

Trait Vulnerability and Coping Strategies in the Transition to Motherhood

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Using a prospective design, we explored the role of approach and emotional/avoidance-coping strategies in the relations between dependent and self-critical trait vulnerabilities and postpartum depressive symptoms among first-time mothers. It was assumed that dependency and self-criticism associate with approach and emotional/avoidance strategies respectively, and that approach-coping strategies moderate trait vulnerabilities to depressive symptoms after childbirth. One hundred forty-six first pregnancy participants were assessed during the third trimester of pregnancy and eight weeks postpartum. Dependency was found to associate positively with high approach and low emotional/avoidance-coping strategies, while self-criticism was found to correlate positively with high emotional/avoidance and low approach-coping strategies. In addition, approach-coping scores were found to moderate self-critical trait vulnerability, reducing self-critical participants' depressive symptoms, thus confirming the coping effectiveness hypothesis. Results suggest that personality dispositions may affect the selection of coping processes, but that specific coping strategies are effective beyond personality characteristics, moderating the association between trait vulnerabilities and depressive symptoms. We propose a model in which self-criticism functions as vulnerability to depressive symptoms in the childbearing period. Our results illustrate the need to distinguish dependent and self-critical personality traits, and point to the need to integrate personality and contextual factors in the study of childbirth depressive symptoms.

Childbearing is a life-changing event and a developmental transition that can be stressful for both women and their families. The transition to motherhood is a challenging time when issues of both relatedness and self-definition become especially salient. Relationships with self and others are renegotiated, imposing a reassessment of identity, autonomy, and close interpersonal relatedness (Antonucci & Mikus, 1988; Belsky, Rowine, & Fish, 1989; Gotlib & Hooley, 1988; Ruble, Brooks-Gunn, Fleming, Fitzmaurice, Stangor, & Deutsch, 1990; Whiffen & Gotlib, 1993). The present study explored the combined effect of coping strategies and trait vulnerabilities on depressive symptoms experienced during pregnancy and after delivery.

In the context of the study of personality variables that might contribute to vulnerability to depressive symptomatology, Blatt and colleagues defined a theory of personality involving the dimensions of dependency and self-criticism (Blatt, 1990, 1991;

Blatt, Cornell & Eshkol, 1993; Blatt, Quinlan, Chevron, McDonald & Zuroff, 1982). This theory is consistent with the long tradition that contrasts other- and self-directedness as two basic modalities of human experience. Blatt and colleagues (1993) suggested also that the adequate coordination between interpersonal relatedness and self-definition might reduce stress and lead to physical well being (Blatt et al., 1993). According to this model, normal development is characterized by a dialectic interweaving of other- and self-directness, leading to a flexible balancing of the characteristic capacities involved in these two processes (Helgeson, 1994). This model assumes that individual differences in the relative emphasis on each of these processes delineate two personality styles—self-criticism and dependency—each with favored modes of cognition and coping strategies. An overemphasis on self-critical or dependency motives results in dysfunctional attitudes, and is assumed to constitute vulnerability to depression. This formulation is congruent with Beck's (1983) model of sociotropic and autonomous types of depression, and with Arieti and Bemporad's (1980) dominant-other and dominant-goal depression types.

A considerable body of empirical research has demonstrated the relevance of high levels of self-criticism and dependency as vulnerability for depression (Klein, 1989; Ouimette & Klein, 1993; Robins, 1995; Zuroff, Igreja, & Mongrain, 1990; for a recent review, see Flett, Hewitt, Endler, & Bagby, 1995). An important difference between dependency and self-criticism, however, is recently emerging in the research literature: while the association between self-criticism and depression has been corroborated repeatedly in different contexts, dependency appears as including both vulnerability and resilience components (Blatt, Zohar, Quinlan, Zuroff, & Mongrain, 1995; Mongrain, 1998; Priel & Besser, 1999).

A specific context where self-criticism was found to function as a trait vulnerability factor, while dependency constitutes a resilience factor, is the transition to motherhood (Priel & Besser, 1999; 2000). These studies have shown that, controlling for the levels of depressive symptoms during pregnancy, dependency seems to prevent postpartum depressive symptoms. Moreover, the relations between self-criticism and dependency and depressive symptoms after childbirth were found to be affected by two protective factors: attachment to the unborn baby (Priel & Besser, 1999) and social support (Priel & Besser, 2000). In the present study, we explored the assumption that dependency and self-criticism might associate each with preferred coping styles, with dependency relating to more adaptive ways of coping.

This study's hypotheses are based on two main assumptions: in the first place, the assumption, basic to all conceptualizations of coping processes, that the way people cope with stressful life events may explain how well they are able to reduce the deleterious effects of these events (Lazarus & Folkman, 1984). Secondly, our hypotheses assume that preferred coping-styles might derive from personality traits (McCrae & Costa, 1986). Costa and McCrae (1990), for instance, suggested that trait vulnerabilities constitute basic dispositions to perceive and experience psychological distress, as well as choosing coping strategies. There is some empirical evidence on the cross-situational and temporal consistency and stability of coping efforts, under the influence of personality traits (Bolger & Schilling, 1991; McCrae & Costa, 1986; Scheier & Carver, 1985;

Parkes, 1986; Kardum & Hudek-Kneevi, 1996). Even though there are divergence of opinions in the coping literature about the exact role of personality traits in the development of relatively stable coping styles (for a review see Suls, David, & Harvey, 1996), there is an agreement regarding the fact that personality traits are important factors in processes of stress and coping (e.g. Bolger & Zuckerman, 1995; Costa & McCrae, 1990; Horowitz, 1990; Moos & Swindle, 1990). Moreover, researchers, such as Carver, Scheier, & Weintraub (1989) and, more recently, Hudek-Knezevic & Kardum (1996) and Kardum & Krapic (2001), have demonstrated that specific coping styles do relate in a theoretically meaningful manner to basic personality dimensions.

A common characteristic of many coping taxonomies has been the distinction between strategies that are active and oriented toward confronting the problem, and strategies that entail an effort to reduce tension by avoiding dealing with the problem. Folkman and Lazarus proposed a transactional perspective that included two basic coping strategies: problem-focused coping intended to modify the source of stress and emotion-focused coping aimed at avoiding the distress that associates to the situation. Moos and Billing (1982) suggested a typology consisting of active or *approach-coping* strategies (including behavioral efforts to deal directly with the challenge and efforts to manage one's appraisal of the stressfulness of the event) and strategies that rely essentially on the *emotional/avoidance* of the problem. According to this model, the use of approach or emotional/avoidance strategies depends on one's appraisal of a situation. In situations seen as changeable, approach strategies would be used, whereas emotional/avoidance strategies would be used in situations appraised as unchangeable (Aldwin, 1999; Folkman & Lazarus, 1980; Lazarus, 1966, 1999; Lazarus & Folkman, 1984). Research on the effects of coping strategies on adjustment, reports a greater efficacy for approach-oriented coping strategies, showing they moderate the adverse influence of negative life events on psychological functioning (Billings & Moos, 1981; Pearlin & Schooler, 1978; Mitchell, Cronkite, & Moos, 1983). Emotional/avoidance-coping strategies tend to associate with psychological distress (Billing & Moos, 1984; Holahan & Moos, 1985; Holahan & Moos, 1986; Aldwin & Revenson, 1987; Bolger, 1990).

Research on dependency and self-criticism suggests that dependent individuals tend to activate their social environment in order to cope with stress, while withdrawal is one of self-critical individuals' main strategies in the face of distress (Blatt & Schichman, 1983). For instance, dependency has been found to associate with help seeking (Bornstein, 1992; Mongrain, 1998; Priel & Besser, 2000; Priel & Shahar, 2000), while self-criticism is related to social avoidance (Alden & Bieling, 1996). In a recent study, Fichman, Kostner, Zuroff, and Gordon (1999) reported that self-criticism and dependency were differently related to specific mood regulation strategies, revealing that while self-criticism was related to social withdrawal, dependency associated with the capacity to socially approach others.

The pattern of empirical findings on the ways dependent and self-critical participants cope with distress suggests the possibility that the association between self-criticism and the proneness to emotional/avoidance strategies may constitute a main hindrance to self-criticals' adjustment. Accordingly, in the present study we assumed that while dependency may be positively related to the choice of approach-coping strategies, self-criticism

would associate with emotional/avoidance-coping strategies. We also explored the effectiveness of approach-coping strategies in relation to both dependency and self-critical trait vulnerabilities.

It is important to note here that the assumption that emotional/avoidance- and approach-coping strategies relate in opposite direction to depressive symptoms after childbirth has been already documented by Colletta and Gregg (1981) among adolescent mothers; this study found that mothers who used approach coping had lower levels of emotional distress than those who relied on emotional/avoidance-coping strategies. In addition, Terry (1991) found that high levels of emotional/avoidance coping adopted in the immediate postnatal period had a negative impact on subsequent levels of adjustment. In a recent study, Terry, Mayocuni, & Hynes (1996) proposed that stress, coping strategies, and coping resources influenced depressive symptomatology at four and six months postpartum. Depressive symptomatology during pregnancy emerged as the most important predictor of depressed mood after childbirth. These studies confirm the differential effects of diverse coping strategies on depressive symptomatology after childbirth, and raise the question of the role played by trait vulnerabilities in the coping-distress relation. Do trait vulnerabilities add to the explanation of postpartum depressive-symptoms variability beyond the effects of the employment of less adaptive coping strategies? Are approach-coping strategies more adaptive after childbirth across trait vulnerabilities? In the present study, using a longitudinal design that allowed for the control of initial levels of depression, we assessed the pattern of relations between maternal trait vulnerabilities and coping strategies, in order to explore their relative effects on postpartum depressive symptoms.

To sum up, using a longitudinal design, that reduced the confounding between predictors and outcome assessments (e.g., Lazarus, 2000; Suls, David, & Harvey, 1996), and controlled for pregnancy depression levels, we tested the following hypotheses: dependency was assumed to associate with high approach- and low emotional/avoidance-coping strategies scores, while self-criticism was expected to be positively related to low approach - and high emotional/avoidance-coping strategies scores. Moreover, the adoption of active coping strategies was assumed to moderate¹ the effects of trait vulnerability on depressive symptoms' levels after childbirth.

METHOD

Participants

Participants were a consecutive sample of Israeli pregnant women attending routine checkups at their community Well Baby Clinic in a middle-class, urban area. Participants were volunteers. In order to control for psychosocial factors known to affect depression in the postpartum period, we included in our sample only first natural pregnancies among married women without previous psychiatric history and without previous miscarriages. High-risk pregnancies were also excluded. These criteria were met by about 85% of the first-mothers population in the Well Baby Clinics. The final sample included only those subjects who subsequently had normal childbirth and healthy ba-

bies. Infants' health status was defined according to their APGAR scores. These are scores determined by means of a pediatric evaluation that assesses heart rate, respiratory effort, skin color, muscular tone, and reflex response in an effort to determine the newborn's well being. Each of these parameters is evaluated twice, one and five minutes after birth, on a 3-point scale ranging from 0 to 2. APGAR scores of 8 and higher are the criteria accepted as reflecting normality in newborns (Nelson, 1987). In the present study, we included only mothers of babies whose first APGAR score was higher than 8 and the second APGAR score equal or higher.

Participants were asked to volunteer for a study on women's experiences of the first pregnancy and motherhood. Eighty-seven percent of the women we approached agreed to take part in this research. Our sample included 151 women; five participants (3.3%) did not take part on Time 2 data collection: three of them had miscarriages or delivered prematurely, and the remaining two participants left the area before Time 2. The final sample thus included 146 participants with a mean age of 24.92 years ($SD = 3.79$), and 11 to 19 years of formal education ($Mean = 13.39$, $SD = 1.63$).

Measure

The Depressive Experiences Questionnaire (DEQ). To assess vulnerability to depression, we used the DEQ (Blatt, D'Affliti & Quinlan, 1976), a 66-item scale devised to evaluate patterns of experiences that contain a predisposition to depressive states, and which is therefore appropriate to be used with a non-clinical population. The DEQ dependency factor reflects a preoccupation with abandonment and separation, feelings of being unloved, and fear of loss. The self-criticism factor reflects concerns about failure and guilt, self-criticism, and being unable to meet high standards set by the self and by others. Internal homogeneity and test-retest reliability was adequate (Blatt et al., 1982). Items were converted to z scores and multiplied by the factor weight coefficient, according to Israeli norms (Priel, Besser, & Shahar, 1998). Correlations between the scores obtained using the English and the Hebrew versions of the DEQ were .93 ($p < .001$) for self-criticism and .85 ($p < .001$) for dependency. The Cronbach's Alpha internal consistency coefficient for DEQ scores in the present study was .95.

The Center for Epidemiological Studies Depression Scale (CES-D). The CES-D (Radloff, 1977) was used to measure depressive symptoms during pregnancy and eight weeks after delivery. This is a 20-item scale designed to measure current levels of depressive symptomatology in the general population. Items, assessed on a scale from 0 to 3, are depressed mood, feelings of guilt and worthlessness, feelings of helplessness and hopelessness, psychomotor retardation, loss of appetite, and sleep disturbances (Radloff, 1977). This scale has been shown to be valid and reliable in many different samples, including pregnancy and postpartum research (see, e.g., Fleming, Ruble, Flett, & Wagner, 1990; Priel & Besser, 1999; Priel & Besser, 2000). The Cronbach's Alphas internal consistency coefficients for CES-D scores in the present study were .89 and .86 for Time1 and Time 2 respectively.

Coping Strategies. Ways of coping with pregnancy-related problems were assessed with a 44-item scale, a Hebrew version of Parkes's (1984) Ways of Coping Checklist

(Folkman & Lazarus, 1980). The 44-item self-report measure retains the broad range of cognitive and behavioral strategies people use to deal with stressful events. In the present study, participants were asked to think about pregnancy-related problems that occurred in the last month, and to rate on 4-point Likert scales (1 = *Not Used*; 4 = *Used Great Deal*) the extent that they tended to act in the way described, when confronted with the problem. Parkes's (1984) analyses revealed a bi-factor model, in which approach-coping strategies reflected direct attempts to change the stressful circumstances and avoidance of maladaptive cognitive distortions, and emotional/avoidance-coping strategies reflected attempts to ignore the situation, to avoid talking or thinking about it, and not to act impulsively. In the current sample, the 44-item Cronbachs' Alpha internal consistency coefficient was .80, with .85 and .87 for approach and emotional/avoidance-coping strategies respectively.

Procedure

Two waves of measurement were performed as part of a larger longitudinal project on depressive symptoms after childbirth. Participants who fulfilled the demographic and clinical criteria completed the self-report measures during the last trimester of pregnancy (24–30 weeks with *Mean* = 26.25 weeks, *SD* = 1.88) and eight weeks after childbirth. The mean lag between the two assessments was 21.91 weeks (19–24 weeks, *SD* = 1.64). At Time 1, participants completed the CES-D, DEQ, and the 44-items assessing approach- and emotional/avoidance-coping strategies with pregnancy-related problems. Time 2 assessments included the CES-D. The Time-1 order of presentation of the questionnaires was randomized. Depression assessments before and after giving birth will be referred to as CES-D 1 and CES-D 2, respectively.

RESULTS

Overview of Statistical Analyses

The analytic strategy was designed to assess the role of coping strategies in the link between trait vulnerability and depressive symptoms. We used two basic approaches to examine the role of coping strategies: first, we examined the zero-order correlations between trait vulnerability variables, coping strategies scales, and Time-1 and 2 depressive symptoms measures. This analysis allowed assessing the association between self-criticism/dependency and the selection of coping strategies (i.e., the specificity of choice).

We expected that coping strategies would moderate the positive relation between trait vulnerability and depressive symptoms. Hierarchical Multiple Regression analysis with interactions represented by product terms (Cohen & Cohen, 1983) was used to test the proposition that coping strategies moderate the association between trait vulnerability and Time-2 depressive symptoms. We controlled for initial depressive symptoms scores, entering them in the first step. Thus, the criterion variable was the respondents' residualized depressive symptoms' scores. Self-criticism and dependency personality variables were entered together in the second step and approach and emotional/avoid-

ance-coping strategies' scales were entered together in the third step of the regression analysis. This procedure enabled the assessment of the effects of each of these variables separately, while controlling for the other, and each variable's association with Time-1 depressive symptoms. The personality and coping variables blocks were reversed in the regression equation—if a third, unspecific variable was creating a spurious association between coping strategies and trait vulnerability, reversing the terms should not have altered the regression results. Thus, if spuriousness were operating, one would expect that trait vulnerability would no longer be a significant predictor of depressive symptoms after partialling out the effect of coping strategies. In addition, in the fourth step, before entering and testing the interactions under investigation (i.e., personality variables and coping strategies scales interactions), we controlled for each construct's scales interactions (i.e., the dependency X self criticism and the approach X emotional/avoidance-coping strategies interactions). Although there were no a-priori hypotheses for these interactions, they were entered simultaneously in order to control for the variables forming the products before testing the products (Cohen, 1978), thus further eliminating possible confounding and spuriousness when interpreting significant interactions, and in order to decrease the number of statistical tests performed. With this last procedure, all the conditions for Omnibus Regression analysis were confirmed (Gunster, Fusilier, & Mayes, 1986), subsequently limiting the possibilities of Type I error.

Depressive symptoms. The mean score of depressive symptoms was 13.58 ($SD=7.93$) among pregnant women and 14.75 ($SD=7.82$) after childbirth; the difference was non-significant ($t [145] = 1.59, n.s.$). In our sample, 31.5% of the pregnant women and 36.3% of the new mothers scored above 16 on this scale, the cut-off point for depressive symptoms in community samples. The correlation between CES-D 1 and CES-D 2 ($r = .36, p < .0001$) indicates a moderately consistent level of depressive symptoms during pregnancy and after delivery.

Dependency, self-criticism, coping strategies and depressive symptoms. Table 1 contains the inter-correlations between dependency, self-criticism, approach and emotional/avoidance-coping strategies, and assessment of depression before and after birth.

As can be seen in Table 1, dependency and self-criticism were not inter-correlated in the present sample, and each construct correlated in opposite directions with measures of depressive symptoms and measures of coping strategies. Table 1 shows significant, positive correlations between self-criticism and both CES-D 1 ($r = .19, p < .02$) and CES-D 2 ($r = .28, p < .001$) scores. Dependency, on the other hand, can be seen to correlate negatively with depression indices CES-D 1 ($r = -.24, p < .004$) and CES-D 2 ($r = -.31, p < .0001$). While the approach-coping strategies correlated negatively with self-criticism ($r = -.25, p < .002$) and positively with dependency ($r = .16, p < .05$), the emotional/avoidance-coping strategies were found to correlate positively with self-criticism ($r = .29, p < .0001$) and negatively with dependency ($r = .32, p < .0001$). Coping strategies did not correlate significantly with Time-1 depression, but were found to be negatively correlated with CES-D 2 ($r = -.20, p < .02$ for approach-coping strategies and $r = .17, p < .04$ for emotional/avoidance-coping strategies). Approach-coping strategies and emotional/avoidance-coping strategies were found to be negatively correlated ($r = -.59, p < .0001$).

TABLE 1
Zero-order Correlations between Trait Vulnerability, Coping Strategies, and Depressive Symptoms

Variables	2	3	4	5	6
<i>Trait Vulnerability</i>					
1. Self-Criticism	-.13	-.25**	.16*	.19*	.28***
2. Dependency	-----	.29***	-.32***	-.24**	-.31***
<i>Coping Strategies</i>					
3. Approach-coping strategies	-----	-----	-.59***	-.13	-.20*
4. Emotional/avoidance-coping strategies	-----	-----	-----	.12	.17*
<i>Depressive Symptoms</i>					
5. ¹ CES-D 1	-----	-----	-----	-----	.36***
6. ² CES-D 2	-----	-----	-----	-----	-----

Note: (two-tailed test).

N=146.

¹CES-D 1 = Depression measured at Time-1;

²CES-D 2 = Depression measured at Time-2.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Thus, in the present sample, self-criticism and dependency were inversely related to approach and emotional/avoidance-coping strategies.

The role of depressive symptoms in the relation between dependency, self-criticism, and coping strategies. To determine whether the relations between self-criticism with low approach and high emotional/avoidance-coping strategies could be attributed to the participants' current levels of depressive symptoms, rather than to more stable personal characteristics, two separate hierarchical multiple regression analyses were conducted. In the first, approach-coping scores served as criterion, and in the second, emotional/avoidance-coping scores. In both, the predictors were Time-1 depressive symptoms, entered in the first step, and dependency and self-criticism, entered in the second step. This procedure enabled the assessment of the effects of each of these personality variables separately, while controlling for the other, and each variable's association with Time-1 depression (CES-D 1). Results for approach-coping strategies showed that the basic pattern of correlations was not altered ($F [3,142]=7.32, p < .0001$; $b = -.21, p < .008$ and $b = .26, p < .002$ for self-criticism and dependency, respectively). However, the results for the prediction of emotional/avoidance-coping strategies showed that for self-criticism the basic pattern of correlations did change, but not for dependency ($F [3,142]=6.20, p < .0005$; $b = .12, n.s$ and $b = -.29, p < .0004$ for self-criticism and dependency, respectively). Depressive symptoms seemed thus to explain the relation between self-criticism and emotional/avoidance-coping strategies, suggesting that the higher depression levels found among highly self-critical participants might explain their choice of emotional/avoidance-coping strategies.

The moderating role of coping strategies in the relations between trait vulnerability and depressive symptoms. Using an "Omnibus" Hierarchical Regression Analysis strat-

egy (see Table 2), we found that CES-D 1 explained 13% of the total variance, while dependency and self-criticism, entered in the second step, added a significant 9% ($p < .001$). The b values for self-criticism and dependency b 's = .20, $p < .01$ and $-.22$, $p < .004$, respectively) indicate a positive association between self-criticism and depressive symptoms, and a negative significant association between dependency and depressive symptoms, when controlling for common variance with self-criticism and CES-D 1. The third step, including coping strategies, did not add significantly to the explained variance. The interactions between self-criticism and dependency and between approach- and emotional/avoidance-coping strategies in step 4 did not add to the explained variance. In step 5, the interactions between each of the personality factors with the two coping strategies contributed a significant 4% to the explanation of the common variance, but only the self-criticism X approach-coping strategies interaction added significantly to the explained variance at Time-2 $b = -1.93$, $p < .01$). To assess the contribution of the self-criticism X approach-coping strategies interaction we entered it as last variable in a separate additional step (step 6), while controlling for the other interactions in step 5. The self-criticism X approach interaction was found to add significantly 4% to

TABLE 2

Multiple Regression Analysis of Time-2 Depressive Symptoms

Predictor variables	Multiple R	R ²	F Change	Overall F	df	β
Step-1: Time-1 Depressive Symptoms	.36	.13	22.05***	22.05***	1,144	
1. Time-1 CES-D						.36***
Step-2: Trait Vulnerability	.47	.22	8.32***	13.64***	3,142	
2. Dependency						-.22**
3. Self-criticism						.20**
Step-3: Coping Strategies	.48	.23	.27 n.s.	8.21***	5,140	
4. Approach-coping strategies						-.05 n.s.
5. Emotional/avoidance-coping strategies						.02 n.s.
Step-4	.49	.24	.97 n.s.	6.14***	7,138	
6. Self-criticism X Dependency						-.05 n.s.
7. Approach X Emotional/avoidance-coping strategies						.34 n.s.
Step-5: Personality X Coping Strategies Interactions	.52	.28	1.74*	4.62***	11,134	
8. Self-criticism X Emotional/avoidance-coping strategies						-.95 n.s.
9. Self-criticism X Approach-coping strategies						-1.92**
10. Dependency X Emotional/avoidance-coping strategies						-.04 n.s.
11. Dependency X Approach-coping strategies						.32 n.s.

Note: (two-tailed test).

N=146.

* $p < .05$; ** $p < .01$; *** $p < .001$.

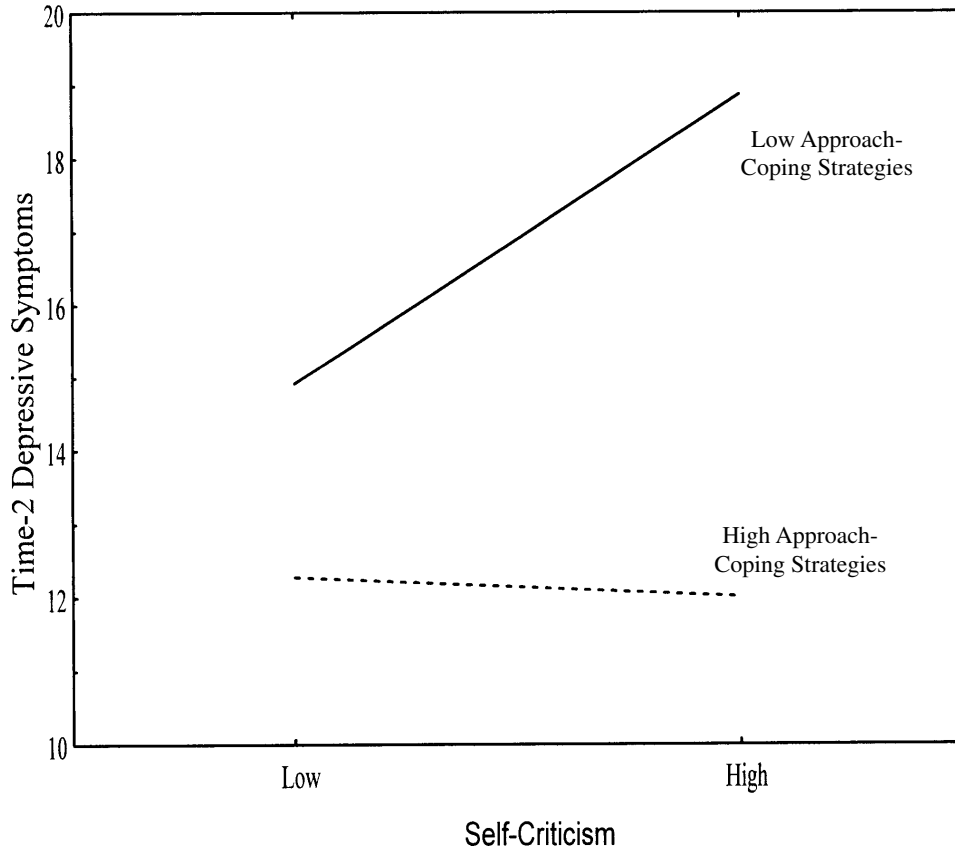
the explanation of the variance of depressive symptoms after delivery (F change [11,134] = 6.74, $p < .01$).

A similar analysis was conducted with coping strategies entered in the second step, after controlling for CES-D 1 produced similar findings. Coping strategies in the second step did not add significantly to the explained variance (*Multiple R* = .40, $F [3,142]=8.94$, $p < .0001$; b for approach coping = $-.12$, *n.s.* and b for emotional/avoidance coping = $.06$, *n.s.* F change [3,142] = 2.19, *n.s.*) and the DEQ variables, entered in the third step, added significant 7% to the explanation of the common variance (F change [5,140] = 6.14, $p < .003$; b for self-criticism = $.18$, $p < .02$ and b for dependency = $-.21$, $p < .01$). Thus, personality variables were still significant predictors of depressive symptoms after partialling out the effects of coping strategies, suggesting no support for possible spuriousness.

The interaction between self-criticism and approach-coping strategies is presented in Figure 1. Plotting that interaction according to Cohen and Cohen's (1983, p.323 and

FIGURE 1

The Relations Between High (1 SD) and Low (-1 SD) Levels of Self-Criticism and Postpartum Depressive Symptoms for High (1 SD) and Low (-1 SD) Levels of Approach-Coping Strategies



p.419) recommendation revealed that approach-coping strategies moderate the effects of self-criticism on depressive symptoms' scores. The relationship between self-criticism and Time-2 depressive symptoms showed a statistically significant decrease with increased utilization of approach-coping strategies. As illustrated in Figure 1, participants reporting high levels in both self-criticism and approach-coping strategies reported significantly less depressive symptoms than those reporting high levels of self-criticism, but low approach-coping strategies' scores. The complete model explained 28% of the variance of depressive symptoms at Time-2.

DISCUSSION

This study's main interest was the delineation of the convergence of trait vulnerability and coping strategies in the context of the transition to motherhood. To this effect, the relative contribution of personality and coping factors to the level of depressive symptoms after delivery was explored. We explored the patterns of relations between self-criticism, dependency, and the choice of coping strategies, as well as the contribution of the latter to the moderation of depressive symptoms during the transition to motherhood. Our findings are consistent with the hypothesis whereby dependency and self-criticism associate with preferred copings-processes. In the context of the transition to motherhood, dependency was found to correlate with low emotional/avoidance and high approach coping, while self-criticism was correlated with low approach- and high emotional/avoidance-coping strategies. In addition, approach-coping strategies were found to moderate the deleterious effects of self-criticism on participants' depressive mood after childbirth. The obtained results present a pattern of findings that includes effects related to personality factors in themselves, as well as to both the choice and effectiveness of specific methods of coping.

Following existing evidence on the confounding of measures of personality and depressive symptoms (Coyne & Wiffen, 1995) and coping and distress (Coyne & Gottlieb, 1996), we have controlled for participants' current levels of distress. This design allowed exploring whether impairment in the ability to use approach coping associates with trait vulnerability to depression, or whether the impairment results from the participants' current level of depressive symptoms. Our results support the view that different personality traits associate with specific patterns of coping strategies; self-criticism associates with high emotional/avoidance- and low approach-coping strategies and dependency associate with high approach- and low emotional/avoidance-coping strategies. Nevertheless, the positive association between self-criticism and emotional/avoidance-coping strategies was due to participants' levels of depressive symptoms, and to a possible confounding between depressive symptoms and self-criticism. We would like to suggest that this confounding may not necessarily reflect a methodological difficulty, as is generally assumed, but that it might indicate a specific cyclic negative process: self-critical participants are indeed more depressed; being self-critical and more depressed results in a negative appraisal of situational difficulties; since the situation seems unchangeable, emotional/avoidance coping might be selected, and self-critical participants may concentrate mainly in tactics for managing their own depressive symptoms.

While controlling for initial levels of depressive symptoms and self-criticism scores, dependency was found to reduce Time-2 depressive symptoms beyond its positive relations to approach-coping strategies, and its negative relations to emotional/avoidance-coping strategies. The obtained results support a view of first childbirth as a stressful transition that seems to adversely affect mainly self-critical women, as suggested already by previous research findings (Fedele, Golding, Grossman, & Pollak, 1988; Priel & Besser, 1999, 2000). In the context of the study of coping processes, we may describe self-critical women as perceiving pregnancy and caring for an infant as a compromise to their autonomous functioning; increased levels of depressive symptoms may then contribute to their perceptions of the situations as unchangeable and their use of emotional/avoidance-coping strategies. Dependent new mothers may find the new situational demands more congruent with their own and others expectations, and, being therefore less depressed, may see the situational difficulties as manageable and use approach-coping strategies.

Of special interest are our findings that approach-coping strategies moderate the effects of self-criticism on postpartum depressive symptoms. These findings not only corroborate the necessity, pointed out by Suls et al. (1996), to distinguish between coping-choice and coping-effectiveness, but also suggest the importance of complex perspectives integrating situational and predisposition factors, as well as diverse personality traits. These findings also underscore the fact that individuals use always-different coping strategies concomitantly: Although self-critical participants tend not to use approach-coping strategies, when they did use them they felt significantly less depressed. Thus, personality traits seem to affect the choice of coping methods, but these methods may be effective also beyond assessed trait vulnerabilities. These results propound, therefore, a perspective that emphasizes the reciprocal effects of predisposition and situational factors.

A complementary explanation of these results relates to the possibility that the moderating effect found is characteristic of those self-critical individuals who have rather flexible ways of coping, that is, self-critical women who are able to utilize also approach-coping strategies in the transition to motherhood. This possibility is congruent with Blatt and colleagues' assumption that flexible intertwining between self-definition and relatedness tendencies indicates maturity and well-being (Blatt, 1990; Blatt & Blass, 1990; Blatt & Shichman, 1983; Blatt & Zuroff, 1992). Moreover, vulnerability itself can be described in this context as the rigid use of maladaptive coping strategies.

The interpretation of the present study findings is constrained by the fact that the strength of the model effect is moderate (i.e., *Multiple R* = .52) thus further exploration is called for to validate our observations and should take into account the limitations involved in the use of self-report measures to evaluate personality, coping, and depressive symptoms. Further research using interview techniques and external assessments of variables are important for the evaluation of the validity of the obtained findings. In addition, important topics for further research are the effects of coping strategies on personality variables, and the assessments of the relations between dependency and self-criticism trait vulnerability, and participants' attributions of the situation as changeable-controllable. Moreover, it seems important to determine the mechanisms through which

these attributions might interact with trait vulnerability and coping strategy choice in the prediction of depressive symptoms.

Our design does not invalidate the possibility that both perceptions of feelings of vulnerability, self-critical and negative outcomes, at a later date may stem from a common factor active during the whole process. Several factors could be responsible for both feelings of distressed mood and personality alterations. For instance, an additional speculation might possibly be that there is a prospective role of neurohormonal reorganization in causing distressed mood and personality alterations, which might play a generative linkage to feelings of vulnerability, self-criticism, and depression. Thus, empirical models studying the role of trait vulnerability in depression, and particularly in postpartum depression, should consider the role of neurohormonal reorganization and other possible factors.

In summary, although there are some limitations, the current study represents the first attempt to examine self-criticism, dependency, coping strategies, and longitudinal depression in the same study, in general, and in the transition to motherhood in particular.

NOTES

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1. In line with Baron and Kenny (1986), we use the term *moderator* to refer to variable that qualifies the effect of a predictor (X) variable on a criterion variable (Y).

REFERENCES

- Alden, L. E., & Bieling, P. J. (1996). Interpersonal convergence of personality constructs in dynamic and cognitive models of depression. *Journal of Research in Personality, 30*, 60–75.
- Aldwin, C. M., R. S. (1999). *Stress and emotion: A new Synthesis*. New York: Springer.
- Aldwin, C. M., & Revenson, T. A. (1987). Does coping help? A reexamination of the relation between coping and mental health. *Journal of Personality and Social Psychology, 53*, 337–348.
- Antonucci, T. C., & Mikus, K. (1988). The power of parenthood: Personality and attitudinal change during the transition to parenthood. In: G. Y. Michaels & W. A. Goldberg (Eds.), *The Transition to Parenthood: Current Theory and Research* (pp. 243–258). Cambridge, MA: Cambridge University Press.
- Arieti, S., & Bemporad, J. R. (1980). The psychological organization of depression. *American Journal of Psychiatry, 137*, 1360–1365.
- Beck, A. T. (1983). Cognitive therapy of depression: New perspectives. In: P. J. Clayton & J. E. Barrett (Eds.), *Treatment of Depression: Old Controversies and New Approaches* (pp. 265–290). New York: Raven.
- Belsky, J., Rowine, M., & Fish, M. (1989). The developing family system. In: M. Gunnar (Ed.), *Systems and Development, Vol. 22, Minnesota Symposium on Child Psychology* (pp. 119–166). Hillsdale, NJ: Erlbaum.
- Billing, A., & Moos, R. H. (1981). The role of coping responses and social resources in attenuating the stress of life events. *Journal of Behavioral Medicine, 4*, 157–189.

- Billing, A., & Moos, R. H. (1984). Coping, stress, and social resources among adults with unipolar depression. *Journal of Personality and Social Psychology, 46*, 877–891.
- Blatt, S. J. (1990). Interpersonal relatedness and self-definition: Two personality configurations and their implications for psychopathology and psychotherapy. In J. L. Singer (Ed.), *Repression and Dissociation* (pp. 299–335). Chicago, IL: University of Chicago Press.
- Blatt, S. J. (1991). A cognitive morphology of psychopathology. *Nervous and Mental Disease, 179*, 449–458.
- Blatt, S. J., & Blass, R. (1990). Attachment and separateness: A dialectic model of the products and processes of psychological development. *The Psychological Study of the Child, 45*, 107–127.
- Blatt, S. J., Cornell, C. E., & Eshkol, E. (1993). Personality style, differential vulnerability and clinical course in immunological and cardiovascular disease. *Clinical Psychology Review, 13*, 421–450.
- Blatt, S. J., D'Affliti, J. P., & Quinlan, D. M. (1976). Experiences of depression in normal young adults. *Journal of Abnormal Psychology, 85*, 383–389.
- Blatt, S. J., Quinlan, D. M., Chevron, E. S., McDonald, C., & Zuroff, D. C. (1982). Dependency and self-criticism: Psychological dimensions of depression. *Journal of Consulting and Clinical Psychology, 50*, 113–124.
- Blatt, S. J., & Shichman, S. (1983). Two primary configurations of psychopathology. *Psychoanalysis and Contemporary Thought, 6*, 187–254.
- Blatt, S. J., Zohar, A. H., Quinlan, D. M., Zuroff, D. C., & Mongrain, M. (1995). Subscales within the dependency factor of the Depressive Experiences Questionnaire. *Journal of Personality Assessment, 64*, 319–339.
- Blatt, S. J., & Zuroff, D. C. (1992). Interpersonal relatedness and self-definition: Two prototypes for depression. *Clinical Psychology Review, 12*, 527–562.
- Bolger, N. (1990). Coping as a personality process: A prospective study. *Journal of Personality and Social Psychology, 59*, 525–537.
- Bolger, N., & Schilling, E. A. (1991). Personality and the problems of everyday life: The role of neuroticism in exposure and reactivity to daily stressors. *Journal of Personality, 59*, 355–386.
- Bolgar, N., & Zuckerman, A. (1995). A framework for studying personality in the stress process. *Journal of Personality and Social Psychology, 69*, 890–902.
- Bornstein, R. F. (1992). The dependent personality: Development, social, & clinical perspectives. *Psychological Bulletin, 112*, 3–23.
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology, 56*, 267–283.
- Cohen, J. (1978). Partialled products are interactions; partialled powers are curve components. *Psychological Bulletin, 85*, 858–866.
- Cohen, J., & Cohen, P. (1983). *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences*. 2nd ed. Hillsdale, NJ: Erlbaum.
- Colletta, N. D., & Gregg, C. H. (1981). Adolescent mothers' vulnerability to stress. *Journal of Nervous and Mental Disease, 169*, 50–54.
- Costa, P. T., Jr., & McCrae, R. R. (1990). Personality: Another hidden factor in stress research. *Psychological Inquiry, 1*, 22–24.
- Coyne, J. C., & Gottlieb, B. H. (1996). The miss-measurement of coping by checklist. *Journal of Personality, 64*, 959–989.
- Coyne, J. C., & Whiffen, V. E. (1995). Issues in personality diathesis for depression: The case of sociotropy-dependency and autonomy-self-criticism. *Psychological Bulletin, 118*, 358–378.
- Fedele, N. M., Golding, E. R., Grossman, F. K., & Pollak, W. S. (1988). Psychological issues in adjustment to first parenthood. In G. Y. Michaels & W. A. Goldberg (Eds.), *The Transition to Parenthood: Current Theory and Research* (pp. 85–113). Cambridge, UK: Cambridge University Press.
- Fichman, L., Kostner, R., Zuroff, D. C., & Gordon, L. (1999). Depressive styles and the regulation of negative affect: A daily experience study. *Cognitive Therapy and Research, 5*, 483–495.
- Fleming, A. S., Ruble, D. N., Flett, G. L., & Van Wagner, V. (1990). Adjustment in first-time mothers: Changes in mood and mood content during the early post-partum months. *Developmental Psychology, 26*, 137–143.
- Flett, G. L., Hewitt, P. L., Endler, N. S., & Bagby, R. L. (1995). Conceptualization and assessment of personality factors in depression. *European Journal of Psychology, 9*, 309–350.
- Folkman, S., & Lazarus, R. S. (1980). An analysis of coping in a middle-aged community sample. *Journal of Health and Social Behavior, 21*, 219–239.

- Gunster, D. C., Fusilier, M. R., & Mayes, B. T. (1986). Role of social support in the experience of stress at work. *Journal of Applied Psychology, 71*.
- Gotlib, I. H., & Hooley, J. M. (1988). Depression and marital functioning: Current status and future directions. In: S. Duck (Ed.), *Handbook of Personal Relationships: Theory, Research and Intervention* (pp. 543–570). Chichester, UK: Wiley & Sons.
- Helgeson, V. (1994). Relation of agency and communion to well-being: Evidence and potential explanations. *Psychological Bulletin, 116*, 412–428.
- Holahan, C. J., & Moos, R. H. (1985). Life stress and health: Personality, coping, and family support in stress resistance. *Journal of Personality and Social Psychology, 49*, 739–747.
- Holahan, C. J., & Moos, R. H. (1986). Personality, coping and family resources in stress resistance: A longitudinal analysis. *Journal of Personality and Social Psychology, 51*, 389–395.
- Horowitz, M. J. (1990). Stress, states, and person schemas. *Psychological Inquiry, 1*, 25–29.
- Hudek-Knezevic, J., & Kardum, I. (1996). A model of coping with conflict between occupational and family role: Structural analysis. *Personality and Individual Differences, 21*, 355–372.
- Kardum, I., & Hudek-Knezevic, J. (1996). The relationship between Eysenck's personality traits, coping styles and moods. *Personality and Individual Differences, 20*, 341–350.
- Kardum, I., & Krapic, N. (2001). Personality traits, stressful life events, and coping styles in early adolescence. *Personality and Individual Differences, 30*, 503–515.
- Klein, D. N. (1989). The depressive experiences questionnaire: A further evaluation. *Journal of Personality Assessment, 53*, 703–715.
- Lazarus, R. S. (1966). *Psychological Stress and the Coping Process*. New York: McGraw-Hill.
- Lazarus, R. S. (1999). *Stress and Emotion: A New Synthesis*. New York: Springer.
- Lazarus, R. S. (2000). Toward better research on stress and coping. *American Psychologist, 55*, 665–673.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, Appraisal, and Coping*. New York: Springer.
- McCrae, R. R., & Costa, P. T., Jr. (1986). Personality, coping, and coping effectiveness in an adult sample. *Journal of Personality, 54*, 385–405.
- Mitchell, R. E., Cronkite, R. C., & Moos, R. H. (1983). Stress, coping, and depression among married couples. *Journal of Abnormal Psychology, 92*, 433–448.
- Mongrain, M. (1998). Parental representations and support-seeking behaviors related to dependency and self-criticism. *Journal of Personality, 66*, 151–173.
- Moos, R. H., & Billings, A. G. (1982). Conceptualizing and measuring coping resources and processes. In L. Goldberger & S. Breznitz (Eds.), *Handbook of stress: Theoretical and clinical aspects* (pp. 212–230). New York: Free Press.
- Moos, R. H., & Swindle, R. W. (1990). Person-environment transactions and the stressor-appraisal-coping process. *Psychological Inquiry, 1*, 30–32.
- Nelson, W. E. (1987). *Nelson's Textbook of Pediatrics*. 13th edition. Philadelphia, PA: W. B. Saunders.
- Ouimette, P., & Klein, D. N. (1993). Convergence of psychoanalytic and cognitive-behavioral theories of depression: An empirical review and new data on Blatt's and Beck's models. In J. M. Masling & R. F. Bornstein (Eds.), *Psychoanalytic Perspectives on Psychopathology* (pp. 191–224).
- Parkes, K. R. (1984). Locus of control, cognitive appraisal, and coping in stressful episodes. *Journal of Personality and Social Psychology, 46*, 655–668.
- Parkes, K. R. (1986). Coping in stressful episodes: The role of individual differences, environmental factors, and situational characteristics. *Journal of Personality and Social Psychology, 51*, 1277–1292.
- Pearlin, L. I., & Schooler, C. (1978). The structure of coping. *Journal of Health and Social Behavior, 19*, 2–21.
- Priel, B., & Besser, A. (1999). Vulnerability to postpartum depressive symptomatology: Dependency, self-criticism and the moderating role of antenatal attachment. *Journal of Social and Clinical Psychology, 18*, 240–253.
- Priel, B., & Besser, A. (2000). Dependency and self-criticism among first-time mothers: The roles of global and specific support. *Journal of Social and Clinical Psychology, 19*, 437–450.
- Priel, B., Besser, A., & Shahar, G. (1998). *Israeli Adaptation of the DEQ: Psychometric Properties*. Unpublished Manuscript, Behavioral Sciences Department, Ben-Gurion University of the Negev, Beer-Sheva, Israel.
- Priel, B., & Shahar, G. (2000). Dependency, self-criticism, social context and distress: Comparing moderating and mediating models. *Personality and Individual Differences, 28*, 515–525.
- Radloff, L. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychosocial Measurement, 1*, 385–401.

- Robins, C. (1995). Personality-event interaction model of depression. *European Journal of Personality, 9*, 367–378.
- Ruble, D. N., Brooks-Gunn, J., Fleming, A. S., Fitzmaurice, G., Stangor, C., & Deutsch, F. (1990). Transition to motherhood and the self: Measurement, stability and change. *Journal of Personality and Social Psychology, 58*, 450–463.
- Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology, 4*, 219–249.
- Suls, J., David, J. P., & Harvey, J. H. (1996). Personality and coping: Three generations of research. *Journal of Personality, 64*, 711–735.
- Terry, D. J. (1991). Coping resources and situational appraisals as predictors of coping behavior. *Personality and Individual Differences, 12*, 1031–1047.
- Terry, D. J., Mayocchi, L., & Hynes, G. J. (1996). Depressive symptomatology in new mothers: A stress and coping perspective. *Journal of Abnormal Psychology, 105*, 220–231.
- Whiffen, V. E., & Gotlib, I. H. (1993). Comparison of postpartum and non-postpartum depression: Clinical presentation, psychiatric history and psychosocial functioning. *Journal of Consulting and Clinical Psychology, 61*, 485–494.
- Zuroff, D. C., Igreja, I., & Mongrain, M. (1990). Dysfunctional attitudes, dependency and self-criticism as predictors of depressive mood states: A 12-month longitudinal study. *Cognitive Therapy and Research, 14*, 315–326.