

INTERPERSONAL RELATEDNESS AND SELF-DEFINITION IN LATE ADULTHOOD DEPRESSION: PERSONALITY PREDISPOSITIONS, AND PROTECTIVE FACTORS

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This study addresses depression in late adulthood within the context of Blatt's (1974; 1991) theory of development and vulnerabilities to depression. Participants were a sample of 237 Israeli community-dwelling old adults (age 65-75) in good health and functioning well. The authors assumed that in this developmental period, normally beset with questions about self-identity and interpersonal relatedness, the associations among Self-criticism, the Neediness component of dependency, and depressive symptomatology are moderated by participants' perceived social support as well as by their fear of death. As expected, the correlational results confirmed that depression in late adulthood is associated with Self-criticism, Neediness, fear of death, and low perceived social support. Additional results illustrated the protective role of Efficacy and Connectedness, as well as the buffering roles of social support and low fear of death in the relation between vulnerabilities to depression and depressive symptoms in late

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adulthood. The overall findings highlight the relevance of personality vulnerability factors in depression in late adulthood and the need to consider a range of moderating factors that may serve to protectively buffer or exacerbate the impact of personality vulnerability factors.

For age is opportunity no less
Than youth itself, though in another dress,
And as the evening twilight fades away,
The sky is filled with stars, invisible by day.
– Henry Wadsworth Longfellow

The fastest growing segment of world population is the 65-plus age group. The proportion of the population over the age of 65 will continue to grow well into the next century. At present, approximately 13 percent of the population of the United States is over age 65. By 2030 that percentage will increase to more than 20 percent¹ (Peterson, 1993, p.103). This factor by itself indicates a need for personality researchers to understand the growth, development, and changes that occur in the later years. The present study deals with depressive symptomatology, which is considered to be a rather common problem afflicting those aged 65 and older (Butler, Lewis, & Sunderland, 1998). Although levels of depression are highest among old adults who are institutionalized, it has been estimated that approximately 15-20% of community-dwelling old adults experience significant depressive symptomatology (Beekman, Copeland, & Prince, 1999; Fry, 1993). Depression increases both use and costs of health care (Badger, McNiece, & Gagan, 2000), and leads to functional decline and loss of independence (Espiritu et al., 2001). Moreover, depressive disorders in late adulthood are associated with increased all-cause mortality (e.g., Burvill, 1995; Lebowitz et al., 1997; Penninx, Geerlings, et al., 1999; Penninx, Leveille et al., 1999) and are often implicated in the elevated rates of suicide among old adults (for a review, see Heisel, Flett, & Besser, 2002)

Developmental theory posits that a main task of late adulthood is the review of efforts and achievements in the preceding stages (e.g., Erikson, 1963, 1982). Contemporary approaches define *successful aging* as *the ability to cope with and learn from the challenges of life and aging* (Wong, 1989; Wong, Reker, & Gesser, 1994). Late adulthood is a time very often beset with numerous demanding adjustments, such as the need to adapt to the deterioration of physical strength and health, to retirement and reduced income, to the death of one's spouse and

¹ U.S. Department of Commerce, Bureau of the Census, *Population Projections of the United States, by Age, Sex, Race and Hispanic Origin, 1993-2050*, Current Population Reports P25-1104 (Washington: Government Printing Office, 1993), Table 2.

close friends, the fear of one's own death, and the need to establish new affiliations with one's peer group. Because of the important losses that characterize the late adulthood period, preoccupation with issues of identity (Herzog & Markus, 1999) and relatedness (Charles & Pasupathi, 2003) are assumed to characterize this period. Current theoretical and empirical studies on life-span development show that, during the old adult period, perceptions of the self and relationships with others are renegotiated, imposing a reassessment of one's identity, ego integrity, and autonomy (e.g., Herzog & Markus, 1999; Pals, 1999), as well as close interpersonal relatedness (Charles & Pasupathi, 2003; Erikson, 1963, 1982; Johannes, 1996). This body of research suggests that impaired capacities in dealing with issues of self-identity and/or relatedness may have conspicuous deleterious effects in late adulthood.

Blatt and colleagues (Blatt & Blass, 1996; Blatt & Shichman, 1983) proposed a model of normal personality development that is characterized by a dialectical interweaving of other- and self-directness, as well as an evolving overall experience of Efficacy, which lead to a flexible balancing of the characteristic capacities involved in each of these processes. In reformulating Erikson's epigenetic model of psychological development Blatt and colleagues (Blatt 1990; Blatt & Shichman, 1983) illustrated the complex transaction between interpersonal relatedness and self-definition throughout the life cycle (Blatt, 1990, p. 304). This model assumes that individual differences in the relative emphasis on processes of relatedness and self-definition delineate two personality styles, each with favored modes of cognition and coping strategies (Blatt, 1974, 1990, 1991; Blatt, Cornell, & Eshkol, 1993; Blatt, Quinlan, Chevron, McDonald, & Zuroff, 1982). An overemphasis on issues of self-definition or relatedness results in dysfunctional cognitions and thoughts, and is assumed to constitute vulnerability to self-critical or dependent depression, respectively. The present study approaches, for the first time, depression in late adulthood within the context of this theory of development and depression vulnerabilities.

THE INTERPERSONAL RELATEDNESS/SELF-DEFINITION VULNERABILITY MODEL

In Blatt's conceptualization, *interpersonal relatedness* is defined as *the capacity to establish mature, mutual, and satisfying interpersonal relationships*, while *self-definition* refers to *the development of positive, realistic, and integrated self-identity* (Blatt, 1991). An adequate coordination between interpersonal relatedness and self-definition is the hallmark of optimal development and is assumed to reduce stress and lead to physical and psychological well-being (Blatt & Zuroff, 1992). An extreme or one-sided prevalence of one of these developmental processes leads to Dependency or Self-criticism, two basic vulnerabilities to depression or depressive personality styles.

The constructs of Dependency and Self-criticism have been empirically validated using the Depressive Experiences Questionnaire (DEQ). The DEQ includes items chosen to represent common experiences, rather than overt symptoms, of depressed individuals (Blatt, D'Afflitti, & Quinlan, 1976), as well as experiences of Efficacy. The first DEQ factor, Dependency, included concerns about abandonment, helplessness and loneliness, and the need for close and dependent interpersonal relationships. The items loading on the second DEQ factor, Self-criticism, reflected a continuous preoccupation with failure, ambivalent feelings about self and others, and a self-critical stance (Blatt et al., 1976). In a recent extensive review Zuroff, Mongrain, and Santor (2004) concluded that Blatt's concepts are continuous, nearly orthogonal dimensions that can be identified and measured independently from Neuroticism, depression, and social context. Thus, although attempts to link personality vulnerability research to the mainstream of personality research are important, Blatt's personality vulnerability variables cannot be reduced to any one of the Big Five variables, including Neuroticism.

The propensity to depression among self-critical individuals has been amply demonstrated in different community samples (e.g., Besser, 2004; Besser, Flett, & Davis, 2003; Besser & Priel, 2003a, b (in press); Besser, Priel, Flett & Wiznitzer, 2004; Fichman, Koestner, Zuroff, & Gordon, 1999; Klein, 1989; Priel & Besser, 1999, 2000; Quimette & Klein, 1993; Santor & Zuroff, 1997; Zuroff, Igreja, & Mongrain, 1990). Empirical associations between Dependency and depression are more complex, indicating the presence of adaptive aspects of Dependency in addition to a propensity for depression (e.g., Aube & Whiffen, 1996; Besser & Priel, 2003a, Besser, et al., 2004; Blatt, Zohar, Quinlan, Zuroff, & Mongrain, 1995; Bornstein, 1992; Mongrain, 1998; Priel & Besser, 1999, 2000. For recent reviews, see Blatt & Zuroff, 2002, and Zuroff et al., 2004). Parenthetically, it should be noted that the research cited above has focused on younger samples, and the ability of these personality orientations to predict depression in late adulthood has not been extensively studied.

Recent research on the Dependency/Self-criticism vulnerabilities differentiate between negative and positive or adaptive (mature) and maladaptive (immature) aspects of Dependency; further analyses of the Dependency factor have shown it to include two subfactors (Blatt, Zohar, Quinlan, Luthar, & Hart, 1996; Blatt et al., 1995; Rude & Burnham, 1995): the Neediness factor – an obsessive preoccupation with abandonment and separation, feelings of being unloved, and fear of loss; and the Connectedness factor – the mature and more reciprocal type of interpersonal concern about one's relationship with particular significant others. In addition, recent research has suggested that Self-criticism and Efficacy might reflect the negative and the constructive aspects of self-development, respectively (Kuperminc, Blatt, & Leadbeater, 1997). Efficacy has been found to involve a sense of personal responsibility, inner strength, feelings of

independence, and a sense of pride and satisfaction in one's accomplishments, yet not extreme competitiveness (Blatt & Zuroff, 1992). Accordingly, researchers have begun to view the Self-criticism and Efficacy factors as conveying negative and positive dimensions of the self, respectively (see Blatt, 2004).

A main assumption of the present study was that old adults scoring high on the Connectedness and Efficacy factors might be less depressed. While Connectedness implies an ongoing interest and concern vis-à-vis significant others, the Efficacy factor of the DEQ model assesses a resilient, adaptive form of autonomy. Feelings of Connectedness with close others and of beliefs in self as autonomous and effective were assumed to be of particular relevance among old adults, given the prevalence of experiences of loss and a diminishing of capacities that characterize this period of human life (Rodin, 1986). Moreover, Connectedness and Efficacy may be conceptualized as the counterparts of dependent and self-critical vulnerabilities to depression, or as resilience or protective factors against the deleterious effects of excessive preoccupation with issues of relatedness and self-esteem. In the present study, therefore, we explored the assumption that Connectedness and Efficacy might serve as protective factors

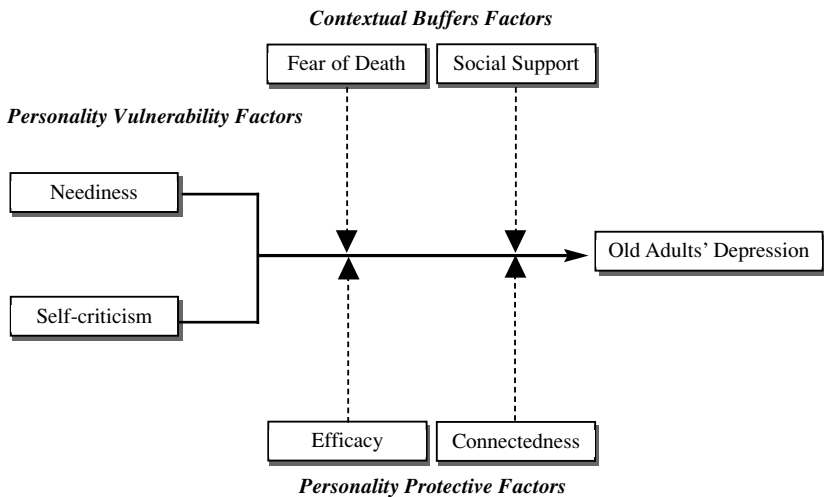


Figure 1. The Theoretical Model: Trait vulnerabilities affect depression in late adulthood as a function of contextual buffering and personality protective factors.

Note: Figure 1 shows the conceptual models that underlie this current study. The figure outlines a moderational model which assumes that *personality vulnerability* factors affect late adulthood depression and that these effects are moderated by *personality protective* and *contextual buffering* factors. In other words, personality protective and contextual buffering factors (moderators) were assumed to qualify the effect of personality vulnerability factors (predictors) on older adults' depression (outcome).

that moderate the adverse impact of high levels of Self-criticism and Neediness on depressive symptomatology (see Figure 1).

Two main buffering factors – perceived social support and levels of fear of death – were assumed to intervene in the relationship between personality trait vulnerabilities and depression in late adulthood (see Figure 1). Centering on the combined effects of Neediness, Connectedness, Self-criticism, and Efficacy, we explored the roles of perceived social support and fear of death on the vulnerability/depression link in a community sample of healthy and functioning old adults. The likely roles of perceived social support and death anxiety are discussed below.

PERCEIVED SOCIAL SUPPORT

The idea that perceived interpersonal bonds play an important role in the regulation of distress is basic to conceptualizations of perceived social support in general (e.g., Cohen & Syme, 1985; Priel & Shamai, 1995; Sarason, Pierce, & Sarason, 1990), and in relation to late adulthood in particular (e.g., Antonucci, Fuhrer, & Dartigues, 1997; Kempen, van Sonderen, & Ormel, 1999; Penninx, Geerlings et al., 1999). These studies emphasize the role played by personal beliefs regarding the risks and advantages of seeking help as they affect the development and use of support resources (Vaux, 1992). Studies have consistently demonstrated the protective effect of social support on physical and mental health outcomes during late adulthood (Cummings, Neff, & Husaini, 2003). Higher levels of social support have been associated with lower levels of depressive symptomatology in late adulthood, and have been found to buffer the effects of ill health, disability, bereavement, and other stressors (e.g., Wallsten, Tweed, Blazer, & George, 1999). The beneficial effects of social support have been linked both to greater psychological well-being (for example, self-efficacy, mastery, and decreased depressive symptomatology) and to reduced functional impairment (Antonucci et al., 1997; Kempen et al., 1999; Penninx et al., 1999). Moreover, old adults who express greater satisfaction with their social support report lower levels of depressive symptomatology, whereas dissatisfaction with social contacts and less-perceived available support strongly predict symptoms of depression (Antonucci et al. 1997; Fry, 1993).

We assumed that overemphasis on either Neediness or Self-criticism would be deleterious mainly when social support is perceived as lacking. Moreover, both self-critical and needy individuals were assumed to experience their environments as less supportive, in the first case because of concerns about losing autonomy or self-control, and in the second case because of the chronic experience of lack of – or uncertain – support. The negative association between Social Support and Self-criticism has already been suggested by previous research among young adults, which has shown negative associations between

Social Support and both Self-criticism and a depressive mood (e.g., Priel & Besser, 2000). Self-criticism and Neediness were expected to be associated with increased depressive symptomatology to the extent that they would be associated with low perceived social support, while high social support was expected to moderate or buffer these effects.

FEAR OF DEATH

Tomer (1992, 1994) defined *fear of death* as *the anxiety a person experiences in daily life as a result of the anticipation of death*. In contrast to a more acute fear elicited by an immediate threat to one's life, fear of death is regarded as an ongoing state. Previous studies have correlated fear of death with numerous variables, such as locus of control, religiosity, social support, age, gender, ethnicity (for reviews see Cicirelli, 1999; Kalish, 1985; Neimeyer & Van Brunt, 1995; Pollak, 1979) and self-Efficacy (Fry, 2003). Fear of death has been also found to be associated with depression (Neimeyer & Fortner, 1997), and the link between death anxiety and depression and related forms of psychological distress in older people has been confirmed in recent studies (Cully, LaVoie, & Gfeller, 2001; Wu, Tang, & Kwok, 2002). Coping with fear of death is a main developmental task in old adulthood. In an updated interpretation of Erikson's theory, Wong et al. (1994) defined *integrity* – the main developmental task in late adulthood according to Erikson – as *a state of mind centering on the conviction that life has been worthwhile and meaningful*; this conviction implies a reconciliation of the discrepancy between real and ideal expectations. Despair and fear of death are the corollaries of the conviction that life has been wasted. Individuals who are able to achieve integrity in late adulthood can face death with less fear. A review by Fortner and Neimeyer (1999) reported a reliable, negative correlation between measures of ego integrity and death anxiety (for a comprehensive review of the correlates of death anxiety among old adults, see Fortner, Neimeyer, & Rybarczek, 2000, as well as Neimeyer & Fortner, 2000).

Fear of death is relevant to the study of Neediness and Self-criticism as vulnerabilities to depression in late adulthood, since it relates to issues of fear of abandonment as well as to fear of losing one's identity and self-control (Devins, 1979; Florian & Kravetz, 1983; Thorson & Powell, 1988). In addition, the possibility that fear of death may moderate the link between personality vulnerability factors and depression can be extrapolated from terror management research indicating that high self-esteem seems to have an anxiety-buffering function among people exposed to death-related images (see Greenberg et al., 1992). Intuitively, it follows that people with a negative orientation toward the self, either in the form of Self-criticism or the need to protect a vulnerable sense of self by becoming overly dependent on other people, will be at risk for increased depression when they also experience an elevated level of death

anxiety which is threatening, in and of itself. This is especially so for people who perceive inadequacies in the self. Accordingly, in the current study, we assumed that, in late adulthood, high levels of fear of death should strengthen the hypothesized link between Neediness and Self-criticism and depression.

Health and economic deterioration are considered to be frequently involved in the levels of depression experienced in late adulthood (e.g., Stuart-Hamilton, 2000). Accordingly, the effects of these important variables might be confounded with the influence of personality factors on depression in late adulthood. Moreover, it can even be argued that putative imbalances in the negotiation of interpersonal relatedness and self-definition processes during the late adulthood period are the result of frequent major health or economic impairments. In order to study personality vulnerabilities within this age group we minimized the effects of serious deterioration processes by selecting a middle-class, high functioning, and relatively healthy sample of community-dwelling adults aged 65 to 75.

SUMMARY OF MAIN HYPOTHESES

Hypothesis 1 (H1) Efficacy and Connectedness were assumed to moderate and protect against the effects of Self-criticism and Neediness on depressive symptomatology in late adulthood: Self-criticism and Neediness were assumed to associate with increased depressive symptomatology during late adulthood to the extent that they were associated with low levels of Efficacy and Connectedness.

Hypothesis 2 (H2) Social support was expected to buffer the effects of Self-criticism and Neediness on old adults' depressive symptomatology: Self-criticism and Neediness were assumed to associate with increased depressive symptomatology during late adulthood to the extent that they are associated with low levels of perceived social support.

Hypothesis 3 (H3) Fear of death was expected to buffer the effects of Self-criticism and Neediness on old adults' depressive symptomatology: Self-criticism and Neediness were assumed to associate with increased depressive symptomatology during late adulthood to the extent that they are associated with high levels of fear of death.

METHOD

PARTICIPANTS

Our sample consisted of a sample of 237 community-dwelling adults in their late adulthood, ages 65 to 75 ($M = 69.44$, $SD = 4.25$), recruited from an urban area in southwest Israel. Participants were enlisted through community organizations, were contacted individually, and were volunteers. Only people

able to read Hebrew and/or fluently comprehend spoken Hebrew were recruited. Table 1 summarizes the characteristics of the study sample as a whole and by gender.

TABLE 1
DEMOGRAPHIC AND STUDY VARIABLES BY GENDER

| Variables | Women (<i>n</i> = 122, 51.5%) | Men (<i>n</i> = 115, 48.5%) | Sample as a Whole (<i>N</i> = 237) | Statistics ^a |
|---|-----------------------------------|---------------------------------|--|---|
| Demographics | | | | |
| Age (years) | 69.05 ± 4.35 | 69.84 ± 4.13 | 69.44 ± 4.25 | <i>t</i> (235) = 1.44, <i>ns</i> |
| Completed Education (years) | 12.19 ± 3.82 | 12.73 ± 4.07 | 12.45 ± 3.94 | <i>t</i> (235) = 1.06, <i>ns</i> |
| <i>Living Alone (%)</i> | | | | |
| Yes | 32.8 | 13.9 | 23.6 | χ^2 (1) = 11.67, <i>p</i> < .0001 |
| No | 67.2 | 86.1 | 76.4 | |
| <i>Living with Child or Family member (%)</i> | | | | |
| Yes | 17.74 | 20.86 | 19.4 | χ^2 (1) = .31, <i>ns</i> |
| No | 82.0 | 79.13 | 80.6 | |
| <i>Marital Status (%)</i> | | | | |
| Married | 65.6 | 83.5 | 74.3 | χ^2 (3) = 12.10, <i>p</i> < .0007 |
| Separated/divorced | 7.3 | 4.3 | 5.9 | |
| Widowed | 27.05 | 11.3 | 19.4 | |
| Never married | 0 | .9 | .4 | |
| <i>Economic Problems (%)</i> | | | | |
| None | 55.7 | 59.1 | 57.4 | χ^2 (2) = 6.43, <i>p</i> < .04 |
| Minor | 42.6 | 33.0 | 38.0 | |
| Major | 1.6 | 7.8 | 4.6 | |
| Self-Rated Health Measures | | | | |
| <i>Physical Health</i> | | | | |
| (number of illnesses) | .96 ± 1.03 | 1.0 ± .96 | .98 ± 1.0 | <i>t</i> (235) = .31, <i>ns</i> |
| <i>Subjective Health (%)</i> | | | | |
| Poor | 1.6 | 3.5 | 2.5 | χ^2 (3) = 1.06, <i>ns</i> |
| Average | 39.3 | 41.7 | 40.5 | |
| Good | 52.5 | 48.7 | 50.6 | |
| Excellent | 6.6 | 6.0 | 6.3 | |
| <i>Changes in Health During the Past Year (%)</i> | | | | |
| Less healthy | 23.0 | 20.9 | 21.9 | χ^2 (2) = 1.00, <i>ns</i> |
| Same | 73.0 | 72.2 | 72.6 | |
| Better | 4.0 | 7.0 | 5.5 | |
| Self-Ratings of Everyday Functioning | | | | |
| IADL | 48.30 ± 6.63 | 44.18 ± 8.29 | 46.30 ± 7.75 | <i>t</i> (235) = 4.23, <i>p</i> < .0001 |
| AADL | 9.43 ± 2.23 | 9.40 ± 2.0 | 9.42 ± 2.11 | |
| Study Variables | | | | |
| <i>Depressive Symptomatology (CES-D)</i> | | | | |
| | 15.36 ± 9.88 | 12.63 ± 8.0 | 14.04 ± 9.12 | <i>t</i> (235) = 2.32, <i>p</i> < .02 |
| <i>Personality factors</i> | | | | |

Table 1 continued

| Variables | Women (<i>n</i> = 122, 51.5%) | Men (<i>n</i> = 115, 48.5%) | Sample as a Whole (<i>N</i> = 237) | Statistics ^a |
|----------------------------------|-----------------------------------|---------------------------------|--|---|
| DEQ Vulnerability factors | | | | |
| Self-criticism | -.60 ± .97 | -.88 ± .86 | -.74 ± .93 | <i>t</i> (235) = 2.39, <i>p</i> < .02 |
| Neediness | -.53 ± .77 | -.72 ± .82 | -.62 ± .80 | <i>t</i> (235) = 1.91, <i>ns</i> |
| DEQ Protective factors | | | | |
| Connectedness | -.25 ± 1.01 | -.42 ± .98 | -.33 ± 1.00 | <i>t</i> (235) = 1.27, <i>ns</i> |
| Efficacy | -.16 ± 1.19 | -.19 ± 1.30 | -.18 ± 1.24 | <i>t</i> (235) = .17, <i>ns</i> |
| Moderators/Buffers | | | | |
| Fear of Death Anxiety | 3.20 ± .73 | 2.83 ± .76 | 3.02 ± .76 | <i>t</i> (235) = 3.90, <i>p</i> < .0001 |
| Perceived Soc. Sup. | 28.03 ± 3.34 | 28.82 ± 3.51 | 28.41 ± 3.44 | <i>t</i> (235) = 1.76, <i>ns</i> |

Note. ^a two-tailed tests

As can be seen in Table 1, participants were White (100%), married (74.3%), relatively well-educated ($M = 12.45$ years, $SD = 3.94$) and middle class (95.4%). The sample consisted of nonimpaired individuals who were highly independent in everyday living (Instrumental Activity of Daily Living: IADL; Lawton, 1971, $M = 46.30$, $SD = 7.75$) and in terms of the number of weekly leisure activities in which they participated (Advanced ADL; AADL, Baich-Moray, Zipkin, & Morginsein, 1994; Nir & Galinsky, 1998, $M = 9.42$, $SD = 2.11$). Most participants perceived their health to be moderate (40.5%) or good (50.6%); and few participants reported either bad/poor health (2.5%) or excellent health (6.3%). The majority of the participants (76.4%) were not living alone.

MEASURES

Demographic variables Participants filled out a demographic questionnaire indicating their date of birth, years of education, marital status (married, separated/divorced, widowed, or never married), economic problems (none, minor and major) and if they lived alone or with a family member.

Self-rated health measures Self-rated health was measured in three ways: (a) asking people to rate their current state of health compared with that of their peers, using a 4-point scale of 1 (*poor*), 2 (*average*), 3 (*good*), 4 (*excellent*); (b) asking people to rate their health changes during the past year (i.e., their current health as compared with their health in the last year), using a 3-point scale of 1 (*less healthy*), 2 (*same*), and 3 (*better*); and (c) an open-ended question asking people to report their medical problems, from which we determined the number of illnesses from which they suffered.

Self-ratings of everyday functioning The Instrumental Activity of Daily Living Scale (IADL; Lawton, 1971) is an 11-item measure that assesses a person's perceived level of independence in performing instrumental tasks of daily living, such as managing finances, taking medication, using the telephone, shopping,

preparing meals, housekeeping, and transportation. Items are rated on a 5-point scale ranging from 1 (*independent*) to 5 (*highly dependent*). In the present sample, we obtained Cronbach's α internal consistency reliability coefficients of $\alpha = .81$.

Self-ratings of leisure activities The Advanced ADL (AADL; Baich-Moray, Zipkin & Morginstein, 1994; Nir & Galinsky, 1998) was used to measure the engagement in leisure activities in late adulthood; this measure is assumed to assess the level of social adaptation. The measure consists of 14 items describing everyday leisure activities such as crafts, trips, watching TV, listening to the radio, participating in clubs, and so on, each answered "yes" or "no." In the present study, the participant's score on the AADL was the sum of the reported activities. In our sample, we obtained Cronbach's α internal consistency reliability coefficients of $\alpha = .78$.

Personality variables: Self-criticism, Neediness, Connectedness, and Efficacy The Depressive Experiences Questionnaire (DEQ) was used to assess vulnerability to depression. The DEQ (Blatt, D'Afflitti, & Quinlan, 1976) is a 66-item scale that yields three orthogonal factors – Dependency, Self-criticism and Efficacy – when subjected to a PCA with Varimax rotation. The first two factors assess patterns of experiences that contain predispositions to depressive states, and are therefore appropriate for use with a nonclinical population. The first factor, Self-criticism, reflects concerns about failure and guilt, and being unable to meet high standards set by the self and by others (e.g., "It is not who you are but what you have accomplished that counts"). The second factor, Dependency, reflects a preoccupation with abandonment and separation, feelings of being unloved and fear of loss (e.g., "Without the support of others who are close to me, I would be helpless.") Using a second-order factor analysis, Rude and Burnham (1995) identified two subscales within the DEQ Dependency factor: Connectedness, which assesses adequate concern about close relationships (i.e., experiences of loss and loneliness in the context of a disruption of a particular significant relationship with a specific person, but without being devastated by the possible loss); and Neediness, which assesses excessive preoccupations and fears about interpersonal relationships, devastating feelings of helplessness, fears and apprehensions about separation and rejection, and intense concerns about the loss of gratification and support, but without a link to a particular individual or a specific relationship.

The last factor, Efficacy, assesses personal resilience and inner strength (e.g., "I have many inner resources"). Internal consistency and test-retest reliability were 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 pairs' scores on the DEQ factors, as obtained using the English and the Hebrew versions of the DEQ, had a mean

of .91 (Priel et al.). According to Blatt et al. (1976), each of the standardized scores of the 66 items should be multiplied by the factor weight coefficient obtained in the normed sample for the loadings on Self-criticism, Dependency, and Efficacy. In this unit weight scoring system, all 66 items, relative to their factor weight coefficients, contribute to form the final scores of each factor. Scoring for the Neediness and Connectedness scales was obtained following the second-order factor analyses proposed by Rude and Burnham (1995). Thus, internal consistency reliability coefficients are reported only for the entire DEQ questionnaire. The Cronbach's α internal consistency coefficient for DEQ scores in the present study was .98.

Depression The Center for Epidemiological Studies-Depression Scale (CES-D) is used to assess current levels of depressive symptomatology in the general population. Twenty items, each evaluated on a scale from 0 to 3, ask about the following: depressed mood; feelings of guilt and worthlessness; feelings of helplessness and hopelessness; psychomotor retardation; loss of appetite; and sleep disturbances (Radloff, 1977). The CES-D is widely used in research with adults of all ages (Radloff, 1977; Radloff & Teri, 1986). It has high reliability, high internal consistency, and high discriminant and construct validity (Radloff & Teri). In the present sample, we obtained Cronbach's α internal consistency reliability coefficients of $\alpha = .90$.

Perceived social support Old adults' perception of social support was determined by using a 7-item measure developed by Shuval, Fleishman, and Shmueli (1982; Fleishman, 1996). Participants were asked to rate each item regarding the support they might receive from significant others (such as friends, family, and neighbors) when needed. They evaluated each item on a 5-point scale from 1 (*high*) to 5 (*low*). In the present study, the sum of the item scores represented global perceived support, with high scores representing a high level of perceived availability of support. In the present sample, we obtained Cronbach's α internal consistency reliability coefficients of $\alpha = .84$.

Fear of Death Fear of death among old adults was assessed using a 12-item measure developed for the assessment of fear of death and dying anxiety (Carmel, 1998, 1999a, b; Carmel & Mutran, 1997a, 1997b, 1999). Participants evaluated each item on a 5-point scale from 1 (*not at all*) to 5 (*entirely agree*). In the present study, the sum of the item scores was used to represent participants' fear of death, with a high total score reflecting a high level of fear. Carmel and Mutran (1999) reported high reliability of this measurement. In the present sample, we obtained Cronbach's α internal consistency reliability coefficients of $\alpha = .88$.

PROCEDURE

After the first contact with the participants, eligible participants were met individually in their residences. Upon the interviewer's arrival, each of the participants completed the questionnaires package individually. After participants completed the background questionnaire, they completed the DEQ, CES-D, fear of death, and perceived social support measurements. The order of presentation of the questionnaires was randomized.

RESULTS

DESCRIPTIVE STATISTICS: PRELIMINARY ANALYSES

The means and standard deviations for the variables are shown in Table 1. Given that the DEQ has not previously been administered to old adults, the psychometric information helps establish some norms for this population.

Gender differences for the demographic variables As can be seen in Table 1, men and women did not differ significantly regarding age, education, physical health, subjective health, changes in health, and percentage living with family members. Significant gender differences were found for marital status, with a higher percentage of widowed women and a higher percentage of married men. In addition, significant differences in level of economic problems were found, with a higher percentage of moderate economic problems among women. Men tended to live with others more than women did. Women were significantly higher than men on the IADL measure, but no differences were found for the AADL.

Gender differences for the study variables As can be seen in Table 1, similar levels of Neediness, Connectedness, Efficacy, and perceived social support scores were found in men and women. However, men reported significantly lower Self-criticism and fear of death. Women reported significantly higher levels of depressive symptomatology than did men: more than a third (37.6%) of the participants (45.1% of the women and 29.6% of the men) scored above 16 on the CES-D, the cut-off point for depressive symptomatology in community samples.

Demographic variables and DEQ factors To evaluate the associations between DEQ vulnerability (Self-criticism and Neediness) and protective (Connectedness and Efficacy) factors and the demographic variables, a series of correlations (for contingent demographic variables) and a series of ANOVAs (for categorical variables) were calculated. Results for age and education indicated a significant negative correlation between age and Efficacy ($r(237) = -.15, p < .02$) and a significant positive correlation between education and Efficacy ($r(237) = .23, p < .0001$). A significant positive correlation was found between age and Neediness ($r(237) = .13, p < .04$) and a significant negative correlation between

education and Neediness ($r(237) = -.24, p < .0001$). No significant correlations were found between Self-criticism or Connectedness and age or education. Results for IADL and AADL indicated a significant positive correlation between IADL and Efficacy ($r(237) = .16, p < .01$) and a significant negative correlation between IADL and Neediness ($r(237) = -.14, p < .03$); no significant correlations were found between Self-criticism or Connectedness and IADL or AADL. A MANOVA with marital status as the independent variable and the four DEQ factors as dependent variables revealed no significant effect of marital status on DEQ scores. Similar results were obtained when subjective health, changes in health, economic problems, living alone, and living with children each served in turn as the MANOVA's independent variable. Based on the obtained gender differences and the correlations obtained for age and education, we controlled for these variables in our main analyses.

OVERVIEW OF STATISTICAL ANALYSES

The analytic strategy we used was designed to assess the roles of protective factors (Efficacy and Connectedness) and moderators/buffers (perceived social support and fear of death) in the link between trait vulnerabilities (Self-criticism and Neediness) and depressive symptomatology in late adulthood. We used two basic approaches. First, we examined – for men and women and for the sample as a whole – the zero-order correlations between the DEQ's trait factors variables and each of the following variables: perceived social support, fear of death, and depressive symptomatology (see Table 2). We also examined the zero-order correlations among perceived social support, fear of death, and depressive symptomatology measures separately for men and women and for the sample as a whole (see Table 3). Second, while controlling for age, education and gender and for DEQ personality factors' associations with the other variables (i.e., perceived social support, and fear of death); and for the associations of these other variables with depressive symptomatology, we assessed the associations between the DEQ personality factors and depression using Hierarchical Multiple Regressions (HMR; Cohen & Cohen, 1983). Finally, we expected that high Efficacy, high Connectedness, high social support, and low fear of death would moderate the positive relation between trait vulnerabilities (Self-criticism and Neediness) and depressive symptomatology. HMR analyses with interactions represented by product terms (Cohen & Cohen) were used to test these propositions.

We controlled for the effects of age, education, and gender by entering them in the first step of the HMR regression analysis. The Self-criticism and Neediness personality vulnerability factors were entered together in the second step, and each of the assumed moderator variables was entered in the third step. This

procedure enabled the assessment of the effects of each of these variables separately, while controlling for the other and for each variable's association with depressive symptomatology, as well as evaluating the effect of the variables forming the product term interactions prior to the estimation of the product term effect. In the fourth step, we entered the Neediness \times Self-criticism interaction in order to control for it before entering and testing the interactions under investigation (i.e., personality vulnerabilities \times protective/moderator effects). Entering this interaction also allowed us to control for the variables forming the product before testing the products in the next step (Cohen, 1978), thus limiting the possibilities of Type I error (Gunster, Fusilier & Mayes, 1986) and eliminating possible confounding and spuriousness when interpreting significant interactions.

CORRELATIONAL ANALYSES

For all possible comparisons, correlations were performed and are presented separately for men ($n = 115$), women ($n = 122$), and the sample as a whole ($N = 237$).

DEQ factors, depressive symptomatology, perceived social support, and fear of death Table 2 contains the intercorrelations of assessment of; depressive symptomatology, perceived social support, fear of death with Self-criticism, Neediness, Connectedness, and Efficacy. As can be seen in the table, for both men and women, Self-criticism was significantly associated with all of the following: depression ($r(237) = .56, p < .0001$), low social support ($r(237) = -.36, p < .0001$), and high fear of death ($r(237) = .33, p < .0001$). Neediness was significantly associated with depression ($r(237) = .54, p < .0001$), low social support ($r(237) = -.33, p < .0001$), and high levels of fear of death ($r(237) = .30, p < .0001$). Comparisons between the correlations of Self-criticism and of Neediness with CES-D, social support, and fear of death were found not to be significantly different. Both Neediness and Connectedness were significantly associated with fear of death ($r(237) = .30$ and $.32, p < .0001$, respectively) Efficacy and Connectedness were not associated with perceptions of social support. The magnitudes and directions of correlations were not significantly different for men and women. As can be seen, Self-criticism and Neediness associated in the expected directions with depression, fear of death, and social support, while Connectedness and Efficacy did not with, the exception of the correlation between Connectedness and fear of death.

Perceived social support, fear of death, and depressive symptomatology Table 3 contains the zero-order correlations among perceived social support, fear of death, and assessment of depressive symptomatology. As can be seen in the table, according to both men's and women's reports, CES-D scores were significantly

TABLE 2
CORRELATIONS AMONG DEQ FACTORS, DEPRESSION, PERCEIVED SOCIAL SUPPORT AND FEAR OF DEATH

| | Self-criticism | | | Neediness | | | Connectedness | | | Efficacy | | |
|--------------------------|----------------|---------|---------|-----------|---------|--------|---------------|-------|--------|----------|------|------|
| | All | W | M | All | W | M | All | W | M | All | W | M |
| CES-D | .56*** | .56*** | .52*** | .54*** | .56*** | .50*** | .10 | .04 | .15 | -.10 | -.11 | -.10 |
| Perceived Social Support | -.36*** | -.34*** | -.36*** | -.33*** | -.36*** | -.28** | -.00 | .07 | -.06 | .11 | .17 | .05 |
| Fear of Death | .33*** | .33*** | .28*** | .30*** | .30*** | .25** | .32*** | .27** | .36*** | .09 | .04 | .13 |

Note: CES-D = depressive symptomatology
 All = entire sample ($N = 237$); W = women ($n = 122$); M = men ($n = 115$)
 ** $p < .01$; *** $p < .0001$; two-tailed test

correlated with low social support ($r(237) = -.50, p < .0001$), and with high fear of death ($r(237) = .31, p < .0001$). Finally, perceived social support was found to be correlated with low fear of death ($r(237) = -.26, p < .0001$).

Tables 2 and 3 revealed that the correlations for men and women were very similar; thus, further analyses were conducted and are presented for the combined sample of men and women ($N = 237$). All subsequent analyses, however, controlled for age, education, and gender.

TABLE 3
CORRELATIONS AMONG DEPRESSION, PERCEIVED SOCIAL SUPPORT AND FEAR OF DEATH

| | CES-D | | | Perceived Social Support | | | Fear of Death | | |
|----------------|---------|---------|---------|--------------------------|--------|------|---------------|-----|-----|
| | All | W | M | All | W | M | All | W | M |
| CES-D | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Perceived | | | | | | | | | |
| Social Support | -.50*** | -.47*** | -.52*** | --- | --- | --- | --- | --- | --- |
| Fear of Death | .31*** | .31*** | .26** | -.26*** | -.23** | -.15 | --- | --- | --- |

Note: CES-D = depressive symptomatology

All = entire sample ($N = 237$); W = women ($n = 122$); M = men ($n = 115$)

* $p < .05$; ** $p < .01$; *** $p < .0001$ (two-tailed test)

DEQ factors, perceived social support and fear of death main effects on depressive symptomatology Table 4 presents the HMR for the prediction of depressive symptomatology by DEQ personality variables, while controlling for demographic variables and the other study variables. As can be seen in the table, after controlling for participants' age, education, and gender (overall $F [3,233] = 5.35, p < .001$), the two assumed contextual moderators were entered together in the next step in order to control for their associations with each other and with depression (overall $F [5,231] = 20.51, p < .0001$). The following variables were found to be significantly associated with depression: low social support ($\beta = -.43, p < .0001$), and high fear of death ($\beta = .20, p < .001$). Thus, beyond gender, age, and education, social support and fear of death make a unique contribution to the explained variance of depressive symptomatology, above and beyond their intercorrelation and association with depression scores. The two personality protective factors were then entered together in order to control for their associations with each other and with depression (Overall $F [7,229] = 15.19, p < .0001$). This step was not found to contribute significantly to the explained variance in depressive symptomatology. It is important to note here that, while Efficacy and Connectedness were entered into the regression equation, the effects of perceived social support and of fear of death remained significant (for perceived social support, $\beta = -.42, p < .0001$, and for fear of death, $\beta = .18, p < .0004$).

TABLE 4
HMR OF DEPRESSIVE SYMPTOMATOLOGY: MAIN EFFECTS

| Predictors | <i>R</i> | <i>R</i> ² | Adjusted <i>R</i> ² | ΔR^2 | β | <i>t</i> / <i>F</i> | <i>p</i> < |
|--------------------------------------|----------|-----------------------|--------------------------------|--------------|---------|---------------------|------------|
| Step 1: Demographic Variables | .25 | .06 | .05 | .05 | | 5.35 | .001 |
| Age | | | | | -.02 | < 1 | <i>ns</i> |
| Education | | | | | -.21 | -3.17 | .002 |
| Gender | | | | | -.13 | -2.09 | .04 |
| Step 2: Moderators/Buffers | .55 | .31 | .29 | +. 24 | | 40.52 | .0001 |
| Perceived Social Support | | | | | -.43 | -7.46 | .0001 |
| Fear of Death | | | | | .20 | 3.53 | .001 |
| Step 3: DEQ Personality | | | | | | | |
| Protective Factors | .56 | .32 | .30 | +. 01 | | 1.63 | <i>ns</i> |
| Efficacy | | | | | -.14 | -1.72 | <i>ns</i> |
| Connectedness | | | | | .13 | 1.58 | <i>ns</i> |
| Step 4: DEQ Personality | | | | | | | |
| Vulnerability Factors | .70 | .49 | .47 | +. 17 | | 39.20 | .0001 |
| Self-criticism | | | | | .34 | 5.3 | .0001 |
| Neediness | | | | | .23 | 3.43 | .001 |

Note:(two-tailed tests)

N = 237; *n* = 122 women and *n* = 115 men

t = *t* value associated with β ; *F* = *F* associated with the change in *R*²

In the final step, we evaluated the main effects of the DEQ personality vulnerability factors (Self-criticism and Neediness), while controlling for all other variables (overall *F* [9,227] = 24.47, *p* < .0001). This step indicated significant associations between high Self-criticism (β = .34, *p* < .0001) and high Neediness (β = .23, *p* < .001) and depressive scores.

This analysis (see Table 4) indicates that the vulnerability predictors, Self-criticism and Neediness, remained significantly associated with old adults' depressive symptomatology (criteria), while the protective personality factors (Efficacy and Connectedness) and the moderating variables (fear of death and perceived social support) were entered into the equation and controlled. These findings exclude the possibility of competing mediational models (see Baron & Kenny, 1986).

Moderational effects Hierarchical Multiple Regression analyses with interactions represented by product terms (Cohen & Cohen, 1983) were used to test the proposition that Efficacy and Connectedness protect – and perceived social support and fear of death moderate or buffer – the association between trait personality vulnerabilities (Self-criticism and Neediness) and depressive symptomatology (see Figure 1). Table 5 presents the HMR for the prediction of depressive symptomatology from the Self-criticism and Neediness vulnerability

factors, their interaction with each other, and the Self-criticism and Neediness interactions with each of the assumed personality protective factors (Efficacy and Connectedness) and with each of the perceived moderators (social support and fear of death). After controlling for age, education, and gender effects in the first step (overall $F [3,233] = 5.35, p < .001$), Self-criticism and Neediness were entered in the second step (overall $F [5,231] = 33.30, p < .0001$). These added significantly to the prediction of the variance in depressive symptomatology; both Self-criticism and Neediness were significantly associated with high depressive scores ($\beta = .38, p < .0001$ and $\beta = .34, p < .0001$, respectively).

DEQ personality protective factors In the first regression, the assumed moderator personality protective factor – Efficacy – was entered in Step 3 (overall $F [6,230] = 28.70, p < .0001$). It was found to add significantly to the explained variance of depression, with high Efficacy associated with low depressive scores ($\beta = -.12, p < .04$). In Step 4, the Self-criticism \times Neediness interaction was entered (overall $F [7,229] = 24.54, p < .0001$) but was not found to be a significant predictor. In the final step of the regression, Step 5, the Self-criticism \times Efficacy and the Neediness \times Efficacy interactions were entered (overall $F [9,227] = 20.41, p < .0001$). These were found to add significantly to the prediction of the variance in depressive scores, but only the Self-criticism \times Efficacy interaction was significant ($\beta = -.14, p < .03$); this interaction is presented in Figure 2. As can be seen in Figure 2, highly self-critical old adults are significantly more vulnerable if they also have low levels of Efficacy. High levels of Efficacy were thus found to protect against the effect of the vulnerability of the highly self-critical to depression. The final model was found to explain a significant 47% of the variance of depression in late adulthood.

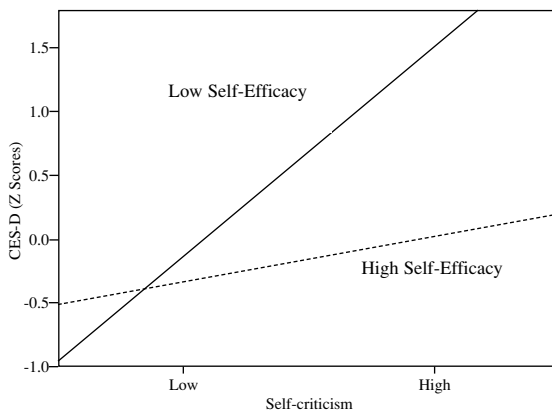


Figure 2. The relations between high (1 *SD*) and low (-1 *SD*) levels of Self-criticism and depressive symptomatology for high (1 *SD*) and low (-1 *SD*) levels of Efficacy.

Note to Figures 2-5: Figures illustrating the interactions were plotted according to Cohen and Cohen's (1983, p. 323 and p. 419) recommendations.

TABLE 5
HIERARCHICAL MULTIPLE REGRESSION OF DEPRESSIVE SYMPTOMATOLOGY:
MODERATIONAL EFFECTS

| Predictors | <i>R</i> | <i>R</i> ² | Adjusted <i>R</i> ² | ΔR^2 | β | <i>t</i> / <i>F</i> | <i>p</i> < |
|--|----------|-----------------------|--------------------------------|--------------|---------|---------------------|------------|
| Step 1: Demographic variables | .25 | .06 | .05 | .05 | | 5.35 | .001 |
| Age | | | | | -.02 | <1 | <i>ns</i> |
| Education | | | | | -.21 | -3.17 | .002 |
| Gender | | | | | -.13 | -2.09 | .04 |
| Step 2: DEQ Personality Factors | .65 | .42 | .41 | + .36 | | 70.43 | .0001 |
| Self-criticism | | | | | .38 | 6.64 | .0001 |
| Neediness | | | | | .34 | 5.78 | .0001 |
| Step 3: Protective Factor Efficacy | .65 | .43 | .42 | + .01 | | 3.76 | .05 |
| | | | | | -.12 | -1.97 | .05 |
| Step 4: | .66 | .43 | .42 | + 0 | | <1 | <i>ns</i> |
| Self-criticism \times Neediness | | | | | .03 | <1 | <i>ns</i> |
| Step 5: Moderational effects | .71 | .47 | .45 | + .03 | | 3.84 | .02 |
| Self-criticism \times Efficacy | | | | | -.14 | -2.13 | .03 |
| Neediness \times Efficacy | | | | | -.06 | <1 | <i>ns</i> |
| Alt. | | | | | | | |
| Step 3: Protective Factor Connectedness | .65 | .42 | .41 | + 0 | | 1.3 | <i>ns</i> |
| | | | | | -.06 | -1.14 | <i>ns</i> |
| Step 4: | .65 | .42 | .41 | + 0 | | <1 | <i>ns</i> |
| Self-criticism \times Neediness | | | | | .03 | <1 | <i>ns</i> |
| Step 5: Moderational effects | .67 | .45 | .44 | + .03 | | 6.11 | .003 |
| Self-criticism \times Connectedness | | | | | -.23 | -3.12 | .002 |
| Neediness \times Connectedness | | | | | -.02 | <1 | <i>ns</i> |
| Alt. | | | | | | | |
| Step 3: Moderator/Buffer Perceived Social Support | .70 | .48 | .47 | + .35 | | 70.43 | .0001 |
| | | | | | -.28 | -5.34 | .0001 |
| Step 4: | .70 | .48 | .47 | + 0 | | <1 | <i>ns</i> |
| Self-criticism \times Neediness | | | | | .03 | <1 | <i>ns</i> |
| Step 5: Moderational effect | .74 | .52 | .51 | + .04 | | 3.47 | .03 |
| Self-criticism \times Social Support | | | | | -.54 | -2.03 | .04 |
| Neediness \times Social Support | | | | | .03 | <1 | <i>ns</i> |
| Alt. | | | | | | | |
| Step 3: Moderator/Buffer Fear of death | .65 | .43 | .40 | + 0 | | 2.85 | <i>ns</i> |
| | | | | | .09 | <1 | <i>ns</i> |
| Step 4: | .65 | .43 | .40 | + 0 | | <1 | <i>ns</i> |
| Self-criticism \times Neediness | | | | | .03 | <1 | <i>ns</i> |
| Step 5: Moderational effects | .68 | .46 | .43 | + .03 | | 4.71 | .03 |
| Self-criticism \times fear of death | | | | | .20 | 3.01 | .04 |
| Neediness \times fear of death | | | | | .09 | <1 | <i>ns</i> |

Note: (two-tailed tests)

N = 237; *n* = 122 women and *n* = 115 men

t = *t* value associated with β ; *F* = *F* associated with the changes in *R*²

In the second regression (see Table 5), the assumed moderator personality protective factor – Connectedness – was entered in Step 3 (overall $F [6,230] = 28.01, p < .0001$). It was not found to add significantly to the explained variance of depression. In Step 4, the Self-criticism \times Neediness interaction was entered (overall $F [7,229] = 23.93, p < .0001$), but was not found to be a significant predictor. In the final step of the regression, Step 5, the Self-criticism \times Connectedness and the Neediness \times Connectedness interactions were entered (overall $F [9,227] = 20.80, p < .0001$). These were found to add significantly to the prediction of the variance in depressive scores, but only the Self-criticism \times Connectedness interaction was significant ($\beta = -.23, p < .002$); this interaction is presented in Figure 3. As can be seen in Figure 3, highly self-critical old adults are significantly more vulnerable if they also have low levels of Connectedness. High levels of Connectedness were thus found to protect against the effect of high self-critical vulnerability to depression. The final model was found to explain a significant 45% of the variance in old adults' depression.

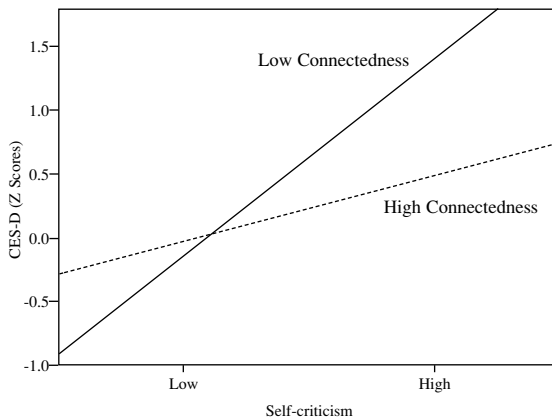


Figure 3. The relations between high (1 *SD*) and low (-1 *SD*) levels of Self-criticism and depressive symptomatology for high (1 *SD*) and low (-1 *SD*) levels of Connectedness.

Moderating/buffering effect of perceived social support and fear of death

In the third regression (see Table 5), the assumed moderator – perceived social support – was entered in Step 3 (overall $F [6,230] = 35.80, p < .0001$); it was found to add significantly to the explained variance in depression, while high social support was associated with low depressive scores ($\beta = -.28, p < .0001$). In the next step, as in the previous regression, the Self-criticism \times Neediness interaction was entered (overall $F [7,229] = 30.61, p < .0001$), but was not found to be a significant predictor. In the final step of the regression, Step 5, the Self-

criticism \times perceived social support and the Neediness \times perceived social support interactions were entered (overall $F [9,227] = 23.90, p < .0001$); these were found to add significantly to the prediction of the variance in depressive scores, but only the Self-criticism \times perceived social support interaction was significant ($\beta = -.54, p < .04$). This interaction is presented in Figure 4, in which it can be seen that highly self-critical old adults are significantly more vulnerable if they also have low levels of social support. Thus, high levels of perceived social support were found to provide a buffer against the effect of the vulnerability of highly self-critical old adults to depression. The final model was found to explain a significant 52% of the variance in old adults' depression.

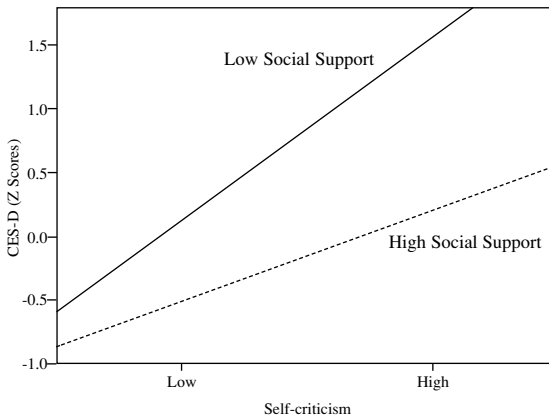


Figure 4. The relations between high (1 *SD*) and low (-1 *SD*) levels of Self-criticism and depressive symptomatology for high (1 *SD*) and low (-1 *SD*) levels of perceived social support.

In the final regression (see Table 5), the possible moderator – fear of death – was entered in Step 3 (overall $F [6,230] = 28.44, p < .0001$), but was not found to add significantly to the explanation of the variance in depression. In the next step, as in the previous regressions, the Self-criticism \times Neediness interaction was entered (overall $F [7,229] = 24.31, p < .0001$), but was not found to be a significant predictor. In the final step of the regression, the Self-criticism \times fear of death and the Neediness \times fear of death interactions were entered (overall $F [9,227] = 18.85, p < .0001$), but only the Self-criticism \times fear of death was found to add significantly to the prediction of the variance in depressive scores ($\beta = .20, p < .04$). This interaction is presented in Figure 5, in which it can be seen that highly self-critical old adults are significantly more vulnerable if they also have high levels of fear of death. Thus, low levels of fear of death were found to buffer against the effect of vulnerability to depression among the highly self-critical.

The final model was found to explain a significant 46% of the variance of depression in late adulthood.

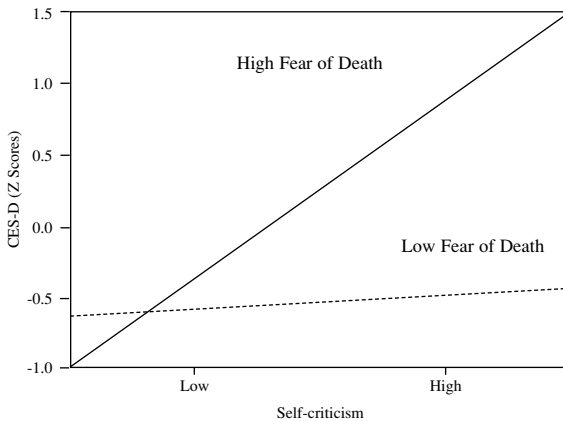


Figure 5. The relations between high (1 *SD*) and low (-1 *SD*) levels of Self-criticism and depressive symptomatology for high (1 *SD*) and low (-1 *SD*) levels of fear of death.

Demographic Variables: Associations with main study variables Finally, specific demographic factors have been found relevant in the generation of depression among older people such as the high prevalence of chronic illnesses; high rates of functional impairment; age-associated losses, including lower income, and illness and death of friends and family, and other age-associated stressors. This study's results (see Table 1), indicated that older adult women ($t(235) = 2.32, p < .02$), older adults with little education ($r(237) = -.21, p < .001$), older adults living alone ($t(235) = 2.70, p < .007$), widowed or separated/divorced older adults ($F(2,233) = 7.26, p < .001$), and older adults with economic problems ($F(2,234) = 4.58, p < .01$) are at greater risk of depressive symptomatology. Among the self-rating health measures; results indicated that poor subjective health ($r(237) = -.34, p < .0001$) and negative changes in health ($r(237) = -.28, p < .001$), associate with older adults' – especially women's – reported levels of depressive symptomatology. In our sample neither participants' age nor their levels of everyday functioning (IADL and AADL), nor their physical health (i.e., number of illnesses) was significantly associated with older adults' depression. Similar HMRs to the ones presented in Table 4 and Table 5, while adding these variables (i.e., living alone, marital status, economic problems, subjective health, and changes in health) to the variables already in Step 1, indicated that this step explained a significant 22% of the variance in depression ($F(8,228) = 8.15, p < .0001$) with only two significant predictors for older adults' depression: poor

subjective health ($\beta = -.27, p < .0001$) and negative changes in health ($\beta = -.18, p < .004$). No change in the pattern of findings of the following steps presented in Table 4 and Table 5 emerged, demonstrating the utility of our proposed theoretical framework model after accounting for factors that are important as causes of vulnerability to depression in older people.

DISCUSSION

Late adulthood can be seen as a critical developmental period associated with the loss of internal and external resources, as well as of significant interpersonal relationships, which may lead to considerable levels of depression. The present study delineated an approach intended to map significant personality vulnerabilities to depression as well as characteristic personality and contextual resilience factors. This approach was pursued within the context of Blatt's (1974; 1991; for recent review see also Blatt, 2004) theory of relatedness and self-definition as basic modalities of human development, providing, for the first time, evidence of the validity of this model beyond middle adulthood, while controlling for variables known to be involved in the generation of older adults' depression (i.e., gender, having little education, living alone, being unmarried/divorced or widowed, having significant economic problems, poor subjective health, and negative changes in health). The findings about the validity of the Self-criticism/Dependency personality vulnerability to depression model for the late adulthood period is congruent with the impressive continuity of traits that has been demonstrated over the adult and late years (McCrae & Costa, 1990).

PERSONALITY VULNERABILITY TO DEPRESSION IN LATE ADULTHOOD

As predicted, our results confirmed the assumption that increased concerns regarding both self-definition (Self-criticism) and interpersonal relatedness (Neediness) predispose individuals to depressive symptomatology during the late phases of human development. Moreover, it should be noted that the associations between Self-criticism and Neediness and depressive symptomatology were found to persist beyond the effects of any other variable in the present study's proposed model, demonstrating the utility of our proposed theoretical framework model after accounting for factors that are important in causing vulnerability to depression in older people.

However, each vulnerability trait presents characteristic patterns of association with the personality, contextual, and demographic variables investigated. Neediness was found to increase with age and to be associated with a lower level of education, and was also associated with diminished independence in daily living, while Self-criticism appeared as a trait independent from demographic factors and daily-living functioning. In addition, while the deleterious effects of

Self-criticism on the depressive symptomatology of old adults were moderated both by personality and by protective and contextual buffering variables, none of these variables moderated the link between Neediness and depressive symptoms.

We found that highly self-critical old adults were significantly more susceptible to depression, and that this susceptibility was increased by their perceptions of low availability of social support; nevertheless, belief in personal Efficacy is a protective factor at this stage. This pattern of findings is congruent with the existing literature on the conspicuous vulnerability Self-criticism (for recent reviews, see Blatt & Zuroff, 2002 and Zuroff et al., 2004); however, deleterious effects of Self-criticism's striving toward excessive differentiation and autonomy were moderated by internal strengths (Efficacy, Connectedness) or positive contextual factors (high social support and low fear of death). The moderating effects found to significantly weaken the association between Self-criticism and depression in late adulthood suggest the specific processes of adjustment taking place at this stage of life. In an important synthesis of techniques of self-management in late adulthood, Brandstadter and Greve (1994) proposed that depression in late adulthood might stem from the lack of "accommodative" strategies; that is, difficulties in readjusting personal goals and aspirations. Accordingly, self-critical vulnerabilities in late adulthood are moderated if basic Efficacy beliefs are conserved and if there is an accommodation to the existing social support resources, as well as to the idea of impending death.

Our findings regarding the Neediness factor suggest that excessive Dependency needs constitute a serious vulnerability trait in late adulthood. Moreover, the vulnerability stemming from excessive Dependency needs seems impervious to any of the moderating factors explored. Previous research has shown that Dependency vulnerabilities to depression among adolescents and young adults are moderated by a supportive social environment (see Priel & Besser, 2000; Priel & Shahar, 1999). Accordingly, young dependent individuals seem to be able to create a responsive and protective social environment. The findings of the present study suggest that this might not be the case among dependent old adults. A reasonable explanation might be the discrepancy between relationships resources and Dependency needs at this stage of life; old adults may have lost close reliable relationships at a time when physical and psychological dependence needs increase. This assumption is congruent with the negative correlations between Neediness and perceived social support, as well as with the lack of a positive correlation between Connectedness and social support among old adults. Studies of depression in old age (Murphy, 1982) report that old adults who lack a close confident relationship are the most vulnerable and predisposed to depression, beyond the effects of poor health or adverse life events.

RELATIONSHIPS BETWEEN VULNERABILITY AND PROTECTIVE PERSONALITY DIMENSIONS

Results related to the interactions between factors within the relatedness and self-definition personality variables confirm the theoretical assumption that normal adjustment implies the balance between these two personality dimensions. Thus, overemphasizing either interpersonal relatedness or self-definition, while neglecting the other factor, results in increased vulnerability. Connectedness – that is, concern for others – might counterbalance the deleterious effects of exaggerated self-concern. This would be a specific case of Blatt's basic notion of the dialectical interplay between self- and other-directedness. In addition our findings suggest that, within the dimension of self-orientation, adaptive traits (Efficacy) counterbalance less adaptive ones (Self-criticism). Attitudes of personal Efficacy influence the self-regulative standards individuals adopt, their enabling or debilitating cognitive style, perseverance, and resiliency to stress and adversity. These characteristics might counterbalance doubts about mastery and control that frequently beset late adulthood.

FEAR OF DEATH AND SOCIAL SUPPORT

Results also indicated that fear of death was associated significantly with elevated levels of Self-criticism and Neediness and lower levels of Connectedness, and that the significant associations involving these variables are comparable. These findings corroborate an understanding of Self-criticism as related mainly to concerns over separation-individuation (e.g., Swanson & Byrd, 1998) and of Neediness as reflecting high levels of separation anxiety (see Noyes, Stuart, Longley, Langbehn, & Happel, 2002). These findings suggest that the experience of impending death is interpreted as a threat to self-identity or to relatedness needs, according to the individual's main concerns. Perhaps this association reflects a tendency on the part of self-critical individuals to experience self-conscious emotions such as shame and guilt, and the death anxiety of self-critical individuals reflects looming concerns about the punishability of the self. Unfortunately – with the exception of a limited amount of research on death anxiety and guilt – little is known about the role of self-conscious emotions in death anxiety, including the role of shame and attendant negative self-appraisals. Similarly, the link between fear of death and Connectedness may underscore the pervasiveness of the fear of death in late adulthood, and its impact on other- as well as self-directedness personality dimensions. Future research should explore the factors that contribute to this link between Self-criticism and fear of death.

Finally, Efficacy was the only trait found to be unrelated to the fear of death in late adulthood, and perceived social support was negatively associated with fear of death. While this issue deserves further research, it might be assumed that the

lack of relationship between fear of death and personal Efficacy, and the negative association between fear of death and perceived social support, suggest that coping with impending death might depend on different intra and interpersonal sources of resilience.

LIMITATIONS AND SUGGESTIONS

The findings of our study should be interpreted within the context of several limitations. First, the interpretation of the findings should take into account the limitations involved in cross-sectional designs. Further longitudinal research is needed, using a design that controls for baseline levels of depression and personality variables. In addition, further research using comprehensive assessments of old adults' fear of death may prove useful in order to advance the study of personality and depression in late adulthood. Such assessments could include semistructured interviews or projective techniques designed to elicit multidimensional aspects of fear of death (e.g., self- and other-directedness). Person and contextual variables obtained from multiple sources, including external assessments of behavior, would also be useful in this context.

Several samples' generalizability limitations should also be taken into account in further research. Moreover, evaluating the measurement invariance of constructs or the stability of patterns of associations obtained in our models among meaningfully distinct periods of life, or among different cohorts of old adults, may allow the exploration of in which respect our results were specific to healthy old adults, and may also lead to further research on personality vulnerabilities in late adulthood depression.

In summary, in keeping with general calls for studying multiple vulnerabilities and protective factors in the same individual (e.g., Flett, Hewitt, Endler, & Bagby, 1995), the current study extended research on Blatt's model to the study of depression in late adulthood, and represents a first attempt to examine the roles played by protective personality factors (Connectedness and Efficacy) and by perceived social support and fear of death in the association between Self-criticism and Neediness, and depression. Moreover, the results of our study suggest the need to focus on specific developmental aspects in the study of trait vulnerabilities to depression, and further illustrate the need to consider personality effects within their situational context.

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