

Personality vulnerabilities in adolescent suicidality: The mediating role of psychological distress

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The research literature consistently indicates that self-criticism is related to suicidality. Evidence for the role of dependency, however, is more controversial. This study examines the extent to which these personality vulnerabilities are mediated by psychological distress in the prediction of suicidality. As part of a study of adolescent psychopathology, a sample of 260 Portuguese adolescents (148 [56.9 %] female and 112 [43.1%] male), ranging in age from 15 to 18 years ($M = 16.32$, $SD = 1.19$) completed measures of personality, suicidal behavior, and current distress, in counterbalanced order. The measures were: self-criticism and dependency from the Depressive Experiences Questionnaire for Adolescents; two psychological distress scales, social withdrawal from the Youth Self Report and depression from the Center for Epidemiologic Studies of Depression Scale; and a measure of suicidality from the Suicide Behaviors Questionnaire Revised. Structural equation modeling indicated that self-criticism and dependency were both significantly associated with suicidality. Psychological distress, however, as measured by withdrawal and depression, fully mediated these relationships, but did not moderate them. The authors conclude that adolescents with higher levels

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of self-criticism and dependency are at greater risk for experiencing intense psychological distress—high levels of social withdrawal and depression—that account for their vulnerability to suicide risk. (Bulletin of the Menninger Clinic, 78[2], 115–139)

The understanding and treatment of depression has changed its focus from symptomatic expressions of depression to an understanding of the vulnerabilities to depression. Several psychologically oriented investigators of depression (Arieti & Bemporad, 1980; Beck, 1983; Blatt, 1974, 2004; Blatt, Quinlan, Chevron, McDonald, & Zuroff, 1982; Bowlby, 1980) have identified two fundamental vulnerabilities associated with depression: disturbances in interpersonal relationships, and disruptions in the sense of self. Individuals with these vulnerabilities have different early life experiences and respond to differing stressful events and therapeutic interventions (see Blatt, 2004). Blatt (1974; Blatt et al., 1982) has labeled the vulnerability associated with interpersonal relatedness as *anaclitic* or *dependent* and that associated with the sense of self as *introjective* or *self-critical*.

Dependency and self-criticism, two primary sources of vulnerability (e.g., Blatt, 2004; Luyten & Blatt, 2011; Luyten, Corveleyn, & Blatt, 2005), are in fact part of a broad conceptualization of personality development and psychopathology (e.g., Blatt, 2008) that demonstrates how the development of a positive and integrated sense of identity and the capacity to establish and maintain mature, reciprocal, and satisfying interpersonal relationships are central components of development that evolve synergistically throughout life, from infancy to senescence (Blatt, 2008). Differences in the relative emphasis placed on processes of relatedness and self-definition delineate two fundamental personality styles—dependent and self-critical—that cause individuals to engage in and experience life differently (Besser & Priel, 2003, 2005, 2010, 2011; Blatt, 2008; Blatt et al., 1982; Blatt & Zuroff, 1992).

Research indicates that self-critical vulnerability can play an important role in suicide (Beck 1983; Blatt, 1974, 1995; Blatt et al., 1982; Fazaal & Page, 2006, but findings are more equivocal about interpersonal vulnerability. Some studies (Blatt et al., 1982; Fazaal & Page, 2006) indicate that the suicidal activity of anaclitic or dependent individuals is often carried out in a manner that is

likely to be noticed by others, while other authors question the supposedly reduced lethality of suicide associated with dependent vulnerability (e.g., Klomek et al., 2008).

The present study is based on the fundamental assumption that it is insufficient to expect these two vulnerability dimensions to be directly related to suicide. Rather, their relationship to suicide would be accounted for by mediating variables, such as psychological distress. Thus, we assessed current levels of psychological distress and examined their potential mediating role in suicidality as a possible mechanism by which the two vulnerability dimensions of depression are associated with suicide risk.

We explored the role of two forms of psychological distress as potential mediators in the relationship between suicidality and the two vulnerability dimensions assessed by the Depressive Experiences Questionnaire for Adolescents (DEQ-A; Blatt, Schaffer, Bers, & Quinlan 1992). Prior literature (e.g., Blatt, 1995) suggests that two forms of psychological distress are associated with suicidality: intensity of depression, and degree of social withdrawal (Gullone, King, & Ollendick, 2006). We assume that the level of distress would mediate the relationship of the vulnerability dimensions with suicidal behavior. Social withdrawal is linked to psychological maladjustment because it is often a behavioral expression of negative internalized thoughts and feelings (Vasa & Pine, 2006) and also tends to indicate a negative self-perception (Rubin, Chen, & Hymel, 1993). Recent findings discovered a relationship between social withdrawal and depressive symptoms in insecurely attached children. Socially withdrawn, depressed individuals may attempt to elicit support in ways that actually cause others to withdraw from them, or ignore or reject them (e.g., Harrist, Zaia, Bates, Dodge, & Pettit, 1997; Mullins, Peterson, Wonderlich, & Reaven, 1986).

Suicidality in adolescence

Worldwide estimates indicate that almost one million people die by suicide each year (World Health Organization, 2012). Non-fatal suicidal behaviors, such as suicide attempts, have estimated rates at least 20 times greater than completed suicides (e.g., Fotti, Katz, Afifi, & Cox, 2006), and suicide is a major mental health

issue throughout the life span. Thus, it is important to more fully understand the risk factors in order to develop procedures for early intervention. The present study examines the mediating role of psychological distress (depression and social withdrawal) in the relationship between two primary vulnerability factors, interpersonal dependency and self-criticism in suicidality, including ideation, reported intention, and past attempts as indicators of suicidality (e.g., Ash, 2006; Bolognini, Plancherel, Laget, & Halfon, 2003; Joiner et al., 2005; King et al., 2001; Roberts, Roberts, & Chen, 1998).

Suicide occurs in adolescence because of the increased autonomy and reduction of parental supervision as well as the adolescent's increased capacity for planning and implementing (Bridge, Goldstein, & Brent, 2006). Sampaio (1991) summarized at least four psychological meanings for suicide in adolescence—*appeal*, *defiance*, and *escape* when the adolescent progressively feels socially isolated, having withdrawn from painful interpersonal relationships, and *to bear again* when adolescents cannot communicate their profound feelings of despair and isolation, and may risk dying (to deal with their psychic pain) so they can in fact survive (Oliveira, Amâncio, & Sampaio, 2001).

Suicide prediction is complex and difficult (Overholser, Braden, & Dieter, 2012), despite a variety of comprehensive models for suicidal behavior, including psychological perspectives (e.g., Goldney & Schioldann, 2004), which demonstrate the potential interaction between several risk factors (e.g., Beautrais, Collings, Ehrhardt, & Henare, 2005), including intense distress and psychopathology (Borges, Angst, Nock, Ruscio, & Kessler, 2009; Wagner, 2009), and dysfunctional personality traits (Ash, 2006).

Psychological vulnerability and suicide

Dependent vulnerability to depression is characterized by feelings of loneliness, helplessness, and weakness, and intense and chronic fears of being abandoned, neglected, unprotected, and uncared for. Because of the lack of internalization of the experiences of care and affection or of the qualities of supportive and loving individuals, others are valued primarily for the care, comfort, and satisfaction they provide. Separation from others creates fear and

apprehension (Blatt, 1974, 2004; Blatt & Zuroff, 1992). These individuals are vulnerable to interpersonal loss and feelings of loneliness and isolation, and, when under stress, some of them make suicidal gestures by overdosing on prescribed antidepressant medication (Blatt et al., 1982).

Self-critically vulnerable individuals, by contrast, are characterized by feelings of unworthiness, inferiority, failure, and guilt. They engage in harsh self-scrutiny and evaluation and have a chronic fear of failure and criticism. They often strive for excessive achievement and perfection, are often highly competitive and work hard, make many demands on themselves, and often achieve a great deal, but with little lasting satisfaction. Because of their intense competitiveness, they can also be critical and attacking toward others (Blatt, 1974, 1995, 2004). Their focus on issues of self-worth, self-esteem, failure, and guilt can be particularly insidious, and these individuals are often vulnerable to serious suicide attempts (Beck, 1983; Blatt, 1974, 1995; Blatt et al., 1982; Faza'a & Page, 2003).

Extensive research (e.g., Beck, 1983; Blatt et al., 1982; Faza'a & Page, 2003; Morrison & O'Connor, 2007; O'Connor, 2007) and clinical evidence (e.g., Blatt, 1974, 1995) indicate that self-critical vulnerability has a significant role in suicide ideation and behavior (e.g., Blatt, 1974, 1995, 2004; Campos, Besser, & Blatt, 2012, 2013; Yamaguchi et al., 2000) and is closely related to suicide lethality. Faza'a and Page (2003), for example, in a cross-sectional study, found that self-critical undergraduate students who made a suicide attempt showed greater intent to die and greater lethality than did dependent students. They also found that self-critical undergraduates were likely to attempt suicide in response to an intrapsychic stressor. In a longitudinal study, O'Connor and Noyce (2008) found that brooding, self-critical rumination in adults mediated the relationship between self-criticism and suicide ideation. Donaldson, Spirito, and Farnett (2000), in a cross-sectional study of the impact of several cognitive variables on suicide in adolescent suicide attempters, concluded that self-criticism should be a fundamental focus for interventions in these individuals. Campos et al. (2012) found that self-criticism was associated with suicide risk in a community sample of adults and that this relationship was mediated by distress—depression, anxiety, hostility, and interpersonal sensitivity. Klomek et al. (2008),

in a cross-sectional study, examined the relationship between suicidality and dependent and self-critical vulnerabilities among adolescents and found that suicidal adolescents have significantly higher levels of both self-critical and dependent vulnerability than nonsuicidal inpatients and healthy controls.

Considerable empirical research, including cross-sectional (e.g., Besser, Flett, & Davis, 2003; Besser & Priel, 2003, 2005; Campos, Besser, & Blatt, 2010), longitudinal (e.g., Besser, 2004; Besser & Priel, 2003, 2005, 2010, 2011; Besser, Priel, Flett, & Wiznitzer, 2007; Robins, Hayes, Block, Kramer, & Villena, 1995), and experimental studies (e.g., Besser, Guez, & Priel, 2008; Franche & Dobson, 1992; Zuroff & Mongrain, 1987), as well as several meta-analyses (e.g., Nietzel & Harris, 1990; Ouimette & Klein, 1993) and clinical reports indicate that high dependency and self-criticism levels on the DEQ create vulnerability to distress, including depression (e.g., Bagby & Rector, 1998; Ouimette & Klein, 1993; Zuroff, 1994) and social isolation and withdrawal (Beck, 1983; Blatt, 1995; Blatt et al., 1982; Blatt & Shichman, 1983; Overholser, 1991; Thompson & Zuroff, 1998; Zuroff & Lorimier, 1989), which can be expressed in suicidal ideation and behavior.

While the relationship of self-criticism to suicidality seems clear, results are somewhat less consistent regarding dependency in suicide risk (Blatt et al., 1982; Fazaal & Page, 2003). Thus, the present study addresses these issues by examining the possible role of psychological distress as the mediating link between dependency and suicidality in adolescents.

Psychological distress and suicide

Distress, including depression, has been related to suicidal behavior (Kim et al., 2003; Lamis, Malone, Langhinrichsen-Rohling, & Ellis, 2010) in adolescents and young adults (e.g., Hirsch, Webb, & Jeglic, 2011; Lamis et al., 2010; Martin, 1997; Overholser, Freiheit, & DiFilippo, 1997; Youssef et al., 2004; Zayas, Hausmann-Stabile, & Kuhlberg, 2011). Stressful experiences of withdrawal and social isolation have also been linked to suicidality (e.g., Kim et al., 2003; Marttunen, Aro, Henriksson, & Lönnqvist, 1994; Roberts et al., 1998; Stravynski & Boyer, 2001).

Profound feelings of interpersonal isolation and the perception of being a burden to others are often proximal conditions in suicide (Joiner, 2005). Ledgerwood (1999) found that families characterized by excessive enmeshment and/or detachment often create an atmosphere of isolation and intolerance that increases suicide risk. Lubell (2001) studied a nationally representative sample of U.S. residents ages 15 and older who died in 1993 of all causes and found that social isolation increased the likelihood of suicide. Zayas et al. (2011) likewise found that withdrawal as well as anxiety and depression predicted suicide attempts in adolescent females.

Aim of the study

The present study addresses the possible mediating effect of psychological distress in the relationship between dependency and self-criticism as personality vulnerability factors and suicidality. We expected depression and social withdrawal, as indicators of psychological distress, to mediate the relationship between the factors of both dependency and self-criticism and suicidality in adolescents as measured by four indicators.

Consistent with prior literature, Campos et al. (2012, 2013), in cross-sectional studies, found that self-criticism but not dependency was significantly linked to suicidality among adults, and that this relationship was mediated by levels of distress, but the relationship of dependency and suicidality remains unclear. Klomek et al. (2008), however, found that both dependency and self-criticism were related to suicidality in adolescents, but they did not explore any possible underlying mediating mechanisms for these relationships.

Thus, the present study sought to extend these earlier findings by examining the mediating effects of psychological distress (depression and social withdrawal) in the relationship of dependent and self-critical vulnerability to suicidality in adolescents. In summary, we hypothesized that both dependent and self-critical vulnerability are significantly associated with suicidality via the mediation of psychological distress.

Method

Participants and procedures

Two hundred and sixty students from two suburban Portuguese high schools volunteered to participate: 148 (56.9 %) females and 112 (43.1%) males, ranging in age from 15 to 18 years ($M = 16.32$, $SD = 1.19$). Most of the participants (>95%) were White. During class time and in groups of 15 to 30, students received a brief explanation of the study and then completed a series of questionnaires that contained the Portuguese forms of the DEQ-A (Blatt et al., 1992), the Center for Epidemiologic Studies of Depression Scale (CES-D; Radloff, 1977), the Youth Self-Report (YSR; Achenbach, 1991), and the Suicide Behaviors Questionnaire Revised (SBQ-R; Osman, Bagge, Guitierrez, Konick, & Barrios, 2001) presented in random order, as part of a larger study of adolescent psychopathology. Participants were informed that the study was about personality and mood. Participation was anonymous and voluntary. None of the participants were excluded due to high risk (a value on the SBQ-R over the cutoff point). Data collection was authorized by school authorities, and parents gave informed consent. The guidelines of the Portuguese Psychologists Board¹ were followed. Participants were provided the opportunity to discontinue the study at any time, and 10 chose to do so. Data were collected protecting confidentiality. Individuals identified as potential risks were referred to the school psychologists.

Measures

The Youth Self-Report (YSR). The YSR (Achenbach, 1991) was used to assess social withdrawal. Adapted for the Portuguese population by Fonseca and Monteiro (1999), the questionnaire is composed of 112 items that assess a wide range of behavior problems in adolescence. Responses are given on a 3-point scale. Results are obtained for eight specific problem scales: *anxiety-depression*, *somatic complaints*, *withdrawal*, *social problems*, *thought problems*, *attention problems*, *delinquency*, and *aggressive behavior*. Cronbach's alphas in the original YSR ranged between .71 and .89 (Achenbach, 1991). In the Portuguese adaptation (Fonseca & Monteiro, 1999), internal consistency is satisfactory, with alphas

1. https://www.ordemdopsicologos.pt/ficheiros/documentos/caodigo_deontolaogico.pdf

ranging between .70 and .80. In the present study, alpha was .61 for the *withdrawal* scale.

The Depressive Experiences Questionnaire for Adolescents (DEQ-A). The DEQ-A (Blatt et al., 1992) was administered to measure dependency and self-criticism. Like the adult version, the DEQ-A includes 66 items and yields two factors associated with depressive experiences (Blatt & Zuroff, 1992), dependency and self-criticism, and a resiliency factor, efficacy. Individuals with high efficacy scores are likely to present goal-oriented strivings, but not excessive competition with others. This resilience dimension is unrelated to depression and psychopathology, and because the present study focused only on personality vulnerability factors for adolescent suicidality we did not use the efficacy factor. The reliability and validity of these factors have been confirmed in numerous other studies in a number of different cultures (summary in Blatt, 2004). The Portuguese version of the DEQ-A (Campos & Morgado, 2011) has adequate psychometric properties. The internal consistency and factor structure are very similar to those obtained by Blatt et al. (1992). In the present study, Cronbach's alpha values were .83 for dependency and .66 for self-criticism. Examples of items of the dependency factor are "Without the support of others who are close to me, I would be helpless" and "Many times I feel helpless"; and for the self-criticism factor are "It is not who you are but what you have accomplished that counts" and "I often blame myself for things I have done or said."

The Suicide Behaviors Questionnaire Revised (SBQ-R). The SBQ-R (Osman et al., 2001) was administered to assess suicidality. The questionnaire is composed of the following four items: "Have you ever thought about or attempted to kill yourself?"; "How often have you thought about killing yourself in the past year?"; "Have you ever told someone that you were going to commit suicide, or that you might do it?"; and finally, "How likely is that you will attempt suicide someday?" These items allowed us to assess four important clinical suicidality indicators: ideation and attempts, recent ideation, intention, and future probability. In the present study, the Cronbach's alpha value was .79. Total scores may range between 3 and 18, and in this study they ranged between 3 and 17. The total mean value obtained in the present study (4.93) is significantly dif-

ferent ($p < .001$) from the mean value (3.95) obtained by Osman et al. (1991) with a nonsuicidal high school sample. In our sample, 2.3% of the participants admitted past attempts and 23.5% admitted at least mild past ideation. In the present study, 22% of the participants scored equal or above the cutoff point of 7.

The Center for Epidemiologic Studies of Depression Scale (CES-D). The CES-D (Radloff, 1977) scale was used to assess depressive symptoms. The measure was adapted for the Portuguese population by Gonçalves and Fagulha (2003, 2004). It is a well-known, 20-item inventory that measures several symptoms of depression and is well suited for administration to adults and adolescents from the general population. Respondents are asked to indicate the frequency with which they have experienced each symptom over the past week using a 4-point rating scale (0 to 3). The CES-D has acceptable psychometric properties (see Eaton, Muntaner, Smith, Tien, & Ybarra, 2004), and the Portuguese version (Gonçalves & Fagulha, 2003, 2004) presents good psychometric characteristics. Cronbach's values varied between .87 and .92 in different samples. In the present sample, the alpha reliability coefficient for the CES-D was .90.

Data analysis

We examined the normality of the distributions of the variables using the Kolmogorov-Smirnov test (K-S test), the Lilliefors test, and the Shapiro-Wilk test. The results indicated that the distributions of the personality and distress measures were relatively normal ($p > .05$). However, as in other studies using the SBQ-R, in the present study SBQ-R scores were found to be skewed: The Skewness and Kurtosis values for the SBQ-R were 1.69 and 2.83, respectively.² We also examined the multicollinearity between variables. Eigenvalues of the scaled and uncentered cross-products matrix, condition indices, and variance decomposition proportions, along with variance inflation factors and tolerances from multicollinearity analyses, indicated the absence of any multicollinearity. Our analyses focused on the role of psychological

2. Skewness > 0 = Right skewed distribution; most values are concentrated on left of the mean, with extreme values to the right. Kurtosis < 3 = Platykurtic distribution; flatter than a normal distribution with a wider peak. The probability for extreme values is less than for a normal distribution, and the values are spread more widely around the mean.

distress in mediating the association between self-criticism and dependency and suicidality.

Following the criteria for testing mediation originally developed by Baron and Kenny (1986), we investigated the proposed mediation model in two stages, using structural equation modeling (SEM; Hoyle & Smith, 1994). First, we analyzed the direct effects of self-criticism and dependency on suicidality. Second, we specified the models of the direct and indirect effects of self-criticism and dependency on suicidality through psychological distress. All analyses were conducted with Amos (version 18; Arbuckle, 2009) using the maximum-likelihood method in which we specified two latent factors: Suicidality was defined by four indicators (ideation and attempt, recent ideation, intention, and future probability), and psychological distress which was defined by two indicators (depression and withdrawal). In addition to the overall χ^2 test of exact fit, the following fit indices were used to evaluate the proposed models: (a) the χ^2/df ratio, (b) the root mean square error of approximation (RMSEA), (c) the comparative fit index (CFI), and (d) the non-normed fit index (NNFI). A model in which χ^2/df was ≤ 2 , CFI and NNFI were greater than 0.95, and the RMSEA index was between 0.00 and 0.08 (Hu & Bentler, 1999) was deemed acceptable. These moderately stringent acceptance criteria clearly reject inadequate or poorly specified models, while accepting models that meet real-world criteria for reasonable fit and representation of the data (Kelloway, 1998).

We evaluated the proposed models by studying the sampling variability of estimates of the indirect effects using the bootstrap framework (e.g., Mallinckrodt, Abraham, Wei, & Russell, 2006; Shrout & Bolger, 2002). We implemented this procedure in the direct and mediating models by drawing 5,000 bootstrapping samples. We found that 100% of the bootstrap samples converged for all of the tested models. The two-sided 90% confidence intervals and the confidence intervals based on the bias-corrected bootstrap for the direct and indirect effects in these models were consistent with the conclusion that the direct and indirect effects are significantly different from zero (*SE* and two-sided 90% CI values based on the bias-corrected bootstrap are reported in parentheses in the Results section). These results suggest that this procedure led to a stable estimate of the distributions. Moderating models were tested using hierarchical multiple regression

analysis with interactions represented by product terms (Aiken & West, 1991). All of the conditions for omnibus regression analysis were ensured, substantially reducing the likelihood of Type I errors.

Results

Table 1 presents the zero-order correlations among the study variables. As can be seen, both self-criticism and dependency are significantly associated with suicidality as well as with symptoms of depression and withdrawal. Moreover, depression and withdrawal symptoms are significantly associated with the suicidality scores.

Direct association model

Personality vulnerabilities and suicidality. The SEM model used to test direct associations of self-criticism and dependency with suicidality (see Figure 1) fit the observed data very well ($\chi^2 [8] = 14.53, p > .07, \chi^2/df = 1.82, NNFI = .97, CFI = .99, RMSEA = 0.05, 90\% \text{ CI } [0.000, 0.08]$). As indicated in Figure 1, the association between self-criticism and suicidality was significant ($\beta = .39, t = 6.48, p < .0001; SE = 0.04, 95\% \text{ CI } [0.21, 0.36], p < .0001$) as was the association between dependency and suicidality ($\beta = .32, t = 5.40, p < .0001; SE = 0.05, 95\% \text{ CI } [0.15, 0.32], p < .0001$). This model significantly explained 24% of the variance in suicidality.

Personality vulnerabilities and suicidality: The mediating role of psychological distress. The mediating SEM model that included self-criticism, dependency, psychological distress, and suicidality (see Figure 2) fit the observed data very well ($\chi^2 [16] = 22.15, p > .14, \chi^2/df = 1.38, NNFI = .97, CFI = .99, RMSEA = 0.04, 90\% \text{ CI } [0.000, 0.07]$). Self-criticism had a significant association with psychological distress ($\beta = .59, t = 10.54, p < .0001; SE = 0.55, 95\% \text{ CI } [4.66, 6.47], p < .0001$), and dependency also had a significant association with psychological distress ($\beta = .56, t = 10.23, p < .0001; SE = 0.70, 95\% \text{ CI } [4.17, 6.44], p < .0001$). Psychological distress, in turn, had significant association with suicidality ($\beta = .65, t = 3.450, p < .001; SE = 0.019, 95\% \text{ CI } [0.03, 0.08], p < .001$). These results suggest that the associations that self-criticism

Table 1. Zero-order correlations among the study variables

Variables	1	2	3	4	5	6	7	8	M	SD
Personality Characteristics										
1. Self-criticism	—								-0.37	0.91
2. Dependency	-0.07	—							0.38	0.89
Psychological Distress										
3. Depression	.48**	.41***	—						16.09	10.34
4. Withdrawal	.26**	.35***	.46***	—					8.29	2.92
Suicidality										
5. Ideation and attempt	.35**	.22***	.47***	.28**	—				1.45	0.73
6. Recent ideation	.28**	.28***	.44***	.29***	.77***	—			1.40	0.80
7. Intention	.19**	.29***	.31***	.21**	.58***	.51***	—		1.27	0.53
8. Future probability	.27***	.16*	.39***	.25***	.53***	.52***	.38***	—	0.80	1.16

Note. N = 260. *p < .01, two-tailed. **p < .001, two-tailed. ***p < .0001, two-tailed.

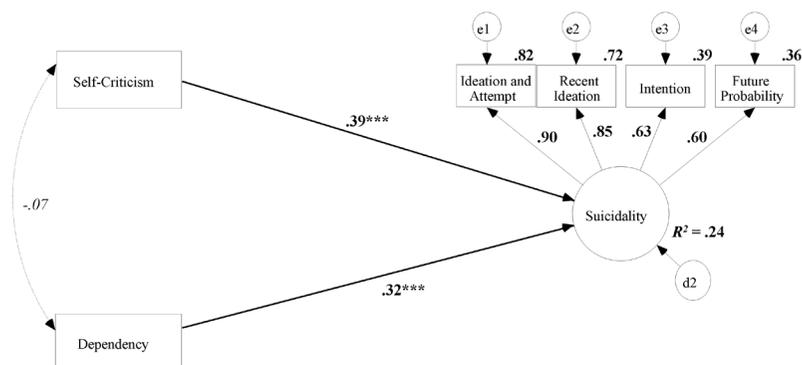


Figure 1. Direct association model of the relationships between self-criticism, dependency, and suicidality. Note. Rectangles indicate measured variables and large circles represent latent constructs. Small circles reflect residuals (e) or disturbances (d); bold numbers above or near endogenous variables represent the amount of variance explained (R^2). Bidirectional arrows depict covariance, and unidirectional arrows depict hypothesized directional links. Standardized maximum likelihood parameters are used. Bold estimates are statistically significant. $N = 260$. *** $p < .0001$ (two tailed).

and dependency have with suicidality (Figure 1) are mediated by levels of psychological distress (Figure 2). These mediating effects are indicated by the fact that the direct paths from self-criticism and dependency to suicidality fell and failed to reach conventional levels of significance after the introduction of the mediator psychological distress ($\beta = .00$, $t = -0.01$, ns ; $\beta = -.05$, $t = -0.40$, ns for self-criticism and dependency, respectively). Thus, the significant direct associations between the personality vulnerability factors and suicidality are significantly mediated by psychological distress (estimations of the standardized indirect effects were: for self-criticism 0.389, $SE = 0.106$, 95% CI [0.153, 0.480], $p < .001$; and for dependency 0.367, $SE = 0.113$, 95% CI [0.153, 0.508], $p < .0001$). These mediating effects were not altered when we controlled for demographic features. This model significantly explained 62% of the variance in psychological distress and 40% of the variance in suicidality. The mediating model significantly added 16% to the explained variance in suicidality above the explained variance by the direct association model.

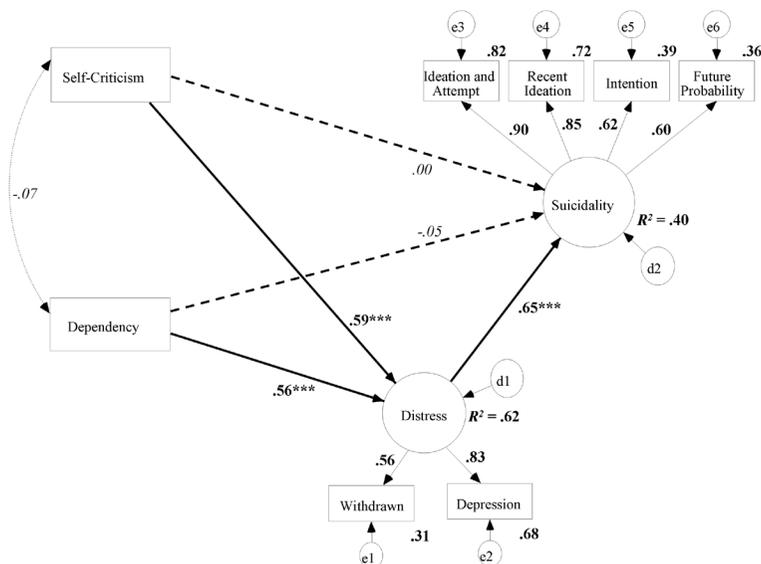


Figure 2. Mediating associations model of psychological distress in the relationships between self-criticism and dependency and suicidality. Note. Rectangles indicate measured variables and large circles represent latent constructs. Small circles reflect residuals (e) or disturbances (d); bold numbers above or near endogenous variables represent the amount of variance explained (R^2). Bidirectional arrows depict covariance, and unidirectional arrows depict hypothesized directional links. Standardized maximum likelihood parameters are used. Bold estimates are statistically significant. The dotted paths indicate nonsignificant, “causal” links/associations. The numbers in parentheses are the beta values before psychological distress scores (assumed mediator) were entered into the model. $N = 260$. *** $p < .0001$ (two tailed).

Moderating competing models. We also performed a series of hierarchical multiple regression analyses to investigate possible competing moderating models: whether individuals with high levels of self-criticism and dependency and high levels of psychological distress tend to report greater suicidality scores (i.e., investigating the possibility that psychological distress levels interact with personality vulnerability factors to predict levels of suicidality, thus investigating whether low levels of distress could possibly moderate the effect of dependency and self-criticism or whether dependency and self-criticism moderate the effects of psychological distress). None of the interaction terms were found to be significant.

*Summary of results*³

1. Self-criticism and dependency are significantly associated with suicidality.
2. The associations between self-criticism and dependency with suicidality are mediated by psychological distress (depression and withdrawal).
3. While psychological distress mediated the associations between the personality factors of self-criticism and dependency with suicidality, it did not moderate them. Moreover, dependency and self-criticism were not found to moderate the effect of psychological distress on suicidality.

Discussion

In a search for a possible mechanism for the relationship between the personality factors of dependency and self-criticism, and suicide risk, we found that psychological distress (social withdrawal and depression) was a mediating variable in the relationship between these personality factors and suicide risk.

Research findings and clinical evidence consistently indicate that self-critical vulnerability has a major role in suicide ideation and behavior (e.g., Beck, 1983; Blatt, 1974, 1995; Blatt et al., 1982; Campos et al., 2012, 2013; Faza'a & Page, 2003). Numerous clinical reports, as well as accounts in the mass media (e.g., Blatt, 1995), illustrate the considerable suicidal potential of highly talented, ambitious, and very successful individuals who are plagued by intense self-scrutiny, self-doubt, and self-criticism. These individuals are profoundly vulnerable to criticism by others and to their own self-scrutiny and critical judgment. Reports in the mass media about the suicide of very successful self-critical individuals also indicate that these individuals are often depressed and socially isolated (Blatt, 1995). These findings suggest that individuals may be at risk for suicide when they experience high levels of psychological distress (i.e., depression and social

3. It is important to note that all analyses were re-examined while controlling for known age and gender effects on depressive and withdrawal symptoms and suicide, as well as gender differences in DEQ factors. No alterations were encountered, however, when analyses were controlled for age and gender. These effects were removed, therefore, for the sake of parsimony.

withdrawal) that make it difficult for them to seek and accept support from others.

The literature on the role of interpersonal vulnerability (i.e., dependency), in suicidality, in contrast, is less consistent. In a community sample of adults, Campos et al. (2012) found that dependency, in contrast to self-criticism, had only an indirect association with suicidality. But the findings of the present study add to the understanding of the role of dependency in suicidality.

The association of both interpersonal dependency and self-criticism with suicidality is mediated by high levels of psychological distress. Self-critical individuals, fearing the judgment of others, often withdraw and become increasingly socially isolated (Blatt, 2008). Dependency can also be a risk factor for suicide when these individuals experience social isolation (loneliness) (e.g., Beck, 1983; Besser et al., 2003; Blatt et al., 1982) and depression, which actuates their suicidal potential (e.g., Page et al., 2006). Research findings indicate that dependent individuals typically experience intense loneliness following object loss and often make suicidal gestures to elicit the care and concern of others (Blatt et al., 1982; Troister & Holden, 2012). Dependent individuals are excessively clingy and demanding, often alienating others. Their self-esteem is overly dependent on the approval of others, and they constantly need the support of others. Their excessive dependency, however, may lead others to feel burdened and thus reject them, leading to their experience of further feelings of abandonment (Blatt, 1990, 2004, 2008). The interpersonal theory of suicide (Joiner, 2005) discusses the role in suicide of perceiving oneself as a burden and of experiencing profound feelings of being disconnected.

The findings of the present study are consistent with the results of recent studies, including the research by Loas and Defélice (2012), who evaluated 41 suicide attempters with the Interpersonal Dependency Inventory and the Beck Depression Inventory. These authors found that dependency was a stable personality trait in these suicide attempters.

The findings of the present study have important methodological implications. Much of the research on dependency and self-criticism (or sociotropy and autonomy) has examined the direct effects of these vulnerability dimensions on a wide range of behavior. But our findings suggest that these relationships may be

even more profound if the research designs included some measure of possible mediating variables. In the present study, both dependent and self-critical vulnerabilities were significantly related to suicidality; but these relationships were significantly mediated by levels of psychological distress. Thus, dimensions that can possibly lead to the actuation of vulnerability dimensions should be included in investigations of the relationship of personality vulnerability in a wide range of behaviors.

Limitations of this study and clinical implications

It is important to note that we assessed the relationship between personality dimensions and suicidality as mediated by psychological distress in a low-risk, nonclinical sample with self-report measures in a cross-sectional design. Future studies should address these issues via longitudinal designs in clinical samples based on clinical interviews as well as standardized assessment procedures. The assessment of suicide risk was in part conducted retrospectively, because three of the four suicide indicators assessed the individuals' past history. Thus, these findings should be replicated with clinical samples before causal inferences are made. However, our findings further confirm the importance of dependency and self-criticism as central dimensions in a wide range of psychopathology (Blatt, 2008) and the need for extensive exploration of the mechanisms through which these personality vulnerability dimensions are expressed in a wide range of maladaptive behavior, including suicide.

Our findings point to the potential importance of these vulnerability dimensions in understanding and identifying youth who may be at risk for suicide. Results suggest that these personality dimensions predispose individuals to psychological distress that contributes to suicidality. Psychotherapeutic interventions should focus on experiences of worthlessness and inferiority that are part of the introjective personality configuration and on the feelings and fears of abandonment typical of the anaclitic configuration (see Blatt, 2008). It should also be noted that suicidality and expressed symptoms of depression and withdrawal may have different meanings and serve different functions as a consequence of the predominant personality characteristics of the individual; these issues should also be addressed in future studies. Thus, attending

to adolescents' personality predispositions, rather than just to the manifest symptoms of their maladaptive behavior, appears to be a productive perspective both clinically and in research.

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