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UMI

INTERGENERATIONAL TRANSMISSION OF CHILD ABUSE:

THE MEDIATING ROLE OF ADULT ATTACHMENT REPRESENTATIONS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for

the Degree Doctor of Philosophy in the Graduate

School of The Ohio State University

By

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* * * * *

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CHAPTER I

INTRODUCTION

A good deal of controversy exists in the child abuse literature as well as the popular press regarding the issue of whether physically abused or neglected children are more likely than nonabused children to become abusive parents (Cappell & Heiner, 1990; Egeland, 1993; Kaufman & Zigler, 1987, 1989). Although many of the claims have little or no empirical backing, recent careful reviews of the few studies that are available (Kaufman & Zigler, 1987, 1989, 1993) conclude that even though it is by no means inevitable, abused children are at some increased risk for abusing their own children.

In their reviews, Kaufman and Zigler carefully examined several previous estimates of the rate of transmission, taking into account methodological variations that may have exaggerated or inhibited the estimate of the rate of transmission yielded in each sample studied. As Kaufman and Zigler (1993) point out, variations in aspects of research design will affect the rates of transmission derived in very significant ways. These aspects include the subjects

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studied, as in whether they are identified abusers, a high-risk population, parents, or undergraduates; the research design, such as whether it is retrospective or prospective; how claims of past and current or future abuse are assessed and substantiated; the duration of follow-up; and the definitions used for history of abuse and current abuse. The conclusion was that the true rate of transmission may be about 30% ± 5% (Kaufman & Zigler, 1987, 1989, 1993). A somewhat higher rate of 40% was found in a prospective study that used a broader definition of abuse, that included psychological unavailability of parents as well as severe physical abuse such as repeatedly being intentionally burned, thrown, or hit with an object or receiving physical injuries (Egeland, 1993). Still, although both estimates are 5 times (according to Zeanah & Zeanah, 1989) to 13 times (according to Egeland, 1993) higher than that for the general population, neither is even close to the 99% rate put forth by popular opinion (Kaufman & Zigler, 1993).

This suggests that even if there is an intergenerational cycle in physical child abuse and neglect, it can be broken. If this is the case, research is needed to examine more closely the possible mechanisms underlying the cycle. It is not worthwhile to ask simply whether abused children become abusive parents. With a transmission rate of approximately 30-40%, it is not to be expected that the presence of abusive figures in the parents' past will,

in itself, predict identification with those figures and the passing on of that behavior to their children. Indeed, identification of risk factors and correlates of abuse reveals little of the process through which the impact of childhood abuse may be understood (Crittenden & Ainsworth, 1989). Most explanations of child maltreatment have been either too simple, as is the case with single-cause models or additive-cause models, or too complex, as in the comprehensive ecological models of Belsky & Vondra (1989) or Garbarino (1987), and fail to account for the process of transmission from one generation to another (Crittenden & Ainsworth, 1989). What is needed is a theory that will guide exploration of this process and that will explain why some abused children become abusive adults, while some do not. The question that remains is, how do some children break the cycle, overcome their abusive histories, and reject the parenting practices they have learned?

Fraiberg spoke directly to the issue of intergenerational transmission of abusive child-rearing practices in 1975 when she discussed the impact of parents' memories of their pasts on the way they treat their own children. Fraiberg asked, "What is it that determines whether the conflicted past of the parent will be repeated with his [sic] child?" (Fraiberg, Adelson, & Shapiro, 1975, p. 388). Citing the considerable clinical and anecdotal evidence that many parents who feel they were mistreated

resolve to provide better experiences for their children,
and do not continue the cycle of abuse, she continues,
"History is not destiny, then, and whether parenthood
becomes flooded with griefs and injuries, or whether
parenthood becomes a time of renewal cannot be predicted
from the narrative of the parental past. There must be
other factors in the psychological experience of that past
which determine repetition in the present" (emphasis added,
p. 388). From clinical experience with troubled mothers,
Fraiberg et al. concluded that parents who do continue the
cycle seem to remember the facts of their past, but not
their own suffering.

The cognitive distortion Fraiberg alludes to here may
be one indicator of an underlying defensive strategy that
distinguishes between those parents who continue the abused-
abusive cycle, and those who do not. In denying their own
pain, abusive parents seem not to recognize the pain of
their children as well. Idealization of the abusive parents
and inability to recall specific childhood experiences are
ways in which individuals seem to cope with the trauma of
abuse (Egeland, 1993; Hunter & Kilstrom, 1979; Main &
Goldwyn, 1984).

Intergenerational transmission of abuse

Consistent differences between parents abused as
children who do or who do not repeat the cycle with their

own children have been identified in several studies. For example, using a prospective research design, Hunter and Kilstrom (1979) interviewed 282 parents of premature newborns and gathered information about the parents' childhood histories and the families' social networks. One year later, confirmed reports of abuse or neglect of the infants in the sample were identified. Of the 49 parents who had reported experiencing childhood abuse or neglect, 9 were later identified as maltreating their own infants. One additional infant was found to be maltreated by a parent who had not been abused as a child. The parents who broke the cycle of abuse had more extensive current social support networks, relatively healthier babies, and felt less ambivalent about the birth than those parents who did not break the cycle. Regarding their own pasts, they were more openly angry and were better able to describe in detail their abusive experiences, in addition to having been abused by one parent rather than both, and having a supportive relationship with the other parent while growing up.

Similarly, Egeland and Jacobvitz (cited in Kaufman & Zigler, 1989) found that mothers abused as children who did not abuse their own children reported receiving emotional support from an adult during childhood and were involved in emotionally supportive relationships as adults as well. Further, they demonstrated a greater awareness of their

history as being abusive and were consciously resolved to raise their own children differently.

Herrenkohl, Herrenkohl, and Toedter (1983) examined the childhood histories and the current behavior of 529 parents, with the objective of determining how many of those who had been abused were not abusive to their own children, how many who were currently abusive were not abused as children, and the extent to which other factors in the childhood history related to parenting behavior. Physically abusive disciplinary practices included putting pepper in a child's mouth, hitting or slapping so as to bruise, biting, or burning. Severe but not abusive practices included hitting with an object, and mild practices consisted of practices such as making a child sit in a chair, taking away desserts, or explaining misbehavior to a child. Parents were interviewed individually regarding the disciplinary practices used with their own children and the discipline they received as a child.

Results indicated that even though there was a significant relationship between childhood experience and later discipline techniques, 53% of those who had been abused did not abuse their children, and 56% of the abusers had not been abused. Perceptions of being neglected as a child, however, were not used to determine history of abuse. Comparisons between the four possible groups (not abused-not abusive; abused-not abusive; not abused-abusive; abused-

abusive) revealed that respondents who were physically abused reported more negative perceptions of their childhood, and abusers who were not abused reported more neglect, stresses, and less nurturance. Those who were abused but not abusive reported fewer stresses in childhood, but they did not differ from abusers in perceptions of being neglected, mistreated, or nurtured. Regardless of the amount of physical punishment received in childhood, very few respondents reported perceiving that punishment as abusive.

Thus, even though exposure to abusive discipline was related to later abusive behavior, the perception by the parent that he or she was mistreated was not. In fact, endorsement of the labels "mistreat" or "neglect" as descriptors of the parents' childhoods was not related to their perceptions of the amount of abuse or nurturance they received. This seems to be due to the fact that very few respondents endorse these labels regardless of whether they report having received harsh punishment. Other studies also have found that subjects rarely say that they were "abused" even if they report having received very severe physical punishment (Berger, Knutson, Mehm, & Perkins, 1988; Rausch & Knutson, 1991). One reason for this may be that subjects are less likely to consider an act of discipline to be abusive if they feel that it was deserved, even if the discipline was very severe. Rausch and Knutson (1991) found

that even when subjects reported that they and their siblings received the same types of punishment, these subjects would say that they were not abused, but that their siblings were. Another reason for the seeming reluctance to label one's childhood experiences as abusive or neglectful, as mentioned earlier, could be that this is a defensive cognitive distortion.

Zaidi, Knutson, and Mehm (1989), in an investigation of possible relationships between punitive childhood histories and abusive parenting, administered the Analog Parenting Task to 86 undergraduates who had scored either very high or very low on the Physical Punishment scale of the Assessing Environments III (AEIII-PP) questionnaire. The Analog Parenting Task consisted of presentation of slide photographs of child behaviors ranging from normal misbehavior to extreme, deviant misbehavior. Subjects were asked to indicate their emotional reactions and whether, and if so with what tactic, they would discipline a child who engaged in this behavior while under the subject's care. Further, whether or not the subjects would report increasing intensity of discipline with repeated provocation by the child also was assessed. Subjects who had reported receiving severe physical punishment as children were significantly more likely to endorse the use of physical punishment at the first occurrence of misbehavior, but there were no differences between the two groups in their choices

of discipline for repeated misbehavior. Subjects who had reported receiving mild punishment as children were somewhat more likely to endorse the use of verbal reprimand for initial misbehavior than were the severely punished subjects.

In a second study, Zaidi et al. administered the AEIII-PP to 338 mothers and fathers of 169 children seen at a child psychiatry clinic. Hospital records for each child were examined for verified incidents of physical abuse of the child by one or both parents. Parents were divided into groups based on whether both parents had been abused as children, one parent had been abused, or neither of the parents had been abused as determined by their responses to the AEIII-PP. The percentage of children who had been abused when neither parent had been abused was 17%. The percentage of children abused increased to 32% if one parent had been abused as a child, a rate 33% greater than the overall base rate of physical abuse in this sample, and to 50% if both parents reported histories of abuse, a rate more than twice the base rate in this sample.

Milner, Robertson, and Rogers (1990) also found a relationship between childhood history of abuse and adult child abuse potential. They administered the Childhood History Questionnaire and the Child Abuse Potential (CAP) Inventory to 375 undergraduates, and found that correlations between the two scales were modest but significant (r = .29,

$p < .0001$). They interpreted their results in terms of a social interactional model. Consistent with this model, scores on CAP increased as chronicity of abuse increased, and physical abuse experienced before puberty was related to higher abuse potential scores than physical abuse experienced after puberty. In addition, subjects who reported the presence of a caring adult or friend in childhood had lower scores on CAP. These data support the intergenerational hypothesis that the receipt and observation of abuse in childhood are associated with adult CAP, but do not suggest what variables may be responsible for this relationship and what moderator variables may exist. Also, it does not rule out other models that might be used to explain the same results.

In a similar study, also relying on a social learning model, Caliso and Milner (1992) administered a modified version of the Conflict Tactics Scales (CTS) and the Child Abuse Potential Inventory to matched groups of 30 physically abusive mothers with a childhood history of abuse, 30 nonabusive mothers with a childhood history of abuse, and 30 nonabusive mothers without a childhood history of abuse. The CTS, a measure of family conflict resolution techniques, was modified to assess childhood history of abuse by asking respondents to indicate how disputes with their parents were handled in their childhood. Differences between the groups were revealed in the verbal abuse and violence subscales of

the CTS, in which the two groups with abusive histories were
not different from each other but did differ from the
nonabused-nonabusive group. There were no differences
between the three groups' scores on the reasoning subscale.
On the CAP inventory, the three groups differed, with the
abused-abusive group receiving higher scores than the
abused-nonabusive group, who received higher scores than
those who were neither abused nor abusive. An examination
of the CAP subscales revealed that all three groups were
different from each other on the Distress and Problems From
Others subscales, whereas abused-abusive and abused-
nonabusive mothers did not differ from one another on the
Problems With Child and Problems With Family scales but did
differ from the nonabused-nonabusive mothers. On the
Rigidity and Unhappiness scales, abused-abusive mothers had
higher scores than the other two groups, who did not differ
from one another. Regression analysis revealed that only
the CTS violence scale accounted for a significant amount of
variance (23%) in the CAP abuse scores.

In Caliso and Milner's study, the correlation between
the childhood history of violence as measured by the CTS and
the CAP abuse scores was .48, higher than in the study that
utilized undergraduates, most likely because this sample
included abusive parents. However, the finding that the two
groups of abused mothers reported similar high levels of
childhood violence suggests that abuse history alone is not

enough to predict future child abuse. The elevated levels of rigidity and unhappiness on the part of the abusive mothers may be symptomatic of disturbances in relating to others. The CAP rigidity factor measures rigidity in the parent's attitudes toward the appearance and behavior of their children, making the children fit a rigid mold defined by the parent. The CAP unhappiness factor assesses depression and difficulty in maintaining close adult relationships. Although attachment-related issues were not specifically examined in this study, the findings are consistent with an interpretation in terms of attachment theory.

Egeland, Jacobvitz, and Sroufe (1988) drew hypotheses from attachment theory in an investigation of differences between mothers abused as children who did and who did not continue the cycle of abuse with their own children. Attachment theory may be particularly useful not only for examining discontinuity in intergenerational influences, which cannot be explained satisfactorily by notions of observational learning, modeling, and reinforcement, but because attachment theory provides guidelines for the study of changes (Sroufe & Fleeson, 1986). The idea in attachment theory is that the relationship formed between the infant and caregiver provides the foundation for all later relationships. The infant develops expectations abut the caregiver's availability and responsiveness that foster in

the child feelings of being loved and therefore lovable or unloved and therefore unlovable. The level of confidence in oneself and others shapes the child's later willingness and ability to enter into secure and trusting relationships.

Attachment theory predicts that those who break the cycle have developed alternative models or have transformed their models of the parent-child relationship, which then allows for the development of nurturant and responsive relationships with their children. Egeland et al. (1988) attempted to identify, therefore, opportunities for experiencing nonabusive relationships by asking whether the mothers in their sample could recall an emotionally supportive figure in their childhood, other than the abusive parent, or had a long-term therapeutic relationship with a professional, or were involved in a current stable and satisfying relationship with an adult partner. In addition, maternal personality and incidence of stressful life circumstances also were assessed.

From a larger longitudinal sample of 267 families, 114 mothers were categorized as clearly not abused as children and 47 were classified as abused as children based on interviews conducted when the mothers' own children were 4- to 4½-years old. Of those who had been abused, 18 were identified as clearly abusive to their own children, and 12 were identified as clearly providing adequate care to their children. All of the mothers who broke the cycle reported

either the presence of a supportive adult during childhood or involvement in extensive therapy. Only three of the mothers continuing the cycle of abuse reported a supportive childhood figure, and none had experienced therapy. Mothers in the continuity group also reported more stressful life circumstances at each of several periodic assessments throughout their child's early life, and these stresses were significantly more likely than stresses reported by nonabusive mothers to concern problems such as arguments and fights with other family members and friends. The continuity group also reported significantly more anxiety and depression, an inconsistent tendency toward more aggression and dependency, and no differences in impulsivity or maturity vis-à-vis the group of mothers who broke the cycle.

Interestingly, Egeland et al. (1988) found that the desire to raise their children differently was not enough to keep mothers in their sample from continuing the abused-abusive cycle. When they asked mothers who had been abused as children whether they would raise their own child, then 12-months old, differently from the way in which they were raised, 26 of the 30 mothers interviewed said yes. However, 18 of these mothers had abused their child by the time the child was 48- to 54-months-old. Apparently, what may be necessary to bring about change in parenting practices is

not only the desire to change, but the ability, perhaps through active resolution of childhood trauma.

Clearly, there is a demonstrable relationship between childhood history of abuse and adult child abuse potential. One focus of this study will be to replicate these findings by examining the strength of correlation between a self-report measure of childhood experiences and child abuse potential (hypothesis 1). The next step toward understanding this relationship is a search for possible mediating variables or underlying mechanism that determines whether the cycle continues. Examination of discontinuity of intergenerational transmission through the framework provided by attachment theory may suggest what this mechanism might be.

Intergenerational transmission of attachment patterns

The notion of intergenerational transmission of the quality of parental behavior is explicit in Bowlby's theory of attachment (Bowlby, 1979; Ricks, 1985). From the beginning of his professional career, Bowlby expressed an interest in the transmission of attachment relations from parents to children (Ainsworth & Bowlby, 1991; Bretherton, 1991). A key component in the process underlying this transmission may be his notion of the internal working model (Bowlby, 1982, 1988). The internal working model refers to the set of expectations that develops as a result of

continued interaction with the attachment figure, and that appraises and guides behavior in new situations (Bretherton, 1985, 1991; Crittenden & Ainsworth, 1989; Main, Kaplan, & Cassidy, 1985). It is an active construction of experience that can be reconstructed, although it is resistant to change because in guiding behavior and operating outside conscious awareness the model is self-perpetuating. Until fairly recently, attachment has been examined only behaviorally through observations of infant responses to maternal separation and reunion and infant-mother interaction. Recent conceptual advances in attachment theory, beginning primarily with the work of Mary Main, have made it possible to explore the psychological, internal, representational aspects of attachment (Bretherton, 1991; Main et al., 1985; Main & Goldwyn, 1984).

Viewing the internal working model as a representation of the attachment relationship makes it possible to see that it is not the parent's childhood history itself but the representation of that history that shapes the parent's conceptualization of the parent-child relationship and subsequently the way in which the parent behaves toward the child (Main et al., 1985). This reconceptualization of individual differences in attachment organization as individual differences in the internal mental representation of the self in relation to attachment allows investigation of attachment and related constructs beyond infancy through

the lifespan because it allows a move beyond the immediate behavioral level (Main et al., 1985).

The Adult Attachment Interview was designed by George and Main (cited in Main & Goldwyn, 1984) to assess current state of mind with regard to attachment by asking subjects about their attachment relationships in childhood and what influence they feel these early relationships have had on their development. Three patterns of responding were identified. Autonomous-secure individuals gave clear, coherent accounts of early attachments, whether or not they had been satisfying. Preoccupied individuals reported many conflicted, contradictory memories but could not integrate these in an organized or consistent way. Dismissing individuals tended to claim inability to recall much about relationships with their parents in early childhood, but when pressed to remember specific episodes would report memories of rejection. Subjects classified as dismissing also tended to idealize their parents and to discount the influence of early experience on their own development. These adult classifications were found to be related to the original Ainsworth Strange Situation infant classifications in that parents and children rated independently were found to have corresponding patterns of attachment organization.

Main and Goldwyn (1984) found that representations of insecure attachment experiences were related to perceptions of feeling rejected by mother in childhood, idealization of

mother, anger with mother, inability to recall childhood, and lack of coherence in discussing attachment. They identified a defensive response to the representation of maternal rejection in adult women, showing more distortions of information, disorganization of information, and exclusion from access information regarding attachment and rejection. Main cautions that "a mother's childhood experiences do not themselves lead to the compulsion to repeat; rather, these experiences are seen as leading to the construction of mental structures or representations which continue to guide experience in adulthood." Those who escape the cycle have been described as "strikingly forgiving" (Main & Goldwyn, 1984, p. 215). Thus it was those mothers who recognized and accepted the reality of their difficult childhood histories who were able to overcome the expected negative effects of their previous insecure attachment relationships and be sensitive and responsive to their children.

The suggestion is not that poor attachment and abuse are identical or that they always go hand in hand, but rather that both follow the same process of transmission. Evidence does suggest that it is very likely that all abusive relationships are insecure (Cicchetti & Barnett, 1992), but certainly not all insecure relationships, though less than optimal, involve physical abuse. The relevance of attachment theory is that it focuses not on the transmission

of <u>behavior</u> but the transmission of a certain organization of the internal working model of the parent-child relationship (Zeanah & Zeanah, 1989).

In contrast, social learning approaches examine particular behaviors that may be passed from parent to child. In fact, Milner, Robertson, and Rogers (1990) attempted to identify the relative contributions of specific types of abusive behaviors received or observed to scores on child abuse potential. Regression analyses indicated that poking/punching and hair-pulling accounted for the most variance and were most consistently associated with abuse scores. The contention of attachment theory would be that it is not the poking or hair-pulling itself that is important, but perhaps the humiliating aspect of poking or hair-pulling, or some other underlying motivation behind it, that was most influential.

Crittenden & Ainsworth (1989) examined the adequacy of attachment theory in accounting for existing data on child abuse and neglect. Theories that previously have been used to try to integrate existing data and identify correlates of abuse have failed to explain the large number of at-risk families that do <u>not</u> abuse their children. Even comprehensive ecological and transactional models have failed in this respect. However, attachment theory makes specific predictions that can be tested.

The internal working model of an abusive mother is expected to involve issues of conflict, control, and rejection. She will perceive others as attempting to dominate her to meet their own needs; she expects them to reject her when she pushes to have her own needs met. Her sense of self will be tied to the idea that others have, and will not willingly give up, needed psychological or physical resources. Relationships will have central themes of coercion, victimization, and anger.

The mother who neglects her children, in contrast, would be expected to be characterized by feelings of emptiness, depression, and helplessness. She will not perceive others as having, or being able to give her, what she needs. She will perceive herself as unable to get the help and support of others.

The mother who is able to provide adequate care will describe her relationships with others as satisfying and will have a flexible internal working model characterized by a sense of competence and reciprocity. That is, others will be perceived as helpful and responsive, and she will perceive herself as capable of obtaining help and support as well as being able to provide support to others (Crittenden & Ainsworth, 1989).

In summary, attachment theory provides a possible mechanism through which the process of intergenerational transmission can be understood. A second focus of this

study will be to investigate whether adult representation of attachment serves as a mediating variable between the childhood history and child abuse potential (hypothesis 2). A variable functions as a mediator if it accounts for the relation between the predictor and the criterion (Baron & Kenny, 1986). For an individual to break the abused-abusive cycle, he or she must reconstruct the internal working model of attachment. Thus the current state of mind regarding attachment relations is expected to have a greater impact on future relationships and behavior than is past experience or past attachment status. Yet this does not explain how it is that some individuals with insecure attachment histories are able to reconstruct their internal working models of attachment, whereas others either do not or cannot. It may be that such individuals possess the cognitive capacity for reflecting on the validity, nature, and source of the information on which the model is based. This capacity would thereby serve as a moderating variable on the influence of childhood history of abuse on adult attachment status.

Change in adult attachment representations

The importance of examining attachment-related constructs in late adolescence lies in the richness of this developmental period as a time of change. As noted by Boyes and Chandler (1992), it surely cannot be accidental that

adolescence is a time of, among other things, nearly simultaneous development of formal reasoning abilities, onset of personal identity crises, and negotiation of separation from family and making the transition to adulthood. As noted by Ricks (1985), reorganization of the attachment system may be especially likely during periods of significant emotional experience, or as a result of opportunities for emotionally corrective experience, such as during adolescence or during the transition to parenthood.

Cognitive-experiential Self-theory (Epstein, 1991) maintains that all individuals construct a theory of reality, of which a theory of self is one part. The purpose of this theory is to represent experience and serve as a conceptual tool for coping with life's problems. In many ways, this self-theory is similar to Bowlby's notion of the internal working model of attachment. The theory is made up of major and minor postulates or cognitions derived from emotionally significant experiences, and it develops and operates outside of conscious awareness.

Ricks (1985) suggested that by integrating Bowlby's and Epstein's theories it is possible to view representational models of attachment relationships as systems of postulates in an individual's conceptual system. Utilizing an approach based on Epstein's (Epstein & Erskine, 1983) emphasis on the growth and transformation of personal theories of reality makes it possible to be much more specific about continuity

and discontinuity in attachment-related postulates. Thus
both securely attached and insecurely attached individuals
attempt to maintain their conceptual systems by validating
these postulates through recreating similar experiences in
subsequent attachment relationships (Epstein, 1991). Change
would be expected to occur when a person's ideas about
relationships and the self in relation to others are
reappraised in light of new experiences. This cognitive
reappraisal, or thinking about one's own cognitions, implies
a level of metacognitive awareness that may be a necessary
prerequisite for change to occur.

Main (1991) reviewed the possible links between
metacognitive awareness and the internal working model of
attachment. Individuals who have little metacognitive
awareness may not have the capacity to examine the basis for
their beliefs about relations with others. Thus, this may
not be simply a <u>defensive</u> exclusion, that is, that those who
lack coherence in their childhood memories may also lack a
more general ability to analyze their own thinking--a lack
of metacognitive monitoring. Since breaking the cycle of
abuse assumes that there has been a reconstruction of the
internal working model of attachment, attachment theory
would predict that <u>meta</u>representational processes must be in
place for this to happen. This is consistent with my
proposal that while continuing the cycle may be often
undeliberate or unconscious, breaking the cycle is always

and must be deliberate and conscious, requiring sometimes considerable effort, self-examination and self-awareness, and convictions against repeating the abusive parent's behavior.

What is needed, then, is a construct that can serve as an indicator of the cognitive capacity for self-examination. One study that employed such a construct in relation to attachment looked at self-reflection, or what was termed the Reflective-Self Function (Fonagy, Steele, Steele, & Higgitt, 1991). The reflective self is thought of as the internal observer of mental life, or the capacity to reflect upon mental functioning in oneself and others. Two-hundred Adult Attachment Interview protocols were coded for evidence of the parent's capacity for understanding mental states. Those mothers and fathers who demonstrated more complete reflective-self function in prenatal interviews were significantly more likely to have infants who were rated as secure in the Strange Situation at 12 months of age. However, this investigation did not examine the relationship between reflective-self function and change in attachment representations. It will be investigated here whether a similar construct, that of attributional complexity, may represent a prerequisite for individuals who presumably had insecure attachments in childhood to be able to reconstruct their internal working models of attachment in early adulthood.

Attributional complexity refers to the degree to which a person is motivated to try to understand others and possesses the tendency to make complex, as opposed to simple, internal and external attributions for their own and others' behavior (Fletcher, Danilovics, Fernandez, Peterson, & Reeder, 1986). Individuals who tend to make more complex attributions are more likely to compare alternative views and to adopt a more relativistic stance. As conceptualized by Fletcher et al., attributionally complex people a) possess higher levels of intrinsic motivation to explain and understand human behavior, b) prefer explanations that contain more causes, c) possess metacognitive abilities in that they tend to think about the underlying processes involved in causal attribution, d) tend to notice and use information relevant to the effects of interaction with others on behavior, e) tend to infer complex internal causes for behavior, f) tend to infer external attributions that are abstract and indirect, and g) tend to infer causes from an individual's or their own personal history (Fletcher et al., 1986).

The third focus of this study, then, will be to determine whether attributional complexity moderates the influence of childhood history on adult attachment representations (hypothesis 3). A moderator affects the direction and/or strength of the relation between a predictor or independent variable and a criterion or

dependent variable (Baron & Kenny, 1986). Attributional complexity will only have an impact on adult attachment representations in those subjects who were maltreated as children. Specifically, it is expected that secure adult attachment status will be found only in those subjects reporting a childhood history of abuse who also show high levels of attributional complexity.

Hypotheses

1. Childhood history of abuse will be positively correlated with child abuse potential.

2. Adult attachment status mediates the relationship between childhood history of abuse and child abuse potential. Adult attachment status, therefore, will be a stronger predictor of child abuse potential than will childhood experiences.

3. Attributional complexity moderates the influence of childhood history of abuse on adult attachment status. Those subjects who do not report an abusive childhood history are expected to show secure adult attachment status regardless of their level of attributional complexity. However, those who do report childhood abuse will be rated as secure as adults only if they also are rated as high in attributional complexity.

CHAPTER II

METHOD

<u>Procedure</u>

Subjects were recruited from April through August, 1994, from two main sources. Introductory psychology students were recruited from the Psychology 100 subject pool, and in addition, in order to increase subject variability, advanced students also were recruited through higher-level psychology classes.

Students enrolled in Psychology 100 are required to participate in experiments as part of their course grade. They are allowed to choose which experiments to be involved in, or may opt to fulfill the requirement by writing a brief paper. Each experiment in which they are eligible to participate is described on a sign-up sheet posted on a bulletin board reserved for this purpose. Subjects were told that the purpose of this study was "to try to find out more about people's childhood experiences and their thoughts and feelings in childhood and adulthood." It is made clear to students that signing up for a scheduled experiment is an indication of informed consent.

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Additional subjects were recruited from 10 different sections of advanced (levels 500+) psychology classes during Spring and Summer Quarters in 1994. The description of the study posted for the introductory psychology students was read to the advanced psychology students during a class meeting time. They were asked to attend a session at a later date to complete the questionnaires, at which time they would be paid $5 to compensate for their time. A similar sign-up sheet was made available, and it was explained that signing the sheet is indication of informed consent. Approximately 30% of the advanced psychology students solicited for their participation signed the sheet and completed questionnaires.

Questionnaires were administered to 1 to 30 students at a time in single one-hour sessions scheduled to meet students' needs. A copy of the oral solicitation script that was read to subjects at the beginning of each session is appended (see Appendix A). Most subjects completed the questionnaire in 40-50 minutes; all subjects took more than 35 but less than 60 minutes to complete the questionnaire. Subjects were given a debriefing statement describing the purpose of the study upon completion of the questionnaires. A copy of the debriefing statement is appended (see Appendix B). The questionnaires were presented in 16-page, 8½x11" booklets, idiosyncratically numbered for each subject to ensure anonymity. Subjects were asked to record their

answers directly in the booklets, but were instructed not to put their names, social security numbers, or student ID numbers on the questionnaires. Subjects were assured as well that participation in this study was both anonymous and confidential.

Subjects

Questionnaires were completed by 105 male and 93 female students from the Psychology 100 subject pool (mean age = 21.41, *SD* = 4.83, range = 18-59), and 5 male and 11 female students from an introductory psychology class from a branch campus (mean age = 29.21, *SD* = 10.12, range = 18-47). Twenty males and 71 females were recruited through advanced psychology classes (mean age = 26.18, *SD* = 7.05, range = 19-51), and an additional 2 males and 22 females from an advanced class in child development (mean age = 23.46, *SD* = 5.15, range = 20-45). One white subject from the Psychology 100 subject pool did not indicate his or her gender, and an additional white male subject from the branch campus with incomplete data was omitted, leaving 329 subjects. Table I shows the number of subjects in each group by recruitment source, gender, and ethnicity.

Other demographic characteristics of the sample may be seen in Table II. None of these demographic variables related significantly to the hypotheses.

Table I: Number of subjects in each group by recruitment source (Psychology 100, Psychology 500+, branch campus, or child development class), gender (Male or Female), and ethnicity.

	Psy100 (N=199)		Psy500 (N=91)		Branch (N=15)		Child Dev (N=24)		Total
	M	**F**	**M**	**F**	**M**	**F**	**M**	**F**	
Afric.-Amer.	6	16	0	6	0	1	0	0	29
Asian	19	12	1	3	0	0	0	0	35
Hispanic	2	2	0	2	0	0	0	0	6
White	76	61	19	60	4	10	2	20	252
Other	2	2	0	0	0	0	0	2	6
Total	105	93	20	71	4	11	2	22	328

Table II: Demographic characteristics of total sample.

	N	%		N	%
Marital status:			Family economic		
Single	283	86.0	group:		
Married	33	10.1	Lower	21	6.4
Separated	3	0.9	Middle	267	81.9
Divorced	7	2.1	Upper	38	11.7
Number of children			Religion:		
you have:			Catholic	104	31.9
0 children	296	90.2	Jewish	12	3.7
1 child	11	3.4	Protestant	81	24.8
2 children	9	2.7	Other	91	27.9
3 children	7	2.1	None	38	11.7
> 3 children	5	1.5			
			Type of area in		
Number of siblings:			which you were		
None	22	6.7	raised:		
1 sibling	114	34.8	Rural	81	24.9
2-5 siblings	171	52.1	Urban	68	20.9
6-10 siblings	21	6.4	Suburban	176	54.2
11-20 siblings	0	0.0			
			Approximate		
Position in family:			population:		
1st-born	134	40.9	< 10,000	60	18.6
2nd-born	75	22.9	11,000-100,000	144	44.7
3rd-born	31	9.5	110,000-500,000	58	18.0
last-born	67	20.4	510,000-1 mill.	32	9.9
other	21	6.4	> 1 million	28	8.7

<u>Measures</u>

   <u>Assessing Environments-III (AEIII)</u>. Berger, Knutson,

Mehm, & Perkins (1988) developed a measure to assess

nonclinical populations of young adults for physical abuse

in childhood. This questionnaire was designed for use with

samples of university students and contains 164 True-False

items describing a broad range of punitive childhood

experiences and of family characteristics associated with

child abusing environments. It has discriminated reliably

between abused and nonabused adolescents. The Physical

Punishment scale of the questionnaire samples events that

range from spanking and mild physical discipline to severe

physical discipline and punishment acts that are seen as

common forms of abusive parenting.

   The AEIII was selected instead of the more widely used

Conflict Tactics Scales (CTS) developed by Straus & Gelles

(1990) because it was designed specifically to address a

broad representation of childhood experiences, whereas the

CTS was developed for use with adults in assessment of

spousal abuse.

   <u>Attributional Complexity Scale (ACS)</u>. The ACS is a 28-

item single-factor measure that asks subjects to rate, on a

7-point scale, the extent to which they agree or disagree

with a series of statements regarding their interest in

searching for complex interpretations for human behavior

(Fletcher et al., 1986). It has been widely used with

undergraduates and shows very good internal consistency, test-retest reliability, and discriminant and convergent validity (Fletcher et al., 1986).

Adult Attachment Scale (AAS). Collins and Read (1990) developed this 18-item measure in an attempt to replace Hazan and Shaver's single-item attachment style classification with a more sensitive multi-item scale. Factor analysis revealed three underlying dimensions: the extent to which an individual is comfortable with closeness, feels she or he can depend on others, and feels anxious about being abandoned or unloved. The scale shows adequate internal consistency, test-retest reliability, and validity (Collins & Read, 1990).

Inventory of Parent & Peer Attachment (IPPA). This measure was designed by Armsden & Greenburg (1987) to provide separate assessments of current attachments to parents and peers. Developed for use with late adolescents and young adults, the most recent version of the questionnaire consists of three sections of 25 items each, responded to in a 5-point likert-scale response format. The two Mother and Father scales were used in this study; the Peer scale was not used. The IPPA items assess how well parents and close friends serve as sources of psychological security by addressing three broad dimensions: degree of mutual trust, quality of communication, and extent of anger and alienation. The AAS and the IPPA will be used to assess

some of the same qualities of adult attachment relationships
addressed in George and Main's Adult Attachment Interview
(cited in Main & Goldwyn, 1984).

Test-retest reliabilities for a three-week interval
were .93 for parent attachment and .86 for peer attachment
in a sample of 27 18- to 20-year-olds (Armsden & Greenberg,
unpublished manuscript). Construct validity was examined by
relating the IPPA scores to Family and Social Self scores
from the Tennessee Self-Concept Scale and to the Family
Environment Scale (Armsden & Greenberg, 1987). Late
adolescents who have reported experiencing more secure
mother and father attachment report less conflict between
their parents and less loneliness (Armsden & Greenberg,
unpublished manuscript). Personality variables associated
with higher attachment scores as measured by the IPPA
include positiveness and stability of self-esteem, life-
satisfaction, greater use of coping skills, and affective
status.

Child Abuse Potential Inventory (CAPI). Developed by
Milner et al., the CAP Inventory is a 160-item self-
administered questionnaire designed to screen for physical
child abuse in a forced-choice agree/disagree format
(Milner, 1989; Milner & Wimberley, 1976). It consists of a
77-item primary clinical scale, the Physical Child Abuse
scale, and six factor scales measuring Distress, Rigidity,
Unhappiness, Problems With Child and Self, Problems With

Family, and Problems From Others. It also contains three validity scales: the Lie scale (faking-good), the Random Response scale, and the Inconsistency scale (faking-bad). Internal consistency is adequate in both abuse and comparison groups (KR-20 = .92-.98) and test-retest reliability has been shown to be .91 for one day, .90 for one week, .83 for one month, and .75 for three months. Content, construct, concurrent, and predictive validity also have been described, and the CAP inventory has been shown to differentiate between at-risk and comparison groups and different levels of risk status (Milner, Robertson, & Rogers, 1990).

Parental idealization/rejection. A series of open-ended questions developed specifically for this study were administered in addition to the objective scales in order to assess subjects' idealization or rejection of their parents (see Appendix C). Specifically, subjects were asked to list one to five ways in which they would like to raise their children in the same way they were raised, and one to five things they would like to do differently. In addition, subjects were given the opportunity to indicate that they would do nothing or everything differently from the way they were raised. By comparing these responses to the reported childhood history of abuse, it may be possible to determine inconsistencies in the patterns of response.

Data Analysis

Data were analyzed using the *SPSSx* statistical package
on OSU's mainframe computer. To test the relationship
between the independent variable (childhood experiences),
the mediating variable (adult attachment security), and the
outcome variable (child abuse potential), a regression
series suggested by Baron and Kenny (1986) was used. Adult
attachment security can be concluded to have a mediating
effect on childhood experience and child abuse potential if
three conditions are met. First, the independent variable
(childhood experiences) must be significantly related to the
mediator (adult attachment status). Second, the independent
variable must be associated with the dependent variable
(child abuse potential). Third, the mediator must relate to
the dependent variable when the dependent variable is
regressed upon both the independent variable and the
mediator, and the relation between the independent variable
and the dependent variable must be significantly reduced
from what it was in the second condition.

An analysis of variance can be used to test whether
attributional complexity has a moderating effect on the
influence of childhood history on adult attachment security
(Baron & Kenny, 1986). The moderator hypothesis is correct
if the interaction between the predictor (childhood
experiences) and the moderator (attributional complexity) is
significant. There also may be significant main effects for

the predictor and the moderator on the criterion variable (adult attachment security), but these are not directly relevant to testing the moderator hypothesis. In addition, since it is desirable that the moderator be uncorrelated with both the predictor and the criterion, this relationship also was tested.

CHAPTER III

RESULTS

Intercorrelations between primary measures

Pearson product moment correlations between recruitment source, age, gender, ethnicity, the AEIII Physical Punishment scale, Attributional Complexity, the AAS Close, Depend, and Anxiety subscales, the IPPA Mother and Father scales, and the CAPI Physical Child Abuse scale may be seen in Table III.

Responses to specific measures

Assessing Environments-III (AEIII). Subjects are classified as physically abused if they endorse 5 or more of the 12 items in the Physical Punishment scale (Berger et al., 1988). In this sample, 37 of the 329 subjects (11.25%) were classified as abused according to this criterion. There was considerable variability among respondents, with scores on the Physical Punishment scale ranging from 0 to 10. However, subjects' responses to the Physical Punishment scale revealed that the majority of students reported

Table III: Intercorrelations between primary measures.

	1	2	3	4	5	6
1- Recruitment Source	1.0000					
2- Age	.2551**	1.0000				
3- Gender	.3131**	.0923	1.0000			
4- Ethnic	.2175**	.1177*	-.0272	1.0000		
5- Physical Punishment Scale	.0553	.1123*	-.0064	-.1168*	1.0000	
6- Attrib. Complex.	.2421**	.1574**	.3168**	.0794	.0849	1.0000
AAS						
7- Close	-.0102	-.0688	-.0553	.1718**	-.2143**	-.0205
8- Depend	-.0040	-.1476**	.0341	.1421*	-.2394**	-.1514**
9- Anx.	-.0465	-.0406	.0318	-.0234	.1462**	.0905
IPPA						
10- Mother	-.1323*	-.2128**	-.0179	-.0046	-.3804**	-.0771
11- Father	-.1039	-.1739**	-.1134*	-.0108	-.3656**	-.1117**
CAPI						
12- Abuse	.0724	.0251	-.0293	-.0924	.3142**	.1514**

	7	8	9	10	11	12
AAS						
7- Close	1.0000					
8- Depend	.5339**	1.0000				
9- Anx.	-.2792**	-.3817**	1.0000			
IPPA						
10- Mother	.3422**	.3985**	-.2880**	1.0000		
11- Father	.2679**	.3561**	-.2285**	.4846**	1.0000	
CAPI						
12- Abuse	-.4310**	-.4826**	.5260**	-.5026**	-.5203**	1.0000

*p < .05   **p < .01

receiving some form of physical discipline from their
parents, with 54.1% responding "true" to the statement "My
parents used physical discipline with me," and 73.9% to the
statement "My parent(s) used to spank me." Only 21 students
(6.4%) positively endorsed the statement "I was physically
abused by my parents when I was a child," and 22 (6.7%)
reported "One of my brothers or sisters was physically
abused by my parents." Only 16 of the 21 students who said
that they had been abused, however, were classified as such
by their responses to the Physical Punishment scale. The
remaining 5 of these 21 respondents endorsed three or four
scale items, and were not rated as "faking bad" on the CAP
inventory index that assessed inconsistent responses.
Twenty subjects classified as abused according to the AEIII
scale criterion responded that they had not been abused.
These 20 subjects endorsed 5-8 scale items, and the 16
subjects who were both classified as abused and reported
that they were abused endorsed 5-10 items.

Other forms of discipline were represented in this
sample as well, with 42 (12.8%) students reporting receiving
bruises from their parents, 27 (8.2%) being hit with a
hairbrush, and 15 (4.6%) receiving cuts. With regard to
more severe types of abuse, 11 students (3.3%) reported
receiving head injury from their parents, 3 (0.9%) reported
receiving broken bones, and 1 (0.3%) received stitches.

Analysis of variance revealed no significant differences in scores on the Physical Punishment scale according to subjects' recruitment source, age, gender, or ethnicity.

Attributional Complexity Scale (ACS). Respondents rated their agreement with the statements of the ACS on a 7-point scale from -3, for *strongly disagree*, to +3, for *strongly agree*. Negatively worded items were reverse-scored so that high scores on the ACS reflect high levels of attributional complexity, whereas low scores reflect low attributional complexity. With a possible scoring range of -84 to +84, actual scores ranged from -31 to +82, with a mean of 32.52 (SD = 22.50).

Because attributional complexity is being used as a grouping variable, in order to test whether the effect of childhood history of abuse on adult attachment status varies as a function of the subject's level of attributional complexity, scores on this measure were classified into four categories. Subjects scoring more than one standard deviation below the mean were categorized as being low in attributional complexity (range = -31-10, 19.4% of subjects), subjects scoring within one standard deviation below the mean were categorized as having moderately low attributional complexity (range = 11-32, 29.5% of subjects), those whose scores fell within one standard deviation above the mean were categorized as moderately high (range = 33-55,

33.5% of subjects), and those whose scores fell more than one standard deviation above the mean were categorized as high in attributional complexity (range = 56-82, 17.6% of subjects).

An analysis of variance revealed significant differences between attributional complexity scores by recruitment source, $F(3) = 7.573$, $p < .001$, and gender, $F(1) = 19.079$, $p < .001$, but no consistent relationships were noted with any other demographic variables or with other scales. The mean scores on the Attributional Complexity Scale for recruitment source, gender, and age may be seen in Table IV. Results of t tests revealing significant differences between group means are indicated in Table IV as well.

Table IV: Mean Attributional Complexity Scale scores for each recruitment source, gender, and age group.

	Mean	SD	Range	N
Psych. 100	25.94_a	22.05	-31-82	196
Psych. 500+	45.95_b	16.18	2-73	87
Branch	35.47_{ab}	27.59	-5-74	15
Child Dev.	36.19_{ab}	20.54	-16-70	21
Male	23.87_a	22.22	-17-82	127
Female	38.42_b	20.84	-31-78	190
Ages 18-20	26.34_a	22.62	-17-82	127
Ages 21-25	35.88_b	21.39	-31-78	132
Ages 26-59	40.08_b	22.33	-8-74	50

Note. Means with different subscripts differ significantly at $p < .01$, for each set of comparisons.

<u>Adult Attachment Scale (AAS)</u>. Respondents rated their agreement with the statements of the AAS on a 5-point scale from 1, *for not at all characteristic of me*, to 5, for *very characteristic of me*. The Adult Attachment Scale consists of three 6-item subscales. Negatively worded items were reverse-scored such that high scores on each of the three subscales indicate a) the extent to which an individual is comfortable with closeness, b) feels she or he can depend on others, and c) feels anxious about being abandoned or unloved. The possible range for each subscale was 6-30. The mean for the sample as a whole on the closeness dimension was 21.94 $(SD = 5.07)$, on the dependency dimension was 18.29 $(SD = 5.11)$, and on the dimension assessing anxiety was 17.75 $(SD = 6.18)$. An analysis of variance revealed significant differences between subjects according to their ethnicity on the closeness factor, $F(4) = 3.491$, $p < .01$, and dependency factor, $F(4) = 4.044$, $p < .01$, but no consistent relationships were noted with any other demographic variables. T tests revealed that the differences between the groups were seen only when comparing the African-American (mean close = 18.93, mean depend = 15.31) with the Asian subjects (mean close = 21.40, $t = -2.18$, df = 51.51, $p < .05$; mean depend = 18.63, $t = -2.83$, df = 61.17, $p < .01$) and when comparing the African-American subjects with the White subjects (mean

close = 22.42, t = -3.54, df = 35.09, p < .001; mean

depend = 18.71, t = -3.79, df = 36.63, p < .001).

Inventory of Parent & Peer Attachment (IPPA).
Respondents rated their agreement with the statements of the
IPPA on a 5-point scale from 1, for *almost never or never
true*, to 5, for *almost always or always true*. Negatively
worded items were reverse-scored such that high scores
reflect a more positive relationship with the parent. The
possible range for each 25-item subscale was 25-125. The
mean for the sample as a whole on the Mother scale was 92.31
(*SD* = 20.30, range = 33-120), and on the Father scale was
85.12 (*SD* = 22.38, range = 24-120). An analysis of variance
revealed significant differences between scores on the
Mother scale according to recruitment source, $F(3)$ = 5.841,
p < .001, but no consistent relationships were noted with
any other demographic variables. *T* tests revealed that the
differences between the groups could be accounted for by
unusually low scores on the Mother scale for subjects from
the branch campus, with a mean of 69.87, whereas the other
three groups had much higher scores on this dimension
(Psych. 100 mean = 94.63, t = 3.75, df = 15.08, p < .01;
Psych. 500 mean = 90.90, t = 3.06, df = 17.55, p < .01;
Child Development class mean = 92.75, t = -.79, df = 29.39,
p < .01).

Child Abuse Potential Inventory (CAPI). Responses to
the CAPI were scored using the CAPSCORE computer scoring

program (Robertson & Milner, 1990). Scores on the 77-item Physical Child Abuse scale ranged from 0 to 415 (mean = 147.11, *SD* = 98.11), with 210 (64.02%) subjects scoring below the cut-off of 166, and 118 (35.98%) subjects scoring 166 or higher. The three validity indices also were computed. Thirty-seven subjects were rated as faking good, with scores on the Lie scale above the cut-off of 6, scores on the Random Response scale less than 5, <u>and</u> abuse scores below 166. Similarly, 1 subject was rated as faking bad, with scores on both the Random Response scale and on the Inconsistency scale less than 5 <u>and</u> an abuse score above 166. The random response index was considered elevated for 9 subjects who scored above 5 on both the Random Response scale and the Inconsistency scale. In addition, 2 subjects were rated as leaving an excessive number of items (>10%) blank. All analyses were conducted both with and without the subjects with elevated scores on the three validity indices included. Because no differences in results were found, these subjects were not omitted from the sample.

Analysis of variance revealed no significant differences in scores on the CAP Inventory Physical Child Abuse scale according to subjects' recruitment source, age, gender, or ethnicity. Scores for abuse potential did not correlate significantly with any of the demographic variables.

Parental idealization/rejection. Scores on this
measure were calculated by summing the total number of
things listed by each subject that they would do the same as
or differently from the way they were raised, and for
whether the subject refused to list any items on one or both
parts of the measure. When given the opportunity to
indicate whether they would like to do nothing or everything
differently with their own children from the way in which
their parents raised them, 84 subjects (25.53%) said that
they would do nothing differently, possibly idealizing their
parents, whereas 12 subjects (3.65%) said that they would do
nothing in the same way, apparently rejecting their parents.
Thirteen additional subjects who indicated that they would
do nothing differently and would do everything differently
were omitted from these analyses. Subjects' indications of
parental idealization or rejection did not differentiate
between abused subjects who did or did not have high scores
on the CAP Inventory.

Of the 84 subjects who may be demonstrating
idealization of their parents, 70 (83.33% of 84) were not
classified as abused or as likely to be abusive to their own
children. Thirteen of the 84 subjects (15.48%) who
idealized their parents were not classified as abused but
did score above the cut-off on the measure of child abuse
potential, and one (1.19%) had been classified as abused but
not as likely to be abusive. None of the subjects who were

abused and who had high scores on the CAP Inventory idealized their parents by indicating that they wanted to raise their own children in exactly the same way they were raised. In addition, none of the 21 subjects who responded "true" to the AEIII Physical Punishment scale item "I was physically abused by my parents when I was a child" showed evidence of idealization.

Of the 12 subjects who indicated that they would do nothing in the same way that their parents did, half had been abused and half had not. Among the 6 nonabused subjects, 5 (41.67% of 12) had high scores on the CAP Inventory, and the same was true for 5 of the 6 subjects who had been abused. Four of these 12 subjects claimed to have been abused in response to the AEIII Physical Punishment scale item.

Examination of the relationship between attributional complexity and parental idealization or rejection revealed that students who seemed to be idealizing their parents had significantly lower scores on the Attributional Complexity Scale (mean = 26.50, N = 82) than those who did not idealize (mean = 36.08, N = 224, t = 3.42, df = 147.07, p < .001). The difference in attributional complexity scores was not significant between subjects' who did or did not display rejection of their parents. The subjects higher in attributional complexity tended to list a greater number of

things that they would do differently from the way in which
their parents raised them, $r = .274$, $p < .01$.

Hypothesis 1: Childhood history of abuse will be positively
correlated with child abuse potential.

As may be seen in Table III, the Pearson correlation
between subjects' scores on the Physical Punishment scale of
the AEIII and the Abuse scale of the CAPI was significant
($r = .314$, $p < .001$). Even though the majority of subjects
who were not classified as abused according to the AEIII
Physical Punishment scale did not score above the cut-off
for abuse potential on the CAPI ($N = 200$, 68.7% of non-
abused subjects or 61% of the total sample), 91 (31.3% of
all non-abused subjects, or 27.7% of the total sample) non-
abused subjects did score above the cut-off. Of the 37
subjects identified as having received abusive levels of
physical punishment in childhood, 27 (72.97%, or 8.2% of the
total sample) received scores on the CAPI above criterion
for abuse, whereas the other 10 (27.03%, or 3% of the total
sample) scored below the cut-off on this scale. However, 4
of these 10 remaining subjects were rated as "faking good"
on the CAPI. In contrast, 33 subjects (16.5% of 200) who
were not classified as abused were faking good. This
significant relationship between childhood history of abuse
and child abuse potential satisfies the second condition of
Baron and Kenny's (1986) mediator model.

Hypothesis 2:   Adult attachment status mediates the
relationship between childhood history of abuse and child
abuse potential.

To satisfy the first condition of the mediator model,
the independent variable (childhood experiences) must be
significantly related to the mediator (adult attachment
status). As may be seen in Table III, scores on the
Physical Punishment scale of the AEIII correlate modestly
but significantly with each of the subscales of the AAS and
the IPPA. To test the third condition, each subscale of the
AAS and the IPPA was entered in a separate regression
equation with the scores from the AEIII Physical Punishment
scale. Beta coefficients for the predictive value of the
Physical Punishment scale alone and for the Physical
Punishment scale when entered with each of the attachment-
related variables may be seen in Table V. Results indicated
that each of the five mediating variables related
significantly to child abuse potential when regressed
individually upon both the scores on the Physical Punishment
scale and the attachment scales, and the relation between
the Physical Punishment scale scores and child abuse
potential was significantly reduced from what it had been
when the Physical Punishment scale score was entered alone.
When all five mediating variables were entered in the same
equation with the scores from the Physical Punishment scale,
the attachment variables explained over half of the variance

Table V: Predictive value of childhood history of abuse (AEIII Physical Punishment scale) entered alone and as mediated by security of adult attachment (AAS, IPPA subscales) for child abuse potential (CAPI Abuse scale).

	B	β	R^2
AEIII-Phys. Punishment	15.6898	.3142	.0960
IPPA-Father	-1.9916	-.4609	.2902
AEIII-Phys. Punishment	7.9048	.1572	
IPPA-Mother	-2.1527	-.4485	.2647
AEIII-Phys. Punishment	7.2162	.1410	
AAS-Close	-7.3410	-.3819	.2380
AEIII-Phys. Punishment	11.6120	.2326	
AAS-Depend	-8.2172	-.4247	.2662
AEIII-Phys. Punishment	11.0236	.2156	
AAS-Anxiety	7.6911	.4884	.3281
AEIII-Phys. Punishment	12.1245	.2428	
AAS-Anxiety	4.9772	.3171	
AEIII-Phys. Punishment	2.9430	.0555 n.s.	
AAS-Close	-2.6267	-.1362	.5199
IPPA-Father	-1.0970	-.2519	
IPPA-Mother	-.9436	-.1948	
AAS-Depend	-2.0727	-.1093	

Note. All analyses are significant at $p < .0001$, except where indicated otherwise.

in child abuse potential, whereas the predictive value of childhood history of abuse was no longer significant.

The impact of adult attachment variables can be more fully appreciated by examining the mean AAS and IPPA subscale scores for each group of subjects by abuse history (AEIII-Abused/Not Abused) and abuse potential (CAPI-Abusive/Not Abusive) (see Table VI). Results of t tests revealing significant differences between group means are indicated in Table VI as well.

Hypothesis 3: Attributional complexity moderates the influence of childhood history of abuse on adult attachment status.

A 2 x 4 (Childhood History of Abuse x Attributional Complexity) analysis of variance was used to test whether attributional complexity has a moderating effect on the influence of childhood history on adult attachment security (Baron & Kenny, 1986). Consistent with this hypothesis, the interaction between the predictor (childhood experiences) and the moderator (attributional complexity) was significant for the closeness dimension of the AAS, $F(3) = 3.477$, $p < .02$. Figure 1 shows the scores on the AAS Close dimension as a function of abuse history and attributional complexity. Significant main effects for the AEIII predictor and the moderator on the criterion variable (adult attachment security) also were found, but these are not

Table VI: Mean AAS and IPPA subscale scores for each group of subjects by abuse history (AEIII-Abused/Not Abused) and abuse potential (CAPI-Abusive/Not Abusive).

	AAS Close	AAS Depend	AAS Anxiety	IPPA Mother	IPPA Father
Not Abused/ Not Abusive (N = 200)	23.20$_a$	19.91$_a$	15.73$_a$	99.74$_a$	93.65$_a$
Not Abused/ Abusive (N = 91)	19.96$_b$	16.67$_b$	20.96$_b$	84.94$_b$	74.12$_b$
Abused/ Not Abusive (N = 10)	22.80$_{ab}$	16.40$_{ab}$	14.90$_a$	76.20$_{bc}$	75.38$_{bc}$
Abused/ Abusive (N = 27)	18.93$_b$	14.73$_b$	22.74$_b$	68.65$_c$	61.46$_c$

Note. Means with different subscripts differ significantly at $p < .03$ for each set of comparisons, except for the difference between the Not Abused/Not Abusive group and the Abused/Not Abusive group scores on the IPPA Father subscale, where $p = .056$.

directly relevant to testing the moderator hypothesis. For the most part, attributional complexity was uncorrelated with both the AEIII Physical Punishment scale and the attachment-related subscales of the AAS and the IPPA (see Table III).

The interaction depicted in Figure 1 seems to suggest that low and moderately high levels of attributional complexity are associated with higher scores on the AAS Close dimension for those subjects who reported experiencing child abuse. Moderately low and high levels of

attributional complexity seem to be associated with low

ratings of feeling comfortable with closeness. Closer

examination of this interaction between scores on the AEIII

Physical Punishment scale and the Attributional Complexity

Scale, however, revealed that the number of abused subjects

at each of the four levels of attributional complexity was

very small (8, 5, 13, and 8, from low to high,
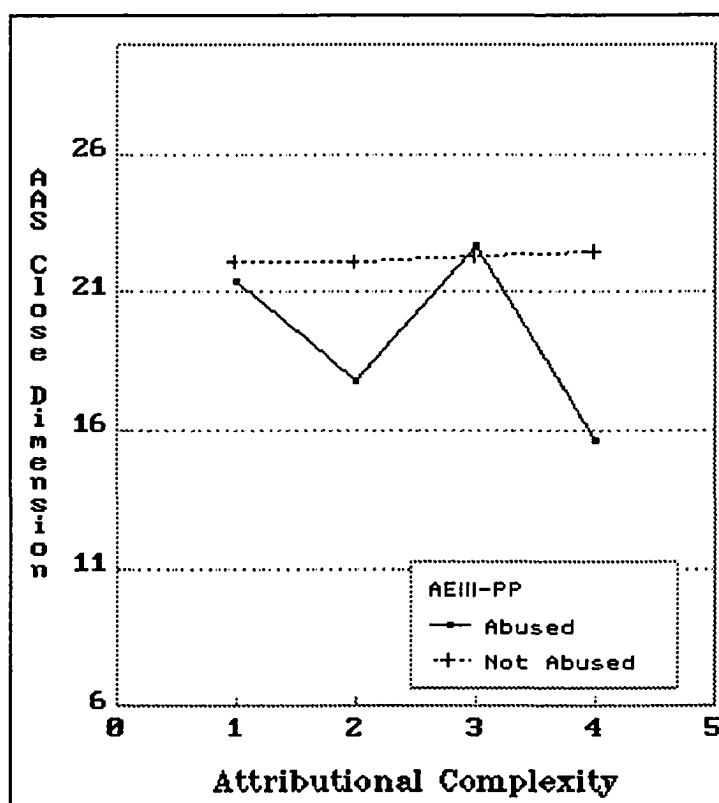
respectively).

Figure 1: Scores on the AAS Close
dimension as a function of abuse history
and attributional complexity.

CHAPTER IV

DISCUSSION

As predicted by the first hypothesis, childhood history of abuse was positively correlated with child abuse potential. The magnitude of the relationship was similar to that found by Milner, Robertson, and Rogers (1990), and supports the contention of Kaufman and Zigler (1987, 1989, 1993) that intergenerational transmission of abusive tendencies is not inevitable. This finding confirms the importance of investigating the underlying processes through which the intergenerational cycle of abuse is perpetuated or attenuated.

These findings also offer strong support for the second hypothesis, very clearly suggesting that the quality of current adult attachment relationships can account for much of the association between childhood experiences and later abusive tendencies. The undergraduates in this sample who showed little evidence of child abuse potential in spite of a history of abuse during childhood seemed to be just as capable of experiencing close, satisfying relationships as those who were not abused. The greatest difference between

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abused subjects who seemed to be breaking the cycle of abuse and those who were not was in their feelings of anxiety about being abandoned or unloved. Furthermore, the relationship between harsh physical punishment in childhood and later abusive tendencies became nonsignificant once patterns of attachment representations were taken into account. With all five attachment-related subscales controlled simultaneously, over half of the outcome variance was explained. Thus, constructs provided by attachment theory (quality of current relationships with parents and others) seem to be very useful in explaining continuity and discontinuity in the transmission of abusive tendencies from one generation to the next.

It must be emphasized that even though this study has demonstrated that adult attachment representations mediate the relationship between childhood abuse and abuse potential, it cannot be assumed that this is the only possible mediator in the abused-abusive cycle. Dodge, Bates, and Pettit (1990) also found compelling evidence that social information processing patterns play a mediating role in the perpetuation of aggressive behavior in maltreated children. Their evidence suggested that the long-term harmful consequences of early physical abuse are due to its effect on the child's development of aggressive behavior patterns by making the child less attentive to relevant social cues, biased toward a tendency to attribute hostile

intent to others, and less likely to come up with competent solutions to interpersonal problems (Dodge et al., 1990). Deficiencies in social competence (Burgess & Youngblade, 1988) and deviant social-cognitive reasoning (Smetana & Kelly, 1989) have been noted among maltreated children as well. All of these cognitive characteristics are, at least theoretically, associated with insecure attachment.

Unfortunately, results for the third hypothesis cannot be accepted as reliable or valid because of the very low numbers of abused subjects to be compared across the four levels of attributional complexity. Attributional complexity was expected to affect the direction and/or strength of the relation between child abuse history and security of adult attachment relationships, with subjects high in attributional complexity more likely to be capable of secure relationships in spite of a history of abuse. To address this hypothesis adequately, it will be necessary either to replicate this study with a larger nonclinical sample of undergraduates, thereby increasing the number of subjects likely to report a history of child abuse, or to enlist a sample of identified victims of abuse. It is intriguing that an interaction was found, and it will be important to investigate whether the trend identified here, which was inconsistent with the original hypothesis, will be confirmed in further research.

Interestingly, this unexpected trend may be consistent with Epstein's cognitive-experiential self-theory (1991), which predicts that traumatic experiences may cause an individual to develop a theory of reality that is more consonant with the traumatic environment than with a normal one. Once this new personality structure becomes consolidated, it assimilates new experiences, even in a different, nontraumatic environment, according to its basic postulates. The individual subsequently seeks out and interprets experiences that are consistent with this new traumatic view of the world. If the trend identified in this study is confirmed by additional investigation, it may suggest that abused individuals who are very high in attributional complexity have constructed a theory of reality based on their traumatic childhood experiences. That they apparently have not also examined and re-evaluated their theory is not necessarily an indication of increased, rather than decreased, resistance to reconstruction of that theory. That only can be determined by following the same individuals over time, in order to identify whether those who have high attributional complexity and poor quality attachment relationships are actually in a state of transition as they revise their internal working models.

The evidence for cognitive distortion differentiating between subjects breaking or continuing an abuse cycle as seen in responses to the parental idealization/rejection

measure was not adequate. It seems likely that this also was due to the low number of abused subjects in the sample. Other results of this measure were unsurprising. Students with higher levels of attributional complexity were less likely to idealize their parents and tended to list a greater number of things that they would do the same as well as differently. Subjects who identified themselves as having been abused by their parents tended to be more critical of their parents' child-rearing practices than those who did not label themselves as abused, regardless of the severity of the abuse reported. With a larger sample size, it may be possible to determine whether these subjects differ in any other important ways as well.

That the abused subjects who seemed to be breaking the cycle continued to share some characteristics with the other abused subjects is not surprising. Pearson, Cohn, Cowan, and Cowan (1994) found that parents who were classified as secure using Main's Adult Attachment Interview even though they reported difficult early relationships with caregivers had depressive symptomatology similar to that of insecure parents, although their parenting style was similar to that of secure parents who reported secure early relationships as well. Pearson et al. suggest that "reconstruction of past difficulties may remain emotional liabilities despite a current secure working model" (p. 359). It would be interesting to examine whether individuals who are

attempting to raise their children differently from the way in which they were raised find that they must continually re-examine and revise their internal working models, and struggle against regressing to the old model, as they are confronted with new challenges during the transition to parenthood and as their children grow up.

Similarities also were noted among students who were rated as high in child abuse potential whether they were abused or not. Those who demonstrated abusive tendencies even if they had not been classified as abused tended to report more troubled relationships with their parents than nonabused subjects, and levels of anxiety about being unloved or abandoned similar to those expressed by abused subjects. Again, it appears that the individual's current conceptualization of attachment relationships is a stronger predictor of parenting behavior than are the facts of the individual's childhood history. This certainly is consistent with attachment theory, in which it is relationship patterns, not modeled behaviors, that are carried forward (Sroufe & Fleeson, 1986).

Although the results of this investigation are encouraging overall, several additional caveats must be noted. First, it is well-established that questionnaire measures are vulnerable to inaccurate recall or lying. The Lie scale of the CAP Inventory was used to attempt to identify subjects' intentional misrepresentations, but it is

unknown to what extent subjects' current state of mind may have influenced their recall of past events. However, the objective accuracy of subjects' memories is less important than their understanding of those memories (Main & Goldwyn, 1984; Main, Kaplan, & Cassidy, 1985).

A second limitation to the questionnaire method is that it is less sensitive to the quality and manner of a subject's state of mind regarding attachment relationships than an interview method. It seems possible, for example, that an undergraduate in this study could report current difficult relationships with parents in response to a questionnaire, but also be capable of giving an organized, coherent account of those relationships in an interview.

Third, from the results presented here it is unclear whether those who seem to be breaking the abused-abusive cycle have actually changed their internal working model of attachment or whether their current secure relationships serve as a buffer for latent abusive tendencies. On the one hand, it may be that the establishment of coherent childhood recollections precedes and provides the foundation for the creation of future positive relationships. On the other hand, positive experiences in early adulthood may affect the solidification or modification of representational models and the existence of rules that support abusive behavior. Certainly, it has been substantiated that the formation of supportive relationships plays a role in enabling

individuals to change (Egeland et al., 1988), but the lawful determinants of this process have yet to be identified. Further investigation of the conditions under which the construction and reconstruction of the internal working model of attachment takes place through childhood and into adulthood is warranted.

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APPENDIX A

Oral Solicitation Script

The following statement was read to subjects at the beginning of the testing session, before questionnaire booklets were distributed:

Oral Solicitation Script

My name is Karen Huxtable-Jester and I am a graduate student here at Ohio State University. I am doing some research to try to find out more about people's childhood experiences and their thoughts and feelings in childhood and adulthood. What I am asking you to do is fill out a set of questionnaires. This probably will take 45 minutes to an hour.

Please do not put your name, student ID number, or social security number on the questionnaire booklet.

Some of the questionnaires ask for very personal information about your childhood experiences and about your feelings about yourself and others, including your parents. If at any time you have difficulty with a portion of the questionnaires, let me know. If at any time you feel that answering these questions is making you very uncomfortable, you may stop. You also may skip questions that you do not want to answer. I do hope, however, that you will answer all of the questions as truthfully and as honestly as you can.

When you finish, please put your questionnaire booklet in the box at the front of the room, and read the study description that you can pick up on your way out. Again, if you have any questions, please let me know.

APPENDIX B

Debriefing Statement

The following statement was distributed to subjects upon their completion of the questionnaires:

Study Description

The purpose of this study is to examine possible relationships between childhood experiences, ways of thinking about the reasons for people's behavior, how close you feel to your parents as an adult, and how you might bring up your own children.

There was no deception involved in this study. The questionnaires you just completed are good examples of <u>face-valid</u> questionnaires. None of the questions were supposed to be misleading, although a few "filler" items were included. There were no right or wrong answers.

One of the things I am interested in looking at with these questionnaires is the relationship between how your parents punished you when you were a child, and how you might bring up your own children. Another section asked about your relationship with your parents now, and how you feel about relationships in general. This information will help me look at how early parent-child relationships may or may not influence adult relationships. If you have any more questions about the study or would like to know about the results, please call Karen Huxtable-Jester at 292-1061. Obviously, I cannot give you any information about your own results, but I can tell you about any trends that are identified in the data.

APPENDIX C

Parental idealization/rejection measure

This section asks about things that your parents did in raising you that you would like to do __differently__ with your own children, whether or not you have any yet.

Please complete as many of the following statements as you can.

1. My parents/My parents used to _____

_____

_____,
and I would __not__ like to do this with/to my children.

2. My parents/My parents used to _____

_____

_____,
and I would __not__ like to do this with/to my children.

3. My parents/My parents used to _____

_____

_____,
and I would __not__ like to do this with/to my children.

4. My parents/My parents used to _____

_____

_____,
and I would __not__ like to do this with/to my children.

5. My parents/My parents used to _____

_____

_____,
and I would __not__ like to do this with/to my children.

☐   I cannot answer these items. There is nothing I want to do differently from the way my parents raised me. I want to raise my children in exactly the same way I was raised.

This section asks about things that your parents did in raising you that you would like to do __the same__ with your own children, whether or not you have any yet.

Please complete as many of the following statements as you can.

1. My parents/My parents used to _____

_____

_____,
and I would like to do this with/to my children also.

2. My parents/My parents used to _____

_____

_____,
and I would like to do this with/to my children also.

3. My parents/My parents used to _____

_____

_____,
and I would like to do this with/to my children also.

4. My parents/My parents used to _____

_____

_____,
and I would like to do this with/to my children also.

5. My parents/My parents used to _____

_____

_____,
and I would like to do this with/to my children also.

☐   I cannot answer these items. There is nothing I want to do in the same way my parents raised me. I __do not__ want to raise my children in the way I was raised at all.