Journal of Personality 81:5, October 2013

DOI: 10.1111/jopy.12025

Situational and Dispositional Goal Adjustment in the Context of Metastatic Cancer

Elizabeth Thompson, Annette L. Stanton, and Julienne E. Bower
University of California, Los Angeles

Abstract

Striving toward goals is associated with higher levels of subjective well-being; however, many potential roadblocks to goal achievement exist. The current study extends the understanding of goal regulation processes in its examination of the relationships between dispositional and situational goal adjustment to a profound stressor and their associations with psychological adjustment. Women ($N = 103$; M age = 57.2 years; 82% Caucasian) with metastatic breast cancer completed semistructured interviews and self-report measures at study entry and 3 months later. Measures of dispositional and situational goal reengagement were significantly correlated, but dispositional and situational goal disengagement were unrelated. Greater dispositional and situational goal disengagement abilities were associated with fewer cancer-related intrusive thoughts at Time 1. Dispositional and situational reengagement were positively associated with life satisfaction and sense of purpose and negatively associated with depressive symptoms at Time 1. However, greater initial situational goal disengagement predicted an increase in depressive symptoms over time. Both how an individual typically responds to goal blockage, as well as how an individual is currently responding to a specific blocked goal, appear related to psychological adjustment.

In response to goal blockage, individuals' ability to adjust their goals is theorized to be an adaptive self-regulation strategy, in that it prevents the negative effects of futile perseverance toward an unattainable goal and allows resources to be diverted to achievable goals (Heckhausen, Wrosch, & Schulz, 2010; Woodward, 2004; Wrosch, Scheier, Carver, & Schulz, 2003). Goal disengagement is defined as a reduction of commitment and effort toward goal completion. Goal reengagement entails identifying, committing to, and pursuing an alternative goal (Wrosch & Scheier, 2003; Wrosch, Scheier, Carver, et al., 2003), whether a new goal or an existing goal that is now pursued with more vigor. Goal adjustment ability has been measured as both a dispositional characteristic and a situational response to a specific blocked goal; however, the relationship between the dispositional and situational constructs and their relative predictive utility have not been examined. Understanding whether an individual responds consistently or distinctly to specific blocked goals is important if researchers and clinicians desire to predict or modify behavior. This study's primary goal was to examine situational and dispositional goal adjustment processes and their implications for psychological adjustment in women with metastatic breast cancer, an understudied group likely to be experiencing considerable goal blockage.

Across the life span, individuals typically confront situations that make goal completion unlikely or impossible. Dispositional (Wrosch, Scheier, Carver, et al., 2003) and situational (Woodward, 2004) theories of goal adjustment, which were developed in parallel, emphasize the adaptive and unique processes of letting go of unachievable goals and adopting alternative goals. Disengaging from a blocked goal, rather than determined pursuit, is theorized to be adaptive, especially when complemented by engaging in an alternative goal. Heckhausen and colleagues' (2010) motivational theory of life span development expanded upon earlier theories of goal adjustment in its application of a developmental perspective to highlight the relationships between goal adjustment and unique challenges along one's life course. Living with metastatic cancer involves challenges associated with a shortened

This research was supported by funds from the California Breast Cancer Research Program of the University of California, Grant Number 10IB-0079 and the UCLA Jonsson Comprehensive Cancer Center (to A. L. Stanton).

The authors have no financial disclosures to report.

We are grateful to Carol Ryff for her consultation on adapting her Well-Being measure (Ryff, 1989). We also wish to acknowledge all participants involved in this study and the medical staff who aided in recruitment.

Correspondence concerning this article should be addressed to Annette L. Stanton, Department of Psychology, 1285 Franz Hall, Box 951563, UCLA, Los Angeles, CA 90095-1563. Email: astanton@ucla.edu.

life expectancy, as well as challenges unique to living with a chronic disease, often with an uneven course and varying treatments.

The ability to give up blocked goals (i.e., goal disengagement ability) and to engage in new or preexisting alternative goals (i.e., goal reengagement ability) most often has been characterized as a relatively stable dispositional characteristic, and most research to date has assessed dispositional goal adjustment. Goal adjustment is measured most frequently with the Goal Adjustment Scale (GAS; Wrosch, Scheier, Miller, Schulz, & Carver, 2003), which asks individuals the extent to which they agree or disagree with statements such as "If I have to stop pursuing an important goal in life . . . . . it's easy for me to reduce my effort towards the goal" (goal disengagement) and ". . . I start working on other new goals" (goal reengagement). Research demonstrates that individuals who evidence the dispositional ability to adjust to unattainable goals experience higher subjective well-being, lower perceived stress, fewer intrusive thoughts, better sleep efficiency, more normative cortisol secretion cycles, lower levels of inflammation, and fewer physical symptoms of illness than those who characteristically have difficulty disengaging from blocked goals (Miller & Wrosch, 2007; Wrosch, Miller, Scheier, & de Pontet, 2007; Wrosch, Scheier, Miller, et al., 2003). A major limitation to the existing literature is its primary reliance on samples of healthy, young participants, who may have never experienced threat to a primary life goal.

Fewer studies have addressed *situational* goal adjustment—that is, the ability to adjust goals in specific situational contexts—and the association between situational and dispositional adjustment. Situational reengagement is negatively related to depressive symptoms (Offerman, Schroevers, van der Velden, de Boer, & Pruyn, 2010; Thompson, Woodward, & Stanton, 2011) and positively related to positive affect (Schroevers, Kraaij, & Garnefski, 2008). These studies did not directly investigate links between situational and dispositional goal adjustment indices; the present study allowed investigation of these relationships as well as their relative predictive utility. We expected dispositional and situational goal adjustment to be at least modestly correlated, as we presumed that individuals develop habitual responses to goal blockage (dispositional goal adjustment), and that women would have some propensity to exhibit their typical response when metastatic breast cancer prompted them to give up a goal (situational goal adjustment). However, metastatic breast cancer may cause very central life goals to be blocked, perhaps for the first time, and thus women may have a more difficult time with goal disengagement in this context than is typical for them. It may also be more challenging to find alternative goals to pursue when confronting shortened life expectancy and physical limitations. Thus, discrepancies might exist between how women typically respond to blocked goals and their goal disengagement and reengagement abilities in the unique context of metastatic cancer. Measuring both dispositional and situational goal adjustment abilities could produce more adequate characterization of responses to the extraordinary context of potentially profound goal blockage and allow examination of the relative predictive utility of dispositional and situational responses.

Goal adjustment ability is particularly important when individuals confront prolonged and intense stressors (Wrosch, Scheier, Miller, et al., 2003), and understanding the utility of goal adjustment in the context of serious health conditions may aid in developing interventions to foster well-being for chronically ill individuals. Women with metastatic breast cancer (i.e., breast cancer that has spread to other organs, typically the brain, bone, liver, or lungs) have a median survival time of fewer than 5 years, and they often confront disabling symptoms and treatments that render specific goals difficult to accomplish (Giordano et al., 2004). Rates of depression are higher in women with metastatic breast cancer than in women with less advanced disease, and depression is often underdiagnosed and insufficiently treated in this population (Caplette-Gingras & Savard, 2008). In the current study, qualitative data on the content of blocked goals that women faced were collected to elucidate some of the challenges faced by women with metastatic disease.

To our knowledge, goal adjustment processes in cancer patients have been examined in only three previous studies. Lepore and Eton (2000) examined whether men with prostate cancer changed or maintained their central life goal from 6 months after diagnosis to 10 weeks later and the relationship between whether or not men changed a central life goal and changes in quality of life. Change in a central life goal over the 10-week period buffered the negative impact of decreasing urinary functioning on change in quality of life, suggesting that altering goals can be adaptive. Schroevers et al. (2008) examined situational goal adjustment in a cross-sectional sample of 108 patients with various types and stages of cancer. In hierarchical regression analyses controlling for age and time since diagnosis, situational goal disengagement and goal reengagement were entered simultaneously with measures of three cognitive emotion regulation strategies (rumination, catastrophizing, and positive refocusing) in separate models for positive affect and negative affect. Situational goal reengagement was positively related to positive affect over and above age, time since diagnosis, and the three cognitive emotional regulation strategies. Situational goal disengagement was not significantly associated with positive or negative affect in either model. The authors concluded that goal reengagement is a more salient process than goal disengagement for patients with cancer. Offerman et al. (2010) examined situational goal reengagement (but not goal disengagement) in a cross-sectional sample of 20 men with head or neck cancer and their 20 female partners. Goal reengagement was inversely correlated with depressive symptoms for male patients, but the relationship between female partners' goal reengagement and their own depressive symptoms was not significant. These studies suggest that engaging in alternative goals can be adaptive for adults with cancer.

Goal disengagement and goal reengagement are posited to have unique relationships with negative and positive measures of adjustment (Wrosch, Scheier, Miller, & Carver, 2012). While goal disengagement is hypothesized to reduce the distress associated with unsuccessful goal pursuit, focused attention on a new or former goal is thought to increase positive affect, sense of purpose, and other indicators of positive adjustment. Support for this hypothesis is mixed, as some studies have found, for example, that goal reengagement is significantly associated with both negative (e.g., Offerman et al., 2010; Thompson et al., 2011) and positive (Schroevers et al., 2008) measures of adjustment. Much of the previous research on goal adjustment has focused on the relationship between goal disengagement and indicators of negative adjustment, such as depressive symptoms, perceived stress, or negative affect (e.g., Wrosch, Scheier, Miller, et al., 2003), which leaves the hypothesis that goal reengagement is more strongly associated with positive measures of adjustment than goal disengagement under-examined. As women with breast cancer are at risk for developing depressive symptoms (Bardwell et al., 2006), we examined depressive symptoms and cancer-related intrusive thoughts as dependent variables. We also examined purpose in life and life satisfaction as dependent variables to investigate whether goal disengagement and goal reengagement evidence unique relationships with negative and positive measures of adjustment.

The current study extends the limited previous research on goal adjustment in the cancer context, as it provides qualitative data on the types of goals women give up as they live with metastatic cancer; examines the relationships between goal disengagement, goal reengagement, and both positive and negative indicators of psychological adjustment; and explores the predictive utility of situational and dispositional goal adjustment over time. A primary hypothesis was that dispositional and situational goal disengagement abilities would be associated with lower levels of depressive symptoms and cancer-related intrusive thoughts, and that dispositional and situational goal reengagement abilities would be positively associated with well-being (i.e., life satisfaction and sense of purpose). High goal disengagement was expected to predict a decrease in negative adjustment, and high goal reengagement to predict an increase in positive adjustment over time.

METHOD

Participants

Participants were women with metastatic breast cancer who provided informed consent and met the following eligibility criteria: (a) diagnosed with metastatic (Stage IV) breast cancer, (b) physician-estimated survival of at least 6 months, and (c) the ability to complete all study procedures in English. Of the 178 patients who were introduced to the study, 114 (64%) consented and completed the questionnaires and interview at Time 1. Women who declined most frequently cited being too ill or not having enough time to participate. Among the 114 participants completing Time 1 assessments, 103 (90%) completed study procedures at Time 2 (3 months later). Women were recruited through a community breast cancer clinic and a university-based oncology clinic. They received $25 compensation for the completion of each assessment.

Procedure

During oncology appointments, research staff introduced the study. Potential participants then were called by research staff, who described the study further and scheduled the interview appointment. At study entry, participants provided written informed consent. Participants were mailed a packet containing self-report questionnaires. These materials were brought to the initial interviews, which were conducted by study staff in an oncology clinic, at the participant's home, or over the phone if a participant lived outside the greater Los Angeles area. Clinical psychology graduate students and post-baccalaureate-trained research assistants conducted 90-min semistructured interviews. Interviews and assessment packets consisted of questions regarding medical history, adjustment to cancer, psychological well-being, life goals, goal adjustment abilities, and other measures not pertinent to this report (Algoe & Stanton, 2012; Stanton & Low, 2012). Three months after study entry, participants completed a similar packet by mail.

Measures

Demographic and Cancer-Related Variables. Demographic variables including age, years of education, ethnicity, marital status, employment status, and number of comorbid medical conditions were assessed through the Time 1 questionnaires and interviews. Number of comorbid medical conditions was a count from free responses to the question, "What other chronic medical conditions or diseases do you have?" Examples including hypertension, arthritis, heart disease, and migraine were provided to coders, who checked for correspondence with lists of prescribed medications, as collected from medication containers and self-report. Women also reported the number of months since the initial cancer diagnosis, months since diagnosis of metastatic disease, number of metastatic sites, and current medical treatments (i.e., chemotherapy, radiation, Herceptin, or endocrine therapy). At Time 2, women reported whether they had received results from any diagnostic test or scans and the nature of those results (i.e., indication of advancing disease, such as presence of a new metastatic site or tumor growth, or no indication of advancing disease).

Goal Adjustment Ability. Dispositional goal disengagement ability and dispositional goal reengagement ability were assessed by the Goal Adjustment Scale (GAS), a 10-item measure that is answered on a 5-point Likert-type scale (Wrosch, Scheier, Miller, et al., 2003). Goal disengagement

was measured with four items and goal reengagement was measured with six items. The item stem in the GAS is "If I have to stop pursuing an important goal in my life. . . ." Example items for goal disengagement are "I stay committed to the goal for a long time; I can't let go," (reverse scored) and "It's easy for me to stop thinking about the goal and let it go." Example items for goal reengagement are "I think about other new goals to pursue" and "I convince myself that I have other meaningful goals to pursue." Cronbach's alpha for the combined disengagement subscales has been reported across seven studies as ranging from .67 to .82, and the reported values for the reengagement scale ranged from .81 to .89 (Miller & Wrosch, 2007; Wrosch et al., 2007; Wrosch, Scheier, Miller, et al., 2003; see Table 2 for all internal consistency estimates for this sample).

Situational goal disengagement was assessed at the initial interview using a scale adapted from an infertility-specific, situational version described in Thompson et al. (2011). The version used in Thompson et al. was adapted from the infertility context to cancer and shortened from 15 items to six items in order to decrease respondent burden. Women were first asked to state a life goal that they were currently giving up or had given up because of their cancer and its treatment. The interviewer recorded this qualitative response verbatim. Women were then asked to rate on a 7-point scale how important this goal was to them at the time when it was most important. Women completed the six-item scale that assessed on a 7-point Likert-type scale their ability to disengage from this specific goal and to engage in other meaningful goals. Originally, the situational goal disengagement subscale was calculated as the mean of the three disengagement items, but this subscale had an inadequate reliability ($\alpha = .57$), which improved ($\alpha = .67$) with the removal of a single item ("It is difficult for me to give up this goal"). Thus, the situational goal disengagement subscale score was calculated as the mean of the sum of two disengagement items: "I have made peace with giving up this goal" and "I am still focused on this goal" (reverse scored). The items for goal reengagement were "I have other meaningful goals besides this goal," "I am investing more time in other goals," and "I am pursuing other meaningful goals."

Two independent raters (the first author and an advanced graduate student) coded the goals that women reported giving up into four categories: vocational, interpersonal, avocational (relating to a non-work-related activity such as a hobby or travel), or other. Examples of vocational goals were "Forced to retire early" and "Profession as a doctor." Interpersonal goals included "Having children" and "Remarrying and being in a significant relationship." Reported avocational goals included "Run second marathon" and "Travel, scuba diving." Other goals included "Buying properties" and "Investing." Agreement between raters was 96%, and a third rater (an advanced graduate student) resolved the single coding disagreement.

Psychological Well-Being. Psychological well-being measures were administered at both assessment points. Life satisfaction was measured using the Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). This five-item scale asks individuals to indicate their degree of agreement with statements regarding satisfaction with their lives (e.g., "I am satisfied with my life" and "So far I have gotten the important things I want in life"). Previous research has demonstrated that the SWLS has good internal consistency ($\alpha = .87$) and test-retest reliability over 2 months ($r = .82$; Diener et al., 1985).

Sense of purpose was assessed with an adapted form of the Sense of Purpose subscale from Ryff's Well-Being measure (Ryff, 1989). The six-item version (e.g., "I have a sense of direction and purpose in life" and "Some people wander aimlessly through life, but I am not one of them") used in this study was adapted with consultation from Dr. Carol Ryff for a population with metastatic cancer. One item ("I live one day at a time and don't really think about the future") was removed to improve internal consistency. The 14-item Sense of Purpose subscale has strong internal consistency ($\alpha = .88$; Ryff & Keyes, 1995).

Women's self-reported depressive symptoms were assessed using the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). In samples of cancer patients undergoing active treatment, this 20-item measure has strong internal consistency ($\alpha = .89$) and adequate test-retest reliability over a 2–3-week period ($r = .57$; Hann, Winter, & Jacobsen, 1999).

Cancer-related thought intrusion was measured using the Intrusion subscale of the 15-item Impact of Event Scale (IES; Horowitz, Wilner, & Alvarez, 1979). Intrusion is conceptualized as the extent to which the participant experiences intrusive, negative cognitions and emotions relating to her experience with cancer and its treatment (e.g., "Any reminder brought back feelings about it" and "Other things kept making me think of it"). In previous samples, the Intrusion subscale of the IES has demonstrated sound internal consistency ($\alpha = .79$) and test-retest reliability over one week ($r = .87$; Horowitz et al., 1979).

Analytic Strategy

Descriptive statistics were generated for demographic and other variables. Bivariate correlations were calculated to examine the relationships between goal adjustment subscales and psychological adjustment measures. To determine which covariates should be controlled in primary analyses, we conducted bivariate correlations, *t*-tests, and χ^2 analyses for sociodemographic characteristics (age, education, ethnicity, marital status, employment status, number of comorbid medical conditions) and cancer-related variables (months since initial cancer diagnosis, number of months since diagnosis of metastatic disease, number of metastatic sites, whether women had received indication of disease progression, and whether women were receiving chemotherapy, radiation, Herceptin, or endocrine therapy) with dependent variables. Variables were

included as covariates if their relationship with the dependent variable was significant at the $p < .05$ level. To guarantee sufficient cell size, categorical variables were dummy coded: race (0 = Caucasian, 1 = other ethnic group); marital status (0 = married, 1 = single, divorced, or widowed); employment status (0 = employed full- or part-time, 1 = not employed); indication of advancing disease (0 = no indication of advancing disease, 1 = indication of advancing disease); and whether women were receiving chemotherapy, radiation, Herceptin, or endocrine therapy was recoded for each specific treatment (0 = not receiving treatment, 1 = receiving treatment).

Psychological adjustment measures were separately regressed on situational and dispositional goal adjustment measures at Time 1 (controlling for relevant covariates). In the first step of regression analyses, significant sociodemographic and cancer-related covariates were entered. The second step consisted of the main effects for goal disengagement and reengagement.[1] Psychological adjustment at Time 2 was also regressed on Time 1 situational and dispositional goal adjustment measures at Time 1 when controlling for Time 1 psychological adjustment.

Because the multiple regressions conducted for this article were secondary analyses (see Stanton & Low, 2012, for primary analyses), we conducted post hoc analyses using G*Power (Erdfelder, Faul, & Buchner, 1996) to assess statistical power. We assessed a five-predictor variable equation with a sample size of 76 (the smallest used for regression analyses) at alpha $p < .05$. Assessing for small ($f^2 = .02$), medium ($f^2 = .15$), and large ($f^2 = .35$) effect sizes (Cohen, 1977), power was .23 to detect a small effect, .91 to detect a moderate effect, and more than .99 to detect a large effect. Thus, there was sufficient power to detect moderate and large effects but inadequate power to detect a small effect.

RESULTS

Demographic and cancer-related variables for participants are reported in Table 1. At Time 1, participants were on average 57.2 years old ($SD = 10.8$, range = 33–91 years) and had received a diagnosis of metastatic cancer on average 2.76 years ($SD = 2.48$) before study entry. Eleven women completed the initial assessment but not the Time 2 assessment. These 11 women did not differ significantly from women who completed the Time 2 assessment on any demographic variables, cancer-related variables, or Time 1 psychological adjustment measures.

Means, standard deviations, ranges, and internal consistency reliability coefficients for variables of interest are displayed in Table 2. On average, women at Time 1 reported moderate dispositional goal disengagement ability ($M = 3.05$ on a 1–5 scale) and slightly higher dispositional goal reengagement ability ($M = 3.65$ on a 1–5 scale). These values are very similar to those reported by a sample of 115 healthy undergraduates ($M = 3.09$ for dispositional goal disengagement, $M = 3.60$ for dispositional goal reengagement; Wrosch, Scheier, Miller, et al., 2003). The women who reported giving up a goal ($n = 89$) reported moderately high situational goal disengagement ability ($M = 4.82$ on a 1–7 scale) and moderately high situational goal reengagement ability ($M = 4.80$ on a 1–7 scale).

Most ($n = 89$; 78%) participants identified a life goal from which they had disengaged since diagnosis. Approximately

Table 1 Demographic and Cancer-Related Variables

	Women ($N = 114$)
Age (y), *M* (*SD*)	57.2 (10.8)
Ethnicity, *n* (%)	
Caucasian	84 (82%)
Asian	6 (6%)
African American	5 (5%)
Latina	4 (4%)
Other	3 (3%)
Education (y), *M* (*SD*)	15.7 (3.0)
Employed	18 (36%)
Marital status	
Married	75 (67%)
Single	14 (13%)
Divorced or separated	16 (14%)
Widowed	7 (6%)
Time since cancer diagnosis (y), *M* (*SD*)	7.90 (5.58)
Diagnosis of metastatic cancer (y), *M* (*SD*)	2.76 (2.48)
Number of metastatic sites	
One	41 (36%)
Two	35 (31%)
≥ Three	25 (22%)
Unreported	13 (11%)
Treatment	
Chemotherapy	58 (51%)
Herceptin	26 (23%)
Endocrine therapy	31 (27%)
Number of other chronic diseases, *M* (*SD*)	1.46 (1.58)

Table 2 Descriptive Statistics for Key Variables

	N	Mean	Range	*SD*	Alpha
Dispositional Disengagement	109	3.05	1.25–4.75	.73	.74
Dispositional Reengagement	108	3.65	2.00–5.00	.61	.84
Situational Disengagement	84	4.82	1.00–7.00	1.74	$r = .50$**
Situational Reengagement	84	4.80	1.33–7.00	1.44	.81
Situational Goal Importance	88	5.81	1.00–7.00	1.33	—
Life Satisfaction T1	111	22.44	5–35	7.59	.87
Life Satisfaction T2	102	22.00	5–35	7.66	.87
Purpose in Life T1	111	4.75	1.8–6.0	1.08	.80
Purpose in Life T2	102	4.81	1.6–6.0	.96	.76
CES-D T1	113	14.74	0–49	10.24	.89
CES-D T2	103	12.55	0–40	8.85	.88
IES Thought Intrusion T1	110	9.76	0–29	7.52	.83
IES Thought Intrusion T2	101	10.16	0–33	8.3	.87

Note. CES-D = Center for Epidemiologic Studies-Depression scale; IES = Impact of Event Scale.
**$p < .01$.

half (51%) of the women reported giving up a vocational goal, 28% gave up an avocational goal, 16% gave up an interpersonal goal, and 5% gave up a goal that was coded as other. Vocational goals included "Finishing degree," "Goal to become VP of sales," and "Being an attorney." Avocational goals included "Climbing Machu Picchu," "Volunteering for AIDS Project," and "Going to the gym on a regular basis." Interpersonal goals included "Getting old with husband," "Dating," and "Being closer to my sister." When asked to rate the specific goal for its level of importance, 39% of women rated their goal at the highest level of importance (7 on a 1–7 scale), 28% rated the goal a 6 on importance, and 18% rated the goal a 5. The remaining 15% rated their goal in the range of 1–4 on importance level, indicating that the majority of women reported giving up a goal that was highly personally meaningful.

Compared to women who had not given up a central goal, women who reported giving up goals reported significantly more years of education ($M = 16.0$ years compared to $M = 14.6$ years for women not giving up goals, $t(108) = -2.12$, $p < .05$) and were significantly younger ($M = 55.8$ years compared to $M = 62.1$ years for women not giving up goals, $t(109) = 2.62$, $p < .05$) than women who reported not giving up any goal. Women who gave up goals had significantly more metastatic sites ($M = 2.0$ compared to $M = 1.5$, $t(100) = -2.15$, $p < .05$). There were no significant between-group differences on other demographic factors, cancer-related factors, or dispositional GAS subscales.

Correlations Between Variables

Correlations between GAS subscales and correlations of GAS scores with psychological adjustment measures are presented in Table 3. Dispositional goal reengagement was significantly correlated with situational goal reengagement ($r = .40$, $p \leq .01$). No other subscales were significantly correlated, which was unexpected in the case of dispositional goal disengagement and situational goal disengagement ($r = -.07$, $p = .51$).

Correlations were examined between GAS subscales and demographic characteristics and cancer-related variables. Women who were married reported significantly lower dispositional goal disengagement ability than women who were not married ($t = -1.99$, $p < .05$). The number of months since metastatic diagnosis was negatively correlated with dispositional goal disengagement ability ($r = -.19$, $p < .05$), but positively correlated with situational goal disengagement ability ($r = .29$, $p < .01$). Greater number of reported medical comorbidities was significantly negatively correlated with dispositional goal reengagement ($r = -.23$, $p < .05$) and situational goal reengagement ($r = -.30$, $p < .01$). Women with no indication of advancing disease (e.g., no sign of tumor growth or new metastatic site) reported significantly higher situational goal reengagement ability than women who reported indication of tumor spread ($t = 2.29$, $p < .05$). Age, ethnicity, educational level, employment status, the number of metastatic sites reported, the number of disease-free months reported, and whether the women were receiving active treatment were not significantly correlated with any GAS subscale.

In bivariate analyses of sociodemographic and cancer-related variables with Time 1 adjustment variables, being married [$t(107) = 2.90$, $p < .01$] was associated with greater life satisfaction, and reporting a greater number of comorbid medical conditions ($r = -.22$, $p < .05$) was significantly correlated with lower life satisfaction. More months since metastatic diagnosis ($r = .26$, $p < .01$) was positively correlated with greater Time 1 purpose in life. Younger age ($r = -.21$, $p = .05$)

Table 3 Correlations Between GAS Subscales and Dependent Variables

Measure	1	2	3	4	5	6	7	8	9	10	11	12
Goal Disengagement												
1. Dispositional	—	–.07	.00	.18	.01	.01	–.17	–.18	–.12	–.17	–.26**	–.32**
2. Situational		—	.11	.16	.07	–.03	.22*	.29**	–.25*	.03	–.24*	–.08
Goal Reengagement												
3. Dispositional			—	.40**	.28**	.30**	.41**	.33**	–.25**	–.13	.08	.11
4. Situational				—	.32**	.33**	.31**	.37**	–.37**	–.29**	–.17	–.04
Life Satisfaction												
5. T1					—	.68**	48**	.46**	–.48**	–.32**	–.23*	–.19
6. T2						—	.42**	.39**	–.46**	–.43**	–.22*	–.18
Purpose in Life												
7. T1							—	.61**	–.49**	–.17	–.10	–.04
8. T2								—	–.45**	.32**	–.29**	–.05
CES-D												
9. T1									—	.61**	.48**	.30**
10. T2										—	.38**	.40**
IES												
11. T1											—	.64**
12. T2												

Note. $n = 76$–113. CES-D = Center for Epidemiologic Studies-Depression scale; IES = Impact of Event Scale.
*$p < .05$. **$p < .01$.

and greater number of comorbid medical conditions ($r = .30$, $p = .02$) were significantly related to more depressive symptoms. No significant covariates emerged for Time 1 cancer-related thought intrusion.

At Time 2, a greater number of comorbid medical conditions was significantly related to higher levels of depressive symptoms ($r = .27$, $p < .01$), lower levels of cancer-related thought intrusion ($r = –.20$, $p < .05$), lower satisfaction with life ($r = –.26$, $p < .01$), and lower sense of purpose ($r = –.21$, $p < .05$). Age was inversely related to cancer-related thought intrusions ($r = –.30$, $p < .01$), and more years of education was associated with higher levels of cancer-related thought intrusions ($r = .27$, $p < .01$). Not receiving endocrine therapy [$t(99) = –2.46$, $p < .05$] and having indication of advancing disease [$t(100) = –2.33$, $p < .05$] were associated with greater depressive symptoms. All significant sociodemographic and cancer-related correlates of dependent variables were entered as covariates in subsequent analyses.

Relationships Between Goal Adjustment and Psychological Adjustment

To test the hypothesis that women reporting greater dispositional and situational ability to disengage from goals would evidence greater sense of purpose and life satisfaction and less depressive symptomatology and cancer-related intrusive thoughts, we conducted multiple regression analyses using GAS subscales as predictors and measures of psychological adjustment as dependent variables.

As shown in Table 4, both dispositional and situational goal disengagement abilities were related to fewer cancer-related intrusive thoughts (but not the other dependent variables) at Time 1. Dispositional and situational goal reengagement abilities were significantly associated with higher life satisfaction, higher sense of purpose, and fewer depressive symptoms (but not intrusive thoughts) at Time 1.

In analyses to examine change in psychological adjustment (i.e., controlling for Time 1 values on dependent variables and other covariates), higher situational goal disengagement ability predicted an increase in depressive symptoms ($b = .25$, $p < .01$). No other analyses were significant at $p < .05$.

Relative Predictive Utility of Situational and Dispositional Goal Adjustment

When both dispositional and situational measures of goal disengagement and reengagement were entered in the same model for adjustment measures at Time 1, both dispositional and situational goal disengagement were significantly associated with fewer cancer-related intrusive thoughts ($b = –.30$, $p < .01$ and b = –.37, $p < .05$, respectively). Situational disengagement and situational goal reengagement were negatively related to depressive symptoms ($b = –.25$, $p < .05$ and $b = –.23$, $p < .05$, respectively). Dispositional goal reengagement was significantly associated with sense of purpose ($b = .34$, $p < .01$). No significant associations between goal adjustment and life satisfaction emerged.

DISCUSSION

The goal of this study was to examine the relationships between dispositional and situational goal adjustment and psychological health in the context of metastatic breast cancer. Generally, it appeared that at both time points, goal disengagement ability was related to fewer cancer-related intrusive thoughts, whereas reengagement in new goals was associated with measures of positive adjustment, specifically life satisfaction and purpose in life, and fewer symptoms of depression. Dispositional goal adjustment measures explained 5–16% of the variance in Time 1 psychological adjustment measures above and beyond covariates, and situational goal adjustment measures explained 5–14% unique variance in Time 1 adjustment measures when entered separately. With the caveat that causality cannot be inferred in this naturalistic study of women confronting very serious disease, these findings suggest that the abilities to relinquish unattainable goals and engage in alternative goals are adaptive for women with metastatic breast cancer.

Difficulty with goal disengagement was related to greater cancer-related intrusive thoughts; perhaps women who unwaveringly pursued goals faced consistent reminders of the physical and psychological limitations inflicted by their cancer as they pursued their goals. Thus, participants may have experienced higher levels of cancer-related intrusive thoughts than women who were able to disengage from blocked goals. We also expected goal disengagement to be negatively associated with depressive symptoms, but found that goal reengagement and not goal disengagement exhibited this relationship. Perhaps goal reengagement is indirectly associated with reduced depressive symptoms through the pathway of behavioral activation (Jacobson, Martell, & Dimidjian, 2001).

Previous research has revealed that goal reengagement is particularly salient for older adults, whereas younger adults may not be as threatened by disengaging from life goals, as opportunities for adopting new goals are plentiful (Wrosch, Scheier, Miller, et al., 2003). In the context of metastatic breast cancer, women may have a shortened time perspective and their opportunities for adopting new goals may be limited. Thus, as with older adults and other samples of adults with cancer (Offerman et al., 2010; Schroevers et al., 2008), reengagement may be particularly salient for individuals with metastatic cancer and may exhibit stronger associations with outcome measures than those found with other samples.

When controlling for Time 1 psychological adjustment measures and other covariates, higher initial situational goal disengagement predicted an increase in depressive symptoms. This finding runs counter to the notion that disengagement ability is adaptive; perhaps women reporting high situational

Table 4 Goal Adjustment as Related to Psychological Well-Being at Time 1

	Life Satisfaction ($N = 103$)		Purpose in Life ($N = 105$)		CES-D ($N = 104$)		Intrusive Thoughts ($N = 107$)	
Dispositional Goal Measures	b	ΔR^2	b	ΔR^2	b	ΔR^2	b	ΔR^2
Step 1		.10*		.05*		.08**		
Marital status[a]	–.25**		—		—		—	
Comorbid conditions	–.21		—		.24*		—	
Age	—		—		–.30**		—	
Mo. metastatic Dx	—		.24*		—		—	
Full Model		.06*	—	.16*	—	.05	—	.05*
Marital status	–.30**		—		—		—	
Comorbid conditions	–.14		—		.17		—	
Age	—		—		–.25*		—	
Mo. metastatic Dx	—		.19*		—		—	
Goal disengagement	.11		–.12		–.13		–.26**	
Goal reengagement	.25**		.39**		–.19*		.08	
	R^2	$F(df)$	R^2	$F(df)$	R^2	$F(df)$	R^2	$F(df)$
Full Model	.16	5.70** (4,98)	.19	9.02** (3,101)	.11	4.23** (4,99)	.05	4.00* (2,104)

	Life Satisfaction ($N = 80$)		Purpose in Life ($N = 82$)		CES-D ($N = 81$)		Intrusive Thoughts ($N = 82$)	
Situational Goal Measures	*b*	ΔR^2	*b*	ΔR^2	*b*	ΔR^2	*b*	ΔR^2
Step 1		.12**		.00		.07*		
Marital status	–.19		—		—		—	
Comorbid conditions	–.31**		—		.27*		—	
Age	—		—		–.28*		—	
Mo. metastatic Dx.	—		.07		—		—	
Full Model		.05		.11*		.14**		.05*
Marital status	–.19		—		—		—	
Comorbid conditions	–.25*		—		.17		—	
Age	—		—		–.26*		—	
Mo. metastatic Dx.	—		.03		—		—	
Goal disengagement	.03		.16		–.19		–.22*	
Goal reengagement	.23*		.27*		–.30**		–.14	
	R^2	$F(df)$	R^2	$F(df)$	R^2	$F(df)$	R^2	$F(df)$
Full Model	.15	4.43** (4,75)	.08	3.41* (3,78)	.19	5.74** (4,76)	.05	3.30* (2,79)

Note. Mo. metastatic Dx = months since diagnosis of metastatic disease; CES-D = Center for Epidemiologic Studies-Depression scale; IES = Impact of Event Scale.
[a]0 = married; 1 = single, divorced, or widowed. R^2 in the full models are adjusted R^2.
*$p < .05$. **$p < .01$.

disengagement experience a temporary increase in depressive symptoms as they let go of meaningful life goals and adjust to new circumstances. Extended follow-up would be necessary to evaluate the possibility that goal disengagement is adaptive over the longer term. No other goal adjustment measures significantly predicted Time 2 psychological adjustment with Time 1 adjustment controlled. It is important to note that only depressive symptoms exhibited significant change from Time 1 to Time 2, which may reflect the chronicity of the stressor.

Situational and dispositional measures of goal adjustment were similarly related to psychological adjustment measures. However, as evidenced by the lack of correlation between dispositional and situational goal disengagement, these two responses appear distinct, at least in the context of profound goal blockage. Perhaps women's ratings of how they would generally respond to blocked goals do not correspond to how they actually react to blocked goals when the importance of relinquished goals is very high or uptake of alternative goals is difficult. Indeed, women rated forsaken goals as highly important, and many were what would typically be considered central life goals (i.e., ending a career, forgoing an intimate relationship). Furthermore, although relations of goal adjust-

ment abilities with psychological outcomes were similar when dispositional and situational abilities were examined in separate analyses, each evidenced unique relations with two psychological adjustment indices when dispositional and situational measures were examined together, and some evidence emerged for unique relations over time (e.g., only higher situational goal disengagement ability predicted an increase in depressive symptoms). An alternative explanation (see further discussion below) is that our two-item measure of situational disengagement inadequately measured this construct. Nonetheless, it appears that both how an individual typically responds to goal blockage, as well as how an individual is currently responding to specific blocked goals, are related uniquely to psychological adjustment. These findings suggest the importance of measuring both dispositional and situational goal adjustment if researchers and clinicians are aiming to understand individuals' adjustment to blocked goals in situational context.

The association between goal reengagement and specific cancer- and health-related variables illustrates how physical health may limit individuals' abilities to engage in new goals. Women with indication of advancing disease at Time 2 reported significantly lower Time 1 situational goal reengagement ability than women who reported no indication of tumor spread. Perhaps women with advancing disease at Time 2 were already on a downward health trajectory at Time 1, and they may have experienced symptoms that limited their ability to engage in new or varied goals. Women with more medical comorbidities reported less dispositional and situational goal reengagement, signifying that additional health concerns may prevent women from pursuing life goals. Particularly for individuals faced with chronic health conditions, it may be useful for clinicians to assist in the process of establishing new attainable goals.

LIMITATIONS

Several limitations to the study should be noted. Analyses had power to detect only medium and large effect sizes. Our measure of situational disengagement was limited to two items that were moderately correlated. Although the situational disengagement subscale evidenced expected relationships with dependent variables, it was surprising that situational disengagement was uncorrelated with dispositional disengagement. Future work is needed to improve upon the reliability and validity of the measurement of situational disengagement.

The sample was small, and women who were very ill may have declined to participate. Perhaps for women who were extremely limited by their disease or nearing death, it may be more advantageous to focus on the present moment rather than pursuing future-oriented goals. The relationship between dispositional and situational goal adjustment may also be different for gravely ill women, who perhaps would not adjust their goals as they typically do. Although we would expect our findings to generalize to other samples facing chronic, life-threatening disease, these results may not generalize to those most severely ill.

Women indicated via self-report whether they had given up a goal since metastatic cancer diagnosis. Some women could have perceived adjusting a goal without reporting giving up the goal, whereas other women could have described the same process as abandonment of a specific goal. An alternative way of assessing whether situational disengagement occurred would be to track specific goals over time and ask participants whether goals had been maintained, adjusted, or abandoned. We assessed how women responded to one blocked goal since their cancer diagnosis, but women may have responded differently to other goals blocked by cancer. Our method also did not allow us to assess when women began to disengage from their identified goals. Future research should examine the temporal sequencing of goal adjustment to assess how it is associated with psychological adjustment over time.

Another limitation regards interpretation of cross-sectional findings; it is possible that psychological adjustment drove goal adjustment rather than the reverse. Dependent variables showed little change over time, and the 3-month time frame of this study may have been too short to capture the full psychological benefits of goal adjustment. An extended longitudinal design beginning at the point of metastatic diagnosis is necessary to evaluate long-term outcomes of goal adjustment.

FUTURE DIRECTIONS

Our unexpected finding that dispositional and situational disengagement were not correlated raises the question as to whether individuals respond similarly to all blocked goals, or whether individuals vary in how they respond to specific blocked goals. Interestingly, both dispositional and situational measures evidenced significant relationships with psychological outcomes. Future work should explore how much variability in goal adjustment ability is demonstrated within individuals to examine whether goal adjustment ability should continue to be conceptualized as a dispositional characteristic. If individuals' responses to goal blockage tend not to be consistent across different situations, then studies should examine the situations and goals that are particularly likely to cause individuals difficulty. Future research should also examine whether situational disengagement from key life goals may lead to short-term distress but long-term positive adjustment.

CLINICAL IMPLICATIONS

Goal adjustment processes appear to play a significant role in adjustment to chronic health conditions. Situational disengagement appears to be a challenging process that may contribute to a sense of loss and accompanying depressive symptoms, particularly in adults who are relinquishing highly important life goals. Acceptance-based interventions may be particularly appropriate to aid individuals in acknowledging

the difficult emotions that may accompany goal disengagement (Low, Stanton, & Bower, 2008). Encouraging and facilitating reengagement in new goals may help to restore a sense of purpose and provide opportunities for positive affect that accompanies purposeful striving toward an attainable goal. Understanding individual differences in goal adjustment abilities and how to facilitate adaptive disengagement and reengagement will have broad implications, as many potential roadblocks to goal achievement exist, including health conditions, socioeconomic limitations, and unanticipated life events.

Note

1. Some studies have demonstrated that goal reengagement ability appears more salient in the context of low goal disengagement ability and can buffer the negative effects of low goal disengagement ability (Thompson et al., 2011; Wrosch, Scheier, Miller, et al., 2003; Wrosch et al., 2012). Thus, we also examined whether the interaction between reengagement abilities and disengagement abilities predicted adjustment. No interactions between dispositional or situational goal disengagement and goal reengagement were significant in any of the analyses predicting psychological adjustment at either time point.

References

Algoe, S. B., & Stanton, A. L. (2012). Gratitude when it is needed most: Social functions of gratitude in women with metastatic breast cancer. *Emotion*, **12**, 163–168.

Bardwell, W. A., Natarajan, L., Dimsdale, J. E., Rock, C. L., Mortimer, J. E., Hollenbach, K., et al. (2006). Objective cancer-related variables are not associated with depressive symptoms in women treated for early-stage breast cancer. *Journal of Clinical Oncology*, **24**, 2407–2408.

Caplette-Gingras, A., & Savard, J. (2008). Depression in women with metastatic breast cancer: A review of the literature. *Palliative and Supportive Care*, **6**, 377–387.

Cohen, J. (1977). *Statistical power analysis for the behavioral sciences* (1st ed.). Hillsdale, NJ: Erlbaum.

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment*, **49**, 71–75.

Erdfelder, E., Faul, F., & Buchner, A. (1996). GPOWER: A general power analysis program. *Behavior Research Methods, Instruments, & Computers*, **28**, 1–11.

Giordano, S. H., Buzdar, A. U., Smith, T. L., Kau, S., Yang, Y., & Hortobagyi, G. N. (2004). Is breast cancer survival improving? Trends in survival for patients with recurrent breast cancer diagnosed from 1974 through 2000. *Cancer*, **100**, 44–52.

Hann, D., Winter, K., & Jacobsen, P. (1999). Measurement of depressive symptoms in cancer patients: Evaluation of the center for epidemiological studies depression scale (CES-D). *Journal of Psychosomatic Research*, **46**, 437–443.

Heckhausen, J., Wrosch, C., & Schulz, R. (2010). A motivational theory of life-span development. *Psychological Review*, **117**, 32–60.

Horowitz, M. J., Wilner, N. R., & Alvarez, W. (1979). Impact of Event Scale: A measure of subjective stress. *Psychosomatic Medicine*, **41**, 209–218.

Jacobson, N. S., Martell, C. R., & Dimidjian, S. (2001). Behavioral activation treatment for depression: Returning to contextual roots. *Clinical Psychology: Science and Practice*, **8**, 255–270.

Lepore, S., & Eton, D. T. (2000). Response shifts in prostate cancer patients: An evaluation of suppressor and buffer models. In C. E. Schwartz & M. A. G. Sprangers (Eds.), *Adaptation to changing health: Response shift in quality-of-life research* (pp. 37–51). Washington, DC: American Psychological Association.

Low, C. A., Stanton, A. L., & Bower, J. E. (2008). Effects of acceptance-oriented versus evaluative emotional processing on heart rate recovery and habituation. *Emotion*, **8**, 419–424.

Miller, G. E., & Wrosch, C. (2007). You've gotta know when to fold 'em: Goal disengagement and systematic inflammation in adolescence. *Psychological Science*, **18**, 773–777.

Offerman, M. P. J., Schroevers, M. J., van der Velden, L., de Boer, M. F., & Pruyn, J. F. A. (2010). Goal processes and self-efficacy related to psychological distress in head and neck cancer patients and their partners. *European Journal of Oncology Nursing*, **14**, 231–237.

Radloff, L. S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, **1**, 385–401.

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, **57**, 1069–1081.

Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personal and Social Psychology*, **69**, 719–727.

Schroevers, M., Kraaij, V., & Garnefski, N. (2008) How do cancer patients manage unattainable personal goals and regulate their emotions? *British Journal of Health Psychology*, **13**, 551–562.

Stanton, A. L., & Low, C. A. (2012). Dispositional and stressor-related emotion regulation in the context of a chronic life-limiting stressor. *Journal of Personality*, **80**, 287–311.

Thompson, E. H., Woodward, J. T., & Stanton, A. L. (2011). Moving forward during major goal blockage: Situational goal adjustment in women facing infertility. *Journal of Behavioral Medicine*, **34**, 275–287.

Woodward, J. T. (2004). Acceptance and regoaling in the context of infertility: How do we move forward during blockage of a major life goal? (Doctoral dissertation, University of Kansas). *Dissertation Abstracts International*, **65**, 3153193.

Wrosch, C., Miller, G. F., Scheier, M. F., & de Pontet, S. B. (2007). Giving up on unattainable goals: Benefits for health? *Personality and Social Psychology Bulletin*, **33**, 251–263.

Wrosch, C., & Scheier, M. F. (2003). Personality and quality of life: The importance of optimism and goal adjustment. *Quality of Life Research*, **12**, 59–72.

Wrosch, C., Scheier, M. F., Carver, C. S., & Schulz, R. (2003). The importance of goal disengagement in adaptive self-regulation: When giving up is beneficial. *Self and Identity*, **2**, 1–20.

Wrosch, C., Scheier, M. F., Miller, G. E., & Carver, C. S. (2012). When meaning is threatened: The importance of goal adjustment for psychological and physical health. In P. T. Wong (Ed.), *The human quest for meaning* (pp. 539–558). London: Routledge.

Wrosch, C., Scheier, M. F., Miller, G. E., Schulz, R., & Carver, C. S. (2003). Adaptive self-regulation of unattainable goals: Goal disengagement, goal reengagement, and subjective well-being. *Personality and Social Psychology Bulletin*, **29**, 1494–1508.