Research Article

EMOTIONAL MALTREATMENT AND DEPRESSION: PROSPECTIVE PREDICTION OF DEPRESSIVE EPISODES

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Background: *Most research to date on the role of maltreatment experiences in depression has focused on physical and sexual maltreatment. However, several researchers have theorized that emotional maltreatment may be more strongly linked to depression. Furthermore, prospective studies in this area are lacking. This study addressed these issues by examining whether experiences of current emotional maltreatment predicted the development of new prospective episodes of major (MD) or minor depression (MiD), and the subtype of hopelessness depression (HD) in young adults. It also assessed whether current emotional maltreatment from peers and from authority figures separately predicted the occurrence of depressive episodes.* **Method***: One hundred and sixty-five participants from the Cognitive Vulnerability to Depression Project were followed prospectively for 2.5 years. Current emotional maltreatment and new depressive episodes were assessed with life event and diagnostic interviews administered every 6 weeks.* **Results***: Greater overall emotional maltreatment predicted shorter time to onset of new MD, MiD, and HD episodes. Peer- and authority-perpetrated emotional maltreatment separately predicted shorter time to development of new HD episodes.* **Conclusions***: Greater emotional maltreatment in young adults prospectively predicts onset of depression, particularly HD. These findings highlight the importance of adult emotional maltreatment experiences in determining targets for prevention and treatment. Depression and Anxiety 26:174–181, 2009.*

Key words: *depression; emotional maltreatment; cognitive vulnerability; psychopathology*

INTRODUCTION

Although many studies have examined the relationship between maltreatment experiences and depression, the majority of this research has focused on physical and sexual maltreatment,[1,2] partly stemming from a belief that these represent the most damaging forms of maltreatment.[3] There are nevertheless some studies that have suggested a link between childhood emotional maltreatment and depression (e.g.,[4–7]). Moreover, several researchers have theorized that, in comparison to other types of maltreatment, childhood emotional maltreatment may be more strongly related to the development of depression. In particular, Rose and Abramson[8] predicted that early emotional maltreatment would be more likely than physical or sexual maltreatment to contribute to the development of depressogenic cognitive styles because, with emotional

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maltreatment, the negative cognitions are directly supplied to the child by the abuser (e.g., "You're so stupid; you'll never amount to anything"). With physical and sexual maltreatment, however, the child must form his or her own attributions, and consequently has greater potential to arrive at more benign attributions. Thus, those with a history of emotional maltreatment may be especially vulnerable to a cognitively mediated subtype of depression, hopelessness depression (HD).

Some studies have found support for this position (for reviews, see Alloy et al.[1] and Gibb[9]). In one study, Gibb and colleagues[2] found that individuals who reported more childhood emotional, but not physical or sexual, maltreatment were more likely to exhibit negative cognitive styles and experience episodes of nonendogenous major depression (NE-MD) and HD. Negative cognitive styles fully mediated the relationship between emotional maltreatment and NE-MD, and partially mediated the relationship between emotional maltreatment and HD. In addition to being specifically related to both negative inferential styles[10] and dysfunctional attitudes[11] in two follow-up studies, childhood emotional maltreatment was associated with a ruminative response style, which, in turn, partially mediated the relationship between early emotional maltreatment and prospective onsets of major depression (MD).[12] Early emotional, but not physical or sexual, maltreatment experiences also predicted average levels of suicidal ideation and attempts during a 2.5-year follow-up period,[13] with this relationship also partially mediated by cognitive styles. Collectively, these studies support the view that a history of emotional maltreatment is associated with increased cognitive risk for, and the eventual development of, depressive episodes.

Most prior studies investigated the association between retrospective reports of childhood emotional maltreatment and depression using retrospective or cross-sectional designs.[1] To date, we are aware of no fully prospective studies assessing whether emotional maltreatment experiences temporally precede and predict depression in adults. In the only fully prospective study involving children,[14,15] the influence of emotional maltreatment on attributional style and depressive symptoms was evaluated in fourth- and fifth-grade children over a 6-month follow-up period. Emotional maltreatment occurring within the follow-up period predicted both negative changes in attributional style and an increase in depressive symptomatology. Another recent study[16] prospectively assessed the risk for depression in early adulthood among individuals with a history of childhood physical and sexual abuse and parental neglect relative to a matched control group. Compared to controls, individuals with childhood abuse or neglect were at an increased risk for MD, and experienced their first onset at a younger age. Therefore, the primary goal of this study was to expand on prior research by examining whether current emotional maltreatment experiences in young adults are prospectively predictive of the development of new episodes of MD and minor depression (MiD), or HD.

PEER AND AUTHORITY EMOTIONAL MALTREATMENT

Although several studies have examined the role of peer victimization or relational aggression in depression (e.g.,[17–19]), relatively little research has specifically examined the separate influence of various sources of emotional maltreatment. Most studies focused solely on parental maltreatment or peer victimization or grouped together all perpetrators of emotional maltreatment (e.g., parents, nonfamily adults, and peers). One exception is a study by Gibb et al.[20] that examined the relationship between emotional maltreatment from childhood peers and cognitive vulnerability to depression (CVD). Gibb and colleagues[20] found that peer emotional maltreatment was significantly associated with CVD, even after controlling for emotional maltreatment from parents. Given these findings, a secondary goal of this study was to assess whether current emotional maltreatment experiences from different sources predict the development of prospective episodes of depression.

THIS STUDY

This study expanded on previous research in two ways. First, it examined the prospective influence of current emotional maltreatment experiences on the emergence of new episodes of depression in young adults. Second, it assessed prospective associations between current emotional maltreatment originating from peers and authority figures separately and the development of new depressive episodes. We hypothesized that greater overall current emotional maltreatment would predict prospectively a shorter time to onset of new episodes of MD and MiD, or HD. Our secondary hypothesis was that greater current emotional maltreatment from peers and authority figures separately would also predict shorter time to new prospective episodes of MD and MiD, or HD.

METHODS

PARTICIPANTS

Participants were a subset of those selected for inclusion in the Temple–Wisconsin CVD Project.[21] Participants were college freshmen who scored in the lowest (most positive) or highest (most negative) quartile on *both* the Cognitive Style Questionnaire (CSQ[22]) and a modified version of the Dysfunctional Attitudes Scale (DAS[23]), and who had no current Research Diagnostic Criteria (RDC[24]) or *Diagnostic and Statistical Manual—Third Edition—Revised* (DSM-III-R[25]) Axis I disorders at the outset of the study (for

more details, see Alloy et al.[22]). Those who scored in the lowest and highest quartiles on both the DAS and the CSQ were classified as being at low (LR) and high (HR) cognitive risk for depression, respectively.

Only participants from the Temple University site were included in this study ($N = 165$, LR = 86, HR = 79). As we aimed to determine whether emotional maltreatment is predictive of time to onset of new depressive episodes, Cox proportional hazard regression (survival) analyses were used. Survival analysis differs from other analytic techniques in its ability to minimize biases due to attrition.[26,27] Consequently, attritors were included in the final sample. Table 1 gives the demographic and cognitive style features for these participants.

MEASURES

Cognitive risk. The CSQ[22] and DAS[23] were used to assess participants' CVD as specified by the hopelessness theory[28] and Beck's theory[29,30] of depression, respectively. The CSQ, a modified version of the Attributional Style Questionnaire,[31] is a self-report measure used to assess individuals' tendency to make internal, stable, and global attributions, and to infer negative consequences and characteristics about themselves following hypothetical negative life events. The CSQ composite for negative events demonstrated good internal consistency ($\alpha = .88$[22]) and test–retest reliability over 1 year ($r = .80$[22]). The CSQ also has good retrospective[22] and prospective[32] predictive validity for depressive episodes.

The DAS[23] is a self-report inventory that assesses maladaptive attitudes, including perfectionistic performance standards, sensitivity to social criticisms, causal attributions, expectations of control, and rigid ideas about the world. This measure has demonstrated good internal reliability and moderate concurrent validity in a student population.[33] For the CVD Project, the DAS was expanded to include items that measured dysfunctional beliefs within achievement and interpersonal domains. The expanded DAS exhibited good internal consistency ($\alpha = .90$[22]), test–retest reliability over 1 year ($r = .78$[22]), and predictive validity for depressive episodes.[32]

Depressive symptoms. The Beck Depression Inventory (BDI[34]) is a self-report questionnaire used to assess participants' initial levels of depressive symptoms at the start of the study. The BDI has been shown to have high internal consistency, test–retest reliability, and validity with both psychiatric and community samples.[35]

TABLE 1. Demographic and cognitive style characteristics of the sample

Temple site	High risk ($N = 79$)	Low risk ($N = 86$)
Age (years)	18.87 (1.69)	19.83 (2.79)
Gender	63.3% Women	67.4% Women
Ethnic group	69.2% Caucasian	57.1% Caucasian
CSQ-NEG mean item score	4.74 (0.81)	2.99 (0.75)
DAS mean item score	3.87 (0.84)	2.27 (0.46)

CSQ-NEG, Cognitive Style Questionnaire—Negative Event Composite; DAS, Dysfunctional Attitudes Scale.

Depressive episodes. Episodes of RDC and DSM-IV MD, MiD, and HD were assessed and dated across the 2.5-year prospective follow-up using the Schedule for Affective Disorders and Schizophrenia—Change Interview (SADS-C[36]) expanded to allow for RDC and DSM-IV diagnoses. In this study, MD and MiD were collectively coded as dichotomous variables, indicating whether or not each participant experienced at least one of these disorders during the follow-up period. HD was similarly coded as a dichotomous variable, using predetermined project criteria (see the Appendix). Interviews were conducted approximately every 6 weeks by trained research assistants who were blind to participants' responses on the Life Events Scale (LES), Stress Interview (SI), and cognitive risk status. Diagnostic inter-rater reliability throughout the follow-up period was $\kappa \geq .90$[32] and the inter-rater reliability for the dating of depressive episodes was $r = .97$.[32] Additional details are available in Alloy and Abramson[21] and Alloy et al.[32]

Family depression history. To assess family history of depression, participants were interviewed using the Schedule for Affective Disorders and Schizophrenia—Lifetime Interview.[36]

Emotional maltreatment. The LES[21,37,38] and SI[21] are a combination of questionnaire and a semi-structured interview designed for the CVD Project to assess the occurrence of stressful life events over 6-week periods during the follow-up. The LES includes 134 major and minor episodic or chronic life events that span a wide range of content domains relevant to college students (e.g., school, family, romantic relationships, and finances). At each 6-week follow-up, participants reported whether or not they had experienced each event in the time since the previous assessment.

Following completion of the LES, participants were interviewed with the SI by a trained research assistant blind to their cognitive risk status and diagnoses on the SADS-C. The SI served as a reliability and validity check on the LES, allowing life events to be more objectively identified to reduce potential subjective report biases. Using explicit definitional criteria for what experiences qualified for each event, and a priori probes, the interviewer determined whether reported experiences satisfied the relevant event definitional criteria, and dated the occurrence of each qualifying event. Interviewers also probed for additional life events not reported on the LES. The LES and SI exhibited good reliability and validity, including reliability for the dating of events.[21,37,39,40]

For this study, only LES events were used that described experiences consistent with Hart et al.'s[41] definition of emotional maltreatment, specifically, experiences of being degraded, humiliated, terrorized, rejected, isolated, or denied emotional responsiveness.

Four events were identified that related to emotional maltreatment specifically from peers, and two events related to emotional maltreatment specifically from parents or other authority figures. In the cases of two additional events describing nonsource-specific emotional maltreatment, the Stress Interview Rating Form (SIRF), used to record each qualifying reported event during the SI, was checked for possible information identifying the source of maltreatment. The SIRFs for write-in events were similarly checked for emotional maltreatment experiences and, where possible, the source of the maltreatment was identified. This produced a total of seven possible peer-related items, five possible authority-related items, and nine items for overall emotional maltreatment. Overall, peer, and authority emotional maltreatment scores were calculated individually by totalling the number of days each relevant event was experienced, with higher summary scores indicating more emotional maltreatment.[1] In analyses involving source-specific emotional maltreatment, to correct for the greater number of possible peer-related items relative to authority-related items, the scores on both peer and authority emotional maltreatment variables were averaged by the number of possible relevant event items (i.e., seven and five, respectively). As we were interested in whether emotional maltreatment experiences are predictive of time to onset of a depressive episode, only events that occurred prior to the earliest MD or MiD episode in the prospective 2.5-year follow-up phase of the CVD Project were used in the analyses. For participants who never experienced a depressive episode during the follow-up period, all emotional maltreatment events were included.

PROCEDURES

Participants hypothesized to be at high versus low cognitive risk for depression, based on their CSQ and DAS scores, with no current Axis I disorders, were chosen for inclusion in the study. Eligible participants who agreed to participate and provided informed consent were enrolled in the follow-up phase. For 2.5 years, participants completed structured interview and questionnaire assessments (including the expanded SADS-C, LES, and SI) at approximately 6-week intervals. Participants were paid for their time.

DATA ANALYSES

Cox proportional hazard regression (survival) analyses were conducted to assess the relationship between levels of overall, peer, and authority emotional maltreatment experienced and time (in days) to participants' prospective development of MD and MiD, or HD episodes. This analytic technique allows for variation in the length of follow-up in longitudinal studies, thus minimizing biases due to attrition.[26, 27] Survival analysis utilizes all available data at each time point and is able to account for missing data. Overall, peer, and authority emotional maltreatment were entered as predictor variables, and time to development of a depressive episode was the outcome measure. Finally, to ensure that any prospective relationships between emotional maltreatment experiences and the occurrence of new depressive episodes were not attributable to current depressive symptomatology, cognitive vulnerability, or family history of depression, baseline BDI scores, cognitive risk status, and family depression history were included as covariates in these analyses.

RESULTS

Overall emotional maltreatment significantly predicted the time to first prospective depressive episode (see Table 2). In particular, greater experiences of emotional maltreatment predicted a shorter time to development of MD and MiD collectively, and HD, after controlling for BDI scores, cognitive risk status, and family depression history ($P<.05$).[2] Figures 1 and 2 depict the survival curves for MD and MiD, and HD, depressive episode occurrence, respectively, as a function of high versus low levels of emotional maltreatment experienced. For participants who developed MD or MiD, the first depressive episode was MD for 31% and MiD for 69% of cases.

Given these main effects for overall emotional maltreatment in predicting time to onset of a depressive episode, we entered either the BDI × overall emotional maltreatment or cognitive risk × emotional maltreatment interaction into the analyses to determine the presence of moderation effects. The BDI × overall emotional maltreatment interaction did not predict the time to the occurrence of an MD and MiD ($P=.80$) or HD ($P=.16$) episode. Similarly, the cognitive risk × overall emotional maltreatment interaction did not predict the time to onset of an MD or MiD ($P=.07$), or HD ($P=.17$) episode.

We also conducted an analysis of variance to test for associations between cognitive risk and overall, peer-, and authority-perpetrated emotional maltreatment experienced prior to the development of MD, MiD, or HD. Only authority-perpetrated emotional maltreatment was found to be significantly associated with higher cognitive risk, $F(1, 164) = 4.689$, $P<.05$, $r=.17$. Next, we tested the possibility that overall emotional maltreatment mediated the relationships between cognitive risk and time to onset of MD and MiD or

[1]In cases where the perpetrator of an endorsed event could not be identified in either the item description or the relevant SIRF, the event was included in the calculation of overall, but not peer or authority, emotional maltreatment scores.

[2]This analysis was also conducted with two outliers removed. As the main effect for emotional maltreatment remained significant ($P<.05$), these outliers were kept in the analyses.

TABLE 2. Summary of Cox regression models predicting time to development of depressive episode

Predictor	β	SE	Wald	OR	95% CI
Major and minor depression					
Overall emotional maltreatment	0.006	0.003	5.386*	1.006	1.001–1.012
Overall emotional maltreatment × BDI	0.000	0.001	0.065	1.000	0.998–1.002
Overall emotional maltreatment × cognitive risk	−0.010	0.006	3.230†	0.990	0.979–1.001
Emotional maltreatment from peers	0.023	0.037	0.378	1.023	0.952–1.100
Emotional maltreatment from authorities	0.032	0.041	0.612	1.032	0.953–1.118
Hopelessness depression					
Overall emotional maltreatment	0.008	0.004	4.683*	1.008	1.001–1.015
Overall emotional maltreatment × BDI	−0.002	0.001	1.978	0.998	0.996–1.001
Overall emotional maltreatment × cognitive risk	−0.011	0.008	1.900	0.989	0.974–1.005
Emotional maltreatment from peers	0.081	0.033	5.925*	1.084	1.016–1.157
Emotional maltreatment from peers × BDI	−0.011	0.009	1.514	0.989	0.973–1.006
Emotional maltreatment from peers × cognitive risk	−0.038	0.065	0.335	0.963	0.847–1.095
Emotional maltreatment from authorities	0.103	0.042	5.927*	1.109	1.020–1.204
Emotional maltreatment from authorities × BDI	0.003	0.005	0.453	1.003	0.994–1.012
Emotional maltreatment from authorities × cognitive risk	0.026	0.046	0.329	1.027	0.938–1.124

LR, low cognitive risk; HR, high cognitive risk; OR, odds ratio; CI, confidence interval; BDI, Beck Depression Inventory. †$P<.10$, *$P<.05$.

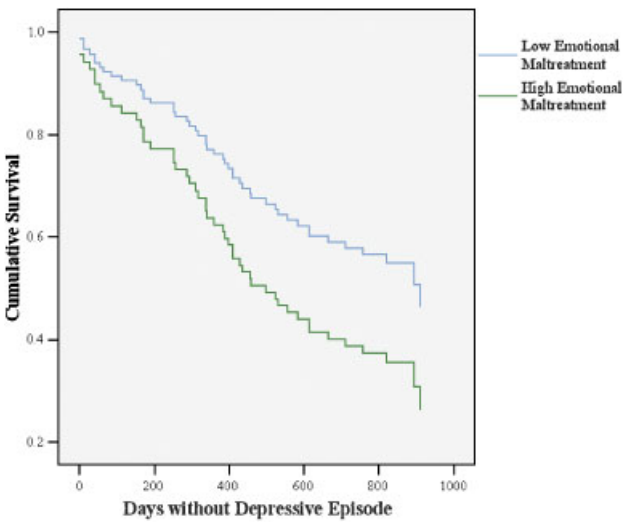

Figure 1. Time to development of major or minor depressive episode as a function of overall emotional maltreatment.

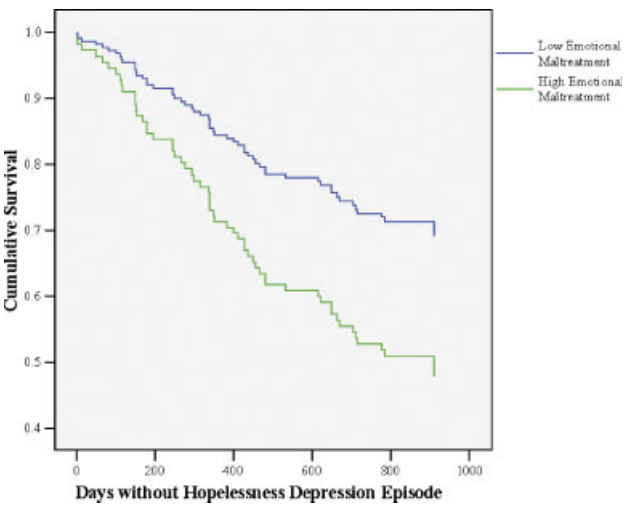

Figure 2. Time to development of hopelessness depression episode as a function of overall emotional maltreatment.

HD. In both cases, no mediational effects were observed.

Finally, emotional maltreatment perpetrated by peers and authority figures separately predicted shorter time to onset of an HD episode, after controlling for baseline BDI scores, cognitive risk status, and family depression history. That is, greater emotional maltreatment perpetrated by peers ($P<.05$; see Fig. 3) and authority figures ($P<0.05$; see Fig. 4) each was associated with shorter time to onset of new HD episodes. Neither emotional maltreatment from peers nor authority figures, however, was found to be predictive of time to an MD or MiD episode ($Ps = .54$ and .43, respectively).

DISCUSSION

This study provides the first evidence that current emotional maltreatment in young adults predicts onset of clinically significant depressive episodes in a fully prospective design. Consistent with the initial hypothesis, higher levels of current overall emotional maltreatment were found to be associated prospectively with a shorter time to development of new MD and MiD, or HD episodes. This result adds to an emerging body of literature suggesting a significant relationship between emotional maltreatment and depression (e.g.,[2,6,7]). Furthermore, it extends the findings of prior cross-sectional studies, and previous prospective research demonstrating a link between emotional maltreatment and depressive symptomatology in

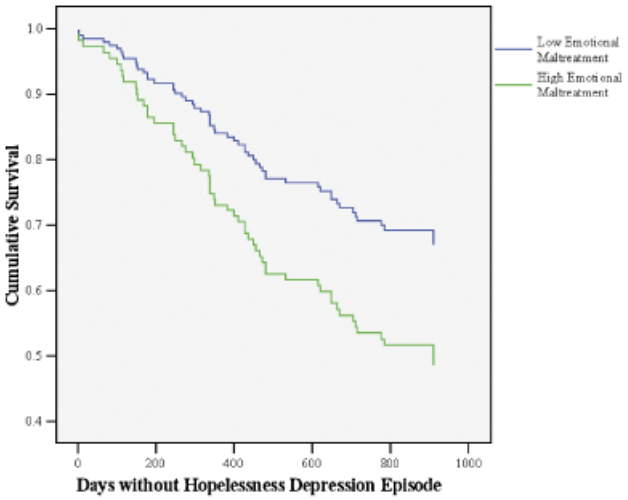

Figure 3. Time to development of hopelessness depression episode as a function of emotional maltreatment from peers.

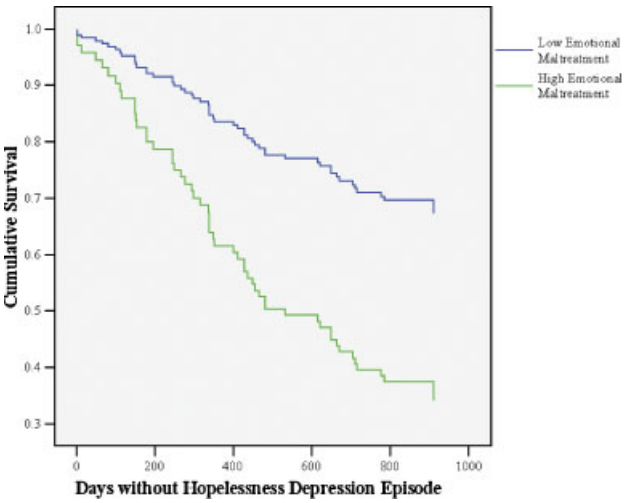

Figure 4. Time to development of hopelessness depression episode as a function of emotional maltreatment from authority figures.

children,[14,15] by showing that levels of emotional maltreatment currently experienced prospectively predicted a shorter time to the development of new depressive episodes in adults.

Partial support was also found for the second hypothesis that current peer- and authority-perpetrated emotional maltreatment would separately predict time to the development of new depressive episodes, with greater emotional maltreatment experiences from both sources separately predicting shorter time to new HD episodes. In contrast to this finding, neither peer- nor authority-perpetrated emotional maltreatment, when analyzed separately, predicted the time to onset of MD and MiD episodes. Considered together with the main effects observed for overall emotional maltreatment, these findings suggest that emotional maltreatment may be especially predictive of a cognitively mediated subtype of HD, which is consistent with Rose and Abramson's[8] extension of the hopelessness theory of depression. The absence of separate relationships between peer- and authority-perpetrated emotional maltreatment and time to onset of MD and MiD episodes also contrasts, however, with Gibb and colleagues'[20] finding that emotional maltreatment by peers significantly predicted depressogenic cognitive styles after controlling for parental influences. One possible explanation for this apparent inconsistency may be the difference between studies in which perpetrators were included in the analyses. Specifically, Gibb and colleagues[20] focused on emotional maltreatment committed exclusively by parents or nonrelated peers, whereas these two categories were broadened in this study to include other authority figures (e.g., professors and TAs) and biologically related peers (e.g., siblings), respectively. Another possibility is that for approximately 28% of all reported emotional maltreatment experiences, insufficient information was available to categorize the perpetrator. Thus, although these experiences were included in analyses of overall emotional maltreatment, they could not be incorporated in analyses of source-specific emotional maltreatment.

Whereas past studies found that a history of childhood emotional maltreatment was associated with cognitive risk,[2,10,11] we found cognitive risk to be related to prospective authority-, but not peer-perpetrated or overall, emotional maltreatment prior to the development of MD, MiD, or HD. This may be reflective of greater continuity in adult-perpetrated maltreatment, especially that originating from parents. In contrast, individuals who were maltreated by peers in high school may be afforded new opportunities with different peer groups in college.

Despite the contributions offered by this study, it is also qualified by several limitations. First, participants were selected based on scoring in the top or bottom quartiles for CVD. Additionally, the study sample consisted entirely of relatively high functioning undergraduates, which, though ethnically and socioeconomically diverse, may potentially limit the generalizability of the present findings to other populations. Consequently, future studies should aim to replicate these findings with other samples (e.g., clinical or community samples and broader range in terms of cognitive vulnerability). Additionally, the LES did not include enough physical and sexual maltreatment items for a reliable prospective measure of these constructs. Future research should include an examination of these forms of maltreatment so as to determine the nonoverlapping and combined effects of different types of maltreatment.

In summary, this study extends previous findings in several important ways. Whereas few studies have investigated the relationship between depression and emotional maltreatment, relative to physical or sexual

maltreatment, none have examined the role of adult emotional maltreatment experiences, particularly within a longitudinal framework. We believe that this is the first study to find that current emotional maltreatment experiences in young adults predict the development of new episodes of depression, with the prospective nature of the design allowing for the determination of a temporal relationship (i.e., greater adult emotional maltreatment experiences are followed by a shorter time to onset of a depressive episode). Furthermore, it provides evidence that emotional maltreatment perpetrated by peers and authorities is separately associated with time to the onset of new episodes of the subtype of HD. These findings demonstrate that in addition to its deleterious effects in childhood and adolescence, even these subtle forms of maltreatment experienced in adulthood can have a significant impact on emotional well-being. Thus, the current findings underscore the importance of adult emotional maltreatment experiences, and their appraisal, as a target for therapeutic intervention. They also lend weight to the importance of kindness and respect in our everyday relationships with peers and authorities.

APPENDIX

Diagnostic criteria for HD: (a) hopelessness ≥ 2 weeks (definite) or ≥ 1 week (probable) for 6 out of 7 days per week; (b) ≥ 5 (definite) or ≥ 4 (probable) criterion symptoms present; and (c) onset of hopelessness precedes onset of criterion 2 symptoms by ≥ 1 day and ≤ 1 week. The criterion symptoms of HD are sadness, retarded initiation of voluntary responses, suicidality, sleep disturbance (initial insomnia), low energy, self-blame, difficulty concentrating, psychomotor retardation, brooding/worrying, lowered self-esteem, and dependency.

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