N = 54$ couples/108 individuals); however, the measures that were used in the present analyses were included in both diaries. Because hypothesized effects were similar in magnitude and direction in each sample, the two samples were combined in order to maximize power. Thus, the resulting combined sample consisted of 99 couples (198 individuals).

All couples were married with the exception of three couples in committed relationships and three couples that did not report on marital status. For the purposes of this study, the women with breast cancer are referred to as “patients” and their partners are referred to as “spouses,” regardless of actual marital status. The term “partner” refers to the “other” person in the relationship: the patient’s partner is the spouse, and the spouse’s partner is the patient.

Mean relationship length was 25.10 years ($SD = 13.29$). On average, patients were 52.27 years old ($SD = 10.43$) and spouses were 54.37 years old ($SD = 11.94$). The majority of patients and spouses identified as White (85.9% and 86.9%, respectively) and non-Hispanic (96.0% and 98.0%, respectively). Participants tended to be well-educated; of those who reported on educational history, 60.0% of patients and 57.7% of spouses earned at least a bachelor’s degree. Approximately 38.4% of patients reported that they were not currently working, while 26.3% and 35.4% worked part- and full-time, respectively. However, the majority (73.5%) of spouses reported working full-time, with 22.4% not working and 4.1% working part-time. Approximately 72.9% of participants reported an annual family income of over \$60,000.

Procedure

All data were collected as soon as possible after patients received breast cancer surgery; on average, approximately 46.87 days ($SD = 48.95$) had passed between the date of surgery and the date of the first daily diary entry. Participants first completed a cross-sectional set of questionnaires, which included demographic information. Shortly after completing these cross-sectional questionnaires, participants were asked to complete online daily diaries each evening for either 7 or 10 consecutive days (depending on the sample from which the participant was originally drawn). As outlined in Belcher et al. (2011), time and date stamps were recorded upon completion of each daily diary to ensure that participants completed the diaries within the specified time interval each evening. Only diaries that were completed during this time interval were included in analyses; diaries completed too early may not capture all of the participant’s important daily events, and completing diaries too late increases retrospective bias. For diaries completed after the specified time interval, it is also unclear what time point the participant’s answers would be in reference to; for example, if a patient completes her diary the following morning, it is unclear whether her responses reflect her feelings that morning or whether she was trying to recall and report her feelings from the

previous evening. The average number of completed diaries across all 99 couples (198 participants) was 8.53, for a cumulative total of 845 diary entries.

As noted above, couples were asked to complete the daily diaries as soon as possible after the patient in each couple received breast cancer surgery. This particular time point was selected because the period surrounding breast cancer surgery tends to be particularly stressful for patients and their spouses (e.g., Heim, Valach, & Schaffner, 1997), especially relative to later time points in the breast cancer experience. Past research has shown that by four to six months after the completion of cancer treatment, patients report near-normal levels of psychosocial adjustment (e.g., Andersen, Anderson, & deProse, 1989; Ward, Viergutz, Tormey, deMuth, & Paulen, 1992) and experience low levels of depression and anxiety (Deshields et al., 2005). Costanzo and colleagues (2007) echoed these findings; relative to time points during or three weeks after treatment, at three months after the end of adjuvant chemotherapy or radiation treatment, patients showed no change in distress, depression, or worry about cancer recurrence, while quality of life increased. This suggests that these couples are likely to be experiencing a relative increase in negative life events, which may make the potential benefits of capitalization even more important for these women and their spouses.

Measures

Daily capitalization and social support attempts—Patients and spouses completed daily diaries each evening that included lists of negative and positive events that may have occurred earlier that day. These event lists have been used previously by Pasipanodya et al. (2012). Diaries included up to 13 possible positive events, such as “Positive leisure or recreational event,” and “My spouse/partner did something thoughtful for me.” Patients’ diaries included two additional positive event items: “Felt physically okay today,” and “Got out and did something today that felt good.” Diaries also included nine possible negative events, for instance, “Too much work to do,” and “Argument or conflict with my spouse/partner.” Patients’ diaries included eight additional negative event items concerning cancer-related health, e.g., “Noticed hair falling out,” and “Saw self or scars in mirror.”

For each event, participants indicated whether the event did or did not occur that day. Participants then selected one event each from the negative and positive event lists as the worst event and best event of the day, respectively. (If the worst or best event of the day was not provided in the list, a text box was displayed in which participants were instructed to describe the event.) Participants then rated the negativity of the worst event on a Likert-type scale ranging from 0 = *slightly undesirable* to 6 = *extremely undesirable*; this rating is referred to as “worst event negativity.” Best events were similarly rated on positivity from 0 = *slightly positive* to 6 = *extremely positive*; this rating is referred to as “best event positivity.”

After identifying and rating these events, participants were asked whether they shared or did not share each event with their partners (coded 1 and 0, respectively). For the purposes of the present study, all data relating to positive and negative events that clearly involved the partner (e.g., “Argument or conflict with my spouse/partner,” or “I was physically affectionate with my spouse/partner”) were excluded from analyses, as these types of events

would not need to be “shared” with the partner given that the partner was involved in the event in question; only “individual” events were included in analyses. Sharing a best event was termed a “capitalization attempt,” while sharing a worst event was termed a “social support attempt.”

Perceived partner responsiveness—If a participant shared a worst or best event, he or she was asked to rate how supportive/reassuring (for the worst event) or enthusiastic (for the best event) his or her partner’s response was, using a Likert-type scale ranging from 0 = *not at all* to 6 = *extremely*. If a participant did not share the event, perceived partner responsiveness (PPR) to sharing of the event was not rated. As noted above, any PPR data related to an event that clearly involved the partner were excluded from analyses.

Daily positive and negative affect—Diaries also included momentary ratings of positive affect (PA) and negative affect (NA). Daily PA and NA were assessed with 12 items selected from the Positive and Negative Affect Schedule-Expanded Form (PANAS-X; Watson & Clark, 1994). For each item, participants were asked to “indicate to what extent you feel this way AT THIS MOMENT” on a Likert-type scale ranging from 0 = *very slightly or not at all* to 4 = *extremely*. Daily NA was calculated as the mean of the following seven items: sad, angry, afraid, lonely, blue, scared, and frightened. Daily PA was calculated as the mean of the following five items: interested, determined, enthusiastic, excited, and inspired. R_c , an index of reliability of within-person change for multi-item diary measures (Bolger & Laurenceau, 2013; Cranford et al., 2006), was .76 and .72 for patient and spouse NA, respectively; R_c was .80 and .81 for patient and spouse PA, respectively.

Intimacy—Daily feelings of intimacy were assessed each evening with two items. The first item read, “At this moment, how much intimacy/connectedness do you feel with your spouse/partner?” Responses were recorded on a Likert-type scale ranging from 0 = *none at all* to 6 = *an extreme amount*. The second was a single item selected from the Dyadic Adjustment Scale (DAS; Spanier, 1976): “The choices below represent different degrees of happiness in romantic relationships. The middle choice, ‘happy,’ represents the degree of happiness in most relationships. Select the choice that best describes the degree of happiness, all things considered, of your relationships right now.” Responses were recorded on a Likert-type scale ranging from 0 = *extremely unhappy* to 6 = *perfect*. Although intimacy and relationship satisfaction are typically thought of as two separate but related constructs, both of which are components of overall relationship quality (Fletcher, Simpson, & Thomas, 2000), these two items exhibited a moderate positive within-person correlation ($r = .42, p < .001$, in patients; $r = .45, p < .001$, in non-patient spouses); thus, following the procedures of Belcher et al. (2011), momentary intimacy was calculated as the mean of these two items in order to create a more reliable daily measure. R_c was .62 and .64 for patient and non-patient spouse daily intimacy composites, respectively.

Results

Data Analytic Approach

A multilevel process model for dyadic longitudinal data (Laurenceau & Bolger, 2012; Raudenbush, Brennan, & Barnett, 1995) was employed using Mplus 7 (Muthén & Muthén, 1998-2012). Although, conceptually, the data structure reflects three levels (i.e., days crossed within individuals nested within couples), a two-level statistical model was utilized for these intensive longitudinal data collected from distinguishable dyads (e.g., husbands & wives or patients & caregivers) because of challenges that a three-level model has in capturing (a) random variability at the level of the individual and (b) day-to-day within-couple nonindependence (Bolger & Laurenceau, 2013; Kenny & Kashy, 2011). Thus, couple was the unit of analysis, although data from each partner within the couple were collected.

As noted earlier, best and worst events that involved the sharer's partner were excluded from analyses, as the partner clearly would have already been aware of these events. Once non-individual events were removed, analyses made use of all remaining days for couples whose patient or non-patient spouse reported whether or not at least one best or worst event occurred. Of the original 845 total days from 99 couples, 826 days from 99 couples ($M = 8.34$ days per couple) were included in analyses of the effects of capitalization and social support attempts as predictors of daily outcomes. Analyses of the effects of PPR were conducted separately from the effects of capitalization attempts and social support attempts because data for PPR were contingent upon a best and/or worst event of the day having been shared. We used a maximum likelihood-based approach to handling missing data which allows us to make use of all available data from all variables in a model and produces unbiased parameter estimates under the missing at random assumption (Enders, 2010). Because of this, the sample sizes in Tables 2 and 3 are equivalent. All analyses controlled for participants' ratings of the positivity of their best daily events and negativity of their worst daily events. Additionally models included day as a predictor to control for the linear effects of time.

All predictors in the models reported were entered person-mean centered so the fixed effects can be interpreted as the average within-person effect for a predictor purged of any between-person variability. We also considered both actor and partner effects in all models. When examining frequency distributions of daily intimacy, PA, and NA outcomes, it was clear that NA had a skewed count-like distribution with a preponderance of zeroes, while intimacy and PA were both fairly normally distributed. To support the distributional assumptions of modeling the NA outcome, comparisons of various count and zero-inflated models were considered that resulted in reporting results from zero-inflated negative binomial multilevel models (Atkins, Baldwin, Zheng, Gallop, & Neighbors, 2013).

To increase parsimony and efficiency of the final models (Kenny et al., 2006), we constrained parameter estimates for the same key effects across patients and spouses when estimates were similar in magnitude and direction. To do this, we conducted chi-square difference tests between the fit of the model with the parameters constrained to be equal and the fit of the unconstrained model. A nonsignificant chi-square test of the fit of these nested models indicated that the constraints were consistent with the data, and thus the constrained

parameters were reported in the final models. We focused on modeling contemporaneous within-person effects and not lagged effects because we believed that the causal effects of event-sharing and responsiveness on intimacy and emotional well-being would occur on the same day and not carry over to the next evening. Moreover, we estimated random intercept only models because we encountered convergence problems when attempting also to estimate all the key slope random effects, which can be due to specifying an overly complex random effects structure.

Of the days on which an individual event occurred, best events were shared 82% and 81% of the time by patients and spouses, respectively, which is largely consistent with the findings of previous research (Gable et al., 2004). Patients and spouses shared worst events 75% and 72% of the time, respectively. Participants generally rated their partners' responsiveness highly, with average ratings ranging between 4.11 and 4.62 (on a scale of 0-6) across patients' and spouses' capitalization and social support attempts. Additional descriptive statistics (including means, within-couple *SDs*, and between-couple *SDs*) for best and worst event-sharing, event positivity and negativity ratings, PPR, intimacy, PA, and NA are presented in Table 1.

Effects of Capitalization and Social Support Attempts on Daily Intimacy (H1a)

As seen in Table 2, parameter estimates that were similar in direction and magnitude between patients and spouses were constrained to be equal. These constraints were supported by a test of the model deviances between the constrained (deviance = 11,818.86) and unconstrained (deviance = 11,818.29) models. This difference was not statistically significant ($\chi^2(3) = 0.57, p = .903$), suggesting that these constraints were consistent with the data.

Within-couple analyses of capitalization attempts (see Table 2) revealed that, for both patients and spouses, the act of sharing the best event of the day predicted a 0.18-unit increase in reported daily intimacy for the sharer ($z = 2.34, p = .019, 95\% \text{ CI} = 0.03, 0.34$), above and beyond the effects of sharing a worst event. A 0.18-unit increase in daily intimacy translates to a 0.26-*SD* increase in patients and a 0.24-*SD* increase in spouses (see Table 1 for within-couple *SDs*). However, hearing about their partner's best event did not independently predict intimacy scores for the responder.

For patients, sharing a worst event predicted a 0.26-unit (0.37-*SD*) increase in their own daily intimacy ($z = 2.93, p = .003, 95\% \text{ CI} = 0.09, 0.43$), although the corresponding effect was not seen for spouses. Partner effects of sharing a worst event were detected for both the patient and spouse; social support attempts by the sharer predicted a 0.17-unit increase in daily intimacy in the responder ($z = 2.27, p = .023, 95\% \text{ CI} = 0.02, 0.31$), which is equal to a 0.24-*SD* and 0.23-*SD* increase in patients and spouses, respectively. Additionally, after accounting for the other predictors in the model, evidence of a small linear increase in spouses' (but not patients') intimacy scores across the diary period was found ($B = 0.03, z = 2.10, p = .036, 95\% \text{ CI} = 0.002, 0.05$; this is equal to a 0.04-*SD* increase in intimacy).

Effects of Perceived Partner Responsiveness on Daily Intimacy (H2a)

As seen in Table 3, parameter estimates that were similar in direction and magnitude between patients and spouses were constrained to be equal (constrained model deviance = 14,471.20; unconstrained model deviance = 14,469.59; $\chi^2(12) = 1.61, p = .99$). Within-couple analyses of PPR revealed that the sharer's perception of how enthusiastic the responder was in reaction to a capitalization attempt predicted increased daily intimacy in the sharer such that a 1-unit increase in PPR corresponded with a 0.14-unit increase in intimacy ($z = 3.11, p = .002, 95\% \text{ CI} = 0.05, 0.22$; this is equal to a 0.20-*SD* increase in patients and a 0.19-*SD* increase in spouses). Similarly, in both patients and spouses, increased supportive and reassuring responses to social support attempts predicted increased intimacy in the sharer ($B = 0.16, z = 5.09, p < .001, 95\% \text{ CI} = 0.10, 0.22$; a 0.23-*SD* increase in patients and a 0.22-*SD* increase in spouses) and in the responder ($B = 0.12, z = 4.25, p < .001, 95\% \text{ CI} = 0.07, 0.18$; a 0.17-*SD* increase in patients and a 0.16-*SD* increase in spouses). However, PPR to a capitalization attempt did not predict intimacy in the responder. Additionally, day was found to be a significant predictor of spouses' (but not patients') intimacy scores, again suggesting a small linear increase in reported intimacy across the diary period ($B = 0.03, z = 2.58, p = .010, 95\% \text{ CI} = 0.01, 0.05$; a 0.04-*SD* increase).

Effects of Capitalization and Social Support Attempts on Daily Positive Affect (H1b)

A model including both actor and partner effects showed no significant partner effects of capitalization or social support attempts on PA; thus, an actor effects-only model was used. Removing partner effects from the model did not substantially alter estimates of actor effects. Because key parameters of interest (i.e., estimates of the effects of capitalization and social support attempts) were different between patients and spouses, we used estimates from an unconstrained model. As noted earlier, constraining parameter estimates across patients and spouses was only done when estimates were similar in magnitude and direction, which was not the case in this model.

No actor effects of sharing best events or worst events were found for PA scores. However, time was a significant predictor of daily PA for spouses ($B = -0.03, z = -3.13, p = .002, 95\% \text{ CI} = -0.05, -0.01$; this is equal to a 0.05-*SD* decrease in PA), but not for patients, indicating a small linear decrease in spouses' PA over the diary period.

Effects of Perceived Partner Responsiveness on Daily Positive Affect (H2b)

A model including both actor and partner effects showed no significant partner effects of PPR to capitalization or social support attempts on PA; thus, an actor effects-only model was used. Removing partner effects from the model did not substantially alter estimates of actor effects. Because key parameters of interest were different between patients and spouses, we used estimates from an unconstrained model. At the within-couple level, actor effects of PPR to capitalization attempts ($B = 0.11, z = 4.13, p < .001, 95\% \text{ CI} = 0.06, 0.17$; this is equal to a 0.20-*SD* increase in PA) and PPR to social support attempts ($B = 0.08, z = 2.90, p = .004, 95\% \text{ CI} = 0.03, 0.13$; a 0.15-*SD* increase) were found for spouses but not for patients. In this model, time was a significant predictor of daily PA for spouses ($B = -0.03, z = -2.89, p = .004, 95\% \text{ CI} = -0.05, -0.01$; this is equal to a 0.05-*SD* decrease in PA), but not for patients, again indicating a small linear decrease in spouses' PA over the diary period.

Effects of Capitalization and Social Support Attempts on Daily Negative Affect (H1c)

A model including both actor and partner effects showed no significant partner effects of capitalization or social support attempts on NA; thus, an actor effects-only model was used. Removing partner effects from the model did not substantially alter estimates of actor effects. Parameter estimates that were similar in direction and magnitude between patients and spouses were constrained to be equal (constrained model deviance = 12,971.64; unconstrained model deviance = 12,965.06; $\chi^2(4) = 6.58, p = .16$). No actor effects of sharing best events or worst events were found for NA scores. However, time was a significant predictor of daily NA for both patients ($RR = 0.94, z = -4.36, p < .001, 95\% \text{ CI} = 0.92, 0.97$; this is equal to a 0.03-*SD* decrease in NA) and spouses ($RR = 0.93, z = -3.64, p < .001, 95\% \text{ CI} = 0.90, 0.97$; a 0.02-*SD* decrease), indicating a small linear decrease in all participants' NA over the diary period.

Effects of Perceived Partner Responsiveness on Daily Negative Affect (H2c)

A model including both actor and partner effects showed no significant partner effects of PPR to capitalization or social support attempts on NA; thus, an actor effects-only model was used. Removing partner effects from the model did not substantially alter estimates of actor effects. Parameter estimates that were similar in direction and magnitude between patients and spouses were constrained to be equal (constrained model deviance = 15,649.93; unconstrained model deviance = 15,648.88; $\chi^2(1) = 1.05, p = .31$). No actor effects of PPR to capitalization or social support attempts were found for NA scores. Once again, time was a significant predictor of daily NA for both patients ($RR = 0.95, z = -3.98, p < .001, 95\% \text{ CI} = 0.92, 0.97$; a 0.02-*SD* decrease) and spouses ($RR = 0.93, z = -3.65, p < .001, 95\% \text{ CI} = 0.89, 0.97$; a 0.02-*SD* decrease), indicating a small linear decrease in all participants' NA over the diary period.

Discussion

The main goal of the present study was to investigate whether the capitalization process plays a role in individual and relationship well-being above and beyond the effects of social support among couples coping with breast cancer. We used an electronic dyadic daily diary methodology to tap everyday processes of positive and negative event sharing, perceived partner responsiveness to sharing, and intimacy and emotional well-being. Overall, our findings support the notion that, even in the midst of significant life adversity, sharing daily good news with intimate partners enhances relationship well-being independently of sharing bad news for both patients as well as their spouses. These findings are consistent with the broader literature on capitalization processes (Gable & Reis, 2010) and are an extension of the interpersonal process model of intimacy (Reis & Shaver, 1988) focusing on the unique influence of positive self-disclosures and enthusiastic partner responses.

Specifically, we examined the day-to-day effects of both sharing a positive event (i.e., a capitalization attempt) and how enthusiastically the sharer felt his or her partner responded to that capitalization attempt (i.e., perceived partner responsiveness) on intimacy, positive affect, and negative affect. We hypothesized that, above and beyond the effects of social support attempts, and regardless of how positive the best event was, capitalization attempts

and more enthusiastic partner responses would be associated with increases in both patients' and partners' daily intimacy and positive affect as well as decreases in daily negative affect. Results revealed that, for both patients and spouses, both capitalization attempts (H1a) and greater perceived partner responsiveness (H2a) predicted increases in the sharer's daily feelings of intimacy.

However, there was less support for the idea that capitalization enhances individual well-being. Simply sharing a positive event did not predict changes in positive (H1b) or negative affect (H1c) in patients or spouses, and greater PPR predicted increases in positive affect (H2b) only when the spouse was the sharer. The lack of support for these hypothesized effects may be due to methodological differences between the present study and previous capitalization research. We re-examined our models involving NA and PA as outcomes, first removing the social support variables from the models, and then also removing the best event positivity variables. Several of the effects of capitalization attempts and PPR to capitalization attempts were statistically significant on their own, suggesting that the capitalization effects in individual well-being became significantly attenuated once we controlled for theoretically important effects. This is important because past work in the capitalization literature has tended to examine the effects of capitalization on intimacy and individual well-being in isolation of social support attempts, without considering that these processes frequently occur concurrently in everyday life.

As suggested in the literature, it appears that perceived partner responsiveness was a relatively important part of the capitalization process. PPR seemed to be particularly important when predicting PA and intimacy. As noted above, the spouse's PPR to capitalization and social support attempts was linked to increases in the spouse's PA, and both partners' PPR to capitalization attempts were linked to increases in their own intimacy. It should be noted that these unique effects of capitalization were observed in a sample of couples actively coping with a significant health adversity. Consistent with Manne and Badr's (2008) Relationship Intimacy Model of Couple Psychosocial Adaptation to Cancer, finding the everyday "silver linings" by savoring positive events with a responsive partner in the midst of difficulties may be particularly important in the face of health adversity because it can promote connectedness and resilience.

Although both components of the capitalization process (the sharer's disclosure and the responder's enthusiasm) were shown to predict an increase in the sharer's feelings of intimacy, increased intimacy was not observed in the responder. The lack of partner effects found in the present study may support the idea that the processes of capitalization and social support, although similar in some respects, are not simply mirror images of each other and do not necessarily operate in the same way; however, it is important to note that the examination of partner effects was exploratory in nature and not the primary focus of the present study. More research is needed before conclusions should be drawn about the effects of capitalization on the responding partner.

Additionally, although the unstandardized within-person estimates of the reported effects appear relatively small, even when converted to a standard deviation metric, these reflect daily effects that likely "accumulate" over longer periods of time. For example, sharing the

best event of the day predicted a 0.18-unit increase in reported daily intimacy for the sharer, which equals a 0.26-*SD* increase in patients and a 0.24-*SD* increase in spouses. If the best event of the day was shared on 4 days over a 7-day diary period, this would translate to an increase in daily intimacy of approximately one standard deviation.

The sharer simply disclosing the worst event, regardless of how negative it was, also predicted an increase in the responder's levels of intimacy. This finding is consistent with predictions from the interpersonal process model of intimacy (Laurenceau et al., 2005; Reis & Shaver, 1988). The sharer's self-disclosure may increase the responder's sense of closeness to and interdependence with the sharer and also increase the responder's likelihood of self-disclosing in the future. Reis et al. (2010) suggested that supportive responses may actually confirm and intensify the sharer's negative perceptions of the event. However, it seems that even if the sharer did perceive the event to be more negative (which was not specifically assessed in the present study), the sharer's feelings of intimacy actually were increased after a supportive response, and, when the sharer was the spouse, the spouse's PA also were increased after a supportive response from the patient.

Limitations of the Present Study and Future Directions

Several strengths of current study derive from employing a daily diary methodology which (a) requires less retrospection or recall compared to global cross-sectional research via momentary assessments of daily outcomes of interest, (b) permits measurement of these phenomena in the real world as they naturally occur outside of a laboratory or other controlled setting, and (c) allow for the identification of within-person links between these variables (Bolger & Laurenceau, 2013; Bolger et al., 2003). Moreover, testing hypotheses about capitalization in a sample of couples coping with and supporting each other during significant health adversity is a particularly robust context to determine whether the process of sharing everyday good news matters.

Nevertheless, this study had a number of notable limitations. Although specific wording of the best and worst event items (i.e., events would have had to occur prior to each evening's diary completion) would help to establish temporal precedence, one of the criteria for bolstering causal directionality, it is possible that greater feelings of intimacy while completing the diary could have impacted how participants remembered and reported the events of that day. Moreover, many of the best and worst events that were reported by participants were not able to be included in analyses due to the fact that they were not "individual" events. This was due to the wording of the questions about the events; participants were asked about any best and worst event, not specifically about events that did not involve the partner. Additionally, some events were ambiguous in that it was unclear whether the partner was involved; for example, an event such as "driving in heavy traffic" could have been an individual event, but it is also possible that the partner was in the car with this participant and experienced the event firsthand. Only events that *clearly* involved the partner, such as "ate dinner with my son and husband," were removed from analyses. Many more best events than worst events involved the partner, and consequently, a greater number of worst events were included in analyses. Another limitation is that gender was largely confounded with patient status; there were no male patients, and there was only one

female spouse. Thus, it could not be determined whether gender or patient status underlies differences in effects across patients and spouses. The sample also largely consisted of White, well-educated couples, which may limit the generalizability of the findings. Additionally, sharing events and perceived partner responsiveness were assessed with a single item each, and intimacy was assessed with only 2 items, opening the possibility that measurement error may have attenuated hypothesized effects. Lastly, reported levels of PA and NA were, on average, relatively low (means ranged from 0.23 to 1.67), with relatively small standard deviations (ranging from 0.39 to 1.05); it is possible that this led to attenuated estimates of multilevel regression coefficients due to restriction of range.

Future research should more thoroughly measure PPR and intimacy, and it may be interesting to examine possible differences between “activated” and “deactivated” positive and negative affect (e.g., “elated” versus “content”). These associations should also be explored among other types of couples who go through high-stress periods in their lives; ideally this would include heterosexual couples in which the male partner has a serious chronic illness and same-sex couples dealing with illness and/or other major life stressors. Moreover, designs involving experimental manipulation would help more clearly isolate the causal effects of daily positive- and negative-event sharing in relationship life.

Concluding Comments

Overall, it appears that, while social support processes are important, the capitalization process is associated with benefits above and beyond those of social support, particularly for intimacy and positive affect. The perceived partner responsiveness component of these processes appears to be especially important. The present study independently replicates previous findings that capitalization predicts increased positive affect, intimacy, and relationship satisfaction (e.g., Gable et al., 2004). However, this study also extends those findings by examining the connection between capitalization and increased individual and relationship well-being in long-term committed couples actively coping with significant life adversity, as well as by comparing the effects of sharing positive events to sharing negative events. Although the current findings cannot establish causal effects, they suggest that placing greater emphasis on sharing the good experiences people have during the course of everyday life may be warranted, particularly among couples coping with a major health-related stressor and dealing with a relative increase in negative life events. These results also lend credence to the idea that suggesting couples to communicate about daily events could help boost their relationship well-being. To paraphrase from traditional marriage/partnership ceremony vows, we seek life partners who will “promise to be true in good times and in bad...” Our findings corroborate why we may want partners to be sincere and loyal by both celebrating the good events as well as being supportive during negative ones.

Acknowledgments

This research was generously supported by National Institutes of Health/National Cancer Institute grants CA142234 and CA136080 as well as the University of Delaware General University Research Grant. We thank Lauren J. Pigeon for her administrative support as well as all the couples who participated in this work.

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Table 1

Descriptive Statistics (N = 99 couples, days = 845)

Variable	Days	Min.	Max.	Grand mean	Between-couple SD	Within-couple SD
Patient						
Capitalization attempt	531	0	1	0.82	0.22	0.31
Best event positivity	534	0	6	4.78	0.84	0.98
PPR to best event	416	1	6	4.62	0.98	0.85
Social support attempt	645	0	1	0.75	0.24	0.37
Worst event negativity	649	0	6	3.11	1.38	1.49
PPR to worst event	468	0	6	4.53	0.97	0.94
PA	779	0	4	1.37	0.75	0.54
NA	780	0	4	0.33	0.42	0.37
Intimacy	787	0	6	4.02	0.91	0.70
Spouse						
Capitalization attempt	387	0	1	0.81	0.25	0.30
Best event positivity	386	0	6	4.38	1.16	0.98
PPR to best event	305	0	6	4.39	1.16	0.97
Social support attempt	523	0	1	0.72	0.30	0.35
Worst event negativity	526	0	6	2.94	1.53	1.42
PPR to worst event	363	0	6	4.11	1.41	0.94
PA	772	0	4	1.37	0.88	0.55
NA	759	0	2.86	0.23	0.25	0.28
Intimacy	771	0	6	3.70	0.88	0.74

Note. PPR = Perceived Partner Responsiveness; PA = Positive Affect; NA = Negative Affect

Within-Couple Fixed-Effect Estimates from a Dyadic Multilevel Model of Daily Intimacy Regressed on Capitalization and Social Support Attempts (N = 99 couples, days = 826)

Table 2

Fixed effects (intercept, slopes)	Estimate (SE)	Standardized estimate ^a	p-value	95% CI	
				Lower	Upper
P Intercept	3.92 (0.11)		<.001	3.72	4.13
S Intercept	3.56 (0.11)		<.001	3.34	3.78
Within-Couple Actor Effects					
P Cap Attempt Slope	0.18 ^b (0.08)	0.26	.019	0.03	0.34
S Cap Attempt Slope	0.18 ^b (0.08)	0.24	.019	0.03	0.34
P SS Attempt Slope	0.26 (0.09)	0.37	.003	0.09	0.43
S SS Attempt Slope	-0.01 (0.09)	-0.01	.956	-0.18	0.17
P Best Event Positivity Slope	0.12 (0.05)	0.17	.009	0.03	0.21
S Best Event Positivity Slope	0.16 (0.05)	0.22	.001	0.07	0.25
P Worst Event Negativity Slope	-0.06 (0.03)	-0.09	.028	-0.10	-0.01
S Worst Event Negativity Slope	-0.01 (0.03)	-0.01	.722	-0.06	0.04
Within-Couple Partner Effects					
P Cap Attempt Slope	0.05 ^c (0.08)	0.07	.498	-0.10	0.21
S Cap Attempt Slope	0.05 ^c (0.08)	0.07	.498	-0.10	0.21
P SS Attempt Slope	0.17 ^d (0.07)	0.23	.023	0.02	0.31
S SS Attempt Slope	0.17 ^d (0.07)	0.24	.023	0.02	0.31
P Best Event Positivity Slope	0.08 (0.05)	0.11	.081	-0.01	0.18
S Best Event Positivity Slope	0.000 (0.04)	0.00	.991	-0.08	0.08
P Worst Event Negativity Slope	-0.03 (0.03)	-0.04	.265	-0.09	0.02
S Worst Event Negativity Slope	-0.05 (0.02)	-0.07	.036	-0.09	-0.003

Note. P=Patient; S=Spouse; Cap = Capitalization; SS = Social Support. All *p*-values are two-tailed. Although not displayed, time (i.e., day) and the patient-spouse covariances for the upper- and lower-level random effects were included in the model. Intraclass correlations were 0.65 for patient intimacy and 0.63 for spouse intimacy.

^aStandardized slope estimates are in standard deviation metric of the outcome (i.e., fixed estimate divided by within-couple *SD* of the outcome).

^{b-d}Patient and spouse estimates were constrained to be equal, supported by nonsignificant differences in nested chi-square tests of model fit.

Table 3

Within-Couple Fixed-Effect Estimates from a Dyadic Multilevel Model of Daily Intimacy Regressed on Perceived Partner Responsiveness to Capitalization and Social Support Attempts (N = 99 couples, days = 826)

Fixed effects (intercept, slopes)	Estimate (SE)	Standardized estimate ^a	p-value	95% CI	
				Lower	Upper
P Intercept	3.91 (0.11)		<.001	3.70	4.11
S Intercept	3.54 (0.11)		<.001	3.33	3.76
Within-Couple Actor Effects					
P PPR to Cap Slope	0.14 ^b (0.04)	0.20	.002	0.05	0.22
S PPR to Cap Slope	0.14 ^b (0.04)	0.19	.002	0.05	0.22
P PPR to SS Slope	0.16 ^c (0.03)	0.23	<.001	0.10	0.22
S PPR to SS Slope	0.16 ^c (0.04)	0.22	<.001	0.10	0.22
P Best Event Positivity Slope	0.09 (0.04)	0.13	.046	0.002	0.17
S Best Event Positivity Slope	0.10 (0.06)	0.14	.067	-0.01	0.20
P Worst Event Negativity Slope	-0.04 (0.02)	-0.06	.059	-0.08	0.001
S Worst Event Negativity Slope	-0.03 (0.02)	-0.04	.203	-0.08	0.02
Within-Couple Partner Effects					
P PPR to Cap Slope	0.04 ^d (0.04)	0.04	.395	-0.05	0.12
S PPR to Cap Slope	0.04 ^d (0.04)	0.05	.395	-0.05	0.12
P PPR to SS Slope	0.12 ^e (0.03)	0.16	<.001	0.07	0.18
S PPR to SS Slope	0.12 ^e (0.03)	0.17	<.001	0.07	0.18
P Best Event Positivity Slope	0.06 (0.04)	0.08	.149	-0.02	0.14
S Best Event Positivity Slope	-0.03 (0.04)	-0.04	.528	-0.11	0.06
P Worst Event Negativity Slope	-0.02 (0.03)	-0.03	.401	-0.07	0.03
S Worst Event Negativity Slope	-0.06 (0.02)	-0.09	.015	-0.10	-0.01

Note. P=Patient; S=Spouse; PPR=Perceived Partner Responsiveness; Cap = Capitalization; SS = Social Support. All p-values are two-tailed. Although not displayed, time (i.e., day) and the patient-spouse covariances for the upper- and lower-level random effects were included in the model. Intraclass correlations were 0.65 for patient intimacy and 0.63 for spouse intimacy.

^aStandardized slope estimates are in standard deviation metric of the outcome (i.e., fixed estimate divided by within-couple *SD* of the outcome).

^{b-c}Patient and spouse estimates were constrained to be equal, supported by nonsignificant differences in nested chi-square tests of model fit.