# The Role of Self-Criticism, Dependency, and Hassles in the Course of Depressive Illness: A Multiwave Longitudinal Study

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The current study utilized a multiwave longitudinal design to examine whether dependency and/or self-criticism influence the course of depressive symptoms in a community sample of adults with a history of major depression. In addition, the authors examined whether self-esteem serves as a buffer against the development of depressive symptoms following increases in hassles in individuals possessing such traits. At Time 1, 102 participants completed measures assessing depressive symptoms, self-criticism, dependency, and self-esteem. Every 6 weeks for the next year, participants completed measures assessing depressive symptoms and hassles. High self-criticism was associated with greater elevations in depressive symptoms following elevations in hassles in low- but not high-self-esteem individuals. Results with respect to dependency, however, were contrary to hypotheses. High dependency was associated with elevations in depressive symptoms following elevations in hassles in high-self-esteem individuals. In contrast, high dependency was associated with chronically elevated depressive symptoms in low-self-esteem individuals.

Keywords: self-criticism; dependency; self-esteem; hassles; depressive symptoms

**R**esearchers from diverse theoretical orientations have proposed that certain personality traits serve as vulnerability factors to depression (Beck, 1983; Blatt & Zuroff, 1992). Although differences exist in conceptualizations, each theory proposes a personality predisposition focused on interpersonal issues and another focused on achievement issues. Psychodynamic theorists label these two personality predispositions as dependency and selfcriticism (Blatt & Zuroff, 1992). Individuals high in dependency are concerned with interpersonal issuesthey need the approval of others to maintain a sense of well-being. Dependent individuals are hypothesized to be at risk for developing depression when they perceive disruptions in their relationships with others, interpersonal loss, and/or social rejection. Individuals high in self-criticism, on the other hand, are concerned with achievement issues—they need to meet their own and/ or others' standards to maintain a sense of well-being. Self-critical individuals are hypothesized to be at risk for developing depression when they perceive that they are not meeting such standards.

## The Specific Vulnerability Hypothesis

Blatt and Zuroff's (1992) specific vulnerability hypothesis posits that individuals who possess personality predispositions are only at risk for developing depression following the occurrence of negative events congruent with their personality vulnerabilities. More specifically, it is hypothesized that dependent individuals are at risk for developing depression following negative interpersonal

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events, whereas self-critical individuals are at risk for developing depression following negative achievement events. However, Blatt and Zuroff's (1992) specific vulnerability hypothesis has obtained mixed results. Although some studies have found strong support for this hypothesis (e.g., Blaney & Kutcher, 1991; Zuroff, Igreja, & Mongrain, 1990), others have obtained support only in dependent individuals (e.g., Hammen, Marks, Mayol, & deMayo, 1985; Lakey & Ross, 1994; Rude & Burnham, 1993; Segal, Shaw, & Vella, 1989; Zuroff & Mongrain, 1987) or self-critical individuals (e.g., Segal, Shaw, Vella, & Katz, 1992). In addition, some studies have failed to provide support for the specific vulnerability hypothesis in either subtype (e.g., Smith, O'Keefe, & Jenkins, 1988).

We propose two possible reasons for inconsistencies in the findings of past research examining the specific vulnerability hypothesis: (a) the operationalization of high levels of stress from a nomothetic, as opposed to an idiographic, perspective and (b) the failure to incorporate additional risk, vulnerability, and protective factors into research examining Blatt and Zuroff's (1992) theory of personality predispositions to depression.

## Nomothetic Versus Idiographic Approaches to Analysis

The vast majority of previous research examining the specific vulnerability hypothesis of Blatt and Zuroff's (1992) theory of personality predispositions to depression has relied on two time-point designs in which (a) dependency, self-criticism, and depressive symptoms are assessed during an initial assessment and (b) depressive symptoms and negative events are assessed during a follow-up assessment (e.g., Abela & Taylor, 2003; Rude & Burnham, 1993; Segal et al., 1992). Such a design necessitates the use of a nomothetic approach toward operationalizing high levels of stress. In other words, participants are considered to be experiencing a high level of stress when their level of stress is higher than the sample's average level of stress. In contrast, the use of a multiwave longitudinal design, in which depressive symptoms and negative events are assessed repeatedly throughout the follow-up interval, allows for an idiographic approach toward operationalizing high levels of stress. In other words, participants are considered to be experiencing a high level of stress when their level of stress is higher than their own average level of stress. This distinction is central to testing the specific vulnerability hypothesis given that Blatt and Zuroff posit that increases in levels of stress rather than absolute levels of stress will be associated with increases in depressive symptoms in cognitively vulnerable individuals.

The use of an idiographic approach toward examining Blatt and Zuroff's (1992) vulnerability hypothesis is consistent with Brown and Moskowitz's (1998) conceptualization of personality traits as "stable yet dynamic." In other words, although personality traits exhibit stability over time, the behavioral and affective expressions of such traits fluctuate. For example, Brown and Moskowitz (1998) examined the four personality dimensions of dominance, submissiveness, agreeableness, and quarrelsomeness and obtained high stability coefficients for all four characteristics throughout 20 days. However, they also found that the expressions of these traits oscillated in a consistent rhythmic pattern over time and across situations. The authors suggest that such fluctuations may be partly attributable to situational variables. For example, the transition from Sunday to Monday for a working individual may be accompanied by variability in the expressions of certain characteristics due to differences in the social roles and goals emphasized in one's workplace in comparison to one's home. According to the authors, these variations in the behavioral and affective expressions of personality traits are not attributable to errors in measurement but rather are interpretable, meaningful, and predictable. When examining Blatt and Zuroff's vulnerability hypothesis within such a framework, we would hypothesize that self-criticism and dependency are relatively stable personality traits (e.g., Zuroff, Moskowitz, Wielgus, Powers, & Franko, 1983). At the same time, the affective (e.g., sad mood), cognitive (e.g., helplessness and negative outcome expectancies), physiological (e.g., sleep disturbance), and/or behavioral (e.g., interpersonal withdrawal) manifestations of such traits vary as a function of environmental factors.

# The Buffering Role of Self-Esteem

The causal mediation component of Blatt and Zuroff's (1992) theory posits that individuals who possess personality predispositions are at risk for developing depressive symptoms following negative events because such events generate depressogenic thinking. In line with such a hypothesis, higher levels of dependency and self-criticism have been found to be associated with higher levels of negative self-referent thinking (Clark, Steer, Haslam, Beck, & Brown, 1997), more negative cognitive styles (Abramson, Alloy, & Hogan, 1997), and higher levels of hopelessness (Fehon, Grilo, & Martino, 2000). Protective factors, such as high self-esteem, may prevent the outcome of depressive symptoms by decreasing the negative impact of depressogenic thoughts on the affective, cognitive, behavioral, and physiological symptoms of depression. For example, an individual who is high in dependency but who possesses high selfesteem may be preoccupied with thoughts of abandonment and rejection following interpersonal loss while at the same time maintaining the belief that he or she is love worthy. Similarly, an individual who is high in selfcriticism but who possesses high self-esteem may engage in harsh self-scrutiny following failure while at the same time maintaining the belief that he or she is overall a good person. In contrast, an individual who is high in dependency and low in self-esteem is likely to perceive himself or herself as unlovable following even minor disruptions in interpersonal relationships. Similarly, an individual who is high in self-criticism and low in selfesteem is likely to have a very fragile sense of self-worth that is easily shattered even in the face of mild setbacks. High levels of self-esteem have previously been shown to protect participants possessing cognitive vulnerability to hopelessness depression from developing depressive symptoms following negative events (e.g., Abela, 2002; Metalsky, Joiner, Hardin, & Abramson, 1993). Due to the similarities between the causal mediation component of the hopelessness theory and Blatt and Zuroff's (1992) theory, high levels of self-esteem also may act as a protective factor against depressive symptoms in individuals possessing personality predispositions to depression.

## Goals of the Current Study

The current study utilized a multiwave longitudinal design to examine whether the personality predispositions of dependency and/or self-criticism influence the course of depressive symptoms in a community sample of adults with a history of major depressive episodes. In addition, we examined whether self-esteem serves as a buffer against the development of depressive symptoms following increases in levels of domain-congruent hassles in individuals possessing high levels of self-criticism and/or dependency. At Time 1, 102 participants completed measures assessing depressive symptoms, dependency, self-criticism, and self-esteem. Depressive symptoms and frequency of hassles were assessed every 6 weeks for the subsequent year. In line with Blatt and Zuroff's (1992) specific vulnerability hypothesis, we hypothesized that individuals exhibiting high levels of dependency would report greater elevations in depressive symptoms following elevations in their levels of interpersonal, but not achievement, hassles than individuals exhibiting low levels of dependency. Similarly, we hypothesized that individuals exhibiting high levels of self-criticism would report greater elevations in depressive symptoms following elevations in their levels of achievement, but not interpersonal, hassles than individuals exhibiting low levels of self-criticism. Last, in line with our self-esteem buffering hypothesis, we hypothesized that high levels of self-esteem would buffer participants possessing high levels of dependency and/or selfcriticism against the development of depressive symptoms following increases in their levels of domaincongruent hassles.

# METHOD

## **Participants**

The participants in the current study were taking part in a larger project examining vulnerability to depression in children of parents with a history of major depressive episodes (e.g., Abela, Hankin, et al., 2005; Abela, Skitch, Auerbach, & Adams, 2005). Participants were recruited through ads placed in local English newspapers and by posters placed throughout the greater Montreal area. The posters and newspaper ads specified that the current study sought to recruit parents with a history of major depressive disorder and with children between the ages of 6 and 14. Respondents were invited to participate in a telephone interview where a diagnostician administered the affective disorders module of the Structured Clinical Interview for the DSM-IV (SCID-I; First, Gibbon, Spitzer, & Williams, 2001). Those who met criteria for a current or past major depressive episode were invited to participate in the study.

The final sample consisted of 102 participants (88 women, 14 men). Participants' ages ranged from 27 to 53, with a median age of 41. The sample was 84.3% Caucasian, 4.9% Asian, 2.9% Hispanic, 1.9% African American, and 1.1% Native American. Participants' mother tongue included English (68.7%), French (9.8%), and Spanish (2.9%). The marital status of the parents was 43.1% married, 27.5% divorced, 14.7% single, 9.8% separated, and 1.0% widowed. The uppermost level of education completed by the parents was an elementary school diploma for 7.8%, a high school diploma for 14.7%, a community college diploma for 39.3%, a bachelors degree for 22.5%, and a graduate degree for 15.7%. Median family income ranged from \$30,000 to \$45,000.

# Procedure

During the initial assessment, participants completed demographic forms, consent forms, and the following questionnaires: (a) Beck Depression Inventory (BDI) (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), (b) Depressive Experiences Questionnaire (Blatt, D'Afflitti, & Quinlan, 1976), and (c) Rosenberg Self-Esteem Scale (Rosenberg, 1965).

The second phase of the study involved a series of eight telephone follow-up assessments occurring every 6 weeks for the subsequent year. At each follow-up assessment, participants completed the following questionnaires: (a) BDI and (b) Hassles Scale (HAS) (Delongis, Folkman, & Lazarus, 1988). At the conclusion of the study, participants were fully debriefed and were compensated \$180 for their time and for any expenses incurred.

#### Measures

The Structured Clinical Interview for the DSM-IV (SCID-I) (First et al., 2001). This semistructured clinical interview is designed to provide current or lifetime DSM-IV diagnoses. The diagnostic interviewers received extensive training in administering the SCID-I interview and in assigning DSM-IV diagnoses. The training program included a total of approximately 40 hours of didactic instruction, practice interviews, listening to audiotaped interviews, and required regular exams to be passed (85% or greater). Prior to being able to conduct independent interviews, the interviewers were obliged to listen to three audiotaped interviews and demonstrate 100% agreement with the diagnoses (presence or absence of a depressive disorder) of the principal investigator and at least 85% agreement on the severity ratings of specific symptoms. The interviewers attended weekly supervision sessions that were held by the principal investigator, who also reviewed interviewers' notes to verify the presence or absence of a diagnosis. In addition, the principal investigator reviewed audiotapes of the interviews and met with individual interviewers. Discrepancies were resolved through consensus meetings and best estimate procedures.

Beck Depression Inventory (BDI) (Beck et al., 1961). The BDI is a self-report inventory that assesses the severity of depressive symptoms within the last 2 weeks. It is composed of 21 items that are all rated on a 0 to 3 scale with higher scores indicating more severe symptoms. Total scores range from 0 to 63. We obtained alphas ranging from .89 to .93 (M= .91) across administrations, indicating high internal consistency.

Depressive Experiences Questionnaire (DEQ) (Blatt et al., 1976). The DEQ is a self-report questionnaire containing 66 items that tap into a broad array of beliefs about the self and others but that do not systematically assess depressive symptoms. Examples of items that load on the dependency subscale include, "I have difficulty breaking off a relationship that is making me unhappy" and "I am very sensitive to others for signs of rejection." Examples of items that load on the self-criticism subscale include, "I often find that I do not live up to my own standards or ideals" and "It is not 'who you are' but 'what you have accomplished' that counts." Each item is rated on a Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The DEQ has been found to possess high levels of internal consistency and test-retest reliability (Zuroff et al., 1983). Theoretically consistent results have been obtained in studies relating the DEQ to the five-factor model of personality (Zuroff, 1994) and adult attachment styles (Zuroff & Fitzpatrick, 1995). We obtained alphas of .75 for both the dependency and self-criticism subscales, indicating moderate internal consistency.

Rosenberg Self-Esteem Scale (RSES) (Rosenberg, 1965). This scale is composed of 10 statements about the self (e.g., "On the whole, I am satisfied with myself"). Participants are asked to rate each statement on a 1 to 4 scale (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree). Overall scores range from 10 to 40, with higher scores indicating lower levels of self-esteem. The Self-Esteem Questionnaire (SEQ) has been shown to have moderate to high levels of internal consistency (Rosenberg, 1965), convergent and discriminate validity (Silber & Tippet, 1965), and test-retest reliability (Allgood-Merten, Lewinsohn, & Hops, 1990). We obtained an alpha of .88, indicating high internal consistency.

Hassles Scale (HAS) (Delongis et al., 1988). The HAS is composed of 53 hassles that individuals may experience. For each item, participants are asked to rate how often it was a hassle for them in the past 6 weeks using a 0 to 3 scale. Total scores range from 0 to 159, with higher scores indicating higher levels of hassles. To prevent the confounding of negative events with depressive symptoms, the HAS only includes items that focus on specific external events (Delongis et al., 1988).

#### RESULTS

## Creating Domain-Specific Hassles Scores

To create domain-specific hassles scores, the 53 items on the HAS were classified by the principal investigator and two upper-level doctoral students as interpersonal, achievement, neither interpersonal nor achievement, or both interpersonal and achievement. The raters achieved 86% agreement for interpersonal events and 66% agreement for achievement events.<sup>1</sup> Only the 12 interpersonal hassles and the 9 achievement hassles for which all three raters agreed were included in the final subscales. Scores on the interpersonal hassles subscale of the HAS range from 0 to 36, and scores on the achievement subscale range from 0 to 27.

After creating interpersonal and achievement subscales for the hassles scale, we examined whether these subscales exhibited moderate independence from one another, a requirement for reliably examining the specific vulnerability hypothesis. Across the eight administrations of the hassles scale, the correlations between the interpersonal and achievement hassles subscales were high (.69, .66, .50, .65, .50, .52, .65, and .63), suggesting that we were unable to reliably separate interpersonal and achievement hassles from one another. Consequently, we utilized total hassles scores rather than interpersonal and achievement hassles subscale scores in all subsequent analyses. As a result, rather than examining the specific vulnerability hypothesis, we examined whether higher levels of self-criticism and/or dependency were associated with greater elevations in depres-

|                    | 1      | 2      | 3      | 4     |
|--------------------|--------|--------|--------|-------|
| 1. BDI             | _      | _      | _      | _     |
| 2. Self-criticism  | .44*** | _      | _      | _     |
| 3. Dependency      | .25*   | .11    | _      | _     |
| 4. Low self-esteem | .44*** | .45*** | .33*** | _     |
| M                  | 23.94  | 132.91 | 132.75 | 13.69 |
| SD                 | 10.70  | 17.23  | 17.61  | 5.73  |

 TABLE 1:
 Means, Standard Deviations, and Pearson Correlations

 Between Time 1 Measures

NOTE: BDI = Beck Depression Inventory. \*p < .05. \*\*\*p < .001.

sive symptoms following elevations in hassles in individuals possessing low, but not high, levels of self-esteem (for similar examinations of whether personality predispositions confer vulnerability to depression without examining specific vulnerability, see Flett, Hewitt, Blankstein, & Mosher, 1995; Zuroff & Blatt, 2002).

#### Descriptive Data

Means, standard deviations, and intercorrelations between all Time 1 measures are presented in Table 1. Higher levels of depressive symptoms were significantly associated with lower levels of self-esteem and higher levels of dependency and self-criticism. Lower levels of selfesteem were significantly associated with higher levels of dependency and self-criticism. Finally, consistent with past research (e.g. Santor, Zuroff, & Fielding, 1997; Zuroff et al., 1990), dependency and self-criticism were not significantly associated with one another.

## Diathesis-Stress Analyses

To test our hypothesis that higher levels of either dependency or self-criticism would be associated with greater elevations in depressive symptoms following elevations in hassles, we utilized multilevel modeling. Analyses were carried out using the SAS (Version 8.1) MIXED procedure and maximum likelihood estimation. Our dependent variable was fluctuations in BDI scores during the follow-up interval. Because fluctuations in BDI scores is a within-subject variable, BDI scores were centered at each participant's mean such that fluctuations in BDI scores reflect upward or downward fluctuations in each participant's level of depressive symptoms compared to his or her mean level of depressive symptoms. Our primary predictors of fluctuations in BDI scores were dependency, self-criticism, self-esteem, and fluctuations in hassles scores (hassles) during the follow-up interval. Because dependency, self-criticism, and selfesteem are between-subject predictors, DEQ dependency scores, DEQ self-criticism scores, and SEQ scores were standardized prior to analyses. Because hassles is a within-subject predictor, HAS scores were centered at each participant's mean prior to analyses such that fluctuations in hassles scores reflect upward or downward fluctuations in participant's level of hassles compared to his or her mean level of hassles.

In our analyses, we were interested in examining the effects of dependency, self-criticism, self-esteem, and hassles on participants' BDI scores during the follow-up interval. In particular, for testing hypotheses regarding self-criticism and dependency as vulnerability factors, we included the following two-way interactions (a) between dependency and hassles and (b) between self-criticism and hassles. Furthermore, for testing the buffering role of self-esteem, we included (a) a two-way interaction between self-esteem and hassles; (b) a three-way interaction between self-esteem, self-criticism, and hassles; and (c) a three-way interaction between self-esteem, dependency, and hassles. To control for individual differences in baseline levels of depressive symptoms, participants' Time 1 BDI scores (T1\_BDI) also were included in the model.<sup>2</sup>

Together, we have the following two-level models for subject *i* at time *t*:

| Level 1 | (within-subject) |
|---------|------------------|
|---------|------------------|

 $DEP_{ti} = \beta_{0i} + \beta_{1i} (Hassles)_{ti} + e_{ti}$ 

Level 2 (between-subject)

$$\begin{split} \beta_{0i} = \gamma_{00} + \gamma_{01}(SC)_i + \gamma_{02}(Depend)_i + \gamma_{03}(SE)_i + \gamma_{04}(SC \times SE)_i + \\ \gamma_{05}(Depend \times SE)_i + \gamma_{06}(BDI)_i + u_{0i} \end{split}$$

 $\begin{aligned} \beta_{1i} = \gamma_{10} + \gamma_{11}(SC)_i + \gamma_{12}(Depend)_i + \gamma_{13}(SE)_i + \gamma_{14}(SC \times SE)_i + \\ \gamma_{15}(Depend \times SE)_i + \gamma_{16}(BDI)_i + u_{1i} \end{aligned}$ 

Our level 1 model represents how fluctuations in one's level of hassles relate to his or her depressive symptoms (DEP) at time *t*. Because different participants are likely to exhibit different intercepts (e.g., the levels of depressive symptoms experienced by an individual when he or she is experiencing his or her own average level of hassles), a random effect for intercept was included in the model. Given that hassles is a within-subject predictor whose effect is anticipated to vary from participant to participant, a random effect for slope also was included in the model.

Our level 2 models represent the systematic variations in Time 1 depressive symptoms,  $\beta_{0i}$ , and the effect of level of hassles,  $\beta_{1i}$ , as a function of self-criticism (SC), dependency (Depend), self-esteem (SE), the interaction between self-criticism and self-esteem, and the interaction between dependency and self-esteem. The coefficients  $\gamma_{01}$ ,  $\gamma_{02}$ , and  $\gamma_{03}$  measure the main effects of selfcriticism, dependency, and self-esteem on depressive symptoms. The coefficients  $\gamma_{04}$  and  $\gamma_{05}$  measure the moderating effects of self-esteem on the influence of dependency and self-criticism on the course of depressive symptoms. Our interest, however, focuses on the second equation of the level 2 models, which expresses how the hassles-depression relationship is moderated by selfcriticism, dependency, and self-esteem. In particular, the vulnerability effects regarding self-criticism and dependency on stress-depression relationship are characterized by the coefficients,  $\gamma_{11}$  and  $\gamma_{12}$ , in the second equation of the level 2 model. The buffering effects of self-esteem are measured by the coefficients  $\gamma_{13}$ ,  $\gamma_{14}$ , and  $\gamma_{15}$  in the second equation of the level 2 models.

When fitting hierarchical linear models, one must specify appropriate mean and covariance structures. It is important to note that mean and covariance structures are not independent of one another. Rather, an appropriate covariance structure is essential to obtain valid inferences for the parameters in the mean structure. Overparameterization of the covariance structure can lead to inefficient estimation and poor assessment of standard errors (Altham, 1984). On the other hand, too much restriction of the covariance structure can lead to invalid inferences when the assumed structure does not hold (Altham, 1984). Commonly used covariance structures in studies in which multiple responses are obtained from the same individual over time (and consequently, within-subject residuals over time are likely to be correlated) include compound symmetry, first-order autoregressive, heterogeneous autoregressive, and banded Toeplitz. To select one of these covariance structures for our analyses, we fitted models utilizing each structure and chose the best fit based on Akaike information criterion (AIC and AICC) and Schwarz Bayesian criterion (BIC). The best fit was a first order banded Toeplitz structure, which accommodates the auto-dependence between observations from the same participant. After choosing the appropriate level-1 error covariance structure, we next examined the random-effects component (level-2 error) of our model. Nonsignificant, randomeffect parameters were deleted from the model. With respect to random effects, the RE INTERCEPT (p <.001) was significant and thus were retained in the model. RE\_SLOPE, however, was not significant and consequently was deleted from the model. The results of our final model are reported in Table 2.

Of primary importance, significant three-way, crosslevel interactions emerged between (a) dependency, self-esteem, and hassles and (b) self-criticism, selfesteem, and hassles. To examine the form of the Dependency × Self-Esteem × Hassles interaction, the model summarized in Table 2 was used to calculate predicted BDI scores for participants possessing either low or high levels of dependency ( $\pm 1.5$  *SD*), either low or high levels of self-esteem ( $\pm 1.5$  *SD*), and who are experiencing either low or high levels of hassles in comparison

TABLE 2: Hierarchical Linear Modeling Analyses: Predicting Fluctuations in BDI Scores During the Follow-Up Interval

| Predictor                        | b     | SE   | F        | df     |
|----------------------------------|-------|------|----------|--------|
| Time 1 BDI                       | 3.43  | 1.12 | 9.35**   | 1, 71  |
| Self-criticism                   | 1.68  | 0.85 | 3.91     | 1,71   |
| Dependency                       | 1.53  | 0.74 | 4.22*    | 1,71   |
| Low self-esteem                  | 1.14  | 1.09 | 1.09     | 1,71   |
| Hassles                          | 0.20  | 0.04 | 29.79*** | 1,283  |
| Self-Criticism × Hassles         | 0.08  | 0.04 | 3.17     | 1, 283 |
| Dependency × Hassles             | 0.00  | 0.04 | 0.00     | 1,283  |
| Low Self-Esteem × Hassles        | 0.03  | 0.04 | 0.64     | 1,283  |
| Self-Criticism × Low Self-Esteem | 0.26  | 0.59 | 0.19     | 1, 71  |
| Dependency × Low Self-Esteem     | -0.08 | 0.63 | 0.02     | 1,71   |
| Self-Criticism ×                 |       |      |          |        |
| Low Self-Esteem × Hassles        | 0.08  | 0.04 | 5.07*    | 1,283  |
| Dependency ×                     |       |      |          |        |
| Low Self-Esteem × Hassles        | -0.09 | 0.03 | 8.06**   | 1, 283 |

NOTE: BDI = Beck Depression Inventory; Hassles = fluctuations in hassles scores during the follow-up interval.

p < .05. \*\*p < .01. \*\*\*p < .001.



Figure 1 Predicted slope of the relationship between hassles and depressive symptoms as a function of dependency and selfesteem.

NOTE: BDI = Beck Depression Inventory.

to their own average level of hassles ( $\pm 1.5 \times$  mean withinsubject *SD*). The results of such calculations are presented in Figure 1. Because both fluctuations in BDI scores and fluctuations in hassles scores are within-subject variables centered at each participant's mean, slopes are interpreted as the increase in a participant's BDI score that would be expected given that he or she scored one point higher on the hassles scale.

Analyses were conducted for each Dependency × Self-Esteem condition, examining whether the slope of the relationship between hassles and depressive symptoms significantly differed from 0. Analyses indicated that participants possessing either (a) high levels of dependency and high levels of self-esteem, t(283) = 2.82, p < .01, or (b) low levels of dependency and low levels of selfesteem, t(283) = 3.37, p < .001, reported higher levels of depressive symptoms when experiencing high levels of hassles than when experiencing low levels of hassles. At the same time, level of depressive symptoms did not vary as a function of level of hassles for (a) participants possessing high levels of dependency and low levels of selfesteem, t(283) = 0.52, ns, or (b) participants possessing low levels of dependency and high levels of self-esteem, t(283) = -0.55, ns.

Planned comparisons of the slope of the relationship between hassles and depressive symptoms revealed that the slope was significantly greater in (a) participants possessing high levels of dependency and high levels of selfesteem (slope = 0.36), t(283) = 2.16, p < .05, and participants possessing low levels of dependency and low levels of self-esteem (slope = 0.46), t(283) = 2.16, p < .05, than in participants possessing low levels of dependency and high levels of self-esteem (slope = -0.07). In addition, the slope of the relationship between hassles and depressive symptoms was significantly greater in (a) participants possessing high levels of dependency and high levels of self-esteem, t(283) = 1.82, p < .07, and participants possessing low levels of dependency and low levels of selfesteem, t(283) = 2.41, p < .05, than in participants possessing low levels of dependency and high levels of selfesteem (slope = .04).

To examine the form of the Self-Criticism × Self-Esteem × Hassles interaction, the model summarized in the top panel of Table 2 was used to calculate predicted BDI scores for participants possessing either low or high levels of self-criticism ( $\pm 1.5$  *SD*), either low or high levels of self-esteem ( $\pm 1.5$  *SD*), and who are experiencing either low or high levels of hassles in comparison to their own average level of hassles ( $\pm 1.5 \times$  mean within-subject *SD*). The results of such calculations are presented in Figure 2. Because both fluctuations in BDI scores and fluctuations in hassles scores are within-subject variables centered at each participant's mean, slopes are interpreted as the increase in a participant's BDI score that would be expected given that he or she scored one point higher on the hassles scale.



Figure 2 Predicted slope of the relationship between hassles and depressive symptoms as a function of self-criticism and self-esteem.

NOTE: BDI = Beck Depression Inventory.

Analyses were conducted for each Self-Criticism × Self-Esteem condition, examining whether the slope of the relationship between hassles and depressive symptoms significantly differed from 0. Analyses indicated that participants possessing high levels of self-criticism and low levels of self-esteem reported higher levels of depressive symptoms when experiencing high levels of hassles than when experiencing low levels of hassles, t(283) = 5.31, p < .001. At the same time, level of depressive symptoms did not vary as a function of level of hassles for (a) participants possessing high levels of self-criticism and high levels of self-esteem, t(283) = 0.58, ns, (b) participants possessing low levels of self-criticism and low levels of self-esteem, t(283) = -0.30, ns, or (c) participants possessing low levels of self-criticism and high levels of self-esteem, t(283) = 1.81, ns.

Planned comparisons of the slopes of the relationship between hassles and depressive symptoms revealed that the slope was significantly greater in participants possessing high levels of self-criticism and low levels of selfesteem (slope = 0.54) than in (a) participants possessing high levels of self-criticism and high levels of self-esteem (slope = 0.08), t(283) = 2.29, p < .05, (b) participants pos-

| Predictor                    | b     | SE   | F        | df     |
|------------------------------|-------|------|----------|--------|
| Time 1 BDI                   | 8.85  | 2.80 | 10.00**  | 1, 71  |
| Self-criticism               | 1.81  | 2.13 | 0.72     | 1,71   |
| Dependency                   | 3.28  | 1.88 | 3.05     | 1,71   |
| Low self-esteem              | -1.83 | 2.75 | 0.44     | 1,71   |
| Depression                   | 0.80  | 0.16 | 24.24*** | 1,283  |
| Self-Criticism × Depression  | 0.12  | 0.18 | 0.50     | 1,283  |
| Dependency × Depression      | 0.09  | 0.17 | 0.28     | 1,283  |
| Low Self-Esteem × Depression | -0.22 | 0.21 | 1.17     | 1,283  |
| Self-Criticism ×             |       |      |          |        |
| Low Self-Esteem              | -1.28 | 1.50 | 0.72     | 1,71   |
| Dependency ×                 |       |      |          |        |
| Low Self-Esteem              | 1.83  | 1.59 | 1.32     | 1, 71  |
| Self-Criticism ×             |       |      |          |        |
| Low Self-Esteem × Depression | 0.09  | 0.15 | 0.38     | 1,283  |
| Dependency ×                 |       |      |          |        |
| Low Self-Esteem × Depression | -0.30 | 0.16 | 3.27     | 1, 283 |

 TABLE 3:
 Hierarchical Linear Modeling Analyses: Predicting Fluctuations in Hassles Scores During the Follow-Up Interval

NOTE: BDI = Beck Depression Inventory; Depression = fluctuations in BDI scores during the follow-up interval. \*\*p < .01. \*\*\*p < .001.

sessing low levels of self-criticism and low levels of selfesteem (slope = -0.04), t(283) = 2.98, p < .01, or (c) participants possessing low levels of self-criticism and high

levels of self-esteem (slope = 0.21), t(283) = 2.19, p < .05.

## Test of Alternative Model

Given that hassles and depressive symptoms were assessed contemporaneously in the above-described analyses, we also examined an alternative model in which it was hypothesized that high levels of self-criticism and/or dependency would be associated with greater elevations in hassles following elevations in depressive symptoms in individuals possessing low, but not high, levels of self-esteem. Analyses were similar to those described above with the exception of (a) our dependent variable being fluctuations in hassles scores during the follow-up interval rather than fluctuations in BDI scores and (b) our within-subject predictor variable being fluctuations in BDI scores during the follow-up interval rather than fluctuations in hassles scores during the follow-up interval. The results of our final model are reported in Table 3. Of primary importance, none of the two-way or three-way cross-level interaction terms were significant predictors of fluctuations in hassles scores during the follow-up interval.

#### DISCUSSION

The results of the current study highlight the importance of integrating Blatt and Zuroff's (1992) theory of personality predispositions to depression with selfesteem theory to foster a more thorough understanding of the relationship between situational factors and depressive symptoms in individuals possessing high levels of self-criticism. More specifically, individuals possessing both high levels of self-criticism and low levels of self-esteem reported greater elevations in depressive symptoms following elevations in hassles than did individuals possessing only one or neither of these vulnerability factors. Thus, self-criticism served as a vulnerability factor to depressive symptoms, but only in certain individuals: those with low self-esteem. It is important to note that the pattern of findings obtained in the current study is consistent with Brown and Moskowitz's (1998) conceptualization of personality traits as "dynamic yet stable." In other words, although self-criticism (Zuroff et al., 1983) and self-esteem may be relatively stable traits, the affective, cognitive, physiological, and behavioral expressions of such traits are likely to vary over time as a function of situational factors. Although the current study examined fluctuations in depressive symptomatology at a broad level, future research is likely to benefit from taking a more fine-tuned approach toward examining the relationship between self-criticism, self-esteem, fluctuations in environmental factors, and fluctuations in specific types of affective states (e.g., sadness, irritability, guilt, etc.), cognitions (e.g., self-blame, helplessness and negative outcome expectancies, etc.), physiological symptoms (e.g., concentration difficulties, sleep disturbance, appetite disturbance, etc.), and behaviors (e.g., interpersonal withdrawal, decreased involvement in pleasurable activities, etc.). Future research is also likely to benefit from examining additional factors (e.g., rumination) that may moderate the association between fluctuations in hassles and fluctuations in depressive symptoms in self-critical individuals.

The results of the current study failed to provide support for our hypothesis regarding the relationship between dependency, low self-esteem, within-subject fluctuations in hassles, and within-subject fluctuations in depressive symptoms. More specifically, individuals who possessed high levels of one of these vulnerability factors but low levels of the other reported greater elevations in depressive symptoms following elevations in hassles than did individuals who possessed either high or low levels of both of these vulnerability factors. Furthermore, individuals who possessed high levels of both of these vulnerability factors exhibited chronically elevated levels of depressive symptoms. Integrating such findings with those obtained for self-criticism suggests a fundamental difference between these two vulnerability factors in terms of the processes leading to the onset of depressive symptoms such as (a) high self-esteem buffered individuals possessing high levels of self-criticism, but not high levels of dependency, against experiencing increases in depressive symptoms following increases in hassles and (b) low levels of self-esteem were associated with elevated levels of depressive symptoms in individuals possessing high levels of dependency, but not high levels of self-criticism, irrespective of level of hassles.

One possible explanation for this pattern of findings is that individuals high in self-criticism rely on their own self-perception to maintain their sense of well-being, whereas individuals high in dependency rely on their perception of support from others to do so. Consequently, whereas high self-esteem may buffer individuals possessing high self-criticism against increases in depressive symptoms following increases in hassles, perceptions of support from others may buffer individuals possessing high dependency against increases in depressive symptoms following increases in hassles. Future multiwave longitudinal research is needed examining selfcriticism, dependency, self-esteem, perceptions of support from others, hassles, and depressive symptoms to examine this possibility.

A second possible explanation for this pattern of findings is that for low-self-esteem individuals, the efficacy of self-worth maintenance strategies varies as a function of self-criticism and/or dependency. One self-worth maintenance strategy is the use of compensatory beliefs to minimize the effects of low self-esteem on well-being under low stress conditions (i.e., "If I am meeting my goals and my standards, I am a worthy person" or "If other people love me, I am a worthy person"; Crocker & Luhtanen, 2003). For individuals low in self-esteem and high in self-criticism, the judgment of whether such contingencies are satisfied lies within the individual (i.e., internal self-worth contingency). In contrast, for individuals low in self-esteem and high in dependency, the judgment of whether such contingencies are satisfied lies within other individuals (i.e., external self-worth contingency). Due to the inherently greater ambiguity in knowing the internal states of others, as opposed to one's own, such compensatory beliefs may be less effective for dependent individuals than self-critical individuals, leading them to be at risk for experiencing more chronically elevated depressive symptoms (i.e., for empirical support of external self-worth contingencies being associated with more maladaptive outcomes than internal self-worth contingencies, see Crocker, 2002). Future research is needed examining whether differences exist between individuals high in self-criticism and dependency in terms of both the types of self-worth maintenance strategies employed (for discussion of additional self-worth maintenance strategies, see Roberts & Monroe, 1999) and the relative efficacy of such strategies-particularly for individuals also possessing low self-esteem.

It is important to note that although the results of the current study are consistent with Blatt and Zuroff's (1992) hypothesis that high levels of self-criticism and dependency serve as vulnerability factors to depressive symptoms, particularly following the occurrence of negative events, we were unable to examine the specific vulnerability hypothesis of their theory. Our inability to do so resulted from two reasons. First, we were unable to reliably separate the items on the hassles scale into interpersonal and achievement hassles. Second, even when only using items reliably classified as interpersonal or achievement in nature, participants' levels of interpersonal and achievement hassles were strongly associated with one another (i.e., we were unable to empirically separate these two subcategories of hassles). It is important to note that our obtaining support for self-criticism and dependency as vulnerability factors to depressive symptoms using a general measure of hassles as opposed to measures of domain-specific hassles is consistent with results obtained in past research both examining personality predispositions to depression without distinguishing between interpersonal and achievement stressors (i.e., Flett et al., 1995; Zuroff & Blatt, 2002) and reporting nonspecificity (i.e., self-criticism and dependency interacted with both negative interpersonal and achievement events to predict increases in depressive symptoms; Abela & Taylor, 2003; Robins, Hayes, Block, Kramer, & Villena, 1995).

One possible explanation for obtaining support for self-criticism and dependency as vulnerability factors without examining specific vulnerability is that personality predispositions influence how individuals perceive events (e.g., Blatt & Zuroff, 1992; Robins & Block, 1988). Therefore, self-critical individuals may perceive events traditionally classified as interpersonal in nature as relevant to achievement motivations (e.g., a self-critical individual may perceive getting a divorce as negatively affecting chances of promotion in his or her company). Similarly, dependent individuals may perceive events traditionally classified as achievement related as relevant to interpersonal motivations (e.g., a dependent individual recently laid off may perceive losing his or her job as an interpersonal rejection). Thus, personality predispositions may lead individuals to perceive a broad array of items on hassles scales as domain congruent even if such items would not have been classified by the experimenters as congruent with their personality predisposition. An additional explanation is that stress in one domain of an individual's life may spill over into other domains, making reliable detection of specific vulnerability effects difficult. In other words, personality predispositions to depression may predict increases in depressive symptoms following increases in domain-incongruent stressors simply because of the high degree of association between domain-congruent stressors and domainincongruent stressors. Future research is likely to benefit from utilizing interview-based assessments of negative

life events that allow for both (a) the classification of negative events as interpersonal and/or achievement in nature based on the idiosyncratic meaning assigned to events by individuals themselves rather than based on experimenters' perceptions and (b) the connection of the onset of symptoms to specific stressors to examine these possibilities (e.g., Hammen, 1991). It is important to note that our unexpected findings with respect to dependency also may be a result of our inability to examine specific vulnerability.

Several limitations of the current study should be noted. First, self-report measures were used to assess depressive symptoms during the follow-up portion of the study. Although the BDI possesses high degrees of reliability and validity, it is difficult to make conclusions about clinically significant levels of depressive symptoms based on self-report questionnaires. Future studies should utilize clinical interviews to see if the current findings extend to the development of clinically significant levels of depressive symptomatology. Second, selfreport measures also were used to assess hassles. Although measures of hassles that solely require participants to indicate how frequently an event occurred are less likely to be influenced by informant bias than those that ask subjects to rate the subjective impact of each event, more sophisticated methods of assessing stress are likely to provide more precise measurements of stress. Third, the current study utilized a community sample of participants with a history of major depressive episodes. Although such a design leads to a strong test of theories of vulnerability to depression in that it maximizes the number of participants who experience elevations in depressive symptoms during the course of study, results cannot be generalized to low-risk populations. In addition, our sample was predominantly female and therefore did not allow for a powerful examination of sex differences. Future research should therefore examine the integration of Blatt and Zuroff's theory of personality predispositions to depression and self-esteem theory in a low-risk community sample with a higher proportion of male participants. Last, the current study only examined the relationship between personality predispositions, low self-esteem, hassles, and depressive symptoms. Thus, we were unable to identify whether the interaction of these vulnerability factors with hassles is specific to depressive symptoms rather than broadly applicable to other disorders.

In conclusion, in line with our hypotheses, high selfcriticism was associated with greater elevations in depressive symptoms following elevations in hassles in low- but not high-self-esteem individuals. Contrary to our hypotheses, however, high dependency was associated with (a) elevations in depressive symptoms following elevations in hassles in high-self-esteem individuals and (b) chronically elevated depressive symptoms in low-selfesteem individuals. Discovering the personality traits that confer vulnerability to the development of depressive symptoms provides clinicians with a tool for identifying individuals who are vulnerable to developing future depressive episodes. The identification of cognitive factors that buffer vulnerable individuals against the deleterious impact of negative life events provides clinicians with mechanisms to strengthen in an effort to prevent future depressive episodes in such individuals. Future research using more sophisticated assessments of stress and depressive symptoms, low-risk community samples, and measures of other potential cognitive and interpersonal protective factors is likely to help us gain a deeper understanding of the cognitive and interpersonal processes underlying the relationship between self-criticism, dependency, self-esteem, negative life events, and vulnerability to and resiliency from depressive symptoms.

#### NOTES

1. The low rate of agreement for achievement hassles was attributed primarily to the fact that the hassles scale provides little information about the context surrounding the events listed. It simply asks whether there have been difficulties in these areas of the participants' lives. Although items that pertained to interpersonal relationships (your children, your parents, your spouse, etc.) were reliably identified, items pertaining to achievement events were more open to interpretation (i.e., work load, job security, nature of your work, etc.).

2. We conducted preliminary analysis examining whether Time 1 Beck Depression Inventory (BDI) scores served as a moderator of any relationships (Joiner, 1994). No significant interactions involving Time 1 BDI scores were found. Consequently, for the sake of simplicity, results are presented only for models including only depressive symptoms (DEP), self-criticism (SC), the Self-Esteem Questionnaire (SEQ), and FU\_HASSLES, controlling for initial difference in depressive symptoms (T1\_BDI).

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