

## Childhood Maltreatment and College Students' Current Suicidal Ideation: A Test of the Hopelessness Theory

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Few studies have examined the relation between childhood maltreatment and adult suicidality within the context of a coherent theoretical model. The current study evaluates the ability of the hopelessness theory of depression's (Abramson, Metalsky, & Alloy, 1989) etiological chain to account for this relation in a sample of 297 undergraduates. Supporting the model, emotional, but not physical or sexual, maltreatment was uniquely related to average levels of suicidal ideation across a 2.5-year follow-up. Further, students' cognitive styles and average levels of hopelessness partially mediated this relation. Although these results cannot speak to causality, they support the developmental model evaluated.

Although studies have demonstrated links between childhood sexual (e.g., Boudewyn & Liem, 1995; Peters & Range, 1995), physical (e.g., Silverman, Reinherz, & Giaconia, 1996), and emotional (e.g., Langhinrichsen-Rohling, Monson, Meyer, Caster, & Sanders, 1998) maltreatment and adult suicidal ideation and attempts, these relations are rarely considered within the context of a coherent theoretical model. In addition, studies have

rarely examined the three forms of childhood maltreatment individually, controlling for the overlap among them. The unique relations between individuals' histories of childhood emotional, physical, and sexual maltreatment and levels of suicidal ideation remain unclear. Although studies suggest that multiple forms of childhood maltreatment have more deleterious effects than single types of maltreatment (e.g., Bryant & Range, 1995, 1997), examining the unique impact of each form of maltreatment is necessary before researchers can begin to understand the *process* by which childhood maltreatment leads to adult suicidality.

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The "hopelessness model" of suicide risk (Abramson, Alloy, et al., 1998, 2000), derived from the hopelessness theory of depression (Abramson, Metalsky, & Alloy, 1989), may help to explain the process by which childhood maltreatment leads to adult suicidality. The hopelessness theory posits that a negative cognitive style, consisting of the tendency to make negative inferences about the causes, consequences, and self-implications of stressful life events, contributes to the development of hopelessness and the symptoms of hopelessness depression, including suicidal ideation. In extending the etiological chain of the hopelessness theory, Rose and Abramson (1992) hypothesized that negative childhood events, such as maltreatment, may contribute to the development of this negative cognitive style.

Although no study has examined the ability of the hopelessness model of suicide risk to account for the relation between a history of childhood maltreatment and adult suicidality, previous studies have supported the individual links of the model. Specifically, studies have suggested a relation between levels of childhood maltreatment, especially childhood emotional and sexual maltreatment, and the presence of a negative cognitive style (for a review, see Gibb, in press). Numerous studies have supported the link between levels of hopelessness and both suicidal ideation and completed suicides in clinical and nonclinical samples (Weishaar, 1996). Further, studies have suggested a relation between levels of hopelessness and a history of childhood emotional (e.g., Gibb, Alloy, Abramson, & Marx, 2001), physical (e.g., Langhinrichsen-Rohling et al., 1998), and sexual (e.g., Gladstone, Parker, Wilhelm, Mitchell, & Austin, 1999) maltreatment. Finally, hopelessness has been shown to mediate the relation between life stress and suicidal ideation (e.g., Dixon, Rumford, Heppner, & Lips, 1992; Rudd, 1990) and between a negative cognitive style and suicidality (e.g., Abramson et al., 1998).

The current study sought to replicate and extend previous findings by examining the applicability of the hopelessness model of

suicide risk as an explanation of the childhood maltreatment-adult suicidality link. Although previous studies have examined the relation between levels of childhood maltreatment and the various components of the hopelessness theory's etiological chain (i.e., suicidal ideation, hopelessness, and negative cognitive styles), this is the first study to test the full model. In the current study, it was predicted that (a) there would be a significant relation between reported levels of childhood maltreatment and current levels of suicidal ideation endorsed by college students and that (b) the etiological chain proposed by the hopelessness theory, specifically, negative cognitive style and hopelessness, would mediate this relation. The current study also extends previous findings by examining each of the three types of maltreatment (emotional, physical, and sexual) separately, so that the unique impact of each form of maltreatment can be examined independent of any overlap it has with the other forms.

## METHOD

### *Participants*

Participants in this study were a subset of those selected for inclusion in the Temple-Wisconsin Cognitive Vulnerability to Depression (CVD) project (Alloy & Abramson, 1999). Participants in the CVD project were university freshmen scoring in the highest (most negative) or lowest (most positive) quartile on *both* the Cognitive Style Questionnaire (CSQ; Abramson, Metalsky, & Alloy, 2001) and a modified version of the Dysfunctional Attitude Scale (DAS; Weissman & Beck, 1978), and who exhibited no current Research Diagnostic Criteria (RDC; Spitzer, Endicott, & Robins, 1978) or DSM-III-R (American Psychiatric Association, 1987) Axis I disorders (for more details, see Alloy & Abramson, 1999, and Alloy et al., 2000). Participants scoring in the highest and lowest quartile on the CSQ and DAS were designated at high (HR) and low (LR) cognitive risk for depression, respectively.

Only those participants who remained in the study through the 2.5-year prospective follow-up and who completed the maltreatment assessment were included in the current study ( $N = 297$ ; HR = 145; LR = 152). The characteristics of the HR and LR participants are presented in Table 1. The HR and LR groups did not differ significantly on gender, age, or ethnicity. In addition, the subsample of participants included in the current study is similar to the total CVD project sample in terms of cognitive style, age, ethnicity, and gender. Although a previous analysis of CVD project data also examined correlates of participants' suicidality across the 2.5-year follow-up (Abramson et al., 1998), the current study is unique in examining the relation between reported levels of childhood maltreatment and participants' levels of suicidal ideation.

#### Measures

**Cognitive Styles.** The CSQ and the DAS were used to assess students' cognitive vulnerability to depression as specified by the hopelessness theory (Abramson et al., 1989)

and Beck's theory (1967, 1987) of depression, respectively. The CSQ, a revised version of the Attributional Style Questionnaire (ASQ; Peterson et al., 1982), is a self-report measure used to assess individuals' tendency to make internal, stable, and global attributions and to infer negative consequences and negative characteristics about themselves following the occurrence of a negative life event. A composite score was created for inferences (stability + globality + consequences + self-implication) generated in response to hypothetical negative events.

The DAS is a 40-item self-report inventory used to assess maladaptive attitudes, including sensitivity to social criticism, perfectionistic performance standards, causal attributions, expectations of control, and rigid ideas about the world. In the current study, a revised version of the DAS was used in which 24 items were added to the original 40 to assess dysfunctional attitudes in interpersonal and achievement domains, for a total of 64 items. In the CVD project, both the CSQ composite for negative events and the expanded form of the DAS demonstrated good internal consistency, retest reliability over

**TABLE 1**  
*Characteristics of High and Low Cognitive Risk Participants*

	High Risk ( $n = 145$ )	Low Risk ( $n = 152$ )
Sex (% women)	68.3	68.4
Ethnicity (% Caucasian)	79.3	73.8
Age (years)	18.92 (1.83)	19.28 (2.98)
DAS	4.39 (0.59)	2.21 (0.31)
CSQ-NC	5.09 (0.52)	2.78 (0.54)
Child Emotional Maltreatment <sup>a</sup>	3.83 (3.94)	2.76 (3.43)
Child Physical Maltreatment <sup>a</sup>	1.10 (1.49)	1.24 (1.33)
Child Sexual Maltreatment <sup>a</sup>	0.72 (1.70)	0.69 (1.77)
Hopelessness	1.89 (2.75)	0.45 (0.95)
Suicidal Ideation <sup>b</sup>	0.19 (1.30)	-0.15 (0.36)

*Notes.* Unless otherwise noted, values in parentheses represent standard deviations. DAS = Dysfunctional Attitudes Scale.

CSQ-NC = Cognitive Style Questionnaire—composite for negative events.

<sup>a</sup>Values represent mean numbers of different forms of each type of maltreatment.

<sup>b</sup>Values represent z-scores.

one year, and predictive validity for episodes of depression (Alloy et al., 2000, 2001) and suicidality (Abramson et al., 1998).

*Childhood Maltreatment.* The Lifetime Experiences Questionnaire (LEQ; Rose, Abramson, & Kaupie, 2001) is a self-report measure that assesses a history of emotional (27 items), physical (11 items), and sexual (26 items) maltreatment committed by both peers and adults. The LEQ presents a list of specific maltreatment experiences. For each of the experiences that the participant endorses, he or she is asked to provide the date of its first and last occurrence. Given that we were interested in childhood maltreatment specifically and not maltreatment occurring in either adolescence or adulthood, we included only those events endorsed as occurring before age 15. Levels of emotional, physical, and sexual maltreatment were determined by summing the number of different forms of maltreatment endorsed for each of the three categories (emotional, physical, and sexual). Forms of childhood emotional maltreatment assessed included humiliation, derogation, rejection, extortion, and teasing. Forms of physical maltreatment assessed included being hit either with a fist or object, being choked, and being the victim of deliberate physical pain. Forms of sexual maltreatment assessed included unwanted exposure to pornography and exhibitionism, as well as fondling and attempted or completed rape. In general, the LEQ exhibited adequate internal consistency for the childhood emotional ( $\alpha = .85$ ), physical ( $\alpha = .67$ ), and sexual ( $\alpha = .80$ ) maltreatment subscales in the current study. In addition, the maltreatment subscales of the LEQ have been shown to correlate highly with levels of emotional, physical, and sexual maltreatment reported in structured clinical interviews ( $r$ 's = .78, .79, and .87, respectively; Kaupie & Abramson, 1999).

*Depressive Symptoms.* The Beck Depression Inventory (BDI; Beck, Rush, Shaw, & Emery, 1979) was used to assess participants' initial levels of depressive symptoms as they entered the study. Numerous studies have established the reliability and validity of the BDI (Beck, Steer, & Garbin, 1988).

*Hopelessness.* The Beck Hopelessness Scale (HS; Beck, Weissman, Lester, & Trexler, 1974), a 20-item true-false self-report questionnaire, was used to assess participants' negative expectations regarding the future. The HS has demonstrated good internal consistency and concurrent validity with clinician's ratings of hopelessness (Beck et al., 1974), as well as good retest reliability (Holden & Fecken, 1988). Mean levels of hopelessness, calculated across the entire 2.5-year period, were used in all analyses.

*Suicidal Ideation.* Participants' mean levels of suicidal ideation across the 2.5-year follow-up were assessed using both questionnaires and a diagnostic clinical interview. The questionnaire assessment was composed of item 9 from the BDI (Beck et al., 1979), with response options ranging from "I don't have any thoughts of killing myself" to "I would kill myself if I had the chance," and item 15 from the Symptom Check List-90 (SCL-90; Derogatis, 1977), which assesses the degree to which individuals have had suicidal thoughts and has response options ranging from *not at all* to *extremely*. The interview-based assessment was composed of questions from the Schedule for Affective Disorders and Schizophrenia—Change version (SADS-C; Spitzer & Endicott, 1978), which inquire about participants' duration and intensity (rated on a 7-point Likert-type scale from *not at all* to *very extreme* [attempt with intent to die or potentially medically harmful]) of suicidal ideation. Questions include, "Have you had any thoughts about dying or killing yourself or wanting to commit suicide?" "Have you thought about how you would do it?" and "Have you actually done anything?" A composite suicidal ideation variable was created from participants' responses to the questionnaire- and interview-based assessments, representing participants' mean levels of suicidal ideation across the 2.5-year follow-up. In the current study, this composite exhibited good internal consistency ( $\alpha = .92$ ).

Participants' lifetime history of suicidal ideation and/or attempts, prior to beginning the follow-up phase of the study, was assessed using questions from the SADS—Lifetime

version (SADS-L; Endicott & Spitzer, 1978). The suicide assessment questions in the SADS-L differed from those in the SADS-C only in terms of the time frame covered. Specifically, whereas the SADS-C covered only the prior 6 weeks, the SADS-L covered each participant's entire lifetime up until the beginning of his or her participation in the prospective phase of the study.

### *Procedure*

Participants hypothesized to be at high versus low cognitive risk for depression, based on their responses to the CSQ and DAS, were chosen for inclusion in the study. After completing the screening procedure, including completion of the SADS-L and BDI, participants who agreed to participate in the rest of the study were enrolled in the follow-up phase. For a 2.5-year period, participants came to the laboratory to complete the structured interview and questionnaire assessments (SADS-C, BDI, SCL-90, and HS) approximately every 6 weeks. When participants were unable to come to the laboratory (e.g., during vacations), assessments were conducted by phone and mail. In addition, participants completed the LEQ at the end of the second year of follow-up. Participants were paid \$50 for each of the follow-up assessments.

## RESULTS

To test for possible site and/or gender differences in levels of childhood emotional, physical, and sexual maltreatment, hopelessness, and suicidal ideation, five ANOVAs were conducted. The only significant finding was a gender difference in reported levels of childhood physical maltreatment,  $t(295) = 3.38$ ,  $p < .001$ ,  $r = .19$ , indicating that men in the current study reported significantly more childhood physical maltreatment than did women.

To test the hypothesis that there would be a significant relation between levels of childhood maltreatment and current levels of

suicidal ideation, reported levels of childhood emotional, physical, and sexual maltreatment were entered simultaneously in a regression equation with levels of suicidal ideation serving as the criterion variable. By entering the three forms of maltreatment simultaneously, the overlap among them was statistically controlled, allowing an examination of the unique relation of each to suicidal ideation. In this regression analysis, levels of childhood emotional, but not physical or sexual, maltreatment were significant,  $t(293) = 3.71$ ,  $p < .001$ ,  $\beta = .25$ , indicating that participants who reported more emotional maltreatment in childhood also endorsed higher average levels of suicidal ideation during the 2.5-year follow-up period of this study. These results were maintained even after controlling for participants' history of suicidal ideation prior to entering the study.

To evaluate whether the etiological chain of the hopelessness theory accounted for the relation between participants' reported history of childhood maltreatment and current levels of suicidal ideation, a series of mediation analyses were conducted in accord with the guidelines proposed by Baron and Kenny (1986). Specifically, the logic of the hopelessness theory suggests that childhood maltreatment should lead to the development of a negative cognitive style (cognitive risk for depression), which should, in turn, predispose a person to becoming hopeless. Higher levels of hopelessness should then lead to elevations in suicidal ideation. To test this mediational model, analyses were divided into three parts. First, a hierarchical regression analysis was used to determine whether cognitive risk mediated the relation between reported childhood maltreatment and average levels of hopelessness. Second, a hierarchical regression analysis was used to determine if levels of hopelessness mediated the relation between cognitive risk and levels of suicidal ideation. Third, the entire model was tested in a single hierarchical regression analysis.

As a first step in the tests of mediation, a series of regression analyses were conducted to determine whether all the variables

to be included in the models were significantly related to one another. Cognitive risk status was significantly related to both childhood emotional,  $t(293) = 3.57, p < .001, \beta = .25$ , and physical,  $t(293) = -2.66, p < .01, \beta = -.18$ , maltreatment. HR participants reported higher levels of childhood emotional maltreatment and lower levels of childhood physical maltreatment than did LR participants. In addition, cognitive risk was significantly related to hopelessness,  $t(281) = 5.99, p < .001, \beta = .34$ , and suicidal ideation,  $t(295) = 3.06, p < .01, \beta = .18$ . Finally, levels of hopelessness were significantly related to suicidal ideation,  $t(281) = 4.72, p < .001, \beta = .27$ . With the exception of the relation between cognitive risk and childhood physical maltreatment, each of these relations was maintained even after controlling either for participants' prior history of suicidal ideation (when suicidal ideation during the follow-up period served as the criterion variable) or participants' initial depressive symptom levels (when risk status or hopelessness served as the criterion variable). The relation between participants' cognitive risk status and reported histories of childhood physical maltreatment was reduced to marginal once their initial levels of depressive symptoms were statistically controlled,  $t(277) = -1.85, p = .07, \beta = -.10$ . An examination of the group means suggests that this difference may have been due more to statistical power than clinical importance (see Table 1).

To examine the first component of the model, a hierarchical regression analysis was used to determine whether cognitive risk mediated the relation between reported childhood maltreatment and hopelessness. Using average levels of hopelessness across the 2.5-year follow-up as the criterion variable, reported childhood maltreatment was entered in the first step of the regression equation. Although neither childhood physical nor sexual maltreatment was related to hopelessness, childhood emotional maltreatment was significant,  $t(279) = 3.40, p < .001, \beta = .24$ . When cognitive risk was entered in the second step, it was significant,  $t(278) = 5.53, p < .001, \beta = .31$ . In this second step, the relation between

childhood emotional maltreatment and hopelessness was reduced, though still significant,  $t(278) = 2.37, p < .05, \beta = .16$ , indicating that cognitive risk partially mediated the relation between reported levels of childhood emotional maltreatment and hopelessness. These results were maintained even after controlling for initial levels of depressive symptoms.

To examine the second component of the model, a hierarchical regression analysis was used to determine whether levels of hopelessness mediated the relation between cognitive risk and levels of suicidal ideation. Using suicidal ideation as the criterion variable, cognitive risk was entered in the first step of the regression equation and was significant,  $t(281) = 2.98, p < .01, \beta = .18$ . Cognitive risk was reduced to nonsignificant,  $t(280) = 1.56, p = .12, \beta = .10$ , however, once hopelessness was added to the model. In this second step, hopelessness was significantly related to suicidal ideation,  $t(280) = 3.93, p < .001, \beta = .24$ , indicating that it fully mediated the relation between cognitive risk and suicidal ideation. Each of these results was maintained even after controlling for participants' prior history of suicidal ideation.

Given that cognitive risk status partially mediated the relation between reported childhood emotional maltreatment and hopelessness and that hopelessness fully mediated the relation between cognitive risk and suicidal ideation, the complete model was tested next. For the entire model to be supported, three relations must hold: (1) reported childhood maltreatment must be significantly related to suicidal ideation; (2) when cognitive risk is added to the model, it must be a significant predictor, and the relation between childhood maltreatment and participants' suicidal ideation must be significantly reduced in magnitude; and (3) when hopelessness is added, it must be significantly related to suicidal ideation and the relation between cognitive risk and participants' suicidal ideation must be significantly reduced in magnitude.

Using suicidal ideation as the criterion variable, reported childhood maltreatment was entered in the first step of a hierarchical regression analysis (see Table 2). The rela-

**TABLE 2**  
*Summary of Hierarchical Regression Analysis Predicting Average Levels of Suicidal Ideation Across the 2.5-year Follow-up*

	Variable	B	SE B	$\beta$
Step 1				
	Child Emotional Maltreatment	.07	.02	.25***
	Child Physical Maltreatment	-.06	.05	-.08
	Child Sexual Maltreatment	-.03	.03	-.05
Step 2				
	Child Emotional Maltreatment	.06	.02	.22**
	Child Physical Maltreatment	-.04	.05	-.06
	Child Sexual Maltreatment	-.02	.03	-.05
	Cognitive Risk	.27	.11	.14*
Step 3				
	Child Emotional Maltreatment	.05	.02	.19*
	Child Physical Maltreatment	-.04	.05	-.06
	Child Sexual Maltreatment	-.03	.03	-.05
	Cognitive Risk	.14	.12	.07
	Hopelessness	.10	.03	.21***

Notes.  $R^2 = .05$  for Step 1;  
 $\Delta R^2 = .02$  for Step 2;  
 $\Delta R^2 = .04$  for Step 3 ( $ps < .05$ ).  
 \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

tion between childhood emotional maltreatment and suicidal ideation was significant,  $t(279) = 3.62$ ,  $p < .001$ ,  $\beta = .25$ . Neither childhood physical nor sexual maltreatment was significantly related to suicidal ideation. When cognitive risk was added in the second step, it was significant,  $t(278) = 2.38$ ,  $p < .05$ ,  $\beta = .14$ , and childhood emotional maltreatment, though reduced in significance, remained significantly related to suicidal ideation,  $t(278) = 3.09$ ,  $p < .01$ ,  $\beta = .22$ . In the third step, hopelessness was added. It was significant,  $t(277) = 3.48$ ,  $p < .001$ ,  $\beta = .21$ , cognitive risk was reduced to nonsignificant,  $t(277) = 1.20$ ,  $p = .23$ ,  $\beta = .07$ , and childhood emotional maltreatment was further reduced in significance,  $t(277) = 2.63$ ,  $p < .01$ ,  $\beta = .19$ . These results were maintained even after participants' prior history of suicidal ideation was controlled, and indicate that both cognitive risk status and average levels of hopelessness partially mediated the relation between reported levels of childhood emotional maltreatment and participants' average levels of suicidal ideation. Further, average levels of

hopelessness fully mediated the relation between cognitive risk status and participants' average levels of suicidal ideation.

## DISCUSSION

The results of the current study suggest that reported levels of childhood emotional maltreatment were related to participants' average levels of suicidal ideation across the 2.5-year follow-up, as well as to their cognitive styles and average levels of hopelessness. These findings contribute to the existing literature in addressing the *unique* impact of the three forms of childhood maltreatment, statistically controlling for the overlap among them. They also provide empirical support for theorists who have suggested that childhood emotional maltreatment may have more deleterious effects, at least for the development of some forms of psychopathology, than either childhood physical or sexual maltreatment (see Hart & Brassard, 1987; Rose & Abramson, 1992).

Importantly, the current results do not appear due simply to a reporting bias in our participants. That is, the high risk participants reported higher levels of emotional maltreatment and marginally lower levels of physical maltreatment than did the low risk participants, and the risk groups did not differ in reported levels of childhood sexual maltreatment. Thus, the current results do not appear due to those at high cognitive risk for depression simply reporting more negative childhoods in general.

The results of this study also provide support for the hopelessness model of suicide risk. Specifically, cognitive risk status partially mediated the relation between reported levels of childhood emotional maltreatment and participants' average levels of hopelessness across the 2.5-year follow-up. In addition, participants' average levels of hopelessness fully mediated the relation between cognitive risk status and participants' average levels of suicidal ideation across the 2.5-year follow-up. Finally, both cognitive risk and average levels of hopelessness partially mediated the relation between reported levels of childhood emotional maltreatment and average levels of suicidal ideation. That we found partial, rather than full, mediation suggests that other processes also may be operating to link childhood maltreatment to adult suicidality. Future studies, therefore, should continue to seek other variables that might mediate the relation between childhood emotional maltreatment and adult levels of suicidal ideation.

This is one of the first studies to examine the relation between childhood emotional maltreatment and levels of suicidal ideation endorsed by adults. Although our findings add to the literature in suggesting a positive association between reported levels of childhood emotional maltreatment and suicidal ideation, they also contradict previous findings in that we did not find evidence of relations between reported levels of either childhood physical or sexual maltreatment and levels of suicidal ideation. This difference in results could be due to differences in the design of this study compared to those of previous studies. For example, the differences in

findings could have resulted from variances in participant selection. Specifically, it may be that by using cognitive vulnerability to depression as the selection criterion, the present sample was biased such that individuals with deleterious effects following from childhood emotional maltreatment were overrepresented. This situation would be consistent with the hypotheses of Rose and Abramson (1992), who argued that childhood emotional maltreatment should be more likely than either childhood physical or sexual maltreatment to lead to a negative cognitive style. This is because, with emotional maltreatment, depressogenic cognitions are supplied directly to the child by the abuser. In contrast, with physical and sexual maltreatment, the child is not directly told that he or she is to blame for the maltreatment. Therefore, the pathway from the actual physical and/or sexual maltreatment to the child's view of causality, consequences, and implications may be indirect, and allow greater opportunity for the child to make more benign attributions.

A second factor that may have contributed to the discrepancy in findings between the current and previous studies is a difference in how childhood maltreatment was considered in the analyses. Specifically, in the majority of previous studies, participants were dichotomously classified as either maltreated or not, whereas in the current study, participants' levels of maltreatment were calculated along a continuum from zero to many types of maltreatment experiences. By using this method, it was hoped that a more sensitive assessment of maltreatment could be obtained. For example, a person whose experiences of childhood emotional maltreatment were limited to a certain form (e.g., humiliation) is very different, and is expected to have a more positive long-term outcome, than is an individual who experienced many different forms of childhood emotional maltreatment (e.g., humiliation, rejection, extortion, teasing, etc.).

Although participants' histories of childhood maltreatment were considered as continuous, as opposed to dichotomous, variables in all analyses, it should be noted that the rates



of participants dichotomously classified as maltreated or not was similar to those reported in previous studies. Specifically, 75.5% of our sample reported experiencing at least one instance of childhood emotional maltreatment, 57.9% reported at least one instance of childhood physical maltreatment, and 26.9% reported at least one instance of childhood sexual maltreatment. Previous studies, by comparison, have reported rates of childhood emotional maltreatment between 35.9% (Rich, Gingerich, & Rosen, 1997) and 80.2% (Gibb et al., 2000), childhood physical maltreatment between 5.9% (Silverman et al., 1996) and 42.9% (Bryant & Range, 1995), and childhood sexual maltreatment between 2.5% and 53.5% (Dhaliwal, Gauzas, Antonowicz, & Ross, 1996).

Despite its contributions, this study is characterized by several limitations as well. First, given the number of analyses conducted, a replication of the current results will allow greater confidence in the obtained results. Second, the internal consistency of the LEQ's childhood physical maltreatment subscale was fairly low. Future studies, therefore, should seek to replicate the current results with other measures. A third limitation is the reliance upon self-report measures. Inasmuch as our measure of childhood maltreatment was based not on the global recall of maltreatment, but on the occurrence of specific instances of maltreatment, it was hoped that recall biases were minimized (see Brewin, Andrews, & Gotlib, 1993). Future studies, however, should attempt to replicate the current findings with documented cases of maltreatment. In addition, future studies should evaluate the applicability of the current findings to documented cases of attempted suicide.

A fourth limitation is that levels of maltreatment were assessed after the partici-

pants had been in the study for 2 years, so that reported levels of maltreatment could not be used as prospective predictors of cognitive risk status or levels of hopelessness or suicidal ideation. However, by administering the maltreatment questionnaire at the end of the second year of the study, it was hoped that participants would be more willing to report on sensitive topics than would individuals who simply came in for one assessment, thereby providing a more accurate description of their maltreatment histories. It must be kept in mind that the assumptions of temporal precedence in the mediational models tested were purely statistical. As such, although the current findings were consistent with Rose and Abramson's (1992) developmental model, future studies using levels of maltreatment to prospectively predict changes in cognitive style, hopelessness, and suicidal ideation are necessary before any causal conclusions can be drawn.

In conclusion, despite its limitations, this study appears to offer a significant contribution to the literature in examining the unique relations among childhood emotional, physical, and sexual maltreatment and students' cognitive risk status, and levels of hopelessness and suicidal ideation. Further, the current findings may help to better explain one possible path by which childhood maltreatment leads to elevated levels of suicidal ideation in adults. Specifically, the current results are consistent with the hypothesis that childhood emotional maltreatment contributes to the development of a negative cognitive style, which then contributes to chronic elevations in hopelessness and suicidal ideation. In so doing, the study provides further support for the etiological chain proposed by the hopelessness theory of depression.

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