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Emotional Abuse, Verbal Victimization, and the Development of Children's Negative Inferential Styles and Depressive Symptoms

Brandon E. Gibb · John R. Z. Abela

Abstract   Given evidence that negative inferential styles contribute vulnerability to both symptoms and diagnoses of depression, it becomes important to examine factors that may contribute to the development of this cognitive vulnerability. The primary goal of the current studies was to test the hypotheses that experiences of emotional abuse from parents and verbal victimization from peers would contribute to negative changes in children's inferential styles as well as increases in their depressive symptoms. We found support for these hypotheses among children of parents with a history of depression (Study 1) and among an unselected community sample of children (Study 2). These results add to the growing body of research suggesting the role of emotional abuse and verbal victimization in the development of depressive cognitions and symptoms.

Keywords   Emotional abuse · Maltreatment · Attributions · Depression

Introduction

According to the hopelessness theory of depression (Abramson, Metalsky, & Alloy, 1989), individuals who tend to attribute negative events to stable, global causes and who tend to infer negative consequences and negative self-characteristics following these

B. E. Gibb (✉)
Department of Psychology, Binghamton University (SUNY), Binghamton, NY 13902-6000, USA
e-mail: bgibb@binghamton.edu

J. R. Z. Abela
McGill University, Montreal, QC, Canada

events should be at increased risk for developing depression.[1] A number of studies have supported the predictive validity of these negative inferential styles in the development of both symptoms and diagnoses of depression (for reviews, see Gibb & Coles, 2005; Hankin & Abela, 2005). Developmentally extending the hopelessness theory's etiological chain, Rose and Abramson (1992) proposed a model in which negative events in childhood, particularly childhood emotional abuse, are hypothesized to contribute to the development of a negative inferential style. Rose and Abramson focused on childhood emotional abuse because, with emotional abuse, the negative cognitions are directly supplied to the child by the abuser, whereas with other forms of negative events, the child must supply his or her own explanation and may have greater opportunity to make more benign attributions and inferences.

Supporting Rose and Abramson's hypothesis, a number of studies have found significant relations between adults' inferential styles and their reports of childhood emotional abuse (e.g., Gibb, Alloy, Abramson, & Marx, 2003; Gibb et al., 2001; Hankin, 2005). There is also evidence that depressive cognitions, symptoms, and diagnoses are more strongly related to a history of childhood emotional abuse than to other forms of negative life events (Gibb et al., 2001; Gibb et al., 2003; Gibb, Butler, & Beck, 2003; Gibb, Chelminski, & Zimmerman, in press; Hankin, 2005; Stone, 1993). A limitation of these studies is that the majority has focused on adults' retrospective reports of childhood experiences. Therefore, it is unclear whether emotional abuse actually predicts changes in children's inferential styles or depressive symptoms. Recently, however, one study found that children's reports of verbal victimization did predict changes in children's inferences for the causes of events as well as changes in their depressive symptoms over a 6-month follow-up (Gibb & Alloy, 2006).

The primary goal of the current studies was to replicate and extend these earlier findings. One limitation of our earlier prospective study with youth (Gibb & Alloy, 2006) is that we only examined a depressogenic inferential style about causes. Given that the hopelessness theory hypothesizes that depressogenic inferential styles about the self and consequences also confer vulnerability to depression, it is essential that research examine whether emotional abuse or verbal victimization is associated with prospective changes in these inferential styles as well. Thus in both Studies 1 and 2, we assessed all three inferential styles featured in the hopelessness theory. Given evidence for relatively modest correlations among the three inferential dimensions (causes, consequences, and self-characteristics) in children (e.g., Abela, 2001; Abela & Payne, 2003; Abela & Sarin, 2002), we examined changes in each inferential dimension individually, as well as each child's "weakest link" or most negative inferential dimension (cf. Abela & Sarin, 2002).

A second limitation of our earlier prospective research is that the measure of verbal victimization used included victimization from all sources (e.g., parents and peers). Therefore, it is unclear whether the results were due emotional abuse from parents, verbal victimization from peers, or both. Results from a recent study suggest that young adults' cognitive styles may be related to victimization from both sources (Gibb,

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[1] In contrast to the reformulated theory of learned helplessness (Abramson, Seligman, & Teasdale, 1978), which defined cognitive vulnerability as the tendency to attribute negative events to internal, stable, and global causes, the hopelessness theory focuses on the stability and globality dimensions and de-emphasizes the internality dimension of causal attributions. Although the hopelessness theory does hypothesize that the tendency to infer negative self-characteristics following the occurrence of negative events will also increase risk for depression, this is distinct from making internal attributions for the causes of events. Specifically, inferences regarding self-characteristics focus specifically on the consequences of the event, not its causes.

Abramson, & Alloy, 2004). Therefore, in Study 2, we included a measure that assessed emotional abuse from parents and verbal victimization from peers separately and hypothesized that children experiencing victimization from either source would develop more negative inferential styles and more depressive symptoms over the follow-up period.

Study 1

In our first study, we predicted that levels of emotional abuse reported as occurring during a 12-month follow up would be associated with negative changes in children's inferential styles about causes, consequences, and self-characteristics as well as increases in their depressive symptoms over the follow-up.

Method

Participants

Participants in this study were a subset of those participating in a larger study of children of depressed parents. Participants were recruited through advertisements placed in local newspapers as well as through posters placed throughout the greater Montreal area (additional details are provided in Abela, Hankin, et al., 2005; Abela, Skitch, Auerbach, & Adams, 2005). Two hundred and fifty people responded to these ads. Respondents were invited to participate in a telephone interview during which a diagnostician administered the affective disorders module of the Structured Clinical Interview for the DSM-IV (First, Gibbon, Spitzer, & Williams, 2001). One hundred and thirty-three parents met criteria for either a current or past major depressive episode and were invited to participate in the study. Eighty-six parents, with 140 children in the appropriate age range, decided to participate. Of these, 105 children also completed the Time 2 assessment. A series of tests was conducted to determine if attriting children differed from nonattritors on any of the variables included in this study. Specifically, we compared children participating at both assessment points versus those attriting after Time 1 in terms of age, gender, or Time 1 inferential style or depressive symptoms. None of these analyses was significant (lowest $p = .12$). At the initial assessment, the average age of the children was 9.82 years (SD = 2.37, range = 6–14) and seventy-two (51.4%) of the children were girls. The sample was 84.3% Caucasian. The median family income ranged from $30,000 to $45,000. The highest level of education completed by the parents was an elementary school diploma for 7.8%, a high school diploma for 14.7%, a community college diploma for 39.3%, a bachelors degree for 22.5%, and a graduate degree for 15.7%.

Measures

Inferential styles. Children's inferential styles were assessed using the Children's Attributional Style Questionnaire (CASQ; Seligman et al., 1984) and the Children's Cognitive Style Questionnaire (CCSQ; Abela, 2001). The CASQ is a 48-item forced choice questionnaire and, for each item, a hypothetical event is presented and the child

must pick one of two attributional explanations for the event. In each pair of attributional explanations, one of the attributional dimensions varies (internality, stability, or globality), while the other two are held constant. A number of studies have supported the reliability and validity of the CASQ (e.g., Abela, 2001; Abela & Payne, 2003; Nolen-Hoeksema, Girgus, & Seligman, 1986, 1992; Seligman et al., 1984). For the current study, only the 24 negative items were used. Consistent with the hopelessness theory (Abramson et al., 1989), we formed a Generality composite by summing the global and stable responses, with higher scores indicating a more negative inferential style for causes. The internal consistency (α) for this composite was .52 at Time 1 and .54 at Time 2.

The CCSQ is a two-part questionnaire. Each part contains 12 items, each of which presents a hypothetical negative event involving the child. As with the CASQ, participants are instructed to imagine that the event happened to them and then to choose the response that would best describe the way they would think. Part 1 assesses participants' tendency to infer negative consequences following negative events (CCSQ-Cons) and Part 2 assesses participants' tendency to infer negative self-characteristics following the occurrence of negative events (CCSQ-Self). Studies have supported the reliability and validity of the CCSQ (e.g., Abela, 2001; Abela & Payne, 2003). In the current study, we obtained an alpha of .78 at Time 1 and .71 at Time 2 for the CCSQ-Cons subscale and alphas of .78 at Time 1 and .72 at Time 2 for the CCSQ-Self subscale.

In addition to examining each of the inferential styles separately, we also focused on children's "weakest link", or most negative inferential dimension (Weakest). To determine each child's weakest link in this study, scores on the CASQ, CCSQ-Cons, and CCSQ-Self were standardized and the highest score of the three inferential dimensions was coded as each child's weakest link.

Depressive symptoms. The Children's Depression Inventory (CDI; Kovacs, 1981), a 27-item self-report inventory, was used to assess children's levels of depressive symptoms. Each item on the CDI inquires about the presence of a depressive symptom in the previous two weeks. The CDI was designed to assess symptoms of depression in children between the ages of 8 and 17 and numerous studies have supported its reliability and validity (e.g., Kovacs, 1981, 1985; Smucker, Craighead, Craighead, & Green, 1986). Total scores can range from 0 to 54, with higher scores indicating more severe levels of depressive symptoms. In the current study, we obtained alphas of .81 at Time 1 and .83 at Time 2.

Emotional abuse. Children's levels of emotional abuse were assessed using the emotional abuse subscale of the Childhood Trauma Questionnaire (CTQ-EA; Bernstein et al., 1994; Bernstein et al., 2003). The CTQ-EA was administered at Time 2 and children were asked to report on experiences occurring since the initial assessment. Each item on the CTQ is rated on a 5-point Likert-type scale, with response options ranging from "Never true" to "Very often true". Subscale scores are calculated by summing responses within each abuse type, with higher scores indicating higher levels of childhood abuse. The CTQ has demonstrated excellent psychometric properties in both clinical and nonclinical samples, including high levels of criterion-related validity with therapists' ratings of abuse (e.g., Bernstein, Ahluvalia, Pogge, & Handelsman, 1997; Bernstein et al., 1994; Bernstein et al., 2003; Scher, Stein, Asmundson, McCreary, & Forde, 2001). In the current study, we obtained an alpha of .64.

Procedure

Phase 1 of the study involved an initial laboratory assessment. Two research assistants met with one parent-child pair at a time. Children were told that their participation was voluntary and they could choose not to participate. All children decided to participate. During the initial assessment, a research assistant verbally administered the CASQ, CCSQ, and CDI to the child. Phase 2 of the study occurred one year after Phase 1 and involved a final laboratory assessment during which a research assistant again verbally administered the Time 1 questionnaires as well as the CTQ-EA to the children. At the end of the assessment, participants were fully debriefed. Parents and children were compensated $180 for time lost and expenses incurred while participating in the current study.

Results

Preliminary analyses revealed that Time 1 CCSQ-Cons, Time 1 and 2 Weakest and CDI, and Time 2 CTQ-EA exhibited significant skew. These variables were transformed (e.g., square root) prior to further analysis to satisfy assumptions of normality. Next, we examined whether data were missing at random, thereby justifying the use of data imputation methods for estimating missing values (cf. Schafer & Graham, 2002). The amount of missing data (%) for each variable was: Time 2 CASQ, CCSQ-Cons, CCSQ-Self, and Weakest (25.0%), Time 1 CDI (0.7%), Time 2 CDI (25.7%), and Time 2 CTQ-EA (32.9%). Complete data were available for all other variables. As a first step in examining the pattern of missing data, a series of t tests was conducted to determine if attriting children differed from nonattritors on the Time 1 variables. As described above, none of these analyses was significant. In addition, Little's missing completely at random (MCAR) test, for which the null hypothesis is that the data are MCAR (Little & Rubin, 1987) was nonsignificant, $\chi^2(34) = 31.63$, $p = .59$, providing further support for the imputation of missing values. Given these results, maximum likelihood estimates of missing data were created and used in all subsequent analyses (see Schafer & Graham, 2002).[2]

   Correlations among each of the variables, as well as their means and standard deviations, are presented in Table 1. Analyses were then conducted to determine whether any of the study variables were significantly related to children's gender or age. The only significant sex differences to emerge were that girls exhibited more negative inferences about self-characteristics than boys at Time 1, $t(138) = 2.38$, $p = .02$, $r_{effect\ size} = .18$, and Time 2, $t(138) = 2.16$, $p = .03$, $r_{effect\ size} = .18$. The only significant effect for children's age was a positive correlation between children's age and their Time 2 CDI scores, $r = .18$, $p = .04$. Given this, children's gender was included as a covariate for analyses in which Time 2 CCSQ-Self scores served as the criterion variable and age was included as a covariate for in all analyses for which Time 2 CDI scores served as the criterion variable.

   Next, hierarchical regression analyses were used to examine whether levels of emotional abuse reported as having occurred during the follow-up were associated with changes in children's inferential styles and depressive symptoms over the follow up. In these analyses, each of the Time 2 inferential style and depressive symptom

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[2] We should note that the pattern of results reported below was identical to that obtained when the analyses were limited to participants with complete data.

Table 1 Correlations and descriptive statistics for study 1 Variables

Variables	1	2	3	4	5	6	7	8	9	10	Means	SD
1. T1 CASQ	–										4.32	2.38
2. T2 CASQ	.33	–									4.64	2.72
3. T1 CCSQ-Cons	.40	.33	–								12.56	5.80
4. T2 CCSQ-Cons	.13	.22	.34	–							10.61	5.04
5. T1 CCSQ-Self	.28	.19	.57	.28	–						9.99	4.50
6. T2 CCSQ-Self	–.13	.12	.18	.44	.45	–					9.04	4.16
7. T1 Weakest	.73	.32	.65	.28	.67	.19	–				0.64	0.92
8. T2 Weakest	.19	.60	.48	.68	.45	.56	.46	–			0.74	0.89
9. T1 CDI	.43	.03	.35	.11	.33	.02	.46	.12	–		10.08	6.74
10. T2 CDI	.03	.00	.02	.19	.07	.25	.03	.16	.37	–	6.49	5.62
11. T2 CTQ-EA	.08	.13	.27	.29	.27	.33	.23	.33	.30	.53	8.89	3.24

Note: CASQ = Children's Attributional Style Questionnaire; CCSQ-Cons = Children's Cognitive Style Questionnaire-Consequences subscale; CCSQ-Self = Children's Cognitive Style Questionnaire-Self-Characteristics subscale; Weakest = Weakest Link; CDI = Children's Depression Inventory; CTQ-EA = Childhood Trauma Questionnaire-Emotional Abuse subscale; Means and standard deviations presented are values obtained prior to transformation; Correlations ≥ .18 significant at $p < .05$; Correlations ≥ .22 significant at $p < .01$; Correlations ≥ .28 significant at $p < .001$

variables served, in turn, as the criterion variable, and their Time 1 counterpart was entered in the first step of a hierarchical regression. Time 2 CTQ-EA scores were then entered in the second step of each regression. As noted above, children's gender was included as a covariate when we examined changes in CCSQ-Self scores and age was included as a covariate when we examined changes in CDI scores. Consistent with our hypotheses, we found that Time 2 CTQ-EA scores were significantly associated with residual change in CCSQ-Cons, $t(137) = 3.41$, $p = .001$, $\beta = .28$, CCSQ-Self, $t(137) = 2.88$, $p = .005$, $\beta = .22$, Weakest, $t(137) = 3.20$, $p = .002$, $\beta = .24$, and CDI, $t(137) = 6.19$, $p < .001$, $\beta = .46$, scores. In contrast, Time 2 CTQ-EA scores were not significantly associated with residual change in CASQ scores, $t(137) = 1.34$, $p = .18$, $\beta = .11$.

Finally, analyses were conducted to determine whether children's gender and/or age moderated any of the relations between reports of emotional abuse and changes in inferential styles or depressive symptoms. However, none of these analyses was significant.

Discussion

In Study 1, we tested the hypotheses that levels of emotional abuse reported as having occurred during a one-year follow-up would be associated with changes in children's negative inferential styles and depressive symptoms. We found support for both hypotheses. Specifically, reports of emotional abuse were significantly related to changes in children's inferential styles regarding consequences and self-characteristics, as well as their ''weakest link'' and depressive symptoms. In contrast, reports of emotional abuse were not significantly related to changes in children's inferential styles regarding the causes of negative events. This result was surprising given Gibb and Alloy's (2006) findings that reports of verbal victimization were associated with

changes in children's inferential styles for causes over a 6-month follow-up. The reason for the nonsignificant effect in the current study is unclear. The nonsignificant effect may have been due to the highly selective nature of this sample (i.e., children of parents with a history of depression). Although it may also have been due to the age of the children, who were younger than those in Gibb and Alloy (2006), we did not find that children's age moderated any of the relations examined. This said, we should also note that previous studies have not evaluated the psychometric properties of some of the measures used in this study (e.g., CTQ and CDI) in samples as young as ours. Although we view our data as providing some support for the validity of these measures in this age range, the current results may underestimate the true relations among the variables to the extent that the reliability of these measures may be weaker in younger children. To address this, we included an older sample of children in Study 2.

Because all participants were children of parents with a history of depression, it is also not clear whether the current results will generalize to a more representative sample of children. In addition, because the measure of emotional abuse used in this study does not limit the assessment of victimization to any specific perpetrator group, it is not clear whether the significant effects observed were due to emotional abuse from children's parents, whether it may have been due to similar messages from one's peers, or whether this type of victimization would be related to negative changes in inferential styles and depressive symptoms, regardless of the perpetrator. Consistent with Rose and Abramson's (1992) developmental model, we would expect that experiences of rejection, humiliation, and teasing would contribute to the development of depressive cognitions and symptoms whether the these messages were coming from parents or peers (cf. Gibb et al., 2004).

Study 2

Our primary goal in Study 2 was to replicate and extend the results obtained in Study 1. Specifically, we examined the generalizability of the Study 1 results to an unselected sample of children drawn from the community. Second, we assessed reports of emotional abuse from parents specifically as well as verbal victimization from peers. We should note that the behaviors constituting both emotional abuse and verbal victimization are the same (i.e., rejecting, humiliating, demeaning, and teasing). The only difference between these two forms of victimization is the child's relation to the perpetrator rather than the types of behavior experienced. Based on the results of Study 1 as well as those of other studies focused specifically on verbal victimization from peers (e.g., Gibb et al., 2004), we hypothesized that both emotional abuse from parents and verbal victimization from peers would predict negative changes in children's inferential styles and increases in their depressive symptoms over the follow-up period. In addition, we examined the additive, interactive, and unique effects of emotional abuse and verbal victimization upon changes in children's inferential styles and depressive symptoms. Although we made no specific hypotheses regarding interactive and unique effects, we did predict that overall levels of victimization from either source (additive effects) would be significantly associated with negative changes in children's inferential styles and depressive symptoms.

Method

Participants

At Time 1, consent forms were sent to parents of all seventh grade children at participating schools. Consent rates varied from 75% to 85% with a median rate of 80%. One hundred seven children participated in the Time 1 assessment and 106 completed the Time 2 assessment. At the initial assessment, the average age of the children was 12.27 years (SD = .54, range = 11–13) and eighty-seven (81.3%) of the children were girls. The final sample was 89.8% Caucasian. The mother tongue of 83.2% of the final sample was French. Although data on the social-economic status of students' families is not available, all schools were located in predominantly upper middle class regions of the Montreal area.

Measures

All questionnaires were translated into French by a certified English-French translator. The French translations were then back-translated into English by a certified French-English translator. The back-translation was then compared to the original English version of the questionnaire. Any discrepancies were examined to ensure that the French translation retained the intended meaning of the original item.

The measures used it this study were virtually identical to those in Study 1. As in Study 1, the CASQ (Seligman et al., 1984) and CCSQ (Abela, 2001) were used to assess children's inferential styles. For the CASQ, we obtained alphas of .54 at Time 1 and .50 at Time 2. For the CCSQ-Cons subscale, we obtained alphas of .74 at Time 1 and .64 at Time 2, and for the CCSQ-Self subscale, we obtained alphas of .75 at Time 1 and .74 at Time 2. As in Study 1, in addition to examining each inferential style dimension individually, we also examined each child's ''weakest link''. Finally, the CDI (Kovacs, 1981) was used to assess depressive symptoms (α = .81 at Time 1 and .82 at Time 2).

As before, the CTQ-EA subscale (Bernstein et al., 1994; Bernstein et al., 2003) was used to assess levels of emotional abuse. However, it was modified to focus specifically on behaviors of one's parents. In addition, five additional items were created to assess verbal victimization from peers (CTQ-VV). These items were identical to those from the emotional abuse subscale except that they inquired about the behavior of peers rather than parents (e.g., ''kids at school called you things like 'stupid,' 'lazy,' or 'ugly'''). Both the CTQ-EA and the CTQ-VV were administered at Time 2 and children were asked to report on experiences occurring since the initial assessment. In this study, the CTQ-EA and the CTQ-VV exhibited good internal consistency (αs = .79 and .85, respectively).

Procedure

After consent forms were collected, researchers went to each school to meet with children. All questionnaires were read aloud by the researchers. At the start of each assessment, students were told that their participation was voluntary and they could choose to not participate if they so desired. No children decided to not participate. At Time 1, children completed the CASQ, CCSQ, and CDI. Two years later, children completed the follow-up assessment, at which time they completed the CASQ, CCSQ, CDI, CTQ-EA, and CTQ-VV.

Table 2 Correlations and descriptive statistics for study 2 Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	Means	SD
1. T1 CASQ	–											3.54	2.07
2. T2 CASQ	.41	–										3.90	2.18
3. T1 CCSQ-Cons	.21	.12	–									13.13	5.17
4. T2 CCSQ-Cons	.22	.32	.37	–								11.81	4.40
5. T1 CCSQ-Self	.26	.10	.55	.43	–							11.70	3.78
6. T2 CCSQ-Self	.10	.24	.28	.66	.52	–						11.28	4.13
7. T1 Weakest	.65	.27	.63	.34	.64	.26	–					0.63	0.89
8. T2 Weakest	.36	.69	.29	.71	.40	.66	.44	–				0.64	0.86
9. T1 CDI	.34	.28	.09	.03	.23	.03	.19	.17	–			10.35	5.66
10. T2 CDI	.28	.55	.13	.33	.10	.26	.21	.54	.35	–		11.67	6.40
11. T2 CTQ-EA	.18	.30	.02	.25	.14	.12	.14	.33	.31	.51	–	8.58	3.32
12. T2 CTQ-VV	.21	.27	.07	.30	.20	.21	.22	.42	.19	.52	.54	10.35	4.02

Note: CASQ = Children's Attributional Style Questionnaire; CCSQ-Cons = Children's Cognitive Style Questionnaire-Consequences subscale; CCSQ-Self = Children's Cognitive Style Questionnaire-Self-Characteristics subscale; Weakest = Weakest Link; CDI = Children's Depression Inventory; CTQ-EA = Childhood Trauma Questionnaire-Emotional Abuse subscale; Means and standard deviations presented are values obtained prior to transformation; Correlations ≥ .20 significant at $p < .05$; Correlations ≥ .25 significant at $p < .01$; Correlations ≥ .32 significant at $p < .001$

Results

As in Study 1, variables exhibiting significant skew were transformed prior to further analysis to satisfy assumptions of normality. Specifically, a square root transformation was applied to Time 1 and 2 CCSQ-Cons and CDI scores and a log transformation was used for Time 2 CTQ-EA and CTQ-VV scores. The amount of missing data (%) for each variable in this study was: Time 1 CASQ (4.7%), Time 2 CASQ (1.9%), Time 1 CCSQ-Cons (9.3%), Time 2 CCSQ-Cons (0.9%), Time 1 CCSQ-Self (9.3%), Time 2 CCSQ-Self (0.9%), Time 1 Weakest (11.2%), Time 2 Weakest (1.9%), Time 1 CDI (1.9%), Time 2 CDI (0.9%), Time 2 CTQ-EA (7.5%), and Time 2 CTQ-VV (7.5%). Little's missing completely at random (MCAR) test was conducted and was nonsignificant, $\chi^2(129) = 103.05$, $p = .96$, supporting the imputation of missing data. Given these results, maximum likelihood estimates of missing data were created and used in all subsequent analyses (see Schafer & Graham, 2002).[3]

Correlations among each of the variables, as well as their means and standard deviations, are presented in Table 2. Analyses were then conducted to determine whether any of the study variables were significantly related to children's gender or age. We found that children's age was significantly related to inferential styles regarding self-characteristics, with younger children exhibiting significantly higher CCSQ-Self scores at Time 1, $r = -.23$, $p = .02$, and Time 2, $r = -.26$, $p = .007$. In addition, girls endorsed higher CCSQ-Self, $t(105) = 3.43$, $p = .001$, $r_{effect\ size} = .32$, and CDI, $t(105) = 2.31$, $p = .02$, $r_{effect\ size} = .22$, scores at Time 2 than boys. Given this, children's age and gender were used as covariates for all analyses in which Time 2 CCSQ-Self served as the criterion variable and children's gender was used as a covariate for all analyses in which Time 2 CDI scores served as the criterion variable.

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[3] The pattern of results reported below was identical to that obtained when the analyses were limited to participants with complete data.

Next, we examined whether reports of emotional abuse and verbal victimization were associated with changes in children's inferential styles and depressive symptoms over the follow-up. As in Study 1, in these analyses, each of the Time 2 inferential style and depressive symptom variables served, in turn, as the criterion variable, and their Time 1 counterpart was entered in the first step of a hierarchical regression. Analyses were first conducted separately for emotional abuse and verbal victimization, with Time 2 CTQ-EA or CTQ-VV scores being entered in the second steps of their respective regressions. As noted above, children's age and gender were included as covariates when we examined changes in CCSQ-Self scores and children's gender was included as a covariate when we examined changes in CDI scores. Consistent with our hypotheses, we found that Time 2 CTQ-EA scores were significantly associated with residual change in CASQ, $t(104) = 2.69$, $p = .008$, $\beta = .24$, CCSQ-Cons, $t(103) = 2.75$, $p = .007$, $\beta = .24$, Weakest, $t(104) = 3.21$, $p = .002$, $\beta = .27$, and CDI, $t(103) = 5.11$, $p < .001$, $\beta = .44$, scores. Similarly, Time 2 CTQ-VV scores were significantly associated with residual change in CASQ, $t(104) = 2.13$, $p = .04$, $\beta = .19$, CCSQ-Cons, $t(103) = 2.89$, $p = .005$, $\beta = .26$, Weakest, $t(104) = 4.10$, $p < .001$, $\beta = .34$, and CDI, $t(103) = 5.83$, $p < .001$, $\beta = .47$, scores. In contrast, residual change in CCSQ-Self was not significantly related to Time 2 CTQ-EA, $t(102) = .38$, $p = .71$, $\beta = .03$, or CTQ-VV, $t(102) = 1.21$, $p = .23$, $\beta = .10$, scores.

Next, we examined the additive, interactive, and unique effects of CTQ-EA and CTQ-VV upon changes in children's inferential styles and depressive symptoms. Focusing first on additive effects, we examined whether the total level of victimization from either source (i.e., summing scores from the CTQ-EA and CTQ-VV scales) would be associated with changes in each of the variables. The results from these analyses mirrored those presented above for each victimization variable examined independently. Specifically, total levels of victimization were significantly related to residual change in CASQ, $t(104) = 2.78$, $p = .006$, $\beta = .25$, CCSQ-Cons, $t(103) = 3.25$, $p = .002$, $\beta = .28$, Weakest, $t(104) = 4.27$, $p < .001$, $\beta = .35$, and CDI, $t(103) = 6.61$, $p < .001$, $\beta = .52$, but not CCSQ-Self, $t(102) = .91$, $p = .36$, $\beta = .07$, scores. Focusing next on the unique and interactive effects of CTQ-EA and CTQ-VV, Time 2 CTQ-EA and CTQ-VV scores were entered together in the second step of each regression equation, which allowed an investigation of the unique effects of each, statistically controlling for their overlap. The CTQ-EA x CTQ-VV interaction was then entered in the third step of each regression equation, which allowed an examination of whether experiences of victimization from one source moderated the effects of victimization from the other source. In terms of unique effects, neither CTQ-EA, $t(103) = 1.83$, $p = .07$, $\beta = .19$, nor CTQ-VV, $t(103) = .89$, $p = .38$, $\beta = .09$, were uniquely related to residual change in CASQ. Similarly, neither CTQ-EA, $t(102) = 1.43$, $p = .16$, $\beta = .15$, nor CTQ-VV, $t(102) = 1.66$, $p = .10$, $\beta = .18$, were uniquely related to residual change in CCSQ-Cons. Also, neither CTQ-EA, $t(101) = -.32$, $p = .75$, $\beta = -.03$, nor CTQ-VV, $t(101) = 1.19$, $p = .24$, $\beta = .12$, were uniquely related to residual change in CCSQ-Self. In contrast, statistically controlling for their overlap, CTQ-VV, $t(103) = 2.79$, $p = .006$, $\beta = .27$, but not CTQ-EA, $t(103) = 1.35$, $p = .18$, $\beta = .13$, was significantly related to residual change in children's Weakest link. Also, both CTQ-EA, $t(102) = 2.72$, $p = .008$, $\beta = .26$, and CTQ-VV, $t(102) = 3.76$, $p < .001$, $\beta = .34$, were uniquely related to residual change in CDI. Finally, in terms of interactive effects, none of the CTQ-EA x CTQ-VV interactions was associated with significant residual change in any of the variables (lowest $p = .25$).

Analyses were also conducted to determine whether children's gender and/or age moderated the relations among reports of emotional abuse or verbal victimization and changes in children's inferential styles or depressive symptoms. However, none of these analyses was significant.

Discussion

In Study 2, we sought to replicate and extend the results obtained in Study 1. Specifically, we tested the hypotheses that emotional abuse from parents and verbal victimization from peers would contribute to negative changes in inferential styles and depressive symptoms among an unselected sample of children from the community. Both hypotheses were supported. Specifically, reports of emotional abuse and verbal victimization were significantly related to changes in children's inferential styles regarding causes and consequences, as well as their ''weakest link'' and depressive symptoms. Contrary to our hypothesis and the results of Study 1, however, neither emotional abuse nor verbal victimization were significantly related to changes in children's inferential styles regarding self-characteristics. Identical results were obtained when we examined the additive effects of emotional abuse and verbal victimization. Examining the unique contribution of each form of victimization, statistically controlling for their overlap, we found that verbal victimization from peers was uniquely related to changes in children's weakest link. In addition, both emotional abuse and verbal victimization contributed significant unique variance to changes in children's depressive symptoms. Finally, none of the interactive effects were significant, suggesting that the experience of one form of victimization did not moderate (strengthen or reduce) the effects of the other.

General discussion

In combination, the results of Study 1 and 2 add to the growing body of research supporting Rose and Abramson's (1992) developmental model and suggest that experiences such as teasing, rejecting, humiliating, and demeaning may contribute to the development of depressive cognitions and symptoms in children, regardless of whether these messages come from parents or peers (see also Gibb et al., 2004; Gibb & Alloy, 2006; Gibb et al., 2001; Hankin, 2005). Specifically, we found that children's reports of emotional abuse from parents and verbal victimization from peers were associated with negative changes in their inferential styles and depressive symptoms over the follow-up. In addition, we found that victimization from both sources contributed unique risk to the development of children's depressive symptoms.

Despite this generally strong support for our hypotheses, there were also discrepancies in findings across the two studies. Specifically, in terms of inferential styles, whereas we found significant effects for inferences regarding consequences and children's weakest links in both studies, results for inferences regarding causes were significant in Study 2 but not Study 1 and results for inferences regarding self-characteristics were significant in Study 1 but not Study 2. Building from the weakest link hypothesis, one might hypothesize that the difference in findings across the two studies, combined with the similar results obtained when predicting changes in children's weakest link, was due to differences in the frequencies of which inferential dimension composed children's weakest links in the two studies. Specifically, it may be

that changes in inferential style as a function of emotional abuse or verbal victimization are simply more apparent in children's most negative inferential dimension than in the other two dimensions. If so, then one might expect a relatively higher percentage of children in Study 1 relative to Study 2 exhibiting their weakest link in terms of negative inferences regarding self-characteristics and the reverse being true for inferences regarding causes. However, there was no difference in the distribution of weakest links across the two studies. Specifically, in Study 1, inferences regarding causes were the weakest link for 35% of the children at Time 1 and 38% of children at Time 2, inferences regarding consequences were the weakest link for 29% of the children at Time 1 and 28% of children at Time 2, and inferences regarding self-characteristics were the weakest link for 36% of children at Time 1 and 34% of children at Time 2. Similarly, in Study 2, inferences regarding causes were the weakest link for 35% of the children at Time 1 and 41% of children at Time 2, inferences regarding consequences were the weakest link for 29% of the children at Time 1 and 25% of children at Time 2, and inferences regarding self-characteristics were the weakest link for 36% of children at Time 1 and 34% of children at Time 2. Therefore, the discrepancy does not appear to have been due to differences between the studies in the frequency of which dimension was children's weakest link.

Another potential reason for this discrepancy is the difference in the average age of participants in the two studies. Specifically, it may be that the different inferential dimensions show greater change at certain ages than others. Although we failed to find any significant moderation effects based on children's age in either study, we may not have had enough statistical power to provide an adequate test of these effects. Specifically, our sample sizes in both studies were only large enough to detect medium to large effects (cf. Cohen, 1988) and the age range of participants in Study 2 may have been too restricted to detect age-related moderation. Future studies should seek to include a larger sample with a range of ages to provide a more definitive test of this possibility.

A third possibility is that there was some difference regarding the content of the victimization across the two studies. Rose and Abramson (1992) hypothesized that emotional abuse (and verbal victimization) would be more likely to contribute to the development of a negative inferential style than would other forms of negative events because with emotional abuse the negative inferences are directly supplied to the child by the abuser. It is possible that the abusive messages conveyed to children in Study 1 were more likely to involve negative characteristics about the child whereas the messages conveyed to children in Study 2 were more likely to involve the causes of events. Such differences could occur as a function of either characteristics of the abusers (e.g., parents with or without a history of depression) or the age of the child (e.g., parents are more likely to speak to younger children using inferences about their self-characteristics and older children using stable, global causal attributions). Alternatively, messages conveyed to youth at different ages may be similar yet youth of different ages interpret them differently (e.g. as negative characteristics about themselves given the occurrence of an event versus as a stable, global aspect of the self that played a role in causing the event). Future studies should assess the specific messages given to children as well as the way in which they interpret such messages to examine whether there may be any specificity in terms of the negative cognitions formed.

Despite the slight inconsistency in findings across the two studies, we did find fairly strong support for the hypothesis that emotional abuse and verbal victimization can contribute to the development of negative inferential styles. Given this, one area of

future research is examining factors that may mediate and moderate this relationship. For example, Rose and Abramson (1992) hypothesized that the mechanism by which negative events such as emotional abuse would contribute to the development of a generalized negative inferential style would be through the increasing negativity of event-specific inferences. Specifically, although the child may initially make inferences for the occurrence of negative events that will maintain his or her sense of hopefulness that they will not recur (e.g., ''He was just in a bad mood today''), with repeated abuse, these attributions would be disconfirmed and the child would be expected to make more negative inferences about the events' occurrence (e.g., ''I'm bad and I deserve it''). Over time, these negative inferences are hypothesized to generalize to other negative events in the child's life, developing into a relatively stable negative inferential style. A similar process was proposed by Crick and Dodge (1994) who suggested that as forms of information processing such as interpretation biases are increasingly used, they become more automatically and rigidly applied to new, initially unrelated situations. To our knowledge, only one study (Gibb et al., 2003) has tested Rose and Abramson's mediation hypothesis regarding event-specific inferences. In that study, undergraduates' inferences for specific instances of childhood emotional abuse fully mediated the link between reports of that abuse and their current inferential styles. Although consistent with Rose and Abramson's model, this study was cross-sectional, so future studies are needed to determine whether actual *changes* in event-specific inferences mediate the link between emotional abuse/verbal victimization and the development of a more stable negative inferential style.

Studies are also needed to determine factors that may moderate or buffer the effects of emotional abuse and verbal victimization upon the development of depressive cognitions and symptoms. For example, there is some evidence that a specific type of social support, adaptive inferential feedback, may moderate the relation between negative events and the development of depression. Specifically, in a laboratory-based task with undergraduates, adaptive (optimistic) inferential feedback following the occurrence of a negative event was found to decrease the likelihood that a person would make negative inferences for the event's occurrence, which in turn decreased the likelihood that the person would become dysphoric following the negative event (Dobkin, Panzarella, Fernandez, Alloy, & Cascardi, 2004). Future studies are needed to not only replicate this finding, but also to determine whether the presence of one or more supportive individuals in a child's life who provide adaptive inferential feedback following negative events buffers the effects of emotional abuse from parents or verbal victimization from peers on the development of negative inferential styles and depression. This type of study could help to place the occurrence of verbal victimization within a broader social context and help to improve not only the prediction of which children are most at risk, but also point toward potential early interventions for these high-risk children.

Finally, the strong correlation in Study 2 between reports of emotional abuse by parents and victimization from peers suggests that certain children may be at risk for victimization across a variety of contexts. Consistent with this, previous studies have suggested that abuse from one's parents may increase risk for later victimization from one's peers (e.g., Bolger & Patterson, 2001). In addition to examining the potential additive versus unique effects of emotional abuse and peer victimization, future studies should also test the hypothesis that early emotional abuse may increase children's risk for later verbal victimization from peers, as well as potential mechanisms for this relation (e.g., children's social withdrawal as a result of early abuse).

The studies presented in this article exhibited a number of strengths including their longitudinal design and the general replication of finding across two distinct samples. There were, however, limitations, which should also be noted. The primary limitation of these studies was that all assessments were based upon children's self-report, which may have been subject to recall or response biases. Future studies, therefore, should seek to include assessments that do not rely exclusively on children's self-report (e.g., peer reports of victimization, computer-based measures of cognitive vulnerability, and parent or teacher reports of depressive symptoms). Given that the current study focused on symptoms of depression, it is also unclear whether the current results will generalize to the development of diagnosable episodes of depression. This said, however, there is increasing evidence for a link between a history of childhood emotional abuse and episodes of depression in childhood and adulthood (for a review, see Alloy, Abramson, Smith, Gibb, & Neeren, 2006; see also Gibb et al., in press). Finally, the high ratio of girls to boys in Study 2 limited our power to detect potential gender moderation for the relations examined. Although we also found no evidence of gender moderation in Study 1 where girls comprised only 51.4% of the sample, future studies should seek to include sufficient numbers of both girls and boys to provide a stronger test of potential gender moderation.

In conclusion, these studies add to the growing body of research supporting Rose and Abramson's (1992) hypothesis that childhood emotional abuse and verbal victimization contribute to the development of negative inferential styles and depressive symptoms in children. Future studies should seek to examine potential age-related differences in the development of the different inferential style dimension as well as potential mediators (e.g., event-specific inferences) and moderators (e.g., adaptive inferential feedback) of these relationships. Studies are also needed to determine whether emotional abuse and verbal victimization prospectively predict the development of diagnosable episodes of major depression or dysthymia.

References

Abela, J. R. Z. (2001). The hopelessness theory of depression: A test of the diathesis-stress and causal mediation components in third and seventh grade children. *Journal of Abnormal Child Psychology, 29*, 241–254.

Abela, J. R. Z., Hankin, B. L., Haigh, E. A. P., Vinokuroff, T., Trayhern, L., & Adams, P., (2005). Interpersonal vulnerability to depressive episodes in high risk children: The role of insecure attachment and reassurance seeking. *Journal of Clinical Child and Adolescent Psychology, 34*, 182–192.

Abela, J. R. Z., Skitch, S. A., Auerbach, R. P., & Adams, P. (2005). The impact of borderline personality disorder on vulnerability to depression in children of affectively-ill parents. *Journal of Personality Disorders, 19*, 65–79.

Abela, J. R. Z., & Payne, A. V. L. (2003). A test of the integration of the hopelessness and self-esteem theories of depression in schoolchildren. *Cognitive Therapy and Research, 27*, 519–535.

Abela, J. R. Z., & Sarin, S. (2002). Cognitive vulnerability to hopelessness depression: A chain is only as strong as its weakest link. *Cognitive Therapy and Research, 26*, 811–829.

Abramson, L. Y., Metalsky, G. I., & Alloy, L. B. (1989). Hopelessness depression: A theory-based subtype of depression. *Psychological Review, 96*, 358–372.

Abramson, L. Y. Seligman, M. E. P., & Teasdale, J. (1978). Learned helplessness in humans: Critique and reformulation. *Journal of Abnormal Psychology, 87*, 49–74.

Alloy, L. B., Abramson, L. Y., Smith, J. M., Gibb, B. E., & Neeren, A. (2006). Developmental antecedents of unipolar and bipolar disorders: Role of parenting and maltreatment histories. *Clinical Child and Family Psychology Review, 9*, 23–64.

Bernstein, D. P., Ahluvalia, T., Pogge, D., & Handelsman, L. (1997). Validity of the Childhood Trauma Questionnaire in an adolescent psychiatric population. *Journal of the American Academy of Child and Adolescent Psychiatry, 36*, 340–348.

Bernstein, D. P., Fink, L., Handelsman, L., Foote, J., Lovejoy, M., Wenzel, K., Sapareto, E., & Ruggiero, J. (1994). Initial reliability and validity of a new retrospective measure of child abuse and neglect. *American Journal of Psychiatry, 151*, 1132–1136.

Bernstein, D. P., Stein, J. A., Newcomb, M. D., Walker, E., Pogge, D., Ahluvalia, T., Stokes, J., Handelsman, L., Medrano, M., Desmond, D., & Zule, W. (2003). Development and validation of a brief screening version of the Childhood Trauma Questionnaire. *Child Abuse and Neglect, 27*, 169–190.

Bolger, K. E., & Patterson, C. J. (2001). Developmental pathways from child maltreatment to peer rejection. *Child Development, 72*, 549–568.

Cohen, J. (1988). *Statistical power analyses for the behavioral sciences*. (2nd ed.). Hillsdale, NJ: Lawrence Earlbaum Associates.

Crick, N. R., & Dodge, K. A. (1994). A review and reformulation of social information-processing mechanism in children's social adjustment. *Psychological Bulletin, 115*, 74–101.

Dobkin, R. D., Panzarella, C., Fernandez, J., Alloy, L. B., & Cascardi, M. (2004). Adaptive inferential feedback, depressogenic inferences, and depressed mood: A laboratory study of the expanded hopelessness theory of depression. *Cognitive Therapy and Research, 28*, 487–509.

First, M. B., Gibbon, M., Spitzer, R. L., & Williams, J. B. W. (2001). *Structured clinical interview for the DSM-VI-TR Axis I disorders, research version, patient edition with psychotic screen*. New York: Biometrics Research, New York State Psychiatric Institute.

Gibb, B. E., Abramson, L. Y., & Alloy, L. B. (2004). Emotional maltreatment by parents, verbal peer victimization, and cognitive vulnerability to depression. *Cognitive Therapy and Research, 28*, 1–21.

Gibb, B. E., & Alloy, L. B. (2006). A prospective test of the hopelessness theory of depression in children. *Journal of Clinical Child and Adolescent Psychology, 35*, 264–274.

Gibb, B. E., Alloy, L. B., Abramson, L. Y., & Marx, B. P. (2003). Childhood maltreatment and maltreatment-specific inferences: A test of Rose and Abramson's (1992) extension of the hopelessness theory. *Cognition and Emotion, 17*, 917–931.

Gibb, B. E., Alloy, L. B., Abramson, L. Y., Rose, D. T., Whitehouse, W. G., Donovan, P., Hogan, M. E., Cronholm, J., & Tierney, S. (2001). History of childhood maltreatment, depressogenic cognitive style, and episodes of depression in adulthood. *Cognitive Therapy and Research, 25*, 425–446.

Gibb, B. E., Butler, A. C., & Beck, J. S. (2003). Childhood abuse, depression, and anxiety in adult psychiatric outpatients. *Depression and Anxiety, 17*, 226–228.

Gibb, B. E., Chelminski, I., & Zimmerman, M. (in press). Childhood emotional, physical, and sexual abuse and diagnoses of depressive and anxiety disorders in adult psychiatric outpatients. *Depression and Anxiety*.

Gibb, B. E., & Coles, M. E. (2005). Cognitive vulnerability-stress models of psychopathology: A developmental perspective. In B. L. Hankin, & J. R. Z. Abela (Eds.), *Development of psychopathology: A vulnerability-stress perspective* (pp. 104–135). Thousand Oaks, CA: Sage.

Hankin, B. L. (2005). Childhood maltreatment and psychopathology: Prospective tests of attachment, cognitive vulnerability, and stress as mediating processes. *Cognitive Therapy and Research, 29*, 645–671.

Hankin, B. L., & Abela, J. R. Z. (2005). Depression from childhood through adolescence and adulthood: A developmental vulnerability and stress perspective. In B. L. Hankin, & J. R. Z. Abela (Eds.), *Development of psychopathology: A vulnerability-stress perspective* (pp. 104–135). Thousand Oaks, CA: Sage.

Kovacs, M. (1981). Rating scales to assess depression in school-aged children. *Acta Paedopsychiatrica, 46*, 305–315.

Kovacs, M. (1985). The Children's Depression Inventory. *Psychopharmacology Bulletin, 21*, 995–998.

Little, R. J. A., & Rubin, D. B. (1987). *Statistical analysis with missing data*. New York: Wiley.

Nolen-Hoeksema, S., Girgus, J. S., Seligman, M. E. P. (1986). Learned helplessness in children: A longitudinal study of depression, achievement, and explanatory style. *Journal of Personality and Social Psychology, 51*, 435–442.

Nolen-Hoeksema, S., Girgus, J. S., & Seligman, M. E. P. (1992). Predictors and consequences of childhood depressive symptoms: A 5-year longitudinal study. *Journal of Abnormal Psychology, 101*, 405–422.

Rose, D. T., & Abramson, L. Y. (1992). Developmental predictors of depressive cognitive style: Research and theory. In D. Cicchetti, &S. Toth (Eds.), *Rochester symposium of developmental psychopathology, Vol. IV* (pp. 323–349). Rochester, NY: University of Rochester Press.

Schafer, J. L., & Graham, J. W. (2002). Missing data: Our view of the state of the art. *Psychological Methods, 7*, 147–177.

Scher, C. D., Stein, M. B., Asmundson, G. J. G., McCreary, D. R., & Forde, D. R. (2001). The Childhood Trauma Questionnaire in a community sample: Psychometric properties and normative data. *Journal of Traumatic Stress, 14*, 843–857.

Seligman, M. E. P., Peterson, C., Kaslow, N. J., Tenenbaum, R. L., Alloy, L. B., & Abramson, L. Y. (1984). Attributional style and depressive symptoms among children. *Journal of Abnormal Psychology, 93*, 235–241.

Smucker, M. R., Craighead, W. E., Craighead, L. W., & Green, B. J. (1986). Normative and reliability data for the Children's Depression Inventory. *Journal of Abnormal Child Psychology, 14*, 25–39.

Stone, N. (1993). Parental abuse as a precursor to childhood onset depression and suicidality. *Child Psychiatry and Human Development, 24*, 13–24.