CAREGIVER STATE OF MIND AND CHILD PSYCHOPATHOLOGY:

INTERGENERATIONAL EFFECTS IN A LOW-INCOME SAMPLE

by

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TABLE OF CONTENTS

LIST OF TABLES

ABSTRACT

This study examines the intergenerational effects of caregivers' experiences of loss and abuse on child and adolescent adjustment. Adult Attachment Interviews (AAIs) and lifetime trauma interviews were administered to 129 caregivers from a high-risk, economically disadvantaged sample. Child psychopathology was assessed using self and teacher-reported measures in middle childhood (ages 6, 8, and 10) and early adolescence (age 13). Caregivers' attachment security moderated intergenerational effects of Unresolved loss. The children of insecure caregivers with Unresolved loss showed a consistent pattern of psychopathology in childhood and early adolescence. Although caregivers' experiences of childhood abuse increased risk for adolescent psychopathology, these effects were largely accounted for by exposure to abuse and not Unresolved status. Caregivers with Cannot Classify (CC) and Fearfully Preoccupied with Trauma (E3) classifications had children with higher levels of teacher-reported problem behaviors in middle childhood. The results highlight the importance of examining different markers of disorganized attachment as independent risk factors for child and adult psychopathology.

Chapter 1

INTRODUCTION

The development of psychopathology is a complex process, involving the interaction of multiple risk factors over time. Attachment researchers have identified attachment predictors that might be helpful in explaining some of these developmental processes. Insecure attachment has been extensively studied as a risk factor and, although it typically occurs in 30 to 45% of the population, its effect as a predictor of psychopathology is very modest (see Sroufe, 1988; Greenberg, 1999). However, atypical attachment patterns that include disorganized infant attachment in the Strange Situation (Ainsworth, Blehar, Waters, & Wall, 1978) and unresolved loss and trauma in the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1996) have demonstrated larger and more consistent relationships with psychopathology, both in children and adults (Kobak, Cassidy, Lyons-Ruth, & Ziv, in press). Previous studies have investigated intergenerational transmission of disorganized states from caregivers to their infant children (van IJzendoorn, 1995), but much less is known about intergenerational effects during later developmental periods. In this study, we examine whether caregivers' Unresolved/ disorganized states of mind increase intergenerational risk for psychopathology during middle childhood and early adolescence.

Disorganized Attachment and Psychopathology

During the past two decades, attachment researchers have identified a variety of atypical patterns that represent breakdowns or lapses in organized attachment strategies. In the Strange Situation, disorganization is coded when infants display various behaviors suggesting that they are distressed or frightened by their caregiver (Main & Solomon, 1990). In the AAI, adults' Unresolved states of mind are identified from lapses in meta-cognitive monitoring during discussions of loss or abuse (Main & Goldwyn, 1998). Lapses in organized behavior or discourse may take a variety of forms. Disorganized infants might display contradictory approach-avoid behaviors or freezing during the Strange Situation (Main & Hesse, 1990). During the AAI, individuals classified as Unresolved with respect to loss might evidence markers such as belief that the deceased is not dead or a marked change in speech style, while markers of Unresolved abuse include fear of being taken over by the perpetrator and vivid visual sensory intrusions. Lapses in discourse indicate that these experiences have not been fully integrated into the narrative. In addition to Unresolved loss and abuse, two other AAI classifications indicate disorganized or unintegrated states of mind. Cannot Classify (CC) is assigned when the speaker uses both dismissing and preoccupied strategies in different parts of the interview (Hesse, 1999). The E3 subcategory, Preoccupied with Traumatic Events, is assigned when a subject inappropriately responds to interview questions with descriptions of childhood trauma and seems confused and fearful during these discussions (Main & Goldwyn, 1998).

A number of studies have examined the relationship between disorganized attachment and psychopathology in both infants and adults. Studies using the AAI report increased rates of Unresolved classifications among suicidal teens (Adams, Sheldon-Keller, & West, 1996), adults previously hospitalized for psychiatric disorders during adolescence (Allen, Hauser, & Borell-Spurman, 1996), and patients diagnosed with anxiety disorders (Fonagy et al., 1996). CC and E3 caregivers are also at increased risk for psychopathology. Studies have found a higher than normal prevalence of CC classifications among those institutionalized for violent crimes (van IJzendoorn, Feldbrugge, Derks, & de Ruiter, 1997) and men who have been violent towards their spouses (Holtzworth-Monroe, Stuart, & Hutchinson, 1997). Several researchers have reported associations between E3 classification and borderline personality disorder (Patrick, Hobson, Howard, Castle, & Maughan, 1994; Fonagy et al., 1996).

Researchers have also examined the developmental trajectories of disorganized infants. Prospective studies of these children indicate increased risk for academic difficulties (Moss, Rousseau, Parent, St-Laurent, & Saintong, 1998), aggressive behavior (Lyons-Ruth, Alpern, & Repacholi, 1993; Munson, McMahon, & Spieker, 2001), atypical behaviors with preschool peers (Jacobvitz & Hazan, 1999), and co-occurring internalizing and externalizing problems (Lyons-Ruth, Easterbrooks, & Cibelli, 1997) during early and middle childhood. Carlson (1998) found higher levels of dissociative symptoms among children in both elementary and high school who had been classified as disorganized during infancy.

Intergenerational Transmission of Disorganized States of Mind

Prediction of infant attachment organization (secure, avoidant, resistant) from organized caregiver AAI classifications (secure/autonomous, dismissing, preoccupied) has been widely replicated. A meta-analysis of studies indicates a very large effect size (1.06) of secure versus insecure predictions from caregiver AAI to infant Strange Situation (van IJzendoorn, 1995). However, studies of the transmission of caregivers' disorganized states of mind to their infants have produced less impressive results. van IJzendoorn's meta-analysis reported a moderate effect size of .65 for prediction of infant disorganization during the Strange Situation from Unresolved AAI classifications. Schuengel, Bakersman-Kranenburg, and van IJzendoorn (1999) discovered that Unresolved caregivers who were also secure were less likely to have disorganized infants than those who were insecure. This indicates that Unresolved states may interact with other caregiver qualities to produce disorganization in infants. Researchers have yet to establish definitive associations between the two other disorganized states of mind, CC and E3, and infant strategies in the Strange Situation.

Limitations of Previous Research

Although the AAI has been used extensively to predict infant attachment security, few studies have examined the effects of caregiver state of mind on older children or adolescents. Limiting research of intergenerational effects to infancy may be too narrow, as caregiver state of mind might continue to shape attachment strategies and overall adaptation through childhood and adolescence. Bowlby (1973) theorized that children's

attachment organizations are most "environmentally sensitive" during the early years of development and gradually become more self-regulating through the years of "immaturity" leading to adulthood. Thus, although we expect caregiver state of mind to have some predictive value in adolescence, these effects may not be as large as they would be during earlier developmental periods (Fraley & Brumbaugh, 2002; Kobak et al., in press). Only one study of adolescents has examined the effects of caregiver state of mind on adolescent outcomes. It reported a small but significant effect (r = .21) on adolescent AAI classification (Allen et al., 2003). However, this study did not examine intergenerational transmission of disorganized states of mind.

Previous studies of Unresolved states of mind have failed to consider the confound between simple exposure to abuse or loss and Unresolved classification. Trauma researchers have found that exposure to these experiences is associated with negative outcomes. Childhood physical and sexual abuse have been associated with posttraumatic stress disorder (PTSD; Widom, 1999), dissociative symptoms (Irwin, 1994), depression (Briere, 1988), personality disorders (Johnson, Cohen, Brown, Smailes & Bernstein, 1999), and substance abuse (Epstein, Saunders, Kilpatrick, & Resnick, 1998). Differentially, physical abuse has been linked to conduct disorder and depression, whereas sexual abuse has been linked to dissociative behaviors and posttraumatic stress symptoms (Deblinger, McLeer, Atkins, Ralphe, & Foa, 1989). Given the accumulated evidence about the deleterious effects of childhood abuse, it is important to control for exposure to abuse when considering the effects of Unresolved abuse.

The experience of loss is more common than abuse and is not typically associated with the same developmental consequences. However, following the loss of a close loved one, a normal pattern of bereavement can include depression reaching clinical levels for a full year after the loss. Approximately 18% of those who lose a spouse will continue to show depressive symptoms two years later (Clayton, Halikas, & Maurice, 1972). Recent research has identified certain contextual features of loss that increase risk for later maladjustment. Factors that make coping more difficult include lack of perceived social support and the experience of a sudden, violent loss (Bonanno & Kaltman, 1999). The trauma literature suggests that certain traumatic losses through homicide, suicide, or accident can result in PTSD reactions (Kaltman & Bonnano, 2003). Compared to abuse, we expect exposure to loss to be less predictive of psychopathology on its own, but certain moderating factors may make recovery from a loss experience more difficult.

Another limitation of AAI studies is that Unresolved loss and trauma have typically been organized into a single Unresolved category. Nearly all previous AAI studies examined effects of Unresolved status by grouping abuse and loss together, usually due to the relatively low prevalence of Unresolved abuse. However, research in the trauma field indicates that these two types of events are predictive of different developmental outcomes. Following this logic, we believe that Unresolved loss and abuse will differentially predict psychopathology in those who experience it. As a result, we also believe that there might be differential intergenerational effects of these experiences.

Finally, few AAI studies have considered major attachment categories as potential moderators of Unresolved status. One such study has found that caregivers with

Unresolved but secure/autonomous classifications are less likely to have disorganized infants than those whose caregivers are Unresolved and insecure (Schuengel et al., 1999). We believe that caregiver security might serve a similar protective function for adolescents whose caregivers are classified as Unresolved with respect to either loss or abuse.

The Present Study

Our study is designed to address many of the limitations of previous AAI studies. A central question of this study is whether caregiver disorganized states of mind in the AAI influence child psychopathology during elementary school and early adolescence. Our analyses will control for exposure to loss and trauma since these are potential confounds of Unresolved, CC, and E3 classifications. We will then test Unresolved status for loss and abuse as separate independent predictors of caregiver and child outcomes. Finally, we will consider attachment security as a potential moderator of Unresolved status. We hypothesize that caregivers' exposure to trauma and disorganized states of mind will increase their children's risk for psychopathology. Based on previous studies of the sequelae of infant disorganization, we have assessed a wide range of possible outcomes, including measures of internalizing, externalizing, social, attention, and thought problems along with self-reported measures of dissociation.

Chapter 2

METHOD

Participants

One hundred twenty nine caregiver-adolescent dyads were retained from a longitudinal study of families that had participated in Head Start (Ackerman, Schoff, Levinson, Youngstrom, & Izard, 1999). The sample was recruited because exposure to trauma and lack of resolution are more prevalent in low-income families. In the current wave of data collection, 56.7% of the families had a single caregiver, 21% included two biological parents, and 20.7% included a primary caregiver and a live-in boyfriend. Primary caregivers were predominately biological mothers (87%), while 7% were grandmothers, 3% were biological fathers and 3% were aunts or foster mothers. Adolescents ranged in age from 12.38 to 13.99 years (M = 13.11, SD = .22). Seventy seven percent of particpants were African-American, 21% were European-American, and 3% were Hispanic. Families had an average household income of $23,756 ($SD$ = $24,263) and 27% of the families received welfare payments.

Procedure

Caregiver-adolescent dyads were assessed two times during the age 13 wave of the study. Initial interviews were conducted during a home visit, which lasted between 1 and 2 hours. Home visits were followed within a 2 to 4 week period by a 3-hour university laboratory visit. As part of the lab visit, caregivers were interviewed following

the protocol for the Adult Attachment Interview (George et al., 1996) and adolescents provided self-reports of adjustment, relationships with peers and family members, and psychopathology. Caregivers received $200 and adolescents received $50 upon completion of the second visit. Within 6 months of the lab visit, adolescents were interviewed at their school and teacher-reports of child symptoms and adjustment were collected. Teachers were paid $25 for each survey completed.

In addition to data collected when the child was 13, additional data for the current study were collected at earlier time points. Specifically, teacher-reports of child behavior were collected at ages 6, 8 and 10. In addition, caregiver verbal IQ scores were collected when their children were in Head Start. Data collection at these time points followed similar protocols.

Caregiver Measures

Adult Attachment Interview

The Adult Attachment Interview (AAI; George et al., 1996) is a semi-structured interview widely used to assess adult state of mind regarding attachment. Interview topics focus on childhood experiences with attachment figures such as specific incidences of being sick, hurt, or ill as a child, setbacks that occurred during childhood, and effects of childhood experiences on adult personality. The interview also includes detailed probing of all physical or sexual abuse experiences during childhood and loss experiences

throughout the lifetime. Interviews typically last 60 to 90 minutes. Reliability and validity of the AAI are well-established (Crowell, Fraley, & Shaver, 1999).

All AAIs were tape recorded and transcribed. Interviews were coded using the Q-sort technique (Kobak, Cole, Ferenz-Gillies, & Gamble, 1993) based on the Main and Goldwyn (1998) system for identifying the three organized attachment classifications (secure/autonomous, dismissing, and preoccupied). Raters assign 100 Q-sort items to 9 categories ranging from least to most characteristic of the transcript. These Q-sorts were compared to prototype sorts for secure/autonomous, dismissing, and preoccupied. Correlations between transcript sorts and prototypes yield continuous scores for each classification. In addition, transcripts were coded using Main and Goldwyn's (1998) Unresolved/disorganized scales. All incidences of loss and abuse were scored on the 9-point Unresolved scale. A score above a 5 on these scales automatically qualifies the transcript for a primary Unresolved classification, while a score of 5 leaves classification of the transcript to the rater's discretion. For our analyses, the Unresolved scales were treated as continuous measures of lack of resolution to increase statistical power.

To ensure reliability, two independent raters coded each transcript. If the interrater correlation fell below .44, a third rater coded the transcript. The highest two-rater correlation was used to form a composite description of the transcript. A third rater was required in 27 (20.9%) transcripts. The average reliability for the transcripts was .80 (Spearman-Brown formula). Interrater reliability for the Unresolved scales was .82 for Unresolved loss and .83 for Unresolved abuse. Agreement on Unresolved classifications yielded a kappa of .96.

In addition to reliability within the lab, an outside rater with established reliability coded a random sample of twenty transcripts. This coder was blind to all other data from the study. Percentage agreement between raters in our lab and the outside rater was 85%. Intraclass correlation coefficients between our lab and the outside rater for the continuous Unresolved loss and abuse scales were .67 and .94, respectively.

One hundred and twenty-two subjects (95%) reported a loss during the interview and thirty transcripts (22%) were classified as Unresolved for loss. Forty-five subjects (35%) reported childhood abuse during the interview and 12 transcripts (9%) were classified as Unresolved for abuse. Four transcripts were classified as Unresolved for both loss and abuse. Overall, 29.5% of the sample was given a primary classification of Unresolved.

Q-sort ratings can be converted into classifications based on the Main and Goldwyn (1998) system according to their prototype correlations (Kobak et al., 1993). In our sample, 57 transcripts (44.2%) were classified secure/autonomous, 45 (35.4%) were dismissing, and 23 (17.8%) were preoccupied. In addition to the three major classifications, two atypical classifications were coded using Main & Goldwyn's (1998) coding criteria. Four transcripts (3.1%) were identified as Cannot Classify (CC) and 10 transcripts (7.8%) were classified as E3 or Fearfully Preoccupied with Trauma. Due to the small number of CC transcripts, the CC and E3 classifications were combined to form a CC/E3 group. Of the 30 transcripts classified as Unresolved for loss, 13 were also classified as secure/autonomous and 17 were classified as insecure (dismissing, preoccupied, or CC). Conversely, none of the 12 transcripts classified as Unresolved for

abuse were also classified as secure/autonomous. There was substantial overlap between Unresolved classification and both E3 and CC; three E3 transcripts were also Unresolved for loss and six were Unresolved for abuse. One CC transcript was also Unresolved for loss and one was Unresolved for abuse.

Trauma Interview

A lifetime trauma interview was administered immediately after the AAI. Interviewers recorded attachment-related traumas discussed during the interview and additional traumatic events were identified using questions from the Traumatic Stress Schedule (Norris, 1990). Each traumatic event was coded into 1 of 12 different trauma categories. Dummy variables were then created to index exposure to childhood abuse and traumatic loss. Traumatic loss events are defined as sudden, violent losses that occurred through homicide, suicide, or accident and childhood abuse includes both physical and sexual abuse. Thirty-eight caregivers (29.5%) reported a lifetime experience of traumatic loss and 50 caregivers (38.8%) reported childhood abuse.

Verbal IQ

We used the Vocabulary subtest of the Wechsler Adult Intelligence Scale - Revised (WAIS-R; Wechsler, 1981) as an estimate of verbal ability. This measure was administered to caregivers during the first wave of data collection when the children were in Head Start. Scaled scores were used for all analyses.

Depression

Caregiver depression was assessed using the Beck Depression Inventory (BDI; Beck & Steer, 1987). The BDI is the most frequently used self-report instrument for assessing depression severity and demonstrates good psychometric properties. A meta-analysis of the BDI's internal consistency revealed a mean alpha of .81 for non-psychiatric patients (Beck, Steer & Garbin, 1988). In this study, Cronbach's alpha was .92.

Dissociation

The Dissociative Experiences Scale (DES; Bernstein & Putnam, 1986) is a 28-item measure of the extent to which an individual has dissociative experiences during their everyday life. The DES demonstrated good split-half and test-retest reliability as well as adequate internal consistency. For the present sample, Cronbach's alpha was .93.

Adolescent Measures

Harsh Parenting

Adolescents were asked to rate how often their caregivers utilize various methods to discipline them using the Conflict Tactics Scale Parent to Child (CTS; Straus, Hamby, Finkelhor, Moore, & Runyan, 1998). For the current study, we used two subscales to index harsh parenting: Psychological Aggression and Physical Assault. Cronbach's alphas for the current sample are .80 and .75, respectively. The Psychological Aggression

subscale measures verbal and nonverbal behaviors that may create psychological pain or fear. The Physical Assault subscale measures parental physical behavior, ranging from traditional corporal punishment to more severe physical maltreatment. Items were averaged to create the scores for each subscale. For the purposes of the present study, the Harsh Parenting variable was computed by averaging z-scores of the two subscales.

Teacher Rating Forms (Age 13)

The Achenbach Child Behavior Checklist - Teacher's Report Form (TRF; Achenbach & Rescorla, 2001) is a 113-item measure of children's behavioral and emotional problems at school. At age 13, two teachers independently rated the adolescents. These ratings correlated between .29 and .60 across the nine symptoms clusters. Thus, the two teachers' index scores were aggregated. When two teachers' ratings were not available for a particular child, a single teacher's ratings were used (this occurred in 35% of the sample). An Internalizing composite score was computed by averaging the Anxiety/Depression, Withdrawal, and Somatic Problems index scores. An Externalizing composite score was computed by averaging the Aggression and Delinquency index scores. In addition, we used the Social, Attention, and Thought problem index scores in this study. Achenbach and Rescorla (2001) report evidence for good psychometric properties.

Teacher Rating Forms (Ages 6, 8, and 10)

In addition to age 13, the TRF was collected when the children were 6, 8, and 10. One teacher completed the TRF for each child. To create measures of childhood problem behaviors, teacher reports were aggregated for ages 6, 8 and 10 for each of the symptom clusters: Internalizing behaviors, Social problems, Attention problems, Thought problems, and Externalizing behaviors.

Dissociation

The Adolescent Dissociative Experiences Scale (A-DES; Armstrong, Putnam, Carlson, Libero, & Smith, 1997) is a screening measure for pathological dissociation in adolescence. The A-DES demonstrated good predictive and discriminant validity. The alpha for the total scale score in our sample was .93.

Chapter 3

RESULTS

Descriptive Analyses

The means and standard deviations of child and caregiver adjustment measures are presented in Table 1. Comparisons of means with normative data highlight risks often found in low-income samples. Overall, the caregivers were substantially below national norms for verbal IQ and children had higher rates of adjustment problems, such as externalizing behaviors.

Correlations between the attachment and trauma variables are presented in Table 2. Caregivers classified as secure/autonomous had somewhat higher verbal IQ. African-American caregivers were less likely to be classified E3/CC or Unresolved for abuse. However, they did not differ from other caregivers in exposure to abuse. Caregiver IQ and ethnicity were subsequently entered as control variables in all further analyses. Correlations between attachment classifications indicated some convergence between exposure to abuse and disorganized states of mind. Exposure to abuse showed strong associations with E3/CC status, Unresolved abuse, and non-secure/autonomous states of mind. In contrast, scores on the Unresolved loss scale were independent of all other AAI and trauma variables.

Correlations between caregiver and adolescent adjustment variables are presented in Table 3. Adolescent dissociation was positively related to both caregiver dissociation and child-reported harsh parenting. Teacher-reported externalizing behaviors demonstrated stability between the earlier (ages 6 through 10) and later (age 13) time points whereas internalizing symptoms showed less stability over time.

Regression Analyses

Hierarchical Linear Regression analyses were used to address the major study hypotheses. Control variables for ethnicity and caregivers' verbal IQ were entered in the first step. In the second step, we controlled for caregivers' trauma exposure by entering dummy codes for exposure to traumatic loss and childhood abuse from the Trauma Interview. The third block of variables tested the effects of AAI secure/autonomous and E3/CC classifications. These variables were entered as dummy variables representing their respective classifications. In the fourth block, continuous scores for Unresolved loss and abuse were entered. Finally, the moderating effects of security on both Unresolved scales were tested with interaction terms entered in the fifth block.

Caregiver Trauma, Unresolved Status, and Psychopathology

Caregiver and adolescent self-report measures were regressed on demographic, exposure, and AAI variables. Results are presented in Table 5. With caregiver IQ and ethnicity controlled, caregiver exposure to abuse predicted caregivers' reports of depression and dissociation as well as adolescents' reports of dissociation and harsh

parenting. However, exposure to traumatic loss was not related to caregiver or adolescent adjustment. AAI classifications of secure/autonomous, Unresolved, and E3/CC produced no additional effects on caregiver and adolescent adjustment.

Caregiver Trauma, Unresolved Status, and Adolescent Psychopathology

Aggregated teacher-reported problems at ages 6 through 10 are regressed on demographic, exposure, and AAI variables. Results are presented in Table 6. Loss and abuse exposure variables were not related to problem behaviors, with the exception of abuse exposure predicting lower levels of internalizing behaviors. Unresolved abuse was also unrelated to elementary school problems. E3/CC classification and Unresolved loss differentially predicted outcomes, such that E3/CC classification was related to higher levels of both internalizing and thought problems whereas Unresolved loss was related to higher levels of social problems, attention problems, and externalizing behaviors.

Caregiver secure/autonomous status moderated the effect of Unresolved loss on social, attention, and thought problems and on externalizing behaviors. In every instance, caregiver Unresolved loss predicted higher levels of maladjustment among adolescents whose caregivers who were insecure compared with those whose caregivers were secure/autonomous. To determine the magnitude of these interactions, correlations between Unresolved loss and problem behaviors were examined separately for adolescents with autonomous/secure caregivers and those with insecure caregivers. For the insecure caregivers, correlations with Unresolved loss were: social problems ($r = .35$, $p < .01$), attention problems ($r = .30$, $p < .05$), thought problems ($r = .36$, $p < .01$), and

externalizing behaviors ($r = .43$, $p < .001$). For the secure group, correlations with Unresolved loss were: social problems ($r = -.09$, *ns*), attention problems ($r = -.12$, *ns*), thought problems ($r = -.25$, *ns*), and externalizing behaviors ($r = -.14$, *ns*).

Teacher-reported problems at age 13 were regressed on demographic, exposure, and AAI variables in Table 7. These results followed a similar pattern as those presented above at ages 6 through 10. However, E3/CC caregiver classification was no longer significantly related to teacher-reported problems. Unresolved loss in caregivers predicted higher levels of social, attention, and thought problems among adolescents, but was no longer significantly related to externalizing behaviors. Neither exposure to abuse nor Unresolved abuse were associated with problem behaviors at age 13.

Caregiver secure/autonomous status continued to moderate the effects of Unresolved loss on social and thought problems and externalizing behaviors, but not on attention problems. In every instance, caregiver Unresolved loss predicted higher levels of maladjustment among adolescents whose caregivers were insecure compared with those who were secure/autonomous. For the insecure group, the correlations with Unresolved loss were: social problems ($r = .35$, $p < .01$), thought problems ($r = .36$, $p < .01$), and externalizing problems ($r = .26$, $p < .05$). For the secure group, the correlations with Unresolved loss were: social problems ($r = -.22$, *ns*), thought problems ($r = -.10$, *ns*), and externalizing problems ($r = -.18$, *ns*).

Table 1. Means and Standard Deviations of Study Variables

	M	*SD*
Caregiver Verbal IQ	5.50	1.97
Caregiver Depression	10.99	10.66
Caregiver Dissociation	2.27	1.10
TRF – Social Problems (6-10)	2.90	2.71
TRF – Thought Problems (6-10)	0.72	1.05
TRF- Attention Problems (6-10)	12.77	7.89
TRF – Externalizing Problems (6-10)	6.97	5.76
TRF – Internalizing Problems (6-10)	2.50	1.82
TRF – Social Problems (13)	2.51	2.74
TRF – Thought Problems (13)	0.91	1.41
TRF- Attention Problems (13)	13.26	8.33
TRF – Externalizing Problems (13)	6.55	6.20
TRF – Internalizing Problems (13)	2.29	2.17
Adolescent Dissociation	2.34	1.59

Table 2. Correlations between Predictor Variables

Predictor	2	3	4	5	6	7	8
1. Caregiver IQ	-.13	.13	-.05	.23*	.01	.14	.07
2. African-American	-	-.13	.03	-.03	-.26**	-.29**	.09
3. Abuse exposure		-	.22*	-.10	.31***	.53***	.07
4. Loss exposure			-	-.03	-.01	.00	.09
5. Secure/autonomous				-	-.29**	-.23**	-.03
6. E3/CC					-	.37**	-.04
7. Unresolved abuse						-	.05
8. Unresolved loss							-

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 3. Correlations between Dependent Variables

Outcome variables	2	3	4	5	6	7	8
1. Depression ~	.45***	-.07	-.04	-.01	.07	.16	.09
2. Dissociation ~	-	.07	-.05	.02	.03	.05	.19*
3. Harsh Parenting		-	-.01	-.08	.02	-.07	.48***
4. TRF Ext (6-10)			-	.35***	.54***	.00	-.02
5. TRF Int (6-10)				-	.22*	.29**	.14
6. TRF Ext (13)					-	.27**	.09
7. TRF Int (13)						-	.13
8. Dissociation							-

~ denotes caregiver variable.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 4. Regression Model Predicting Caregiver and Adolescent Self-Reports

	Caregiver Reports				Adolescent Reports			
	Depression		Dissociation		Dissociation		Harsh Parenting	
	β	R^2 Chng	β	R^2 Chng	β	R^2 Chng	β	R^2 Chng
Step 1		.03		.01		.01		.01
IQ	-.12		-.07		-.02		.03	
Ethnicity	-.15		-.07		.07		-.10	
Step 2		.06*		.04+		.08**		.09**
Loss exp	-.03		.06		-.01		.00	
Abuse exp	.25**		.19*		.30**		.30**	
Step 3		.04+		.04+		.08**		.00
Secure/Aut	-.16		-.05		-.27**		-.03	
E3/CC	.09		.19+		.07		.03	
Step 4		.01		.02		.01		.01
U Loss	-.02		-.04		-.02		-.01	
U Abuse	.14		.16		-.12		.13	
Step 5		.02		.01		.00		.00
SecXUloss	-.11		.21		.10		-.06	
SecXUabus	.24		-.07		-.05		-.01	
Total R^2		.16*		.14		.18**		.11

+ p < .10. * p < .05. ** p < .01.

Table 5. Regression Model Predicting Teacher-Reported Problems at Age 6, 8, and 10

	Internalizing		Social		Attention		Thought		Externalizing	
	β	R^2 Chng	β	R^2 Chng	β	R^2 Chng	β	R^2 Chng	β	R^2 Chng
Step 1		.03		.04		.07*		.00		.01
IQ	-.17+		-.18+		-.24**		-.02		-.10	
Ethnicity	-.04		-.10		.07		-.01		.03	
Step 2		.07*		.02		.02		.01		.00
Loss exp	-.15		-.10		-.13		-.12		.02	
Abuse exp	-.19*		-.10		-.07		.00		-.05	
Step 3		.09**		.03		.05*		.06*		.01
Secur/Aut	.02		-.02		-.15		.01		-.06	
E3/CC	.32**		.19+		.15		.27*		.07	
Step 4		.01		.05*		.05*		.05*		.05+
U Loss	.10		.23*		.18*		.16+		.23*	
U Abuse	.07		-.06		.16		.19+		-.02	
Step 5		.03		.05+		.04+		.11**		.08**
SecXUlos	-.33+		-.44*		-.42*		-.68***		-.61**	
SecXUabu	-.03		-.02		.02		.09		.05	
Total R^2		.22**		.19**		.23**		.23**		.16*

+ p < .10. * p < .05. ** p < .01. *** p < .001.

Table 6. Regression Model Predicting Teacher-Reported Problems at Age 13

	Internalizing		Social		Attention		Thought		Externalizing	
	β	R^2 Chng	β	R^2 Chng	β	R^2 Chng	β	R^2 Chng	β	R^2 Chng
Step 1		.03		.03		.03		.02		.02
Verbal IQ	-.07		-.11		-.17+		-.07		-.13	
Ethnicity	-.16+		-.14		.04		-.14		.00	
Step 2		.05*		.02		.03		.01		.01
Loss exp	-.20*		.05		.02		.05		.11	
Abuse exp	.15		.11		.16+		.09		-.01	
Step 3		.01		.01		.01		.00		.01
Secur/Aut	.06		-.06		.05		-.03		-.05	
E3/CC	-.07		-.06		.08		.04		.07	
Step 4		.02		.04+		.04+		.06*		.03
U Loss	.16+		.20*		.21*		.25**		.13	
U Abuse	.02		-.10		-.03		.01		-.13	
Step 5		.01		.07*		.02		.05*		.07*
SecXUlos	-.10		-.54**		-.28		-.44*		-.50*	
SecXUabu	-.10		-.07		-.05		-.08		.20+	
Total R^2		.12		.16*		.12		.15+		.13+

+ p < .10. * $p < .05$. ** $p < .01$.

Chapter 4

DISCUSSION

Implications

Disorganized attachment takes several forms in the Adult Attachment Interview. Momentary disorganization is coded with Unresolved scales that assess lapses in meta-cognitive monitoring during discussion of loss or abuse. Pervasive forms of disorganization include Cannot Classify (demonstrating both preoccupied and dismissing strategies) and the E3 sub-classification that is marked by pervasive preoccupation with traumatic events. Our findings suggest some important intergenerational effects of caregiver disorganization on child adaptation, but point to a more differentiated picture of how unique forms of disorganization increase risk for child psychopathology.

Although most previous AAI studies have examined one general category of disorganization often labeled Unresolved, correlations between these different measures of disorganization indicate a surprising degree of independence. This was most evident in the case of Unresolved loss, which was unrelated to overall secure/autonomous status, any other measure of disorganization, or to measures of exposure to abuse or traumatic loss. In contrast, overall secure/autonomous status and atypical classifications did covary with exposure to and lack of resolution of caregiver abuse during childhood. Unresolved

abuse showed a strong association with exposure to abuse and modest associations with overall secure states of mind and atypical classifications. These correlations suggest that exposure to childhood abuse is more closely linked to disorganization in the AAI than is exposure to traumatic loss.

Our findings suggest different patterns of intergenerational effects for caregivers' exposure to and resolution of loss and abuse. In the case of abuse, caregivers' exposure to abuse, rather than lack of resolution, accounted for most of the variance in caregiver depression and dissociation, adolescent dissociation, and adolescents' reports of harsh parenting. Exposure to childhood abuse is a well-established predictor of later psychopathology (e.g., Widom, 1999; Epstein et al., 1998; Briere, 1988). Unresolved status with respect to abuse added very little to abuse exposure in accounting for adult or child outcomes. Despite associations between abuse exposure and concurrent caregiver and child reports of symptoms, neither exposure nor lack of resolution of abuse demonstrated consistent associations with teacher ratings of child symptoms in either middle childhood or early adolescence. However, CC and E3 patterns of attachment had predictive power in middle childhood, after controlling for exposure to abuse and loss. The more pervasive forms of disorganization represented by these classifications may account for their effects on children

Caregivers' Unresolved loss produced a remarkably consistent pattern of intergenerational effects. Unresolved loss had significant effects on child outcomes in both middle childhood and early adolescence. Secure/autonomous classification moderated Unresolved loss with negative intergenerational effects limited almost entirely

to insecure caregivers. These results are consistent with Schuengel et al.'s (1999) study of mothers and infants. They found that secure/autonomous status on the AAI served as a protective factor when caregivers were also Unresolved. The present study extended these findings to adolescent children of caregivers with Unresolved loss, as security moderated these effects on teacher-reported problems in middle childhood and early adolescence. Loss is a common lifetime occurrence and, although depressive symptoms are normal in the year following (Clayton et al., 1972), loss has not been linked to the development of psychopathology under normal circumstances. The Unresolved loss scale is meant to capture a lack of integration of the experience into the narrative, such that the information is brought up or discussed in an unusual manner (Main & Goldwyn, 1998). Our study provides links between caregiver Unresolved loss and child outcomes even into adolescence. Conversely, simple exposure to loss, even sudden, violent loss, was not an intergenerational risk for psychopathology, suggesting incremental validity of the Unresolved loss scale.

We found stronger relationships between disorganized caregiver states of mind and problem behaviors in childhood than in early adolescence. One possibility is that our teacher reports aggregated across ages 6, 8, and 10 provided a more accurate estimate of these behaviors. Teachers may also be better raters of children during elementary school when they have more contact with children. Another possibility is that children's behaviors are more sensitive to the caregiving context during earlier developmental periods and are therefore more likely to be influenced by caregiver maladjustment (Fraley and Brumbaugh, 2002; Kobak et al., in press). Stability of attachment organization early

in life is relatively low, as demonstrated with repeated assessments using the Strange Situation, and is influenced by the caregiving context (e.g., Barnett, Ganiban, & Cicchetti, 1999; Vondra, Hommerding, & Shaw, 1999). Adult attachment representations are much more stable over time as measured by the AAI (Crowell, Treboux, & Waters, 2002), possibly indicating that attachment organization is less sensitive to contextual factors in later developmental periods. Effects of caregiver state of mind might weaken from childhood to adolescence due to the development of coping strategies and formation of relationships outside the home.

This study has provided evidence that Unresolved loss and abuse should be treated as separate predictors. In past studies, Unresolved loss and abuse have been grouped together as a single predictor, usually due to the relatively low prevalence of Unresolved abuse. Our study has provided evidence that, just as the experiences of loss and abuse have differential predictive value, Unresolved loss and abuse also differentially predict intergenerational effects. In fact, we found that caregiver Unresolved abuse had virtually no predictive power for adolescents when controlling for exposure to abuse. In contrast, Unresolved loss was related to multiple outcomes, especially among caregivers who were also insecure. Although both types of experiences are potentially traumatic, the difference in both prevalence and developmental sequelae of these events suggest that they should be examined separately.

Although we found relationships between caregiver state of mind and adolescent psychopathology, mediators of these relationships are not clear. In the case of exposure to abuse, caregivers who were abused as children are more likely to be abusive to their own

children (Egeland, Jacobvitz, & Sroufe, 1988). We found a relationship between caregiver abuse exposure and harsh parenting, which may partially explain predictions of higher levels of psychopathology among children of abused caregivers. Another mechanism that might be relevant to intergenerational transmission is the Hostile/Helpless parenting style, which has been linked to disorganized attachment classifications (Lyons-Ruth, Bronfman, & Parsons, 1999). Hostile/Helpless patterns are manifested in role-confused and negative or fearful and withdrawing parental behaviors. Lyons-Ruth and colleagues have developed a Hostile/Helpless coding system for caregiver-adolescent interactions and are currently piloting the system with observations of the families in our study. These patterns may help to explain intergenerational transmission of disorganized caregiver states of mind and may shed light on differences in parenting between secure and insecure Unresolved caregivers.

Limitations

We created a stringent control variable for loss exposure by including only traumatic losses, which are losses due to homicide, suicide, or accident. However, other contextual factors of loss, such as age at the time of the loss and the relationship between the deceased and the caregiver, might be more predictive of intergenerational effects. According to Main and Goldwyn's scales (1998), losses occurring during the year prior to the interview are not scored because a certain level of disorientation can be expected during this time. Besides this exception, losses scored on the Unresolved loss scale can occur during any point in the caregiver's life. This study did not examine whether losses

occurring during the lifetime of the adolescent have different predictive value than those occurring before the adolescent was born. This same problem does not exist for Unresolved abuse since all of these experiences occurred during the caregiver's childhood, before their own children were born.

It is also important to note that none of the caregivers in our study met criteria for both secure/autonomous and Unresolved abuse, using Main and Goldwyn's (1998) classification system. Continuous scores for Unresolved abuse were used in these analyses, so it is possible that secure/autonomous would be a protective factor for caregivers who also met criteria for Unresolved abuse. Due to the pattern in our sample, we were not able to examine this possibility.

Future Directions

Intergenerational transmission of disorganized attachment patterns have focused on disorganization in infancy, measured by the Strange Situation (Main & Solomon, 1990). Strange Situation data were not available on subjects in this study. Infant classifications would allow us to examine developmental links between caregiver state of mind, infant disorganization, and adolescent psychopathology. We know from past studies that caregiver Unresolved status moderately predicts infant disorganization (van IJzendoorn, 1995; Schuengel et al., 1999) and that infant disorganization is predictive of later psychopathology (e.g., Lyons-Ruth et al., 1997). Future studies should examine Unresolved effects on adolescent psychopathology above what is predicted from infant disorganization.

Our study supported Schuengel et al.'s (1999) finding that secure/autonomous status is a moderator of Unresolved status. However, mediators of this relationship are still unclear. It is likely that there are multiple pathways through which Unresolved status may affect children, including abuse from the caregiver, caregiver psychopathology, or some other component of parenting behavior. Development of observational measures of Hostile-Helpless parenting styles (Lyons-Ruth et al., 1999) may shed light on these transmission processes. Future studies should continue to test mechanisms that might explain these associations.

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