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Longitudinal trajectories of self-system processes and depressive symptoms among maltreated and nonmaltreated children

Jungmeen Kim and
Virginia Polytechnic Institute and State University

Dante Cicchetti
University of Minnesota

Abstract

This study used latent growth modeling to investigate longitudinal relationships between self-system processes and depressive symptoms among maltreated (*n*=142) and nonmaltreated children (*n*=109) aged 6–11 years. On average, self-esteem and self-agency increased and depressive symptoms decreased over time. Multivariate growth modeling indicated that, regardless of gender, physical abuse was negatively related to initial levels of self-esteem, and physical abuse and physical neglect were positively associated with initial levels of depressive symptoms. Emotional maltreatment was predictive of changes in self-esteem and changes in depressive symptoms. Initial levels of self-esteem were negatively associated with initial levels of depressive symptoms. The findings contribute to enhancing our understanding of the developmental processes whereby early maltreatment experiences are linked to later maladjustment.

Keywords

maltreatment; self-esteem; depressive symptoms; growth trajectories

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Child Maltreatment and Depressive Symptoms

The enduring detrimental effects of child maltreatment on behavior problems and psychopathology are well documented. Prior research has demonstrated that maltreated children are at increased risk for internalizing problems (Bolger & Patterson, 2001; Kazdin, Moser, Colbus, & Bell, 1985; Keiley, Rowe, Dodge, Bates, & Pettit, 2001; Manly, Kim, Rogosch, & Cicchetti, 2001; Toth, Manly, & Cicchetti, 1992) and externalizing problems (Cicchetti & Rogosch, 2001; Dodge, Pettit, & Bates, 1997; Famularo, Kinscherff, & Fenton, 1992). Prior theory and evidence supports the contention that the maltreating environment has a substantially negative impact on the individual's capacity to negotiate the progression of developmental tasks and challenges (Cicchetti & Lynch, 1995). Maltreated children manifest deficits in the competent resolution of the salient tasks of the life course and develop consequent vulnerabilities for psychopathologic conditions. Some maltreated children, however, exhibit resilience, or competent outcomes, despite the severe adversity in their lives (Cicchetti & Rogosch, 1997; Moran & Eckenrode, 1992). Knowledge about developmental processes contributing to dysfunction and resilience is critical for understanding pathways to adaptive and maladaptive development (Luthar, Cicchetti, & Becker, 2000).

Correspondence concerning this article should be addressed to Jungmeen Kim, Ph. D., Department of Psychology (MC 0436), Virginia Polytechnic Institute and State University, Blacksburg, VA 24061. Electronic mail may be sent to jungmeen@vt.edu.

Studies on adolescents and young adults have provided some support for differential effects of specific subtypes of maltreatment on depression. For example, of the three subtypes of maltreatment including emotional maltreatment, physical abuse, and sexual abuse, childhood emotional abuse had the strongest relations with hopelessness depression among young adults (Gibb et al., 2001). Similarly, McGee, Wolfe, and Wilson (1997) reported that psychological abuse was the most prominent predictor of adolescents' internalizing problems compared to physical abuse, sexual abuse, physical neglect and exposure to family violence. In the present study, we examined the effects of different subtypes of maltreatment on children's self-system processes and depressive symptoms to consider the complexity of maltreatment experiences.

Development of Self-System Processes in Maltreated Children

Theorists and researchers have identified two conceptually distinct but experientially intertwined aspects of the self: the self as subject (the I-self) and the self as object (the Me-self) (James, 1890; Harter, 1983; Lewis & Brooks-Gunn, 1979). The I-self is the self as active agent as it organizes and interprets one's experience. The Me-self, in contrast, represents the empirical aggregate of what is objectively known about the self, and involves a 'theory' that is constructed to organize one's thinking about one's relationship to the social world. Traumatic maltreatment experiences in childhood can lead to profound disturbances in the self-system processes including both I-self functions (e.g., self-agency) and Me-self functions (e.g., self-esteem) (Harter, 1999).

From a perspective based on both attachment and Eriksonian perspectives, Cicchetti (1989) suggested that sense of agency must build upon a sense of trust in the caregiver's accessibility, which is one feature of a secure attachment. However, given the interpersonal dynamics in abusive families that lead to insecure attachment, maltreated children may not develop the sense of agency that permits them to explore and master the environment with confidence. Accordingly, the deleterious effect of maltreatment on the I-self aspect of the self-system processes is expected to contribute to an impaired sense of agency, volition, and control over one's actions.

From the attachment theoretical viewpoint, self-esteem is created through the incorporation of the attitudes and evaluations that others, particularly parents in early childhood, hold toward the self (Bowlby, 1969/1982; Harter, 1998, 1999). Children who are reared in stressful home environments, such as maltreating family environments, may be less equipped to successfully negotiate the critical developmental tasks that need to be accomplished, and therefore, are less likely to achieve competent adaptation (Cicchetti & Schneider-Rosen, 1986). In addition, children who experience parental maltreatment do not receive the support necessary to develop a sense of the self as worthy and are more likely to develop a sense of inner badness (Harter, 1998). The detrimental effect of maltreatment on the me-self aspect of the self-system processes is expected to contribute to low global self-esteem due to feelings of inadequacy and incompetence, and lack of parent and peer support (Fischer & Ayoub, 1994; Harter, 1998).

Indeed, extensive research evidence points to significant impairments in the development of self-system processes in maltreated children. Studies using narrative data indicate that maltreated preschool- and school-aged children, compared to nonmaltreated children, evidence more negative representations of self (Toth, Cicchetti, Macfie, & Emde, 1997; Toth, Cicchetti, Macfie, Maughan, & Vanmeenen, 2000), and show greater dissociation of self (Macfie, Cicchetti, & Toth, 2001). Maltreated children are also more likely to be rated by teachers as lacking self-esteem and having less positive self-concepts than nonmaltreated children (Bolger, Patterson, & Kupersmidt, 1998; Cicchetti & Rogosch, 1997; Egeland, Sroufe, & Erickson, 1983; Kim & Cicchetti, 2004; Toth et al., 1992; Vondra, Barnett, & Cicchetti, 1989).

Overall, existing research suggests that maltreated children are at multiple risks for behavioral and psychological maladjustment, due to deficits in the development of self-system processes that include low self-esteem, impaired sense of agency, impaired perceptions of competence, and an extrinsic motivational orientation (for review see Cicchetti & Rogosch, 1994).

Self-System Processes and Depressive Symptoms

Developmental changes in self-system processes may have implications for the etiology of depression. Negative or low self-esteem is a central component of many theories of depression and clear links between perturbations in self-system processes and depressive symptoms have been shown empirically (Blatt & Zuroff, 1992; Cicchetti & Toth, 1995). Particularly, prior studies have reported a strong association between low self-esteem and depression and anxiety among older children and adolescents in both normal and clinical samples (Abela, 2002; Battle, Jarratt, Smit, & Precht, 1988; Rawson, 1992; Renouf & Harter, 1990). There is some evidence that self-esteem is important for understanding linkages between negative life events and depression. Abramson, Metalsky, and Alloy (1989), proposing the hopelessness theory of depression, argued that negative life events might foster negative inferences about the self, which in turn, may serve as a proximal contributory cause of depressive symptoms.

In support of this viewpoint, Dubois, Felner, Sherman, and Bull (1994) found that the effects of socioenvironmental experiences (measures of social support and stressful life events) on adolescents' internalizing problems were mediated through their impact on self-esteem. Furthermore, in a longitudinal study of children aged 7–12 years, Kim and Cicchetti (2004) found that child maltreatment was related to internalizing symptomatology over time, directly as well as indirectly through its influence on social competence. Similarly, in a longitudinal study of children in Grades 3 through 7, Bolger and Patterson (2001) showed that the significant effects of neglect on internalizing problems were partially mediated through the impact of maltreatment on perceived control.

Currently, there is a dearth of research linking sense of agency and depressive symptoms. Yet, an empirical study by Erickson, Sroufe, and Egeland (1985) demonstrated that observers rated withdrawn preschool children notably low in sense of agency. Based on the literature, we hypothesize that the development of the I-self (i.e., self-agency) and the Me-self (i.e., self-esteem) would be related to the development of depressive symptoms among maltreated and nonmaltreated children.

Gender Differences in Developmental Trajectory

A key contextual consideration is gender, given that maltreatment experiences may be differentially related to developmental trajectories of self-system processes and depressive symptoms between boys and girls. Although relatively little is known about differences in the mechanisms of risk and protection for girls and boys (Cicchetti & Sroufe, 2000; Schwartz, Dodge, Pettit, & Bates, 2000), there exists some evidence for differences in developmental pathways to depressive symptoms between boys and girls (Abela & Taylor, 2003; Mesman, Bongers, & Koot, 2001). For example, in a study of personality dispositions to depression, Abela and Talyor (2003) found that self-criticism served as a vulnerability factor to depression in seventh-grade boys but not in seventh-grade girls.

Gender differences have also been reported in vulnerability to maltreatment experiences. Particularly, sexual abuse is far more prevalent in girls than in boys (e.g., McGee et al., 1997). However, findings are inconsistent with respect to gender differences in the impact of maltreatment on adjustment. Some investigations of maltreated children have identified gender effects (e.g., Bolger & Patterson, 2001), whereas other investigations have found that the

magnitude of the experience of maltreatment overshadows gender effects (e.g., Manly et al., 2001).

The Present Study

Prior studies demonstrate a significant impact of child maltreatment on self-system processes (e.g., self-esteem and self-agency) and psychopathology. To date, however, no investigation has considered how intraindividual changes in children's self-system processes relate to individual growth trajectories of depressive symptoms among maltreated children. The purpose of this study is threefold: (1) to describe developmental trajectories in self-system processes and depressive symptoms during the elementary school years among maltreated and nonmaltreated children; (2) to examine differential effects of different maltreatment subtypes on growth trajectories of children's self-system processes and growth trajectories of their depressive symptoms; and (3) to investigate gender differences in the impact of maltreatment on self-system processes and depressive symptoms, and gender differences in structural relationships between trajectories of self-system processes and trajectories of depressive symptoms.

An important advance of the present study was to implement a latent growth curve model using structural equation modeling (SEM) to determine both initial levels and rates of change in children's self-system processes and depressive symptoms. Using latent growth analyses, we were able to examine interindividual differences in intraindividual variability (McArdle & Bell, 2000). In addition, the present investigation used a multivariate growth analysis to describe how changes in one construct over time (e.g., self-esteem) were related to changes over time in another construct (e.g., depressive symptoms). This question was expanded by multiple group growth modeling to examine the roles of gender in the psychological effects of maltreatment experiences because it provides a direct method for simultaneous testing and evaluating of hypotheses about group effects.

Method

Participants

The participants included 251 children (142 maltreated and 109 nonmaltreated) who attended a summer daycamp research program in upstate New York during the years of 1989 through 2001. The research camp program was designed to provide children from economically disadvantaged families with a naturalistic setting in which children's behavior and peer interactions could be observed in an ecologically valid context. In the present investigation, we chose to study all children who had data on the outcome variable (depressive symptoms) for at least three time points over four consecutive years. Among these 251 children, 187 children had data on the self-agency variable for at least three time points. The reduced number of children who were rated on the social behavior scale, which was used to measure self-agency, was because the scale was administered only during the years of 1992 through 2001. Consequently, all the models that involved depressive symptoms or self-esteem included 251 children whereas all the models that involved self-agency included 187 children.

Children ranged in age from 6 to 11 years (M = 8.46, SD = 1.11) at Wave 1. Our four wave longitudinal data involved 7 to 12 year olds with a few exceptions: There were three children who were 6 years old (at Wave 1), and six children who were 13 years old (at Wave 4). Consistent with gender ratios in the maltreated population, there were more boys than girls in the present sample: Sixty-four percent of the children were boys (159 boys and 92 girls). The sample consisted of children from diverse ethnic backgrounds: 65.7% African American, 21.1% European American, 10.8% Latino, and 2.4% other ethnic groups.

No significant differences were found between the maltreated group and the nonmaltreated group with respect to demographic features including age (M = 8.43, SD = 1.09 for maltreated children and M = 8.50, SD = 1.14 for nonmaltreated children), t (249) = .47, *ns*, gender (90 boys and 52 girls in the maltreated group and 69 boys and 40 girls in the nonmaltreated group),χ^2 (1, N = 251) = .000, *ns*, socioeconomic status (88% of families in the maltreated group and 82% in the nonmaltreated group fell into the two lowest socioeconomic strata defined by Hollingshead, 1975),χ^2 (1, N = 246) = 1.76, *ns*, parental marital status (67% of families in the maltreated group and 72% in the nonmaltreated group were headed by single parents, typically mothers),χ^2 (1, N = 250) = 0.51, *ns*, and ethnicity (55.8% African American, 30.1% European American, 13.1% Latino, and 1.0% other ethnic groups in the maltreated group; and 72.7% African American, 15.8% European American, 9.4% Latino, and 2.2% other ethnic groups in the nonmaltreated group), χ^2 (3, N = 251) = 7.13, *ns*.

Maltreated children had been identified through the County Department of Social Services (DSS) as having experienced child maltreatment. Prior to enrolling in the study, mothers of maltreated children provided written consent for examination of any DSS records. Assessment of maltreatment history was based on multiple informants that included mothers, child protective services workers, neighbors, and other community members (e.g., teachers and day-care providers). All existing DSS records were coded by raters to specify the occurrence of sexual abuse, physical abuse, physical neglect, and emotional maltreatment according to the nosological classification system for child maltreatment developed by Barnett, Manly, and Cicchetti (1993). Coding was conducted by trained doctoral students and by clinical and developmental psychologists.

Nonmaltreated children were recruited from families receiving Aid to Families with Dependent Children (AFDC) or Temporary Assistance to Needy Families (TANF), because the majority of maltreating families were receiving such income supplements. The demographic characteristics of these families were highly similar to those of the maltreating families and enable us to assess the independent effects of maltreatment beyond the influences of social adversity. Parental consent was obtained to review the DSS records and Child Abuse Registry to confirm the absence of any documented maltreatment in these families. If any reports of child maltreatment or any ambiguous child maltreatment information were discovered, then the child was not included in the study. Additionally, all mothers in the nonmaltreated group were interviewed regarding any incidents that might have reflected officially undetected maltreatment. This screening process resulted in a reduction in the size of the nonmaltreated group relative to the maltreated group included in the study sample.

Procedure

Parents were asked to give their informed consent to have their child attend a summer daycamp and participate in research assessments. Subsequently, children were given the option to decide for themselves whether or not they wanted to participate, thus resulting in child assent for participation. In camp, children participated in a variety of recreational activities that were appropriate to their developmental level and interests, and periodically took part in research assessments throughout the week. Each camp group consisted of six to eight same-age and same-sex children with approximately half of the children in each group having been maltreated. Three trained camp counselors led each camp group. Camp sessions lasted for five days with seven hours each day. The counselors completed a number of assessment instruments at the end of each week. The counselors and research interviewers who administered assessment measures were unaware of the children's maltreatment status or of the research hypotheses.

Measures

Child Maltreatment—The narrative reports of the maltreatment incidents from the DSS records were coded according to the Maltreatment Classification System (MCS, Barnett et al., 1993). The MCS provided operational definitions and specific criteria for rating the severity of multiple subtypes of maltreatment (See Barnett et al. 1993, for a detailed description of the nosological system used to code incidents for maltreatment.). Severity of each subtype was rated along a 5-point scale, with 1 indicating mild maltreatment to 5 indicating severe maltreatment of the specified subtype. Additionally, the MCS coding involved measurement of onset and frequency of each subtype, perpetrator(s) within each subtype, and the developmental period(s) during which each subtype occurred.

The subtypes that were utilized in the analysis included Emotional Maltreatment, Physical Neglect, Physical Abuse, and Sexual Abuse. Among 142 maltreated children, 67% experienced emotional maltreatment (62% for girls and 70% for boys), 74% were neglected (77% for girls and 72% for boys), 40% had been physically abused (40% for girls and 40% for boys), and 18% had been sexually abused (29% for girls and 12% for boys). Testing gender differences in maltreatment subtype prevalence indicated that significantly more girls had experienced sexual abuse compared to boys, $\chi^2(1, n = 142) = 6.09$, $p < .05$.

Consistent with the high co-occurrence of subtypes that are found in the literature (cf. Manly et al., 2001), 72% of the maltreated children in this sample experienced two or more forms of maltreatment. For 92% of the maltreated children, the child's biological mother was named as a perpetrator for some form of maltreatment. For each subtype, weighted kappa statistics were calculated to account for reliability. Interrater agreement was good, with *kappas* of 1.0 for sexual abuse, .94 for physical abuse, .78 for emotional maltreatment, and a range of .79–.85 for physical neglect.

Self-Esteem—The Self Esteem Inventory (SEI; Coopersmith, 1981) allowed children to report their perceptions of self by evaluating a set of 50 items on whether or not each item was characteristic of themselves (e.g., "I am pretty sure of myself."). Each item was rated as "0 = unlike me" or "1 = like me." The total self score was used as an indicator of self-esteem and valuing the self. The total self score was computed by summing up the four subscale scores including general self subscale (26 items), social self-peers subscale (8 items), home-parents subscale (8 items), and school-academic subscale (8 items). Previous research has demonstrated adequate reliability and validity of this scale (Coopersmith, 1981). In the current study, the mean of Cronbach's alphas across four waves for the SEI was .85.

Self-Agency—The *Agency* subscale of the Social Behavior Scale (SBS; Sroufe, 1983) was used to assess a psychological sense of self-assertion and belief in the effectiveness of one's personal powers to change a situation and determine the outcome of an activity. Counselors rated the children on seven-point scales for self-agency: "1 = very low" to "7 = very high." Three counselors' scores for each child were averaged to obtain individual child scores for the SBS-Agency. The averaged inter-rater reliability (intraclass correlations) was .67.

Depressive Symptoms—The Children's Depression Inventory (CDI; Kovacs, 1985) was a 27-item self-report questionnaire that assessed children's depressive symptoms. Each item consisted of three statements scored from 0 to 2, in order of increasing severity. High degrees of internal consistency and test-retest reliability have been reported for the CDI (e.g., Saylor, Finch, Spirito, & Bennett, 1984). In the current study, the averaged internal consistency (Cronbach's alpha) across four waves for the CDI was .84.

Results

In the current data, the percentage of missing data ranged from 0% to 8% for Wave 1, 6% to 10% for Wave 2, 7% to 8% for Wave 3, and 38% to 40% for Wave 4. The impact of "missingness" on the study was assessed by testing the significance of differences on demographic variables, presence of maltreatment experience, and the baseline levels of self-esteem (SEI), self-agency (SBS-Agency), and depressive symptoms (CDI) between the groups with and without missing data in the outcome variables (SEI, SBS-Agency, and CDI). There were slight but significant age differences between children with and without missing data on the CDI: those with missing data tended to be older (M = 8.62, SD = 1.26) compared to those without missing data (M = 8.26, SD = .86). The association between age and missingness was mainly because the summer camp was targeted at elementary school years. Accordingly, those participants who were older when they first came to the camp were more likely to be dropped by wave 4 because they were out of the target age range (6–12 years). Age was included in all of the growth curve models as a covariate to control the variance attributable to age differences. No other significant differences were found between children with and without missing data on the baseline scores of the SEI, the SBS-Agency, and the CDI.

Testing Effects in Longitudinal Data

The literature on developmental differences in children's self-reported depressive symptoms suggests that longitudinal studies often show decreases in depression scores with children's age whereas cross-sectional studies tend to show increases in depressive symptoms with age. Twenge and Nolen-Hoeksema (2002) reported that the number of times the respondents have completed the measure seems to be more crucial than the amount of time that has passed. Therefore, we first examined a testing or measurement effect in mean scores of self-report measures over time. Because a relatively larger number of missing data at wave 4, we used data from Wave 1 through Wave 3.We investigated whether the changes between Wave 1 and Wave 3 were equivalent between the two groups of children: those who had scores in all of the three waves (n = 213 for the CDI, n = 198 for the SEI, and n = 154 for the SBS-Agency) and those who had scores at Wave 1 and Wave 3, but not at Wave 2 (n = 18 for CDI, n = 16 for SEI, and n = 17 for SBS-Agency).

The results of repeated ANCOVAs with age as a covariate indicated that there were significant main effects of time on the CDI and the SEI: Children in both groups showed a decrease in depressive symptoms, $F(1, 228) = 5.85$, $p < .05$, and an increase in self-esteem, $F(1, 211) = 4.92$, $p < .05$. However, we found no significant time by group interactions indicating that the two groups were not significantly different in changes over the two years between Wave 1 and Wave 3 for the CDI, $F(1, 228) = .84$, *ns*, for the SEI, $F(1, 211) = .04$, *ns* and for the SBS-Agency, $F(1, 168) = .09$, *ns*. In addition, we conducted regression analyses to test birth cohort effects and period effects on changes in the CDI, the SEI, and the SBS-Agency scores over time. For each study variable, Wave 3 scores were regressed on age (birth cohort effects), camp year (period effects), and Wave 1 scores (baseline). Neither age nor camp year was a significant predictor of Wave 3 scores after controlling for the baseline scores, suggesting that neither period effects nor birth cohort effects were significant for the changes from Wave 1 to Wave 3 in the CDI ($B = -.37$, $SE = .34$, *ns* for the age effect and $B = .11$, $SE = .13$, *ns* for the camp year effect), the SEI ($B = .01$, $SE = .01$, *ns* for the age effect and $B = .004$, $SE = .003$, *ns* for the camp year effect), and the SBS-Agency ($B = .06$, $SE = .09$, *ns* for the age effect and $B = .03$, $SE = .04$, *ns* for the camp year effect).

Longitudinal Trajectories of Depressive Symptoms, Self-Esteem, and Self-Agency

From the descriptive statistics (see Table 1), it appears that self-esteem and self-agency increased and depressive symptoms decreased over time among nonmaltreated and maltreated

children. In order to investigate developmental trajectories of self-system processes and depressive symptoms we conducted growth curve analyses using AMOS 5.0 (Arbuckle, 2003) with a maximum likelihood estimation method, which allows for inclusion of respondents with missing data by using full information maximum likelihood (FIML) estimation (Arbuckle, 1996). In evaluating the overall goodness of fit of each model, the root mean square error of approximation (RMSEA; Browne & Cudeck, 1993) index assesses the degree of lack of fit for a model and values less than .05 and .08 are taken to reflect a close fit and a reasonable fit, respectively. The comparative fit index (CFI; Bentler, 1990) varies along a 0–1 continuum in which values greater than .90 and .95 are considered to reflect acceptable and excellent fits to the data, respectively.

The first model was a two-factor growth model over the four time points (see Figure 1). The first latent factor indicates intercept (or level) representing the initial starting point of the growth function, and the four factor loadings for the latent intercept factor were fixed to 1. The second latent factor indicates the slope of the growth function and represents the rate of change in the growth trajectory over time. The latent intercept and slope factors were freely correlated.

To determine the shape of trajectories of study variables for the entire sample, three alternative models were fitted for the CDI, the SEI, and the SBS-Agency, separately. First, a *no-growth* model assumed no slope component. Second, a *linear growth* model assumed a linear pattern of change over time and fixed values of slope parameters as [B(T1) = 0, B(T2) = 1, B(T3) = 2, B(T4) = 3] in Figure 1. The third model, a *latent growth* model estimated slope parameters from the data to yield an overall group shape. The slope parameter for the first occasion was fixed to 0 [B(T1) = 0] to allow a separation of the intercept and slope components, and the slope parameter for the last occasion was fixed to 1 [B(T4) = 1] to provide a scale of measurement for the slopes. The slope parameters for the second and the third occasions were freely estimated from the data. Model comparison was facilitated by positing a nested ordering of models in which the parameter estimates for a more restrictive model were a proper subset of those in a more general model.

As can be seen in Table 2, the chi-square difference test indicated that a linear growth model provided the best fit to the data for the SEI and the SBS-Agency. For the SEI, significant variance of both intercept (σ^2 = .01, *SE* = .002, p <.05) and slope (σ^2 = .001, SE = .000, p <.05) indicated the presence of significant individual differences in initial levels and change in children's self-esteem. Both intercept mean (*M* = .68, *SE* = .01, p <.05) and slope mean (*M* = .03, *SE* = .004, p <.05) were significantly different from zero, showing that children's self-esteem increased over time. For the SBS-Agency, the variance of intercept (σ^2 = .67, *SE* = .18, p <.05) was significant whereas the variance of slope (σ^2 = .04, *SE* = .04, *ns*) was not, thus suggesting that there was meaningful individual variability around the group average but not in change over time. Both intercept mean (*M* = 4.26, *SE* = .09, p <.05) and slope mean (*M* = .10, *SE* = .04, p <.05) were significantly different from zero, suggesting that children's self-agency increased over time.

A latent growth model was the best-fitting model for the CDI. The coefficients of the slope factor loadings represented the percentage of growth relative to the total change occurring over all time points. The pattern of CDI slope factor loadings (i.e., .00, .59, .89, 1.00) reflected a nonlinear change in the CDI scores. Significant variance existed in both intercept (σ^2 = 38.45, *SE* = 9.42, p <.05) and slope (σ^2 = 25.55, *SE* = 10.93, p <.05), reflecting meaningful individual variability in average level and change in depressive symptoms over time. The intercept mean was significantly different from zero (*M* = 9.47, *SE* = .48, p <.05). The slope mean was negative and significantly different from zero (*M* = −3.55, *SE* = .51, p <.05), suggesting that children's depressive symptoms decreased over time. The intercept and the slope factors were negatively correlated (r = −.74, p <.05), showing that children who reported higher initial levels of

depressive symptoms tended to show a more rapid decrease in depressive symptoms over time compared to children who reported lower initial levels of depressive symptoms.

Two Group Multivariate Growth Analyses: Testing Gender Differences in the Impact of Maltreatment

Next, we evaluated the impact of different subtypes of maltreatment (emotional maltreatment, physical neglect, physical abuse, and sexual abuse) on children's self-system processes and depressive symptoms. Presence or absence of these maltreatment subtypes were added to Model 1. We first tested the main effects of age, gender, and ethnicity (minority vs. non-minority) on the growth factors of self-system processes and depressive symptoms. Age was related to the change in depressive symptoms and thus it was included as a covariate. However, gender and ethnicity variables were not included in the growth models because we found no evidence that initial levels and growth in self-system processes and depressive symptoms varied as a function of gender or ethnicity.

We conducted multivariate growth curve analyses to examine the impact of maltreatment on the dynamic relations between growth functions of self-system processes (self-esteem and self-agency respectively) and growth functions of depressive symptoms. For the SBS-Agency, there was no significant impact of maltreatment subtypes on the intercept and the slope factors. Therefore, we focused on the multivariate growth model of the SEI and the CDI.

In Figure 3, both the intercept and slope factors of the SEI and the CDI were regressed on age and the dichotomous maltreatment variables (emotional maltreatment, physical neglect, physical abuse, and sexual abuse). The four maltreatment subtype variables were allowed to correlate with each other. Correlations were estimated between the SEI and the CDI intercept factors and between the SEI and the CDI slope factors. We tested bidirectional prospective prediction of changes by estimating a regression path from the SEI intercept to the CDI slope and a regression path from the CDI intercept to the SEI slope. We also allowed measurement error variances to covary across the two constructs within the same measurement point.

Of key interest was whether the strength of maltreatment impact on self-esteem and depressive symptoms, and the relationships between self-esteem growth factors and depression growth factors would vary as a function of gender. We used a two-group growth curve model to examine gender differences. The sample was divided into two separate groups: boys (n = 159) and girls (n = 92). For Model 2 in Table 2, we first fit a Configural Invariance model in which all parameters were freely estimated across the two groups, and then imposed equality constraints hierarchically to test the adequacy of the constraints using nested chi-square difference tests (Bollen, 1989).

For the Equal CDI slope model, we tested gender differences in the trajectory of depressive symptoms by imposing equality constraints upon the two factor loadings of the CDI slope. These constraints did not lead to a significant decrement in model fit, indicating that the shape of depression growth trajectory was similar between boys and girls. Because Model 1 testing results indicated that the linear growth was the best fitting model (see Table 2), the factor loadings of the SEI slope were fixed as linear (0, 1, 2, 3).

Next, for the Equal Maltreatment Effects model, we further imposed equality constraints on all regression paths for the effects of four maltreatment subtypes (presence/absence) and age on growth factors of self-esteem and depressive symptoms. These additional equality constraints did not degrade the model fit and, thus, were retained. This finding suggested that the effects of maltreatment and age on the self-esteem and depression growth factors were comparable between boys and girls. Finally, for the Equal Growth Relations model, we tested the equality for the variances, covariances, and the directional regression parameters among

the growth factors. Model fit of the Equal Growth Relations model was significantly worse than the model fit of the Equal Maltreatment Effects model, indicating that the relations between among initial levels and change trajectories of self-esteem and depressive symptoms were significantly different between boys and girls.

In Table 3, examination of parameter estimates in the Equal Maltreatment Effects model (best-fitting model) indicated that for both boys and girls, physical abuse was related to lower initial levels of self-esteem ($B = -.06$, $SE = .02$, $p < .05$) and higher initial levels of depressive symptoms ($B = 3.63$, $SE = 1.23$, $p < .05$). Physical neglect was associated with higher initial levels of depressive symptoms ($B = 2.62$, $SE = 1.03$, $p < .05$). Regardless of gender, emotional maltreatment was positively related to the initial levels of self-esteem ($B = .05$, $SE = .02$, $p < .05$) and negatively related to change in self-esteem ($B = -.03$, $SE = .01$, $p < .05$). Emotional maltreatment was also significantly predictive of initial levels of depression ($B = -3.12$, $SE = 1.11$, $p < .05$) as well as change in depression ($B = 2.69$, $SE = 1.13$, $p < .05$). Consistent with our findings of the baseline growth models, age was positively related to the initial levels of self-esteem ($B = .04$, $SE = .01$, $p < .05$) and negatively related to the initial levels of depressive symptoms ($B = -1.55$, $SE = .39$, $p < .05$), suggesting that older children reported higher self-esteem and lower depressive symptoms compared to younger children.

For both boys and girls, the initial level of self-esteem and the initial level of depression were negatively correlated ($r = -.76$, $p < .05$ for boys and $r = -.75$, $p < .05$ for girls). There was a significant correlation between the slope of self-esteem and the slope of depressive symptoms for boys ($r = .81$, $p < .05$), but not for girls ($r = -.06$, *ns)*, and this gender difference was statistically significant ($Z = 8.86$, $p < .05$). As for bidirectional predictive relations between self-esteem and depressive symptoms over time, we found that for both boys and girls, the initial level of self-esteem was positively predictive of the slope of depressive symptoms ($B = 19.64$, $SE = 7.86$, $p < .05$ for boys and $B = 26.62$, $SE = 9.29$, $p < .05$ for girls). The result indicates that children with higher initial levels of self-esteem showed slower decreases in depressive symptoms. However, the initial level of depression was not predictive of the growth trajectory of self-esteem over time ($B = -.001$, $SE = .001$, *ns* for boys and $B = .000$, $SE = .001$, *ns* for girls).

Supplemental Analyses

We used wave of the assessment as a metric in our growth curve models rather than age of the children. This was because we found that the excessive amount of missing data at each age caused problems in initiating the missing data EM algorithm and resulted in non-convergence. More specifically, we used a simpler 4 X 4 (4 assessments) covariance matrix to delineate developmental trajectories over six chronological ages (i.e., seven to twelve years of age over the four waves of measurement). In our sample, the majority of the children (72%) were of ages between 7~8 years at Wave 1 and the assessments were equally spaced for all individuals within each adjacent time period. However, there was heterogeneity in age at Wave 1 because the chronological age of the children varied within wave.

We used a multiple group structural equation model to investigate whether the developmental trajectories of self-esteem and depressive symptoms differed depending on the age at the initial assessment. If there were no significant age by slope interactions, then it would mean that the pattern of developmental trajectories does not differ depending on the initial age. We divided our sample into four age groups: (1) age 7: $n = 112$ (three 6-year old children were included in this group), (2) age 8: $n = 68$, (3) age 9: $n = 45$, (4) age 10: $n = 26$. We compared two nested models: the Factorial Invariance model and the Equal Slope model. In the Factor Invariance model, all the parameters were freed across the groups. In the Equal Slope model, equality constraints were imposed on the slope parameters across all the groups. We tested three group growth models in two different fashions: (1) by dropping the smallest group ($n = 26$, age 10),

and (2) by combining the age 9 (n = 45) and age 10 (n = 26) groups. Both methods yielded identical results. Model comparisons using the whole sample (n = 112 for age 7; n = 68 for age 8; n = 71 for age 9–10) indicated that the difference between the Factorial Invariance model and the Equal Slope model was not significant ($\Delta\chi^2 = 3.57$, $\Delta df = 4$, *ns*) for the CDI data nor for the SEI data ($\Delta\chi^2 = 1.49$, $\Delta df = 4$, *ns*). This finding suggests that the pattern of developmental trajectories for the CDI and the SEI did not vary depending on the initial age. Thus, it seems that the variability in the chronological age at the time of assessment in our sample would not limit our ability to estimate growth trajectories of six chronological ages based on four years repeated measures. Our growth models included the initial age as a covariate to control for the effect of age in the prediction of the intercept and slope factors based on children's earlier maltreatment experiences.

Discussion

This study examined the developmental trajectories of depressive symptoms and self-system processes during the elementary school years among maltreated and nonmaltreated children, and investigated the impact of different subtypes of maltreatment on conjoint developmental trajectories of self-system processes and depressive symptoms.

Our data indicated a significant decrease in depressive symptoms and linear increases in self-esteem and self-agency over the four time points. Our findings are consistent with previous work by Bolger and Patterson (2001) who performed growth curve analyses using a community sample of 785 children, 59 of whom had been maltreated. They found decreases in self-reported internalizing problems and increases in children's perceptions of internal control from Grade 4 to Grade 7. In contrast, other researchers have reported stability in depressive symptoms during the elementary school years. In a growth curve study of 578 children, 86 of whom had been maltreated, Keiley, Bates, Dodge, and Pettit (2000) found that mothers and teachers rated the children as being fairly stable in their internalizing symptomatology from kindergarten through Grade 7. The differences in the findings regarding developmental trajectories of children's depressive symptoms (i.e., a decreasing trajectory vs. stability) may be due partly to the use of different informants. Prior research has indicated only moderate correspondence between different sources of depression information. For example, correlations between child and parent reports of internalizing problems range from .30 to .40 (Achenbach, McConaughy, & Howell, 1987). In the study by Keiley and colleagues, mothers reported significantly higher levels of internalizing symptomatology compared to teachers.

Our data showed that initial levels and changes in self-system processes and depressive symptoms did not vary as a function of gender or ethnicity. Relatively consistent evidence suggests that there is no significant gender difference in the level of depressive symptoms or the prevalence of depressive disorders during childhood (e.g., Zahn-Waxler, Klimes-Dougan, & Slattery, 2000). Gender differences in the rates of depressive symptoms have been shown to emerge in early adolescence indicating that girls are more often depressed than boys (Cohen et al., 1993; Cole et al., 2002; Nolen-Hoeksema & Girgus, 1994). Therefore, our findings of non-significant gender effects on depressive symptoms are not surprising. Twenge and Nolen-Hoeksema (2002) also reported that there were no differences in the CDI scores between White and Black samples; however, Latino children scored higher than Whites and Blacks. In this study, we compared Whites to non-Whites of which the majority were Black, and found that these two groups were not significantly different with regard to initial levels and growth in depressive symptoms and self-system processes.

We hypothesized that distinctive maltreatment subtypes were differentially related to developmental trajectories of depressive symptoms and self-system processes. Our growth modeling results provide compelling information that helps enhance the existing knowledge

regarding the impact of different maltreatment subtypes on psychological adjustment. Physical neglect and physical abuse were positively associated with initial levels of depressive symptoms, suggesting that children who had experienced physical neglect or physical abuse were at higher risk for depression compared to those without such experiences. Our results are consistent with previous findings of the significant effects of physical neglect and physical abuse on depressive symptoms among children and adolescents. For example, Bolger and Patterson (2001) reported that physical neglect was a significant predictor of initial levels of internalizing problems. In a prospective investigation of a community sample, Lansford and her colleagues (2002) found that early physical maltreatment predicted adolescents' psychological and behavior problems including depression reported by mothers.

Emotional maltreatment has been identified as a stronger predictor than physical abuse of many psychological problems including internalizing and externalizing disorders, suicidal behavior, low self-esteem, and long-term psychological functioning (Briere & Runtz, 1990; Gibb et al, 2001; McGee et al., 1997; Mullen, Martin, Anderson, Romans, & Herbison, 1996). Our findings regarding the impact of emotion maltreatment suggested complexity. For depressive symptoms, emotional maltreatment was negatively related to initial levels but predicted slower decreases. For self-esteem, emotional maltreatment was positively related to initial levels but predicted slower increases over time. The existing research regarding emotional maltreatment focused on measuring the impact of childhood emotional maltreatment on current psychological problems in the community samples of adolescents and adults. Our results extend previous findings by providing evidence that emotional maltreatment, controlling for other subtypes of maltreatment, was the strongest predictor of developmental trajectories of self-esteem and depressive symptoms among elementary school aged children. In this study, emotional maltreatment involved persistent or extreme thwarting of children's emotional needs including the needs for psychological safety and security, and for acceptance and positive regard. Our findings suggest that such dysfunctional care-giving (or parenting) behaviors were associated with disturbances in the development of self-esteem and increased depressed affect among children.

Our findings regarding significant links between physical abuse and lower initial levels of self-esteem, and between emotional maltreatment and slower growth of self-esteem converge with well-documented detrimental effects of maltreatment on the development of children's self-system processes (e.g., Bolger et al., 1998; Cicchetti, 1991; Cicchetti & Rogosch, 1997; Egeland, et al., 1983; Toth et al., 1997). The current results extend previous findings by illustrating that maltreatment experience is related not only to disturbances in self-esteem but also to an alteration of developmental growth trajectory of self-esteem. Our data also suggested that the deleterious effects of maltreatment were more prominent on the self as object (i.e., self-esteem) than the self as subject (i.e., self-agency) among elementary school aged children.

It is counterintuitive that emotional maltreatment was positively related to the initial levels of self-esteem and negatively related to the initial levels of depressive symptoms. Prior research has shown that maltreated children inhibit negative affect and exhibit overbright positive affect, which has been thought to be an indication of a false self (Cicchetti & Rogosch, 1994; Crittenden & DiLalla, 1988; Koenig, Cicchetti, & Rogosch, 2000). In a recent study, Kim and Cicchetti (2003) reported that younger (< 8 years) maltreated children exhibited inflated levels of perceived self-efficacy in peer interactions compared to younger nonmaltreated children. Perhaps emotionally maltreated children, compared to those who had not experienced emotional maltreatment, were more likely to be engaged in defensive processing and reported inflated levels of self-esteem and suppressed levels of depressive symptoms. This hypothesis is speculative and more work is needed to better understand a positive self-rating bias of self-esteem and mood among emotionally maltreated children.

One of the primary questions addressed in the present study was to investigate gender differences in the relationships among maltreatment and developmental trajectories of self-system processes and depressive symptoms. As we discussed earlier, the impact of maltreatment subtype dimensions on the growth factors of self-esteem and depressive symptoms was similar between boys and girls. Regardless of gender, lower levels of self-esteem were concurrently associated with higher levels of depressive symptoms, and were predictive of steeper decreases in depressive symptoms. Thus, the current study dovetails with others demonstrating significant associations between low self-esteem and depressive symptoms in children and adults (e.g., Abela, 2002; Battle et al., 1988; Rawson, 1992; Renouf & Harter, 1990). Results of our growth curve models extend previous research by demonstrating that the entire sample was decreasing in depressive symptoms, and maltreated children showed consistently higher levels of depressive symptoms and lower levels of self-esteem than nonmaltreated children at any measurement time. However, maltreated children who fared worse at the initial measurement, reporting lower self-esteem and higher depressive symptoms, showed greater decreases in depressive symptoms over time compared to nonmaltreated children.

We found that emotional maltreatment was related to inhibited growth of self-esteem for both boys and girls. However, only for boys, greater increases in self-esteem were associated with greater decreases in depressive symptoms. This finding suggests that emotionally maltreated boys were vulnerable not only to impaired self-esteem development but also to increased depressive symptoms during the elementary school years. Our research converges with previous investigation by Reynolds and his colleagues (2001) who found greater impact of domestic violence on boys' self-esteem and depressive symptoms than those of girls. The current study also suggests that developmentally, self-esteem is critical to depression and vice versa, especially for boys.

We investigated the testing effects of longitudinal data on self-system processes and depressive symptoms. In a meta-analysis of the CDI, Twenge and Nolen-Hoeksema (2002) compared the third wave of studies with a 6-month lag to the second wave of studies with a 1-year lag (thus all measurements were taken 1 year after the original testing, but the session was either the second or the third time the respondents had completed the measure). The results indicated that the scores of the third-wave respondents were significantly lower than those of the second-wave respondents. The authors interpreted the findings that the number of times the respondents have completed the measure seems to be the crucial variable rather than the amount of time that has passed.

Our longitudinal data, however, did not indicate testing/ practice effects due to habituation. If there were a significant testing effect, then changes in self-reported scores between wave 1 and wave 3 should have been greater for the three-wave participants (i.e., those who participated in waves 1, 2, and 3) than for the two-wave participants (i.e., those who participated in waves 1 and 3). Our findings of non-significant differences between the three-wave group and the two-wave group suggested that the declining trend in depressive symptoms and the enhancing trend in self-esteem and self-agency seem to reflect developmental changes over time.

Given the fact that previous research has demonstrated negative consequences of sexual abuse (e.g., Kendall-Tackett, Williams, & Finkelhor, 1993), it is surprising that our models revealed that sexual abuse was not a significant predictor of the growth factors of self-system processes and depressive symptoms. It would be premature to conclude that sexual abuse was not harmful to the development of self and depression during elementary school years. It appears that the impact of sexual abuse was harder to detect than other subtypes (statistical power relative to the number of participants who were sexually abused = .35) because of its relatively low prevalence rates among the preadolescent children in our sample (i.e., 16% of girls and 7% of

boys). Prior research has suggested that the rates of sexual abuse increase, especially for girls, substantially in early adolescence (Nolen-Hoeksema & Girgus, 1994).

There are some limitations that need to be noted. First, our assessments of depressive symptoms and self-esteem were self-reports. Although there is evidence that self-report measures seem to be particularly revealing for symptomatic behaviors that are related to private or internal experience such as low self-esteem and depressive feelings (e.g., Kendall, Cantwell, & Kazdin, 1989), the relationships between the growth factors of self-esteem and the growth factors of depressive symptoms may be enhanced due to method variance and within-subject bias. Future research in this area would benefit from using multiple informants (e.g., parents, teachers, and clinicians) and multiple methods (e.g., observation, clinical interview, and formal diagnostic criteria). Second, because of sample size constraints, we were not able to test a more fine-grained race/ethnicity construct than comparing between Whites and Non-Whites. Further work is necessary to gain a more comprehensive understanding of ethnic differences in growth trajectories of self-system processes and depressive symptoms. Third, future research should investigate the possibility that the observed significant impact of maltreatment on children's self-esteem and depression may be attributed to other potential correlates that are associated with child maltreatment (e.g., family conflict and parental psychopathology) rather than child maltreatment per se. In future work, it will be important to examine whether child maltreatment per se causes subsequent maladjustment or rather, whether the negative childhood experiences in which child maltreatment typically occurs is causally related to negative outcomes.

Findings from this study suggest that child maltreatment, especially emotional maltreatment and physical abuse, presents formidable challenges that interfere with a healthy development of self-esteem and promote manifestations of depressive symptoms over time. Understanding the developmental processes whereby early maltreatment experiences are linked to later depressive symptoms is critical to intervention efforts. Our results highlight that reducing disturbances in self-esteem may be an important target of intervention for the prevention and treatment of psychological problems among children with higher relational risks at home. For example, interventions directed toward fostering improved self-esteem in children might be especially effective in altering the trajectory of depressive symptoms over time.

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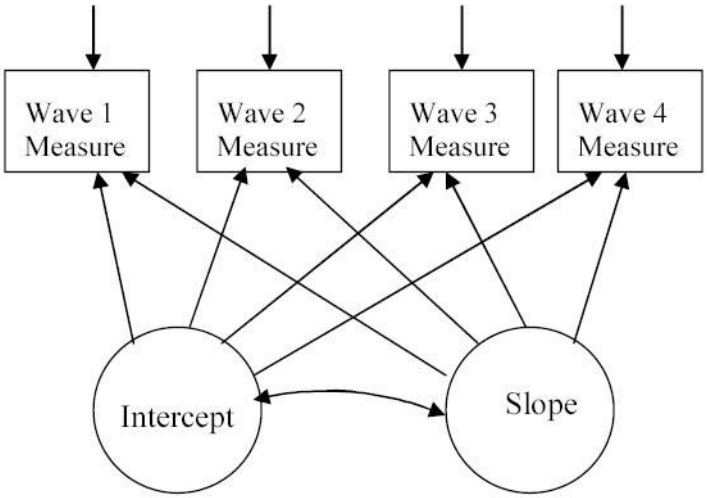

Figure 1.
Baseline growth curve model.

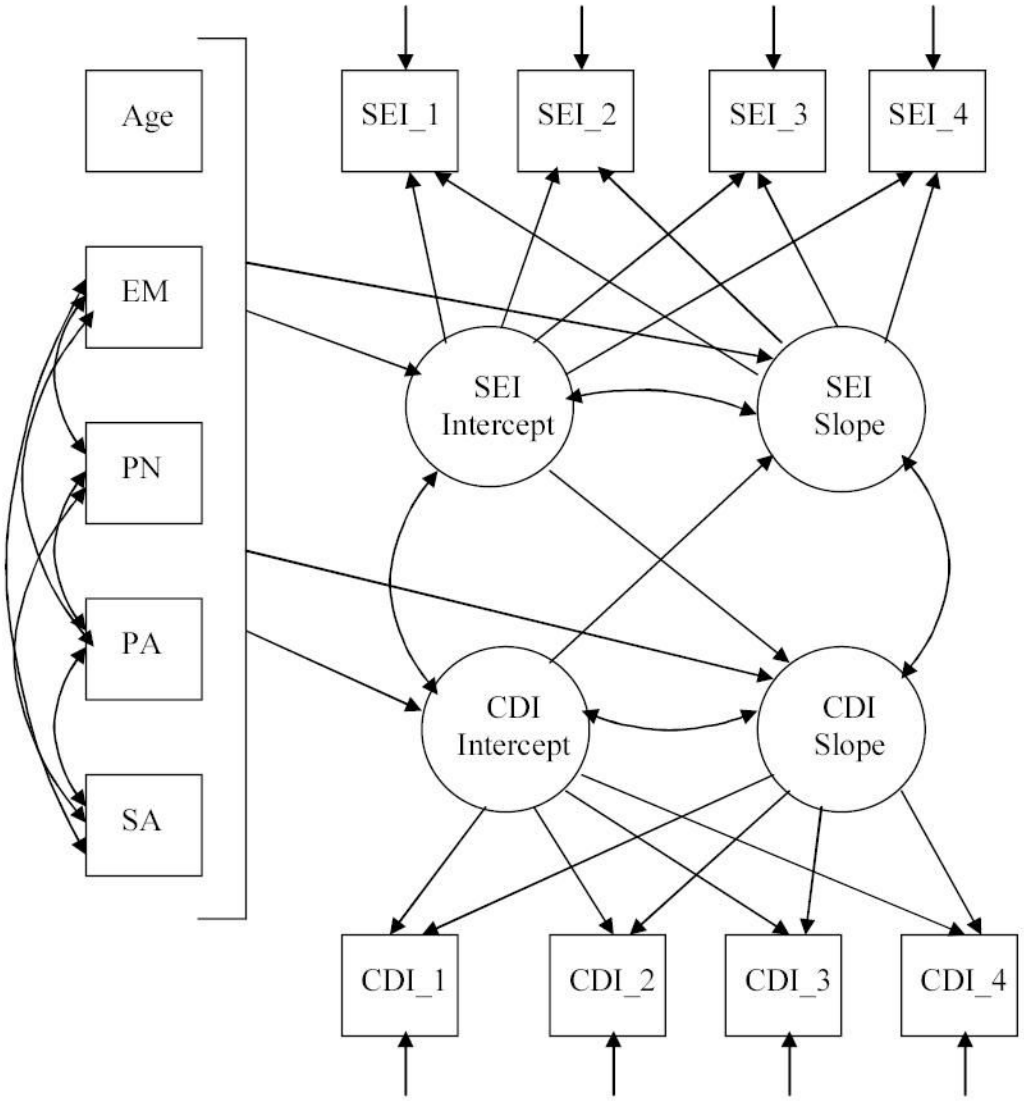

Figure 2.
Multivariate growth curve model of self-esteem and depressive symptoms with age and maltreatment subtypes as predictors. The correlations between error variances of the SEI and CDI manifest variables are not shown. SEI = Self-Esteem Inventory; CDI = Children's Depression Inventory. EM = Emotional Maltreatment; PN = Physical Neglect; PA = Physical Abuse; SA = Sexual Abuse.

Table 1

Descriptive Statistics for Self-Esteem, Self-Agency, and Depressive Symptoms of Maltreated and Nonmaltreated Children

	Maltreated (N=142)			Nonmaltreated (N=109)			
Variables	**M**	**SD**	**Range**	**M**	**SD**	**Range**	**Univariate *t***
Self-Esteem Inventory (SEI)							
SEI at Time 1	.67	.15	.24–.98	.69	.14	.34–.96	1.09
SEI at Time 2	.70	.15	.34–.96	.74	.13	.34–.98	2.36*
SEI at Time 3	.71	.15	.30–1.00	.76	.13	.42–1.00	2.68**
SEI at Time 4	.72	.16	.36–1.00	.81	.13	.46–.98	3.81**
Social Behavior Scale-Agency (SBS-Agency)							
SBS-Agency at Time 1	4.13	1.34	1.50–7.00	4.43	1.28	1.50–6.50	1.57
SBS-Agency at Time 2	4.09	1.29	2.00–7.00	4.63	1.19	2.00–7.00	2.80**
SBS-Agency at Time 3	4.45	1.20	1.00–7.00	4.37	1.37	1.00–7.00	−.40
SBS-Agency at Time 4	4.48	1.16	2.00–7.00	4.63	1.32	2.00–7.00	.62
Children's Depression Inventory (CDI)							
CDI at Time 1	9.82	8.12	0.00–35.00	9.06	6.73	0.00–30.00	−.79
CDI at Time 2	7.57	6.71	0.00–27.00	6.73	6.42	0.00–25.00	−.99
CDI at Time 3	6.79	5.77	0.00–32.00	6.05	5.48	0.00–29.00	−.98
CDI at Time 4	6.46	5.69	0.00–24.00	4.89	5.05	0.00–21.00	−1.76†

†Note: $p < .10$,

*$p < .05$,

**$p < .01$

Table 2

Comparisons of Fitted Growth Curve Models for Self-Esteem, Self-Agency, and Depressive Symptoms of Maltreated and Nonmaltreated Children

Model Label	χ^2	*df*	*p*(exact)	CFI	RMSEA	*p*(close)	$\Delta\chi^2$	Δ*df*	*p*(d)
Model 1. Baseline growth models									
SEI									
1-a. No-growth model	70.70	8	.00	.78	.18	.00			
1-b. Linear growth model	3.52	5	.62	1.00	.00	.85	67.18	3	<.05
1-c. Latent growth model	.76	3	.86	1.00	.00	.94	2.76	2	n.s.
SBS-Agency									
1-a. No-growth model	9.64	8	.29	.99	.03	.98			
1-b. Linear growth model	1.20	5	.95	1.00	.00	.98	8.44	3	<.05
1-c. Latent growth model	.55	3	.91	1.00	.00	.95	.65	2	n.s.
CDI									
1-a. No-growth model	73.35	8	.00	.67	.18	.00			
1-b. Linear growth model	12.34	5	.03	.96	.07	.17	61.01	3	<.05
1-c. Latent growth model	5.17	3	.16	1.00	.05	.38	7.17	2	<.05
Model 2. Two-group multivariate growth analyses of CDI and SEI by gender									
3-a. Configural invariance	112.31	80	.01	.97	.04	.82			
3-b. Equal CDI slope	115.28	82	.01	.97	.04	.82	2.98	2	n.s.
3-c. Equal maltreatment effects	130.20	102	.03	.97	.03	.96	14.92	20	n.s.
3-d. Equal growth relations	156.85	112	.00	.96	.04	.87	26.65	10	<.05

Note. Sample size is 251 for CDI and SEI data and 187 for SBS-Agency data. *p*(exact)=probability of an exact fit to the data; CFI=comparative-fit index; RMSEA=root mean square error of approximation; *p*(close)=probability of a close fit to the data; $\Delta\chi^2$=difference in likelihood ratio tests; Δ*df*=difference in *df;* *p*(d)=probability of the difference tests.

Table 3

Parameter Estimates, Standard Errors, and Critical Ratios for Two-Group Multivariate Growth Model with Maltreatment Subtypes

	Estimate	Std. Error	Critical Ratio
Factor loadings			
Time 1 → SEI slope	0=		
Time 2 → SEI slope	1=		
Time 3 → SEI slope	2=		
Time 4 → SEI slope	3=		
Time 1 → CDI slope	0=		
Time 2 → CDI slope	.50*	.08	6.50
Time 3 → CDI slope	.87*	.07	11.83
Time 4 → CDI slope	1=		
Regression effects on intercept			
Age → SEI intercept	.04*	.01	4.87
EM → SEI intercept	.05*	.02	2.22
PN → SEI intercept	−.03	.02	−1.73
PA → SEI intercept	−.06*	.02	−2.41
SA → SEI intercept	−.01	.03	−.29
Age → CDI intercept	−1.55*	.39	−4.00
EM → CDI intercept	−3.12*	1.11	−2.81
PN → CDI intercept	2.62*	1.03	2.54
PA → CDI intercept	3.63*	1.23	2.95
SA → CDI intercept	−1.88	1.53	−1.23
Regression effects on slope			
Age → SEI slope	−.01	.00	−1.53
EM → SEI slope	−.03*	.01	−2.78
PN → SEI slope	.01	.01	1.10
PA → SEI slope	.00	.00	.04
SA → SEI slope	.01	.01	1.02
Age → CDI slope	.07	.46	.16
EM → CDI slope	2.69*	1.13	2.37
PN → CDI slope	−1.85	1.04	−1.79
PA → CDI slope	−1.09	1.26	−.86
SA → CDI slope	1.36	1.50	.90
Regressions between SEI and CDI factors			
SEI intercept → CDI slope	19.64/26.62**	7.86/9.29	2.50/2.87
CDI intercept → SEI slope	−.00/.00	.00/.00	−.77/.12
Factor means			
SEI intercept	.38/.39**	.06/.07	5.96/6.02
SEI slope	.10/.07*	.04/.04	2.46/1.88
CDI intercept	22.13/21.51**	3.32/3.44	6.67/6.25
CDI slope	−17.46/−22.53**	5.01/5.28	−3.49/−3.87
Factor variances			
SEI intercept	.01/.01**	.00/.00	4.57/3.67
SEI slope	.00/.00	.00/.00	1.46/1.37
CDI intercept	25.73/30.50**	6.86/8.26	3.75/3.69
CDI slope	13.81/15.70	7.63/9.15	1.81/1.72
Factor covariances			
SEI intercept↔SEI slope	.00/−.00	.00/.00	−.63/−.85
CDI intercept↔CDI slope	−1.69/−12.61	5.48/7.01	−.31/−1.80
SEI intercep↔CDI intercept	−.38/−.39**	.09/.11	−4.11/−3.67
SEI slope↔CDI slope	−.07/−.02*	.04/.03	−1.96/−.46

Note. EM = Emotional Maltreatment, PN = Physical Neglect, PA = Physical Abuse, SA = Sexual Abuse, SEI = Self-Esteem Inventory, CDI = Children's Depression Inventory. For the means, variances, covariances, and regressions for latent factors, boys are on the left and girls are on the right. The "=" symbol means a parameter is fixed.

* $p < .05$.