

MENTAL REPRESENTATIONS OF ATTACHMENT IN CHILD WELFARE
PROFESSIONALS

by

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Submitted to the Graduate Faculty of the
College of Science and Engineering
Texas Christian University
in partial fulfillment of the requirements
for the degree of

Doctor of Philosophy

May 2012

ACKNOWLEDGEMENTS

I would like to acknowledge the people who have supported me throughout this academic process. First, I would like to thank my mentors, Drs. Cross and Purvis for inspiring me and mentoring me along this journey. I am appreciative of the opportunities, time, and experiences you have afforded me. I am grateful for being able to witness the relentless compassion you demonstrate through your work with professionals and families. Thank you for allowing me to be a small part of it.

Next, I am thankful for the additional members of my dissertation committee, Drs. Ekas, Flynn, and Hill. Thank you for the insight, suggestions, and assistance you have provided as part of my committee. I am appreciative of your input and time.

To the undergraduates who have assisted with data, thank you (especially to Jordan Cibulka for volunteering time).

Furthermore, I would like to acknowledge the staff at the Institute of Child Development for supporting me in this project. Thank you to Emmelie, Deborah, Vicki, Mandy, Sheri, Shanna, Brooks, Jamie, Jim, Henry, Annalise, Olive, and Allison; whether trying to locate data, proof reading drafts, scoring data, or the countless other ways you have been supportive; I am grateful for you.

To Erin Razuri and Adrian Rus, my dissertation partners, thank you. You have helped make this process manageable and more enjoyable. I am appreciative of your friendship and support.

I am grateful to my mom and dad for encouraging my academic endeavors. I am especially thankful to my mom and in-laws for helping with Beckett and Betsy, which has allowed me the opportunity to pursue this dream. I wouldn't be here, without your help. Thank you.

Finally, I would like to express my deepest appreciation and gratitude to my husband, Brian, and my children, Beckett and Betsy. You are my favorite people in the whole world and I love you! Thank you for being supportive, encouraging, patient, loving, and fun. This is dedicated to you.

TABLE OF CONTENTS

Acknowledgements	ii
List of Tables	iv
Introduction.....	1
Method.....	18
Results.....	25
Discussion.....	57
Appendix A.....	66
Appendix B.....	69
Appendix C.....	72
Appendix D.....	75
Appendix E.....	78
Appendix F.....	81
Appendix G.....	82
Appendix H.....	84
Appendix I.....	85
References	87
Vita	
Abstract	

LIST OF TABLES

1. Frequencies and Percentages of Demographic Variables.....	20
2. Frequencies and Percentages of Pre-Modules Completed.....	22
3. Distribution of Attachment Classifications in Child Welfare Professionals Sample and Non-Clinical Norm.....	27
4. Means and Standard Deviations of AAI LIWC Variables.....	28
5. Means and Standard Deviations of Pre-Module LIWC Variables.....	28
6. Relationships among Demographic Variables and AAI LIWC Linguistic Processes Variables.....	31
7. Relationships among Demographic Variables and AAI LIWC Psychological Processes Variables.....	32
8. Relationships among Demographic Variables and Pre-Module LIWC Linguistic Processes Variables.....	35
9. Relationships among Demographic Variables and Pre-Module LIWC Psychological Processes Variables.....	37
10. Relationships among AAI Three-Way Distribution and Categorical Variables.....	39
11. Relationships among AAI Resolved Status and Categorical Variables.....	40
12. Goodness of Fit Chi-Square Tests Comparing AAI Distributions Observed Values with Expected Values based on Norms.....	41
13. Relationships among AAI Three-Way Distribution and AAI LIWC Linguistic Processes.....	43
14. Relationships among AAI Three-Way Distribution and AAI LIWC Psychological Processes.....	44

15. Relationships among AAI Three-Way Distribution and Pre-Module LIWC Linguistic Processes.....	45
16. Relationship among AAI Three-Way Distribution and Pre-Module LIWC Psychological Processes.....	47
17. Pearson Correlations for AAI LIWC and Pre-Module LIWC Linguistic Processes.....	48
18. Pearson Correlations for AAI LIWC and Pre-Module LIWC Psychological Processes.....	48
19. Relationships among AAI Three-Way Distribution and Pre-Module Thought Provoking Questions LIWC Linguistic Processes.....	50
20. Relationships among AAI Three-Way Distribution and Pre-Module Thought Provoking Questions LIWC Psychological Processes.....	51
21. Relationships among AAI Resolved Status and AAI LIWC Linguistic Processes....	53
22. Relationships among AAI Resolved Status and AAI LIWC Psychological Processes.....	54
23. Relationships among AAI Resolved Status and Thought Provoking Questions Pre-Module LIWC Linguistic Processes.....	56
24. Relationships among AAI Resolved Status and Thought Provoking Questions Pre-Module LIWC Psychological Processes.....	57

Introduction

Attachment theory, as first proposed by John Bowlby, is a theory linked to human survival (Bowlby, 1982). Human infants must rely on others to meet their needs from birth or they will die. Through these infant-caregiver interactions, affectional bonds are formed. These initial bonds provide a framework for many other developmental tasks such as social competence, self-regulation, emotional regulation, and curiosity (Sroufe, 2005). Attachment is “an organizing core in development that is always integrated with later experience and never lost” (Sroufe, 2005). Therefore, attachment experiences are very important in the development of a person (Sroufe, 2005).

Mary Ainsworth developed a method for observing and classifying an infant’s attachment classification named the Strange Situation Procedure (SSP). The SSP is a series of separation and reunion episodes between a caregiver and their infant (aged 12-18 months) during one session in which their interactions are observed (the session lasts approximately twenty minutes; Ainsworth & Bell, 1970). The main focus is on the infant’s behavior during the reunion episodes with attention to the different strategies used to cope with the stressful situation (Steele, Steele, & Fonagy 1996). The coping strategies used appear to be based upon the infant’s previous experiences with their caregiver.

The SSP is scored according to observable attachment and exploratory behaviors with scores used to classify infants as having a secure or insecure attachment style. Infants secure in their attachment classification tend to seek proximity with their caregiver upon reunion and to be comforted by the caregiver if distressed; using their caregiver as a secure base in stressful situations. Once comforted, secure infants tend to return to exploring their environment. Mary Main used the term “attentional flexibility” to describe secure infant’s

ability to shift attention to their immediate environment in the caregiver's presence (e.g., explore, play with toys) and then to adeptly switch their attention to attachment behaviors (e.g., searching for/seeking proximity to caregiver) during the caregiver's absence and immediately upon return (reunion; Hesse, 2008). In secure infants, characterized by attentional flexibility, caregivers have been found to be warm, responsive, and consistent. In infants described as insecure in their attachment during the SSP, upon the reunion episode they seemingly pay no attention to the caregiver's return and/or fail to seek closeness while simultaneously resisting comfort. Insecure infants' play and exploration may or may not be interrupted during the separation and/or reunion episodes. The caregivers of insecure infants have been found to be inconsistent, neglectful, rejecting, and/or frightening (Sroufe, 2000).

Insecure infants can be classified as avoidant or resistant-ambivalent. During the SSP, avoidant babies tend not to cry when their caregiver leaves the room, they continue playing with toys, and upon reunion they appear to avoid and/or ignore their caregiver. On the other hand, resistant-ambivalent babies seem to be entangled/preoccupied with their caregiver throughout the SSP. They will seek closeness while at the same time resist their caregiver. Upon reunion, they tend to focus on their parent, cry, and fail to settle down. They usually do not return to playing with toys. Both of these insecure infants' behaviors could be described as attentional inflexibility with avoidant infants being focused away from the caregiver and toward the environment and resistant-ambivalent infants being persistently focused upon the caregiver at the expense of the environment (Hesse, 2008).

A fourth category of attachment in infants, disorganized/disoriented, is also possible when the infant shows no organized response in a stressful situation. During the SSP, disorganized/disoriented babies' behaviors are often contradictory or misdirected, consist of

freezing behaviors or stereotypes, and can involve blatant apprehension or fearfulness of their caregiver. These disorganized behaviors are typically seen only briefly during the SSP with one of the organized behavior patterns predominating over the others, and as a result the disorganized classification is usually given as a secondary classification. Infants with a disorganized style of attachment tend to have caregivers who appear frightening to them. In samples of children who have been maltreated, approximately 80% are classified as having a disorganized attachment style (Hesse & Main, 2000). Based on these early caregiving behaviors whether responsive and consistent, neglectful and inconsistent, or frightening and harmful, infants begin to develop an organized system known as an internal working model through which subsequent relational interactions are filtered (Pearson, Cohn, Cowan, & Cowan, 1994) and other development is influenced, e.g. regulatory systems (Sroufe, 2000).

Internal working models based on these early caregiving experiences develop and seem to function as internal filters and organizers for other relationships throughout childhood and adulthood (Steele & Steele, 2008). For example, infants who are secure in their attachment to their mothers continue to have more positive relational interactions in preschool. They have better relationships with their peers and teachers, have a higher self-esteem, are more self-reliant, and tend to be more flexible in managing their thoughts, behaviors, and emotions. Preschoolers who are insecure in their attachment to their mothers tend to be easily frustrated, have difficulties with peers and teachers, and do not seek care when distressed. These relational patterns can continue throughout middle childhood and adolescence. Older children with secure attachments continue with more positive outcomes such as effective emotional regulation and self-reliance, better relationships with peers,

improved social competence, and fewer behavior problems and emotional disturbances (Sroufe, 2000, 2005).

For adults, individual attachment classification is determined through an interview designed to assess current representations of childhood experiences, known as a person's state of mind regarding attachment, rather than observation of attachment related behaviors as done with infants (van IJzendoorn, 1995). This semi-structured clinical interview, the Adult Attachment Interview (AAI), developed by Mary Main, uncovers individual differences in attachment representations through "surprising the unconscious" with its questions (2000). By determining parents' attachment classification through the AAI, both the quality of their parent-child attachment relationship and their responsiveness to their infant's signals can be predicted (van IJzendoorn, 1995).

The AAI consists of questions asking participants to provide general descriptions about early parental relationships with evidence to support or contradict these descriptions, in addition, participants are asked for parental descriptions from their current perspective. Specifically, interviewees are asked to give five adjectives each for their mother and their father describing their relationship with them as a child. Then they are asked to give specific examples for each adjective. Next, the interviewees are asked which parent they felt closest to, what they did as a child when they were hurt or upset, and about separation and rejection from parents. Then, the interviewee is asked about their current personality and if they believe it was influenced by their early experiences, possible explanations for their parents' behavior, and a current a description of how their parental relationship has changed over time. The final part of the AAI is focused on trauma and loss, as an adult and a child (van IJzendoorn, 1995).

After the interview, a verbatim transcript is produced and then coded as to the coherence of the discourse and the collaborative nature of the interviewee. Coherence is coded based upon Grice's four maxims of coherent discourse: 1) Quality ("Be truthful and have evidence for what you say"), 2) Quantity ("Be succinct, yet be complete"), 3) Relation ("Be relevant"), and 4) Manner ("Be clear and orderly"). The interviewee's internal representations of attachment are thought to be related to the coherence of the discourse during the interview (van IJzendoorn, 1995).

AAI transcripts are coded based on three major classifications. Secure/free autonomous classification is given when adults are able to clearly and coherently discuss their attachment related experiences and their effects, whether positive or negative, and their discourse appears to value attachment and relationships. Secure adults appear to have attentional flexibility similar to secure infants. During the AAI, this is demonstrated by being able to fluidly shift between attachment experiences and evaluations of these experiences (Hesse, 2008). Dismissing and entangled/preoccupied classifications are both considered insecure, but organized, classifications.

Dismissing classification is given when adults give typical, positive descriptions of their attachment related experiences and then are unable to support them or they provide examples that contradict them. For example, they might describe their mother as nurturing and then state that as a child they went to their room when they were hurt because they didn't want to bother their mother. Adults with a dismissing classification tend to reject or find little value in attachment related experiences and report past experiences as not having much effect on the present. Dismissing interviews are often short due to reported lack of memory

and/or subtle refusals to participate which can be viewed as an attempt to “keep the attachment system inactive during the interview” (Main, Goldwyn, & Hesse, 2002).

Entangled/preoccupied classifications are most often characterized with a sense of continuing to be involved with past experiences and unable to “describe them coherently and reflectively” (Bakermans-Kranenburg & van IJzendoorn, 2009). They often seem angry, confused, passive, fearful, and overwhelmed. Their transcripts can be long with irrelevant information, psychological jargon, and vague phrases (Main, 2000). Both dismissing and entangled/preoccupied adults appear to have attentional inflexibility similar to insecure infants, with dismissing adults focusing the attention away from their past attachment relationships and entangled/preoccupied adults focusing their attention towards their past attachment relationships which prevents appropriate responses (Hesse, 2008).

A fourth category, unresolved/disorganized can be given when an interviewee has not resolved issues related to traumatic events usually involving abuse and/or loss. During the interview, this is often revealed through a lapse of monitoring when discussing the loss or abuse. Unresolved status is given in addition to secure, dismissing, or entangled/preoccupied. Depending on the severity of the lapse in monitoring during the interview, the unresolved status can be given as a primary or secondary classification (van IJzendoorn, 1995).

A fifth category, unorganized/cannot classify can also be given when the interviewee uses both dismissing and entangled/preoccupied strategies and the discourse appears contradictory throughout the interview (Bakermans-Kranenburg & van IJzendoorn, 2009). Where as an unresolved person will have lapses in monitoring regarding a specific incident or person, a “cannot classify” interview will have an overall feeling of being unorganized and contradictory.

In order to evaluate the two original purposes of the AAI, predicting both the quality of parent-child attachment relationships and the parent's responsiveness to their infant's signals, van IJzendoorn (1995) conducted a meta-analysis of all available AAI information. The results indicate that the AAI is predictive of infant's SSP attachment classifications and is associated with parental responsiveness (accounting for about 12% of the variation). The relationship between parental attachment and children's attachment was analyzed by combining 18 samples ($N=854$ dyads), the effect size of secure versus insecure classifications was 1.06 ($r=.47$), which is considered large. This is comparable to a correspondence between parent (AAI) and infant (SSP) attachment classifications 75% of the time. In other words, a parent with a secure state of mind regarding attachment predicts a secure infant three out of four times. Specifically, a secure-autonomous classification on the AAI predicts an infant with secure attachment on the SSP, a dismissing classification on the AAI predicts an infant with avoidant attachment on the SSP, an entangled/preoccupied classification on the AAI predicts an infant with resistant/ambivalent attachment, and an unresolved classification on the AAI predicts an infant with disorganized attachment (Hesse, 2008). In addition, van IJzendoorn (1995) combined 10 samples ($N=389$ dyads) to examine parental attachment as classified by the AAI and parental responsiveness. Effect sizes ranged from 0.35 to 1.37, with a combined effect size of 0.72 ($r=.34$), which is considered moderate to large. Parents who were secure in their state of mind regarding attachment tended to be more responsive to their infants. Based on the results of this meta-analysis, the AAI is able to predict an infant's attachment classification and a parent's responsiveness moderately well. These findings led to additional studies following the course of attachment development and outcomes from infancy through adulthood (Sroufe, 2000, 2005; Sroufe, Egeland, Carlson, Collins, 2005).

One example, the Minnesota study (Sroufe et al., 2005) is a 30-year longitudinal study of the developing person designed to test two hypotheses posited by Bowlby. The first one being that “individual differences in the quality or effectiveness of infant-caregiver attachment relationships were largely the product of the history of interaction with the caregiver, and the second being that variations in attachment quality were the foundation for later individual differences in personality (Sroufe et al., 2005).” The authors also predicted that the quality, nature, and effectiveness of early relational interactions would foretell the complex organization of adult personality. The Minnesota study sample consisted of over 200 mothers recruited in the mid-1970s who were viewed as moderately at-risk due to poverty. The authors included comprehensive measures (e.g., SSP, AAI, IQ, infant temperament, cognitive development, mother personality), an age-by-age assessment beginning before birth (e.g., interviews of caregivers and teachers, in-home and laboratory observations, data from records, questionnaire data), and examinations of the context surrounding development (e.g., life stressors, maternal depression, changes in support). The overall findings indicate that early caregiving experiences affect patterns of behaviors depending upon changing contextual factors (Sroufe, 2005; Sroufe et al., 2005).

Results of the study showed that infants with secure attachment classifications had more sensitive and cooperative caregivers. As infants they had appropriate early dependence using their caregivers as a secure base, which was followed by exhibiting greater independence in preschool. Teachers viewed them as being more self-reliant. During preschool, secure children also tended to show more self-confidence and higher self-esteem. They appeared to be more ego resilient meaning they were able to adjust their expression of feelings and behaviors appropriately for different situations. When these preschoolers

interacted with peers, they had more positive affect and were active participants in the relationship. On challenging tasks, secure children were more persistent and flexible with less whining, fussing, and frustration. Into middle childhood, these secure infants were also more active participants in relationships, less socially isolated, were able to reciprocate close friendships more frequently, abided by same gender peer group rules more closely, and were able to coordinate friendships within group functions. As these secure infants moved into adolescence, they continued to have advantages in social competence and relationships. These children were more effective in mixed gender peer groups, able to participate more smoothly in a wide range of social situations, possessed greater leadership qualities, had more social assurance, and were seen as a quiet authority among peers. In a camp environment, secure children were more interested in their peers' attention than in the camp counselors' attention, appropriately. In adulthood, this pattern of increased social competency appears to continue as displayed through a more positive emotional tone of romantic relationships (Sroufe, 2005; Sroufe et al., 2005).

The secure attachment classification in infancy appears to have positive outcomes related to handling stress and psychopathology, as well. Secure attachment in infancy and the amount of nurturing received in the first two years of life predicted the degree of recovery in children who were experiencing behavior problems during one particular time of development. The children who had been secure as infants were more likely to have recovered by the next point of assessment. Similarly, secure attachment in infancy appears to be protective against later psychopathology by decreasing vulnerability to the consequences of stress and increasing resiliency following difficult periods. Overall, the strongest evidence of stable patterns from infants who are secure to adults who are secure, appears in the social

competency domain including regulating social and emotional abilities, being closely involved with others, and having positive expectations regarding relationships with others (Sroufe, 2005; Sroufe et al., 2005).

Contrastingly, infants with insecure attachment classifications were rated as highly dependent by teachers and observed to be more reliant on them during preschool. Insecure infants as preschoolers were also prone to becoming more easily frustrated and more likely to give up on challenging tasks, as well as exhibiting increased aggression. Although similar behaviors and characteristics were reported during preschool for both insecure classifications, they do appear to receive different styles of caregiving, both low in parental sensitivity (Sroufe, 2005; Sroufe et al., 2005).

The infants who were classified as avoidant in their attachment style, tended to have caregivers who were psychologically unavailable. In general, they had negative feelings associated with motherhood, which resulted in further distancing themselves when their own infants appeared needy and sought physical comfort. Preschool teachers reported that these children tended to be more socially isolated and emotionally protective, it appeared challenging for these children to make close friends. Infants who were avoidant in their attachment style were reported to do well during solitary play and in activities such as Legos during preschool. During middle childhood in a camp setting, these children were rated as more dependent on camp counselors. They initiated contact with the camp counselor more often than secure children, most often seeking out their counselors during quiet times. The result of this attention seeking appeared to be teachers and camp counselors lowering their expectations of the child's compliance and in response, the teachers tended to be more controlling of them (Sroufe, 2005; Sroufe et al., 2005).

This avoidant interaction style is in contrast to infants with a resistant-ambivalent attachment style even though both are reported as having increased dependency on teachers and counselors. Infants with a resistant-ambivalent style of attachment tend to have caregivers who are lower in sensitivity and psychological awareness. Often times, infants in this group will have lags in their development. During preschool, resistant-ambivalent children tend to demonstrate less competence with peers, less active exploration of novel complex objects, less effectiveness in problem solving skills, and less flexibility. If social difficulties occur, these children tend to be less persistent in solving the problem and more likely to leave the situation. Teachers often view these children as helpless, passive, and easily frustrated. During middle childhood in a camp environment, children with a resistant-ambivalent attachment style tended to initiate more contact with the camp counselors by direct means, such as hovering near them. Teachers often describe these children as wearing their hearts on their sleeves, seeking assistance at the first sign of difficulty, and going directly to them when they are upset. In response to these children, teachers tend to be more nurturing towards them and have more tolerance for inappropriate behaviors. Teachers see them as less mature and treat them accordingly (Sroufe, 2005; Sroufe et al., 2005).

Both insecure attachment classifications in infancy and adulthood are seen as potential risk factors for later psychopathology. Both insecure patterns are moderately related to adult depression. Avoidant and dismissing patterns are associated with more externalizing problems such as conduct issues and antisocial personality disorders. Resistant-ambivalent and entangled/preoccupied patterns are strongly related to internalizing disorders such as anxiety disturbances (Hesse, 2008). But, the strongest predictor for later disturbances is the fourth SSP category, disorganized/disoriented. Infants with this classification tend to have

caregivers who are intrusive, psychologically unavailable, and more likely to engage in maltreatment, such as physical abuse.

As infants, these children have the impossible situation of both trying to avoid what is causing them fear (the caregiver) and going to and relying upon what is causing them fear (the caregiver). Often times during stressful situations, these children will collapse and shut down, many times disassociating. These dissociative behaviors can continue into middle childhood, adolescence, and adulthood. In middle childhood and adolescence, a disorganized attachment style is predictive of conduct disorders. In early adulthood, self-injurious behaviors are strongly related to disorganized attachment, maltreatment, and dissociation.

In a meta-analysis on a set of clinical studies exploring the AAI and psychiatric disorders, van IJzendoorn (1995) found that the “autonomy of adult attachment representations is strongly associated with clinical status ($d=1.03$, $N=688$).” The AAI appears to be a valid tool for differentiating between at-risk families and non-clinical families. Clinically, “the AAI has been welcomed as an instrument that attempts to go beyond symptomatology to the representational core of personality dysfunctioning” (van IJzendoorn, 1995). The AAI seems to be independent of general personality measures, although entangled/preoccupied adults report more and dismissing adults report fewer symptoms on the Minnesota Multiphasic Personality Inventory (Hesse, 2008). Research continues to be collected on infant’s attachment style as a later predictor of adult personality disorder. One hypothesis is that having a disorganized style of attachment in infancy will be predictive of adult personality disorders, especially where trauma or other influences (e.g., lack of social support, abuse) are present (Hesse, 2008; Sroufe, 2005; Sroufe et al., 2005).

Although evidence is still being evaluated linking infant attachment and adult personality disorders, there are studies identifying the individual differences of the AAI classifications (Bakermans-Kranenburg & van IJzendoorn, 2009). In parents in particular, secure adult attachment is associated with “warmth, involvement, help and support, structure, and organization (Pearson et al., 1994).” Secure parents seem to be more effective in their parenting (Pearson et al., 1994). Mary Main (2000) describes adults who have secure AAI transcripts as forgiving, compassionate, sometimes humorous, original in word usage, exhibiting more metacognitive monitoring, and displaying more tolerance for separating perceptions from reality. She describes adults with a dismissing transcript as avoiding discussions about negative life events, anger, or distress; dismissing negative life events or reporting that they made them stronger; their transcripts are often short and they tend to have frequent lapses in memory of early experiences. Main describes adults with entangled/preoccupied transcripts as being actively and sometimes angrily involved with parental faults, often times seeking agreement from the interviewer, and involving long discussions that include vague or nonsensical language.

Thus far, I have reviewed the background and relevant implications and applications of attachment theory as well as the two standard protocols used to identify attachment classifications, the SSP and the AAI. For infants and toddlers, the SSP has become an important assessment for determining attachment style and predicting other developmental outcomes. For adults, the AAI has been used successfully to predict parenting styles and infant-parent attachment and also as a tool to predict quality of adult romantic relationships (Bakermans-Kranenburg & van IJzendoorn, 2009).

However, there are few studies involving the AAI as a predictor of professional behavior and insight (Harms, 2011). Published research in this area has typically focused on therapists' or counselors' state of mind regarding attachment and their client relationships and outcomes (e.g., Bernier & Dozier, 2002; Blakely, Chappell, & Dziadosz, 2011; Dozier, Cue, & Barnett, 1994; Romano, Fitzpatrick, Janzen, 2008; Tyrrell, Dozier, Teague, & Fallot, 1999; White, 2004; Zegers, Schuengel, van IJzendoorn, Janssens, 2006), counseling supervision from an attachment perspective (e.g., Pistole & Fitch, 2008; Riggs & Bretz, 2006; Trowel, Davids, Miles, Shmueli, & Paton, 2008), and early child care workers' state of mind regarding attachment and its relationship with observed infant behaviors (e.g., Constantino & Olesh, 1999).

In a study investigating case managers' attachment styles and client interactions, Dozier et al. (1994) found that secure case managers were able to interact with their clients even in ways that were uncomfortable for themselves. They also had more coherent and non-defensive internal resources to draw upon for need assessments, reflection, and feedback (Dozier et al., 1994). Whereas, case managers with insecure attachment strategies tended to respond to the most obvious needs of their clients and to intervene more deeply with those clients who were entangled/preoccupied than with those who were dismissing. The insecure case managers perceived the needs to be greater for the entangled/preoccupied clients who tended to pull them in. Thus, Dozier et al. (1994) demonstrated a relationship between case managers' state of mind regarding attachment and professional behavior with clients.

However in another relevant study, Crowell, Waters, and colleagues (1996) explored relationships between AAI discourse and professional discourse. Fifty-three English speaking mothers were administered an Employee Experience Interview (EEI; discourse style). In

order to avoid overlapping information with the AAI, interviewers attempted to stay away from issues dealing with interpersonal relationships in the workplace. The EEI was then scored according to discourse style criteria (e.g., coherence, inability to recall past events, active anger) and put into 4 categories (integrated about work, overinvolved/overemphasis about work, uninvolved with work, disorganized in approach to work) similar to the AAI criteria and categories. The results indicated no significant associations between EEI and AAI classifications. Crowell, Waters, et al. (1996) demonstrated no associations between AAI discourse and employment discourse. However, taken together with evidence of attachment style playing a role in professional behaviors (Dozer et al., 1994), it seems likely that professionals with work related to interpersonal relationships might differ. For example, the current study utilizes attachment discourse from child welfare professionals who are frequently involved with issues dealing with children and families.

Child welfare professionals are in charge of making important, but complicated decisions (e.g., responding during crisis situations) regarding the safety and outcomes of children and their parents (Lietz, 2009). These difficult decisions are best made through a combination of science (more objective measures like instruments and empirical evidence) and art (more empathic like practice wisdom or intuitive expertise; Cash, 2001; Kahneman & Klein, 2009). Differences in state of mind regarding attachment would seem to influence this process.

Child welfare professionals with secure attachment strategies would be expected to be more capable of maintaining a balance of objectivity and empathy concurrently. This balance could result in deeper understandings and relationships with the families they are assisting, along with thoughtful, appropriate decisions based upon a more coherent understanding and

accurate description of the family and their needs. Whereas, child welfare professionals with insecure attachment strategies would be expected to have a more difficult time balancing objectivity and empathy when assisting families, dismissing professionals may be more objective and entangled/preoccupied professionals may be more empathic. For those professionals with an unresolved status, this impact would be expected to be even greater. This could result in professionals' personal histories and current states of mind regarding attachment influencing the level of care that families receive.

Because these professionals play an important role in serving families and children in distress, it is important to conduct empirical studies that investigate factors that may influence their decisions and/or the services they provide. The studies discussed above were found through a comprehensive literature search regarding professionals in the fields of childcare, counseling, or other family welfare type services. However, no studies were found that focused on child welfare professionals. Because there are no published, empirical studies that investigate the relationship between child welfare professionals and the AAI, this study seeks to fill this gap in the literature. The previous studies investigate professional's (e.g., counselors, counselors-in-training, caseworkers, teachers) state of mind regarding attachment similar to the current study. Unlike these, the current study investigates the state of mind regarding attachment for professionals involved in attachment related decisions and explores the relationship between attachment related and professional discourse.

The Present Study

The purpose of the present study was to examine the mental representations of attachment relationships (as measured by the AAI) of child welfare professionals and to determine whether these representations are related to professional themes.

Hypothesis 1: Zegers, Schuengel, van IJzendoorn, and Janssens (2006) in a study of 33 professional caregivers from a youth treatment institution found that the distribution of AAI classifications closely resembled the combined sample distribution for normal adults. Based on this finding, it is predicted that the distribution of AAI classifications of child welfare professionals will closely resemble the representations of a non-clinical sample.

Hypothesis 2: Main, Hesse, and Goldwyn (2005) describe the classification system of the AAI as relying on patterns of speech, which emerge from the interview. Based on this information, it is predicted that AAI classifications will be associated with the analysis of AAI transcripts on both linguistic and psychological processes as measured by Linguistic Inquiry and Word Count (LIWC; Pennebaker, Francis, & Booth, 2007), a text-analysis software that calculates over eighty dimensions of language use (Adrian, Zeman, Erdley, Lisa, & Sim, 2011).

Hypothesis 3: Contrary to Crowell et al., (2006) it is predicted that AAI classification will be associated with linguistic and psychological themes that occur in professional workshop pre-training assignments (pre-modules). Based upon characteristics of attachment classifications previously described (Hesse, 2008), it is specifically predicted that:

- a. Free autonomous child welfare professionals will demonstrate more emotional positivity than dismissing and entangled/preoccupied professionals as evidenced in the analysis of pre-modules.
- b. Free autonomous child welfare professionals will demonstrate greater use of cognitive processes than dismissing and entangled/preoccupied professionals in the analysis of pre-modules.

- c. Dismissing child welfare professionals will demonstrate greater psychological distancing scores than free autonomous and entangled/preoccupied professionals in the analysis of pre-modules.
- d. Dismissing and entangled/preoccupied child welfare professionals will demonstrate greater use of first person singular pronouns than free autonomous professionals as evidenced in the analysis of pre-modules.
- e. Entangled/preoccupied child welfare professionals will demonstrate greater use of social processes than free autonomous and dismissing professionals as evidenced in the analysis of pre-modules.

Hypotheses 4: Based on hypotheses two and three, it is predicted that the AAI discourse and the pre-modules discourse will be associated on both linguistic and psychological processes as measured by a text-analysis software.

Method

Participants

Participants were 44 child welfare professionals. There were 41 women (93.2%) and 3 men (6.8%). Their ages ranged from 25 to 61 ($M = 42.84$, $SD = 12.43$; missing data for one participant). Participants were predominantly Caucasian (72%), followed by African-American (14%), Hispanic (12%), and Other (2%) (missing data for two participants). Most participants were married (60%; missing data for one participant) and more than half of participants had children (61%). All participants had at least a Bachelors degree (36%, Masters 62%, Doctorate 2%; missing data for two participants). More than half of participants held a professional license (Social Work 28%, Counseling/Psychology 24%, missing data for two participants) and the majority of participants had more than 5 years of

experience working with children and families (0-5 years 19%, 6-10 years 33%, 11-15 years 17%, and 16-20 years 12%, over 20 years 19%; missing data for two participants). Forty-one percent of participants had experienced physical and/or sexual abuse during their lives (see Table 1 for a summary of all demographic information).

Table 1

Frequencies and Percentages of Demographic Variables

Variable	<i>n</i>	<i>f</i>	%
Abuse	44		
No		26	59
Yes		18	41
Gender	44		
Male		3	7
Female		41	93
Ethnicity	42		
Caucasian		30	72
African-American		6	14
Hispanic		5	12
Pacific Islander/Asian		1	2
Marital Status	43		
Married		26	60
Not Married		17	40
Children	44		
No		17	39
Yes		27	61
Education	42		
Bachelors		15	36
Masters		26	62
Doctorate		1	2
Professional Licenses	42		
Social Work		12	28
Counseling/Psychology		10	24
None		20	48
Years of Experience	42		
0-5		8	19
6-10		14	33
11-15		7	17
16-20		5	12
>20		8	19

Measures & Procedures

Adult Attachment Interview. The AAI is a semi-structured clinical interview consisting of twenty questions aimed at assessing a participants' state of mind regarding attachment (see Hesse, 2008 for a protocol excerpt). All participants who registered for Trust-Based Relational Intervention (TBRI) Professional Workshop were invited and encouraged to participate in an AAI. All participants in the current study completed an AAI and were given gentle feedback regarding their attachment style during the workshop. Administering the AAI prior to the workshop is purposeful. It often allows participants to gain insight into their own attachment style and the attachment styles of the families they encounter.

A trained administrator conducted interviews via recorded telephone conversations. Interviews lasted approximately one hour and were then transcribed verbatim and coded. Two research scientists trained by Deborah Jacobvitz and reliable with Mary Main and Eric Hesse coded the transcripts. All transcripts were coded without previous knowledge about the individual. Interrater agreement for the four security classifications was determined based on 30% of the sample. Raters coming to agreement through discussion resolved disagreements for classifications. In addition to AAI transcripts being scored by trained raters for an attachment classification, the transcripts were also analyzed using Linguistic Inquiry and Word Count (LIWC; Pennebaker, Francis, & Booth, 2007) a text-analysis software. The following dimensions will be focused upon for AAI LIWC analysis: word count, total function words, pronouns (total and first person singular), social processes, affective processes, cognitive processes, emotional positivity, and psychological distancing.

Pre-Modules from Trust-Based Relational Intervention® Professional Workshops.

Child welfare professionals attended a professional workshop on Trust-Based Relational Intervention (TBRI), an intervention for families with children who have experienced abuse, neglect, and/or other developmental trauma (Purvis, Cross, & Pennings, 2009). Prior to attending the TBRI professional workshop, participants were required to complete pre-training assignments known as pre-modules. Pre-modules consisted of five assignments mailed to participants beginning three months prior to the workshop. Modules included reading a foundational book and journal articles, viewing DVDs, and answering factual and applied questions based upon the material. Modules were divided into five areas: Healing Research, Neurochemistry, Sensory Integration, Facilitating Behavioral Change, and Attachment (see Appendices A, B, C, D, and E for a list of pre-modules, assignments, and questions). Materials were mailed sequentially to participants beginning three months prior to training, e.g., module 1 materials were sent three months prior, module 2 materials were sent two and one-half months prior. After completing each module, participants returned the questions via electronic mail or fax and received feedback on their answers for correction and guidance for further study. Frequencies and percentages of pre-modules completed are shown in Table 2. Most participants completed at least three out of the five Pre-Modules ($M = 3.59$, $SD = 1.35$). Participants who completed zero pre-modules were excluded from current study.

Table 2

Frequencies and Percentages of Pre-Modules Completed

Pre-Modules Completed	<i>f</i>	%
1	5	11.4
2	5	11.4
3	7	15.9
4	13	29.5
5	14	31.8

The pre-modules were scored using LIWC (Pennebaker, Francis, & Booth, 2007). For the present study, the following LIWC dimensions will be focused upon for pre-module analysis: word count, total function words, pronouns (total and first person singular), social processes, affective processes, cognitive processes, emotional positivity, and psychological distancing.

Linguistic Inquiry and Word Count. Both AAI transcripts and pre-modules were scored using Linguistic Inquiry and Word Count (LIWC; Pennebaker, Francis, & Booth, 2007), a text-analysis software that calculates over eighty dimensions of language use (Adrian, Zeman, Erdley, Lisa, & Sim, 2011). LIWC consists of two main categories: linguistic processes and psychological processes. The current study will focus on the following linguistic processes variables: word count, total function words, and pronouns (total and first person singular) and the following psychological processes variables: social processes, affective processes, cognitive processes, emotional positivity, and psychological distancing. These variables were chosen because they are most closely related to attachment characteristics (an example of a variable not chosen for analysis is biological processes which includes words related to body, health, and ingestion). All variables (except word count) reflect percentage of total words.

Included in the linguistic processes variables are word count, total function words, and pronouns. Word count includes a total count of all words used. Total function words include pronouns, prepositions, auxiliary verbs, negations, conjunctions, quantifiers, and common adverbs (Pennebaker, 2011a). Pennebaker describes function words as “connecting, shaping, and organizing the content of words” (2011a). Since, function words tend to shape writing, they are included in AAI and pre-module LIWC analysis.

In an article titled “The Secret Life of Pronouns,” Pennebaker describes the importance of pronoun usage in discourse (2011a). He found that as people’s health improved they changed from using first person singular pronouns to other pronouns in writing samples. He further explained that differences in pronoun usage can describe where people focus their attention. Using the word “I” can be a sign of focus upon the self. For example, people who are depressed tend to use the word “I” more often than emotionally stable people (6.5% versus 4%; Pennebaker, 2011b). LIWC scores for total pronouns (e.g., I, them, itself) and first person singular pronouns (e.g., I, me, mine) will be used for this analysis.

The psychological process variables are social processes, affective processes, and cognitive processes, emotional positivity, and psychological distancing. The social processes LIWC score is determined by how many words are associated with social processes (e.g., mate, talk, they, child), family (e.g., daughter, husband, aunt), friends (e.g., buddy, friend, neighbor), and humans (e.g., adult, baby, boy) and utilized as a percentage of total words. The social processes score reflects how much participants refer to other people in their writing (Cohn, Mehl, & Pennebaker, 2001). The affective processing score is determined by how many words are associated with affect (e.g., happy, cried, abandon), positive emotion (e.g., love, nice, sweet), negative emotion (e.g., hurt, ugly, nasty), anxiety (e.g., worried, fearful, nervous), anger (e.g., hate, kill, annoyed), and sadness (e.g., crying, grief, sad). The affective processes score reflects how much participants refer to feeling in their writing. The cognitive processes score reflects the extent to which professionals used words concerned with “organizing or intellectually understanding the issues addressed in their writing (Cohn, Mehl, & Pennebaker, 2001).” This score is determined by how many words are associated

with cognitive mechanisms (e.g., cause, know, ought), insight (e.g., think, know, consider), causation (e.g., because, effect, hence), discrepancy (e.g., should, would, could), tentative (e.g., maybe, perhaps, guess), certainty (e.g., always, never), inhibition (e.g., block, constrain, stop), inclusive (e.g., and, with, include) and exclusive (e.g., but, without, exclude).

Emotional positivity and psychological distancing are computed variables. Emotional positivity is calculated by finding the difference between positive emotion words (e.g., love, nice, sweet) and negative emotion words (e.g., hurt, ugly, nasty) using the LIWC scores. Higher scores indicate greater emotional positivity. Psychological distancing is a composite score determined by combining the scores for articles, six letter words, discrepancy from reality words (e.g., should, could, would), present-tense verbs, and the inverse score for first person singular pronouns (Cohn, Mehl, & Pennebaker, 2001). Higher scores indicate greater psychological distancing.

Results

Background Analysis

Relationships Among Demographic Variables. A series of analyses were conducted in order to uncover potential relationships between history of abuse, marital status, children, level of education, and professional licenses. More specifically, crosstab analyses with Pearson's chi-square (χ^2) tests were conducted to examine relationships between the categorical demographics. Crosstab analyses are used to examine the relationships between categorical variables measured on nominal or ordinal scales. The results revealed a significant relationship between being married and having children ($\chi^2=3.95, p<.05$) such that

participants who were married were more likely to have children. The results did not reveal a significant association among any of the other demographic variables (all *ns*).

Independent samples *t* tests were conducted to examine group differences between the categorical demographic variables of abuse, marital status, and children with age and number of completed pre-modules. The results did not reveal significant associations between the demographic variables and age or number of pre-modules completed (all *ns*).

Distribution of AAI Classifications. Analyses were completed to compare the AAI classification distributions in the child welfare professional sample with the non-clinical norm (Bakermans-Kranenburg & van IJzendoorn, 2009). Attachment classifications are grouped in several ways depending upon sample size. The four-way classification consists of dismissing, free autonomous, entangled/preoccupied, and unresolved. The three-way classification includes dismissing, free autonomous, and entangled/preoccupied. The two-way classification collapses both insecure classifications into one category (dismissing and entangled/preoccupied). The resolved status looks at whether or not a participant is resolved or unresolved due to trauma or loss. Frequencies and percentages for the AAI classifications can be found in Table 3.

Table 3

Distribution of Attachment Classifications in Child Welfare Professionals Sample and Non-Clinical Norm

Attachment Distribution	Study Sample (%)	Non-clinical Norm Group (%)
Four-Way		
Dismissing	16 (36)	112 (16)
Free Autonomous	12 (27)	392 (56)
Entangled/Preoccupied	3 (7)	63 (9)
Unresolved	13 (30)	126 (18)
<i>N</i>	44	700
Three-Way		
Dismissing	23 (52)	172 (23)
Free Autonomous	12 (27)	434 (58)
Entangled/Preoccupied	9 (21)	142 (19)
<i>N</i>	44	748
Two-Way		
Insecure	32 (73)	314 (42)
Secure	12 (27)	434 (58)
<i>N</i>	44	748
Unresolved		
Unresolved	13 (30)	126 (18)
Resolved	31 (70)	574 (82)
<i>N</i>	44	700

Note. Non-clinical norm group in Bakermans-Kranenburg and van IJzendoorn (2009).

LIWC Variables. Descriptive statistics for the AAI and pre-module LIWC variables used in the current study can be found in Table 4 & 5 (see Appendix F, G, H & I for descriptives of all variables). Overall, the AAI transcript contained more words and higher percentages of total function words, total pronouns, first person singular pronouns, and cognitive processes. Whereas the pre-modules had higher percentages of social processes,

affective processes, emotional positivity, and psychological distancing words. The difference in psychological distancing is the largest difference.

Table 4

Means and Standard Deviations of AAI LIWC Variables; all entries are % (except word count)

LIWC Variable	<i>M</i>	<i>SD</i>
Linguistic Processes		
Word Count	6769.45	3270.82
Total Function Words	61.19	2.54
Total Pronouns	21.81	2.08
1 st Person Singular Pronouns	8.46	1.64
Psychological Processes		
Social Processes	13.22	1.67
Affective Processes	4.34	0.78
Cognitive Processes	22.22	1.92
Emotional Positivity	1.53	0.80
Psychological Distancing	15.00	2.33

Table 5

Means and Standard Deviations of Pre-Module LIWC Variables; all entries are % (except word count)

LIWC Variable	<i>M</i>	<i>SD</i>
Linguistic Processes		
Word Count	1915.30	1702.88
Total Function Words	48.89	6.87
Total Pronouns	9.29	3.05
1 st Person Singular Pronouns	1.33	0.87
Psychological Processes		
Social Processes	13.69	2.09
Affective Processes	8.04	1.77
Cognitive Processes	19.44	2.64
Emotional Positivity	2.19	1.45
Psychological Distancing	42.68	3.56

Relationships Among Demographic Variables and AAI LIWC Variables. Analysis were completed to explore the relationships between the demographic variables abuse, marital status, and children and the dependent AAI LIWC variables of word count, total function words, pronouns (total and first person singular), social processes, affective processes, cognitive processes, emotional positivity, and psychological distancing. Independent samples *t* tests were used to determine if differences exist between two values of a categorical independent variable on a continuous dependent variable. Of the twenty-seven tests conducted, a total of five were significant: two for abuse, two for married, and one for children (see Tables 6 & 7). Results revealed a significant relationship between AAI LIWC cognitive processes and abuse, $t(42)=2.47, p<.05$. Participants who had not experienced abuse ($M=22.79, SD=1.87$) used more cognitive processing words during their AAI than those who had experienced abuse ($M=21.41, SD=1.72$). Results revealed a significant relationship between AAI LIWC emotional positivity and abuse $t(42)=2.98, p=.01$. Participants who had not been abused ($M=1.81, SD=0.82$) used more positive emotion words during their AAI than those who had experienced abuse ($M=1.14, SD=0.59$).

Results indicated a significant relationship between AAI LIWC word count and marital status, $t(41)=-3.13, p<.01$. Participants who were married ($M=7942.85, SD=3259.43$) used more words on their AAI than those participants who were not married ($M=5020.75, SD=2366.33$). Levene's test for equality of variances was found to be violated on the AAI LIWC emotional positivity and marital status analysis ($F=5.67, p=.02$), therefore a t-test which did not assume equal variances was computed. Results revealed a significant relationship between AAI LIWC emotional positivity and marital status, $t(22.33)=3.36, p<.01$. Participants who were married ($M=1.22, SD=0.57$) used fewer positive emotion

words on their AAI than those who were not ($M=2.06$, $SD=0.90$). Results also indicated a significant relationship between AAI LIWC first person singular pronouns use and children, $t(42)=2.24$, $p<.05$. Participants who had children ($M=8.04$, $SD=1.55$) used less first person singular pronouns on their AAI than those without children ($M=9.13$, $SD=1.61$).

Table 6

Relationships among Demographic Variables and AAI LIWC Linguistic Processes Variables

LIWC Linguistic Processes		<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
Word Count						
Abuse	No	6434.42	2988.53	-0.81	42	.42
	Yes	7253.39	3675.10			
Children	No	6470.18	2728.26	-0.48	42	.64
	Yes	6957.89	3607.95			
Married	No	5020.75	2366.33	-3.13**	41	.00
	Yes	7942.85	3259.43			
Total Function Words						
Abuse	No	61.41	2.44	0.69	42	.50
	Yes	60.88	2.70			
Children	No	61.13	2.75	-0.14	42	.89
	Yes	61.24	2.44			
Married	No	60.80	2.59	-0.65	41	.52
	Yes	61.32	2.52			
Total Pronouns						
Abuse	No	21.76	2.10	-.22	42	.82
	Yes	21.90	2.10			
Children	No	22.04	1.79	0.56	42	.58
	Yes	21.67	2.26			
Married	No	21.84	1.43	0.23	41	.82
	Yes	21.68	2.35			
1 st Person Singular Pronouns						
Abuse	No	8.47	1.90	0.05	42	.96
	Yes	8.44	1.23			
Children	No	9.13	1.61	2.24*	42	.03
	Yes	8.04	1.55			
Married	No	8.44	1.77	0.08	41	.94
	Yes	8.40	1.59			

Table 7

*Relationships among Demographic Variables and AAI LIWC Psychological Processes**Variables*

LIWC Psychological Processes		<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
Social Processes						
Abuse	No	12.91	1.68	-1.55	42	.13
	Yes	13.68	1.57			
Children	No	12.94	1.71	-0.91	42	.37
	Yes	13.41	1.65			
Married	No	13.40	2.21	0.56	41	.58
	Yes	13.10	1.31			
Affective Processes						
Abuse	No	4.43	0.88	0.96	42	.34
	Yes	4.20	0.62			
Children	No	4.35	0.54	0.09	42	.93
	Yes	4.33	0.91			
Married	No	4.50	1.87	0.91	41	.37
	Yes	4.27	1.85			
Cognitive Processes						
Abuse	No	22.79	1.87	2.47*	42	.02
	Yes	21.41	1.72			
Children	No	22.82	1.83	1.69	42	.10
	Yes	21.84	1.90			
Married	No	22.12	1.87	-0.03	41	.98
	Yes	22.14	1.85			
Emotional Positivity						
Abuse	No	1.81	0.82	2.98**	42	.01
	Yes	1.14	0.59			
Children	No	1.76	0.61	1.48	42	.15
	Yes	1.39	0.88			

	Married ^a			3.76**	41	.00
		No	2.06	0.90		
		Yes	1.22	0.57		
Psychological Distancing	Abuse			0.60	42	.55
		No	15.18	2.68		
		Yes	14.75	1.74		
	Children			-1.56	42	.13
		No	14.33	2.61		
		Yes	15.43	2.07		
	Married			-0.67	41	.95
		No	14.90	2.90		
		Yes	14.95	1.92		

^a Levine's Test for Equality of Variances ($F=5.67, p=.02$), equal variances not assumed.
* $p<.05$, ** $p<.01$

Relationships Among Demographic Variables and Pre-Module LIWC Variables.

Analysis were completed to explore the relationships between the demographic variables abuse, marital status, and children and the dependent pre-module LIWC variables of word count, total function words, pronouns (total and first person singular), social processes, affective processes, cognitive processes, emotional positivity, and psychological distancing. Independent samples t tests were used to determine if differences exist between two values of a categoric independent variable on a continuous dependent variable. Of the twenty-seven tests conducted, one was significant for married; two were moderately significant for abuse and two were moderately significant for children (see Tables 8 & 9). Results indicated a statistically significant relationship between pre-module LIWC first person singular pronouns and marital status, $t(41)=-2.34, p<.05$. Participants who were married ($M=1.56, SD=0.85$) used more first person singular pronouns on their pre-modules than those who were not married ($M=0.94, SD=0.81$). Results revealed a marginally significant relationship between pre-module LIWC emotional positivity and abuse, $t(42)=-1.81, p=.08$ and between pre-module LIWC total function words and abuse, $t(42)=1.84, p=.07$. Participants who had

experienced abuse used more positive emotion words (Yes: $M=2.65$, $SD=1.61$, No: $M=1.87$, $SD=1.26$) and less total function words (Yes: $M=46.66$, $SD=8.70$, No: $M=50.42$, $SD=4.86$) on their pre-modules than did participants who had not experienced abuse. Results revealed marginally significant relationships between having children and pre-module LIWC total function words and cognitive processes. Participants who had children used fewer total function words (Yes: $M=47.38$, $SD=7.63$, No: $M=51.27$, $SD=4.72$) and cognitive processes words (Yes: $M=18.85$, $SD=2.86$, No: $M=20.37$, $SD=1.97$).

Table 8

*Relationships among Demographic Variables and Pre-Module LIWC Linguistic Processes**Variables*

LIWC Linguistic Processes		<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
Word Count						
Abuse	No	2190.62	1666.66	1.30	42	.20
	Yes	1517.61	1722.34			
Children	No	1791.00	1056.14	-0.38	42	.71
	Yes	1993.56	2023.10			
Married	No	1977.69	2239.27	-0.09	41	.93
	Yes	1926.89	1354.35			
Total Function Words						
Abuse	No	50.42	4.86	1.84	42	.07
	Yes	46.66	8.70			
Children	No	51.27	4.72	1.89	42	.07
	Yes	47.38	7.63			
Married	No	48.20	9.75	-0.55	41	.59
	Yes	49.40	4.71			
Total Pronouns						
Abuse	No	9.55	2.95	0.70	42	.49
	Yes	8.90	3.24			
Children	No	10.16	2.56	1.54	42	.13
	Yes	8.73	3.25			
Married	No	8.75	3.81	-0.91	41	.37
	Yes	9.64	2.59			
1 st Person Singular Pronouns						
Abuse	No	1.23	0.81	-0.89	42	.38
	Yes	1.47	0.95			
Children	No	1.48	0.91	0.92	42	.36

	Yes	1.23	0.84			
Married	No	0.94	0.81	-2.34*	41	.02
	Yes	1.56	0.85			

* $p < .05$, ** $p < .01$

Table 9

*Relationships among Demographic Variables and Pre-Module LIWC Psychological**Processes Variables*

LIWC Psychological Processes		<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
Social Processes						
Abuse	No	13.43	1.88	-1.01	42	.32
	Yes	14.08	2.38			
Children	No	13.55	2.01	-0.36	42	.72
	Yes	13.79	2.18			
Married	No	13.26	2.56	-1.16	41	.25
	Yes	14.02	1.77			
Affective Processes						
Abuse	No	8.16	1.24	0.48	42	.64
	Yes	7.90	2.37			
Children	No	7.88	1.27	-0.51	42	.61
	Yes	8.16	2.04			
Married	No	8.02	1.42	0.05	41	.96
	Yes	7.99	1.96			
Cognitive Processes						
Abuse	No	19.59	2.62	0.46	42	.65
	Yes	19.22	2.72			
Children	No	20.37	1.97	1.91	42	.06
	Yes	18.85	2.86			
Married	No	18.99	3.55	-0.81	41	.43
	Yes	19.67	2.00			
Emotional Positivity						
Abuse	No	1.87	1.26	-1.81	42	.08
	Yes	2.65	1.61			
Children	No	1.86	1.31	-1.22	42	.23
	Yes	2.40	1.50			
Married				-0.18	41	.86

	No	2.24	1.33			
	Yes	2.32	1.32			
Psychological Distancing						
Abuse				-0.83	42	.41
	No	42.30	3.41			
	Yes	43.21	3.79			
Children				-1.16	42	.26
	No	41.90	3.36			
	Yes	43.16	3.65			
Married				1.31	41	.20
	No	43.64	3.62			
	Yes	42.17	3.52			

* $p < .05$, ** $p < .01$

Relationships Among Demographic Variables and Independent Variables.

Analyses were completed to explore the relationships between the demographic variables abuse, children, and marital status with the three-way AAI classification. Crosstab analyses with Pearson's chi-square (χ^2) tests were conducted between pairs of categorical variables (see Table 10). All three demographic variables were significant with the AAI three-way classification. Results revealed a significant relationship between AAI classification and abuse, ($\chi^2=6.39$, $p < .05$) such that entangled/preoccupied participants were more likely than free autonomous and dismissing participants to have experienced abuse. Results indicated a statistically significant relationship between AAI classification and having children, ($\chi^2=9.65$, $p < .01$) such that entangled/preoccupied participants were most likely to have children and free autonomous participants were least likely to have children. The results revealed a significant relationship between AAI classification and marital status ($\chi^2=5.86$, $p < .05$) such that free autonomous and entangled/preoccupied participants were most likely to be married.

Table 10

Relationships among AAI 3-Way Distribution and Categorical Variables (n=44)

		Dismissing	Free Autonomous	Entangled/ preoccupied	<i>df</i>	χ^2
Abuse	No	16	8	2	2	6.39*
	Yes	7	4	7		
Children	No	9	8	0	2	9.65**
	Yes	14	4	9		
Married	No	12	2	2	2	5.86*
	Yes	10	10	7		

* $p < .05$, ** $p < .01$

Similarly, analyses were completed to explore the relationships between the demographic variables abuse, children, and marital status with the independent variable AAI resolved status. Crosstab analyses with Pearson's chi-square (χ^2) tests were conducted between pairs of categorical variables (see Table 11). Overall, abuse and children had a significant relationship with AAI classification. Results revealed a significant relationship between AAI resolved status and abuse, ($\chi^2=14.58$, $p < .01$) such that those who experienced abuse were more likely to be unresolved. Results revealed a significant relationship between AAI resolved status and children, ($\chi^2=4.21$, $p < .05$) such that those who were unresolved were more likely to have children. The results did not indicate a significant relationship between AAI resolved status and marital status.

Table 11

Relationships among AAI Resolved Status and Categorical Variables (n=44)

		Unresolved	Resolved	<i>df</i>	χ^2
Abuse	No	2	24	1	14.58**
	Yes	11	7		
Children	No	2	15	1	4.21*
	Yes	11	16		
Married	No	3	13	1	1.59
	Yes	10	17		

* $p < .05$, ** $p < .01$ **Primary Analysis**

Hypothesis 1: Goodness of fit chi-square tests were conducted to explore the association of the observed AAI classifications with the expected frequencies based on the non-clinical norms (see Table 12). The frequency distributions of the AAI classifications in the sample were tested using a non-clinical norm (see Table 3, Bakermans-Kranenburg & van IJzendoorn, 2009). The unresolved and cannot classify classifications were collapsed. According to Bakermans-Kranenburg & van IJzendoorn (2009) this is currently acceptable practice due to the common etiologies. Overall, the four-way, three-way, and two-way distributions were significantly different from the norms. The results revealed a significant difference in the AAI four-way classification between the observed frequencies in the sample and the expected frequencies based on norms (Goodness of fit $\chi^2=21.71$, $p < .01$). In the four-way distribution, dismissing and unresolved classifications were overrepresented and autonomous and entangled/preoccupied classifications were underrepresented. On the three-way AAI distribution, the results indicated a significant difference between the observed

frequencies and the expected frequencies based on norms (Goodness of fit $\chi^2=24.56$, $p<.01$). In the three-way distribution, dismissing and entangled/preoccupied classifications were overrepresented and free autonomous classifications were underrepresented again. The two-way AAI distribution results revealed a significant difference between the observed frequencies and the expected frequencies based on norms (Goodness of fit $\chi^2=17.14$, $p<.01$). Insecure classifications were overrepresented and secure classifications were underrepresented, once again. Results did not indicate a significant relationship between the observed and expected frequencies on AAI resolved status.

Table 12

Goodness of Fit Chi-Square Tests Comparing AAI Distributions Observed Values with Expected Values based on Norms

Attachment Classification	Observed	Expected	Standardized Residuals	χ^2
Four-way				21.71**
Dismissing	16	7	3.4	
Free Autonomous	12	25	-2.6	
Entangled/Preoccupied	3	4	-0.5	
Unresolved	13	8	1.77	
Three-way				24.56**
Dismissing	23	10	4.11	
Free Autonomous	12	26	-2.75	
Entangled/Preoccupied	9	8	0.35	
Two-way				17.14**
Insecure	32	18	3.3	
Secure	12	26	-2.75	
Resolved Status				3.09
Unresolved	13	8	1.77	
Resolved	31	36	-0.83	

Note. Expected derived from non-clinical norm group in Bakermans-Kranenburg and van IJzendoorn (2009). Standardized residuals can be interpreted as z-statistics.

** $p<.01$

Hypothesis 2: Analyses were completed to explore the associations between AAI classification and the LIWC analysis of AAI transcripts. Multivariate Analysis of Covariance (MANCOVA) was conducted with the independent variable AAI classification (three levels: dismissing, free autonomous, entangled/preoccupied), covariates abuse (two levels: yes, no) and children (two levels: yes, no), and AAI LIWC linguistic variables (word count, total function words, total pronouns, and first person singular pronouns) as the dependent variables. Means and standard deviations for the AAI LIWC linguistic processes variables can be found in Appendix F. The results revealed no significant multivariate effects. However, due to the exploratory nature of this study, univariate effects were examined (see Table 13). The results indicated a significant univariate effect for AAI LIWC word count, $F(2)=3.41, p<.04$. Pairwise comparisons revealed that entangled/preoccupied participants ($M=8657.33, SD=2270.32$) used more words than dismissing participants ($M=5566.09, SD=3542.27$). ANOVAs revealed no significant univariate effects between AAI classification and AAI LIWC linguistic variables total function words, total pronouns, and first person singular pronouns.

Table 13

Relationships among AAI Three-way Distribution and AAI LIWC Linguistic Processes

LIWC Variable		Mean	SD	F	p
Word Count				3.41*	.04
	Dismissing ^a	5566.09	3542.27		
	Free Autonomous ^{ab}	7660.00	2483.42		
	Entangled/Preoccupied ^b	8657.33	2270.32		
Total Function Words				1.09	.35
	Dismissing	61.49	2.91		
	Free Autonomous	61.45	2.26		
	Entangled/Preoccupied	60.10	1.62		
Total Pronouns				0.51	.61
	Dismissing	22.04	2.43		
	Free Autonomous	21.82	1.78		
	Entangled/Preoccupied	21.23	1.41		
First Person Singular Pronouns				0.49	.62
	Dismissing	1.19	0.94		
	Free Autonomous	1.54	0.82		
	Entangled/Preoccupied	1.38	0.76		

* $p < .05$

Multivariate Analysis of Covariance (MANCOVA) was conducted with the independent variable AAI classification (three levels: dismissing, free autonomous, entangled/preoccupied), covariates abuse (two levels: yes, no) and children (two levels: yes, no), and AAI LIWC psychological variables (social processes, affective processes, cognitive processes, emotional positivity, and psychological distancing) as the dependent variables. Means and standard deviations for the AAI LIWC psychological processes variables can be found in Appendix G. The results revealed no significant multivariate effects. However, due to the exploratory nature of this study, univariate effects were examined (see Table 14). ANOVAs revealed no significant univariate effects between AAI classification and AAI

LIWC psychological variables social processes, affective processes, cognitive processes, emotional positivity, or psychological distancing.

Table 14

Relationships among AAI Three-way Distribution and AAI LIWC Psychological Processes

LIWC Variable	Mean	SD	F	p
Social Processes			1.28	.29
Dismissing	13.32	1.84		
Free Autonomous	12.52	0.94		
Entangled/Preoccupied	13.92	1.76		
Affective Processes			0.34	.71
Dismissing	4.28	1.02		
Free Autonomous	4.49	0.34		
Entangled/Preoccupied	4.28	0.49		
Cognitive Processes			0.48	.62
Dismissing	22.25	2.11		
Free Autonomous	22.88	1.57		
Entangled/Preoccupied	21.27	1.57		
Emotional Positivity			2.69	.08
Dismissing	1.79	0.88		
Free Autonomous	1.56	0.44		
Entangled/Preoccupied	0.84	0.58		
Psychological Distancing			0.26	.77
Dismissing	15.32	2.67		
Free Autonomous	14.40	2.08		
Entangled/Preoccupied	15.02	1.66		

Hypothesis 3: Analyses were completed to explore the relationships between AAI classification and pre-module LIWC analysis. Multivariate Analysis of Covariance (MANCOVA) was conducted with the independent variable AAI classification (three levels: dismissing, free autonomous, entangled/preoccupied), covariates abuse (two levels: yes, no) and children (two levels: yes, no), and pre-module LIWC linguistic processes variables (word

count, total function words, total pronouns, and first person singular pronouns) as the dependent variables. Means and standard deviations for the pre-module LIWC linguistic processes variables can be found in Appendix H. The results revealed no significant multivariate effects. However, due to the exploratory nature of this study, univariate effects were examined (see Table 15). ANOVAs revealed no significant univariate effects between AAI classification and pre-module LIWC linguistic variables word count, total function words, total pronouns, and first person singular pronouns.

Table 15

Relationships among AAI Three-way Distribution and Pre-Module LIWC Linguistic Processes

LIWC Variable	Mean	SD	F	p
Word Count			0.04	.97
Dismissing	1937.65	1916.71		
Free Autonomous	1892.00	1033.14		
Entangled/Preoccupied	1889.22	2003.20		
Total Function Words			0.21	.82
Dismissing	48.74	8.39		
Free Autonomous	50.95	4.49		
Entangled/Preoccupied	46.49	4.40		
Total Pronouns			0.20	.82
Dismissing	9.07	3.77		
Free Autonomous	10.09	2.09		
Entangled/Preoccupied	8.77	1.89		
First Person Singular Pronouns			0.35	.71
Dismissing	1.19	0.94		
Free Autonomous	1.54	0.82		
Entangled/Preoccupied	1.38	0.76		

* $p < .05$

Multivariate Analysis of Covariance (MANCOVA) was conducted with the independent variable AAI classification (three levels: dismissing, free autonomous, entangled/preoccupied), covariates abuse (two levels: yes, no) and children (two levels: yes, no), and pre-module LIWC psychological processes variables (social processes, affective processes, cognitive processes, emotional positivity, and psychological distancing) as the dependent variables. Means and standard deviations for the pre-module LIWC psychological processes variables can be found in Appendix I. The results revealed no significant multivariate effects. However, due to the exploratory nature of this study, univariate effects were examined (see Table 16). The results indicated a significant univariate effect for pre-module LIWC Affective Processes, $F(2)=3.69, p<.05$. Pairwise comparisons revealed entangled/preoccupied participants ($M=9.22, SD=1.55$) used more positive affective words on their pre-modules than free autonomous participants ($M=7.51, SD=1.97$). ANOVAs revealed no significant univariate effects between AAI classification and pre-module LIWC psychological processes variables social processes, cognitive processes, emotional positivity, and psychological distancing.

Table 16

Relationships among AAI Three-way Distribution and Pre-Module LIWC Psychological Processes

LIWC Variable	Mean	SD	F	p
Social Processes			0.99	.38
Dismissing	13.73	2.32		
Free Autonomous	13.98	1.73		
Entangled/Preoccupied	13.22	2.06		
Affective Processes			3.69*	.03
Dismissing ^{ab}	7.87	1.60		
Free Autonomous ^a	7.51	1.97		
Entangled/Preoccupied ^b	9.22	1.55		
Cognitive Processes			0.67	.52
Dismissing	19.13	2.95		
Free Autonomous	20.56	2.11		
Entangled/Preoccupied	18.72	2.14		
Emotional Positivity			0.68	.51
Dismissing	1.93	1.58		
Free Autonomous	2.10	0.86		
Entangled/Preoccupied	2.98	1.58		
Psychological Distancing			0.07	.94
Dismissing	42.71	4.06		
Free Autonomous	42.02	2.33		
Entangled/Preoccupied	43.45	3.73		

* $p < .05$

Hypothesis 4: An analysis was conducted to explore the relationship between the AAI LIWC analysis and the Pre-Modules LIWC analysis. Pearson's product moment correlations are used to examine the relationships between continuous variables measured on interval or ratio scales. Diagonal correlations were of primary interest in order to address whether or not the AAI LIWC variables were associated with the pre-module LIWC variables. Results revealed no significant correlations (*all ns*) as shown in Tables 17 and 18.

Table 17

Pearson Correlations for AAI LIWC and Pre-Module LIWC Linguistic Processes (n=44)

Pre-Modules				
AAI	Word Count	Total Function Words	Total Pronouns	1 st Person Singular Pronouns
Word Count	.27	.05	.02	.10
Total Function Words	-.23	-.02	.07	.15
Total Pronouns	-.28	.10	.18	.25
1 st Person Singular Pronouns	-.37*	.03	.22	.27

* $p < .05$

Table 18

Pearson Correlations for AAI LIWC and Pre-Module LIWC Psychological Processes (n=44)

Pre-Modules					
AAI	Social Processing	Affective Processing	Cognitive Processing	Emotional Positivity	Psychological Distancing
Social Processing	.10	-.07	.17	.03	.06
Affective Processing	.10	.11	-.13	.06	-.28
Cognitive Processing	.07	.11	.29	-.05	-.23
Emotional Processing	-.18	-.08	.10	-.22	.17
Psychological Distancing	-.20	-.01	.27	-.13	.29

Exploratory Analysis

Pre-Module Thought Provoking Questions: The last two questions on each pre-module assignment are titled “Thought Provoking Questions” and are designed to be application questions based on TBRI principles using participants’ own cases as examples. Therefore, these questions seem the most probable location for attachment related content in the pre-modules. An exploratory analysis was conducted using only the Thought Provoking Questions text. Multivariate Analysis of Covariance (MANCOVA) was conducted with the independent variable AAI classification (three levels: dismissing, free autonomous, entangled/preoccupied), covariates abuse (two levels: yes, no) and children (two levels: yes, no), and pre-module thought provoking questions LIWC linguistic processes variables (word count, total function words, total pronouns, and first person singular pronouns) as the dependent variables. The results revealed no significant multivariate effects. However, due to the exploratory nature of this study, univariate effects were examined (see Table 19). The results revealed a moderately significant effect with AAI classification and total function words, $F(2)=2.76, p=.08$. Pairwise comparisons indicate that preoccupied participants used the greatest amounts of function words ($M=49.36, SD=3.45$) and free autonomous participants used the least ($M=44.00, SD=20.86$). ANOVAs revealed no significant univariate effects between AAI classification and Pre-Module Thought Provoking Questions LIWC linguistic processes variables word count, total pronouns, and first person singular pronouns.

Table 19

*Relationships among AAI 3-Way Distribution and Pre-Module Thought Provoking Questions**LIWC Linguistic Processes*

LIWC Variable	Mean	SD	F	p
Word Count			0.29	.75
Dismissing	576.78	986.70		
Free Autonomous	424.33	264.76		
Entangled/Preoccupied	330.22	346.57		
Total Function Words			2.76	.08
Dismissing	47.96	13.25		
Free Autonomous	44.00	20.86		
Entangled/Preoccupied	49.36	3.45		
Total Pronouns			2.02	.15
Dismissing	8.42	4.73		
Free Autonomous	8.18	4.44		
Entangled/Preoccupied	9.21	2.68		
First Person Singular Pronouns			2.06	.14
Dismissing	1.13	1.23		
Free Autonomous	1.06	0.83		
Entangled/Preoccupied	1.80	1.27		

An exploratory analysis was conducted using only the Thought Provoking Questions text. Multivariate Analysis of Covariance (MANCOVA) was conducted with the independent variable AAI classification (three levels: dismissing, free autonomous, entangled/preoccupied), covariates abuse (two levels: yes, no) and children (two levels: yes, no), and pre-module thought provoking questions LIWC psychological processes variables (social processes, affective processes, cognitive processes, emotional positivity and psychological distancing) as the dependent variables. The results revealed no significant multivariate effects. However, due to the exploratory nature of this study, univariate effects were examined (see Table 20). The results indicated a significant univariate effect with AAI

classification and emotional positivity, $F(2)=4.23, p<.05$. Pairwise comparisons revealed entangled/preoccupied participants ($M=2.64, SD=2.27$) used the highest amounts of positive emotion words and free autonomous participants ($M=0.90, SD=1.45$) used the least amount. ANOVAs revealed no significant univariate effects between AAI classification and pre-module thought provoking questions LIWC psychological processes variables social processes, affective processes, cognitive processes, and psychological distancing.

Table 20

Relationships among AAI 3-Way Distribution and Pre-Module Thought Provoking Questions

LIWC Psychological Processes

LIWC Variable	Mean	SD	F	p
Social Processes			1.90	.16
Dismissing	11.33	4.14		
Free Autonomous	9.94	4.91		
Entangled/Preoccupied	11.98	2.38		
Affective Processes			1.83	.18
Dismissing	4.70	2.69		
Free Autonomous	5.66	2.93		
Entangled/Preoccupied	6.33	3.13		
Cognitive Processes			1.22	.31
Dismissing	19.33	5.67		
Free Autonomous	17.91	8.70		
Entangled/Preoccupied	18.38	3.04		
Emotional Positivity			4.23*	.02
Dismissing ^a	1.08	1.23		
Free Autonomous ^a	0.90	1.45		
Entangled/Preoccupied ^b	2.64	2.27		
Psychological Distancing			0.38	.69
Dismissing	42.25	4.71		
Free Autonomous	45.94	21.66		
Entangled/Preoccupied	43.00	5.21		

* $p<.05$

AAI Resolved Status and AAI LIWC Analysis: Analyses were completed to explore the associations between AAI resolved status and AAI LIWC analysis. Multivariate Analysis of Covariance (MANCOVA) was conducted with the independent variable AAI resolved status (two levels: unresolved, resolved), covariates abuse (two levels: yes, no) and children (two levels: yes, no), and AAI LIWC linguistic processes variables (word count, total function words, total pronouns, and first person singular pronouns) as the dependent variables. The results revealed no significant multivariate effects. However, due to the exploratory nature of this study, univariate effects were examined (see Table 21). Results revealed a significant association between AAI resolved status and AAI LIWC word count, $F=4.80, p=.03$. Participants who were unresolved ($M=8459.77, SD=3689.79$) tended to use more words during their AAI than did participants who were resolved ($M=6060.61, SD=2851.50$). ANOVAs revealed no significant univariate effects between AAI resolved status and AAI LIWC linguistic variables total function words, total pronouns, and first person singular pronouns.

Table 21

Relationships among AAI Resolved Status and AAI LIWC Linguistic Processes Analysis

		<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
Word Count	Resolved	6060.61	2851.50	4.80*	.03
	Unresolved	8459.77	3689.79		
Total Function Words	Resolved	61.50	2.27	1.24	.27
	Unresolved	60.46	3.05		
Total Pronouns	Resolved	21.90	1.75	0.32	.58
	Unresolved	21.60	2.77		
1 st Person Singular Pronouns	Resolved	8.68	1.49	1.64	.21
	Unresolved	7.94	1.92		

* $p < .05$

Analyses were completed to explore the associations between AAI resolved status and AAI LIWC analysis. Multivariate Analysis of Covariance (MANCOVA) was conducted with the independent variable AAI resolved status (two levels: unresolved, resolved), covariates abuse (two levels: yes, no) and children (two levels: yes, no), and AAI LIWC psychological processes variables (social processes, affective processes, cognitive processes, emotional positivity, and psychological distancing) as the dependent variables. The results revealed no significant multivariate effects. However, due to the exploratory nature of this study, univariate effects were examined (see Table 22). Results revealed a significant association between AAI resolved status and AAI LIWC cognitive processes, $F=4.02$, $p=.05$. Participants who were resolved ($M=22.78$, $SD=1.68$) tended to use more cognitive processing words than did participants who were unresolved ($M=20.90$, $SD=1.84$) during

their AAI. ANOVAs revealed no significant univariate effects between AAI classification and AAI LIWC linguistic variables social processes, affective processes, emotional positivity and psychological distancing.

Table 22

Relationships among AAI Resolved Status and AAI LIWC Psychological Processes

		<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
Social Processes				0.47	.50
	Resolved	12.98	1.62		
	Unresolved	13.81	1.68		
Affective Processes				1.07	.31
	Resolved	4.44	0.76		
	Unresolved	4.09	0.79		
Cognitive Processes				4.02*	.05
	Resolved	22.78	1.68		
	Unresolved	20.90	1.84		
Emotional Positivity				0.49	.49
	Resolved	1.71	0.84		
	Unresolved	1.12	0.51		
Psychological Distancing				0.38	.54
	Resolved	14.91	2.39		
	Unresolved	15.23	2.25		

* $p < .05$

AAI Resolved Status and Pre-Module LIWC Analysis: Analyses were completed to explore the associations between AAI resolved status and Pre-Module LIWC analysis. Multivariate Analysis of Covariance (MANCOVA) was conducted with the independent variable AAI resolved status (two levels: unresolved, resolved), covariates abuse (two levels: yes, no) and children (two levels: yes, no), and pre-module LIWC linguistic and psychological processes variables (word count, total function words, total pronouns, first person singular pronouns, social processes, affective processes, cognitive processes,

emotional positivity, and psychological distancing) as the dependent variables. Results revealed no significant associations (*all ns*).

AAI Resolved Status and Pre-Module Thought Provoking Questions LIWC

Analysis: Analyses were completed to explore the associations between AAI resolved status and pre-module thought provoking questions LIWC analysis. Multivariate Analysis of Covariance (MANCOVA) was conducted with the independent variable AAI resolved status (two levels: unresolved, resolved), covariates abuse (two levels: yes, no) and children (two levels: yes, no), and pre-module thought provoking questions LIWC linguistic processes variables (word count, total function words, total pronouns, and first person singular pronouns) as the dependent variables. The results revealed no significant multivariate effects. However, due to the exploratory nature of this study, univariate effects were examined (see Table 23). Results revealed a significant association between AAI resolved status and pre-module thought provoking questions LIWC total pronouns, $F=4.75, p=.05$. Participants who were resolved ($M=8.35, SD=4.49$) tended to use more total pronouns than did participants who were unresolved ($M=8.91, SD=3.72$) on thought provoking questions on the pre-modules. ANOVAs revealed no significant univariate effects between AAI resolved status and thought provoking questions pre-module LIWC linguistic variables word count, total function words, and first person singular pronouns.

Table 23

*Relationships among AAI Resolved Status and Thought Provoking Questions Pre-Module**LIWC Linguistic Processes*

		<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
Word Count				0.25	.62
	Resolved	532.77	848.40		
	Unresolved	370.31	383.96		
Total Function Words				2.41	.13
	Resolved	47.77	14.61		
	Unresolved	45.73	14.36		
Total Pronouns				4.75*	.04
	Resolved	8.35	4.49		
	Unresolved	8.91	3.72		
1 st Person Singular Pronouns				.15	.71
	Resolved	1.20	1.14		
	Unresolved	1.34	1.23		

**p*<.05

Analyses were completed to explore the associations between AAI resolved status and pre-module thought provoking questions LIWC analysis. Multivariate Analysis of Covariance (MANCOVA) was conducted with the independent variable AAI resolved status (two levels: unresolved, resolved), covariates abuse (two levels: yes, no) and children (two levels: yes, no), and pre-module thought provoking questions LIWC psychological processes variables (social processes, affective processes, cognitive processes, emotional positivity, and psychological distancing) as the dependent variables. The results revealed no significant multivariate effects. However, due to the exploratory nature of this study, univariate effects were examined (see Table 24). ANOVAs revealed no significant univariate effects between AAI resolved status and thought provoking questions pre-module LIWC psychological

variables social processes, affective processes, cognitive processes, emotional positivity, and psychological distancing.

Table 24

Relationships among AAI Resolved Status and Thought Provoking Questions Pre-Module

LIWC Psychological Processes

		<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
Social Processes				1.35	.25
	Resolved	11.16	4.06		
	Unresolved	10.90	4.23		
Affective Processes				3.02	.09
	Resolved	5.02	2.85		
	Unresolved	5.94	2.89		
Cognitive Processes				1.17	.29
	Resolved	19.12	6.29		
	Unresolved	17.90	5.99		
Emotional Positivity				1.49	.23
	Resolved	1.15	1.24		
	Unresolved	1.84	2.34		
Psychological Distancing				0.01	.94
	Resolved	43.08	13.64		
	Unresolved	44.21	5.63		

* $p < .05$

Discussion

Assessing attachment representations in child welfare professionals produced unexpected results regarding classification distributions, as well as results supported by previous research involving attachment representations and employment. Overall, the participants were highly educated and experienced with over half having earned a Masters degree and over eighty percent having at least six years experience working with families. Two demographic variables appeared to be most closely associated with both AAI

classification and AAI resolved status: whether or not the participant had experienced abuse and whether or not they had children. The majority of entangled/preoccupied participants had experienced abuse, whereas most dismissing and autonomous participants had not. If participants experienced abuse, they were more likely to have an unresolved status, as well. Just as children who experience maltreatment are more likely to be classified as disorganized on the SSP, adults who have experienced maltreatment are more likely to be insecure or unresolved on the AAI (Hesse & Main, 2000). All entangled/preoccupied participants had children and a majority of the dismissing participants had children, however a majority of the autonomous participants did not have children. Of all the participants who were resolved, about half had children and half did not.

Hypothesis 1: Overall, participants' AAI distributions were significantly different than the norm (Bakermans-Kranenburg & van IJzendoorn, 2009). Much of the previous research in this area has not utilized the AAI as a measure of attachment most likely due to time and financial constraints. However, Zegers et al. (2006) did administer the AAI to 33 mentors. Mentors were members of a caregiving staff at a youth treatment institution. Results indicated no significant differences from the norm on the four-way AAI distribution. On the contrary, the current study resulted in significant differences on the four-way, three-way, and two-way AAI classifications. On the three-way and four-way distribution, dismissing was overrepresented and free autonomous was underrepresented. On the two-way distribution, insecure was overrepresented and secure was underrepresented. These differences raise questions and may be concerning for both the professionals and the families they serve. Are these professionals "wounded healers" drawn to helping professions by their personal histories (Whelan, Ito, Purvis, & Cross, 2010)? What are some possible consequences of

being an insecure helper? What can be done to help facilitate movement from insecure to secure status for child welfare professionals if attachment classification is impacting their decisions regarding families?

Wounded healers seems an appropriate title for this sample taking into consideration that 70% were unresolved due to trauma or loss and 41% reported previous physical or sexual abuse during their AAI interview. It is possible that because of or in spite of their histories, these professionals seek employment in the child welfare field. Further exploration of child welfare professionals' histories and motivations for career selection seem warranted for future research.

Previous research has shown potential outcomes of insecure helpers. Insecure helpers tend to be less effective with clients than secure helpers. Dozier et al. (1994) conducted a study which included 18 case managers who were administered the AAI. The AAI was coded using the Attachment Q-set. Results from this study indicated a link between case managers' attachment style and clinical interventions. Secure case managers were able to respond to clients' underlying needs as opposed to their most obvious presentations and they were able to intervene in ways that were sometimes uncomfortable. Insecure case managers who were dismissing tended to intervene with clients less intensively and case managers who were entangled/preoccupied tended to intervene with clients more intensively (Dozier et al., 1994). Therefore, it seems likely that a possible consequence of an overrepresentation of child welfare professionals with an insecure attachment style would result in less effective agents in making balanced decisions (objective and empathic) regarding assessing needs, facilitating change, and providing resources for the families in need (Cash, 2001).

If decisions regarding families are being affected by attachment classification then effective interventions focused upon facilitating change from insecure to secure could have long-term mental health benefits for both the professionals and the families they assist. Secure AAI classifications are linked to overall better mental health, whereas insecure classifications are associated with greater mental health issues. Entangled/preoccupied adults tend to report more internalizing disorders, suicidal ideation, and borderline personality disorder; where as dismissing adults report more externalizing disorders, antisocial personality disorder, and conduct disorder (Hesse, 2008).

Interventions aimed at improving coherence about and reflection upon past attachment related experiences seem to be most effective for shifting attachment style from insecure to secure (Steele & Steele, 2008). Many attachment-based interventions such as The Circle of Security Project (Cooper, Hoffman, Powell, & Marvin, 2005) and Attachment and Biobehavioral Catch-up (Dozier, Lindhiem, & Ackerman, 2005) have been effective in enhancing caregiving relationships. Similar relational interventions, such as individual or group sessions with a counselor acting as a secure base, could be most effective in shifting attachment style in child welfare professionals.

Hypothesis 2: Analysis of AAI classification with AAI LIWC indicated one significant result, word count. Participants who were dismissing had the least amount of words and participants who were entangled/preoccupied had the most. This result is consistent with patterns in AAI scoring. For those who have a dismissing style of attachment, attentional inflexibility is observed during the AAI interview by focusing attention away from past relationships. Dismissing interviews tend to violate Grice's Maxim of Quantity and many are described as excessively concise. Participants often report being unable to recall

their past and often respond by saying, “I don’t remember.” The overall feel of the interview is that attachment relationships are not important and haven’t had an effect on their current lives. So, it seems reasonable that participants with a dismissing attachment classification would use fewer words during their AAI interview.

For those who have an entangled/preoccupied style of attachment, attachment inflexibility is observed during the AAI interview by persistently focusing attention toward past relationships often times in an unfocused, confusing manner. Entangled/preoccupied interviews tend to violate Grice’s Maxim of Quantity in the opposite direction and many are described as excessively lengthy (Hesse, 2008). Participants’ discourse can appear to wander off topic and include run-on sentences, which are grammatically incorrect. The overall feel of the interview is that the participant is still caught up in past experiences and there is a sense of confusion instead of clarity. So, it seems reasonable that participants with an entangled/preoccupied attachment classification would use more words during their AAI interview.

The lack of additional significant findings between the AAI classification and the AAI LIWC supports the complexity of analyzing AAI transcripts (Hesse, 2008). The scoring and classification systems of the AAI are based upon the participants’ probable experiences with each parent during childhood and their state of mind regarding their attachment history. So, consideration is given to *what* is said as well as *how* it is said. If only the words of the interview were important, you would expect to see strong associations between the AAI transcript and a word analysis software program, such as LIWC. But, instead the AAI is scored based on the coherence and collaborative nature of the interview, which cannot be captured by analyzing word counts.

Hypothesis 3: Analysis of AAI classification and pre-modules LIWC, indicated one significant result, affective processes. Affective processes would include words related to feelings both positive and negative, e.g., abandon, cried, happy, nervous, love. Participants with an entangled/preoccupied attachment style tended to use the most affective related words followed by dismissing and free autonomous, respectively.

Analyses of AAI classification and pre-module thought provoking questions LIWC, also indicated one significant result, emotional positivity. Emotional positivity is derived from subtracting the negative affect percentage from the positive affect percentage. Participants with an entangled attachment style had the highest percentage of emotional positivity followed by dismissing and autonomous, respectively. Taking these significant results with the other non-significant results, it seems reasonable to conclude that participants' attachment classification did not seem to influence linguistic or psychological processes related to employment as measured by the pre-modules LIWC or the pre-modules thought provoking questions LIWC variables. Lack of significant results support previous research indicating that attachment classification influences linguistic content only when in the context of *personal* attachment related matter (Crowell et al., 1996; Hesse, 2008). The pre-module assignments although attachment related, do not appear to activate personal attachment systems (i.e. professional relationships do not activate personal attachment systems).

Hypothesis 4: Analysis of LIWC AAI transcripts and LIWC pre-module transcripts yielded no significant associations, which is consistent with previous research examining AAI classifications and employment interviews (Crowell et al., 1996). In Crowell et al., the employee interviews avoided interpersonal questions in order to avoid overlap of attachment

related content with the AAI (1996). However in the current study, it was hypothesized that pre-modules would activate attachment related content because of both the type of questions asked and the subject matter, regarding children and families. According to the data, it appears that the pre-modules did not activate personal attachment material, as there were no significant associations with the AAI content. It may be possible that child welfare professionals have careers where relationships are formed, but they may view these relationships in a different psychological context than personal relationships. Hence, not activating personal attachment related content. This apparent lack of association provides further validation of the integrity of the AAI in affecting discourse only when associated with personal attachment related contexts (Hesse, 2008). On the other hand, it could be possible that if pre-modules were classified according to *how* the questions were answered similar to AAI scoring (e.g., coherence, collaboration) there may be a greater association between the pre-modules and AAI classification.

Limitations and Future Research: One important drawback to this study was using the pre-modules to measure attachment related themes. The pre-modules were designed to facilitate pre-training knowledge, specifically to increase participants' knowledge of five areas (Healing Research, Neurochemistry, Sensory Integration, Facilitating Behavioral Change, and Attachment), and they were developed to assist participants in viewing cases within these frameworks. In the future, a pre- and post-training assessment specifically designed to capture caregiving aspects of employment such as sensitivity and warmth may be a more effective tool for evaluative purposes.

Another limitation to this study was the exclusion criteria for participants. Exclusion criteria may have influenced the results. The original child welfare professional sample

included 75 participants who attended training. Participants were selected for the current sample on three criteria: 1) completion of an AAI, 2) completion of at least one pre-module assignment, and 3) a signed consent form to participate in research. Resulting in exclusion of 31 participants for a total of forty-four participants included in the study. Participants self selected themselves into the sample which may have had an effect on the results.

The sample in the current study is homogeneous in the fact that all of the participants are employed in the child welfare system; however, this sample limits us in making generalizations about the distribution of AAI classifications. The child welfare professionals' AAI distribution was significantly different from the non-clinical norm population, but explanations and generalizations of this finding are limited because we do not have another TBRI Professional Workshop sample with scored AAI transcripts to compare it with.

Currently, AAI transcripts are being scored from employees in a faith-based organization whose work also involves assisting children and families. It will be interesting to compare the AAI distributions of the current sample with this sample since they share similar careers. For future research, AAIs will be collected from an even wider range of professionals working with children and families (e.g., residential treatment staff), which will allow us a broader perspective of how to interpret the results of the current study.

Summary. The purpose of the present study was to examine the mental representations of attachment relationships (as measured by the AAI) of child welfare professionals and to determine whether these representations are related to professional themes. Overall, while previous studies show that AAI classification can affect the quality of work for those in social service professions, the current study supports research indicating that AAI classification and its effect on work quality can be difficult to assess through

written professional discourse. This holds true for all classification types, even when discourse involves issues regarding children, families, and relationships that are part of the professional's service work.

First, we know that the AAI is designed to measure discourse in complex ways, thus word level assessment may not be adequate to assess the influence of attachment on professional themes through discourse samples. A deeper assessment of the written discourse, such as those used in the AAI, may be more effective in teasing out attachment themes (e.g., coding for coherence, collaboration). Also, even though such client relationships may not activate the professional's attachment system, there is still evidence that professional's attachment-based inner working models play a role determining how they perform their day-to-day work. However, because client relationships do not activate the attachment system, attachment themes may be even more difficult to tease out from professional discourse than from an AAI. This is because the AAI is designed to activate the attachment system, bringing evidence of a person's attachment-based working model to the forefront of the discourse. On the other hand, professional discourse likely does not activate the attachment system, making it even more difficult to detect attachment-based themes through the discourse.

APPENDIX A

PRE-MODULE 1: HEALING RESEARCH

OVERVIEW

Healing Research is a synthesis of the many research-based findings that are incorporated into our work with at-risk children. These tenets provide rich, clear guidelines for helping harmed children heal. Many of them are formally incorporated into our Trust Based Relational Intervention® (TBRI®) model while others are incorporated in less formal ways. Presenting this section as our first training module is designed to provide therapists and practitioners with pragmatic principles that are richly supported by research studies.

LEARNING OBJECTIVES

- To build on current comprehension and understanding of attachment theory and the long-term implications (effects, ramifications) of impaired attachment as it relates to evidence-based research.
- To develop competency in and recognition of cascading effects of biological, psycho-social, neurochemical, emotional and behavioral needs of an at-risk child in relation to establishing a safe place.
- To develop competency in and application of effective and research based interventions associated with creating a healing place for children. TBRI® is one such intervention designed by the TCU Institute of Child Development, bringing together their own research with that of other organizations such as The Theraplay® Institute.

MODULE ACTIVITIES

Readings

Purvis, K. B., Cross, D. R., & Sunshine, W. L. (2007). *The Connected Child: Bringing hope and healing to your adoptive family*. (pp. 1-46). New York, NY: McGraw-Hill.

Purvis, K.P., & Cross, D.R. (2006). Caught between the amygdala and a hard place. *Fostering Families Today*, 6(5), 18-23.

Lecture Series DVD: HEALING RESEARCH (148 minutes)

Watch the TCU Institute of Child Development's *Healing Research* DVD, which is enclosed in the DVD sleeve at the back of this binder.

This seminar helps to improve our understanding of how past and current research gives insights into the behaviors of at-risk children. Dr. Purvis focuses on understanding how physiological alterations are induced by neglect, abuse or trauma.

HEALING RESEARCH DVD outline

- 1) Introduction – our approach to research and making it practical
- 2) History of research start time - 2:30
- 3) Harlow's research start time - 20:30
- 4) Intro of Amygdala article start time - 32:10
- 5) Affect of chronic stress on brain development and function start time - 41:00
- 6) Right brain research connected to brain development and function start time - 58:00
- 7) Neurotransmitter discussion start time - 65:50
- 8) Practice makes perfect start time - 83:30
- 9) Sensory processing issues start time - 92:30
- 10) Theory of mind research start time - 100:30
- 11) Biological cost of fear" start time - 107:30
- 12) Summary start time - 124:30
- 13) Q and A session start time - 127

Assignment 1: HEALING RESEARCH

Due:

Complete the assessment questions enclosed after watching the *Healing Research* DVD and completing the required readings. The assignment will be emailed to participants on XX so that responses can be typed and submitted electronically.

Please complete the assignment and email it to XX by the date specified in the course schedule.

HEALING RESEARCH
MODULE 1: ASSIGNMENT

**Please note this assignment will be emailed to participants on XX so that responses can be emailed to XX.*

1. List at least four interventions that could be learned from the research?
(DVD from 42-57 min, 92-99 min, 124-126 min)
(The Connected Child, Chapters 1 & 3)

2. Name four of the foundational messages that all human beings need in order to develop optimally?
(DVD from 6-12 min, 20-25 min)
 - a. Describe for each of these why they are crucial to development.
 - b. List the potential consequences of each should there be an interruption in “receiving” them.

3. What is the *biological cost of fear*? Name at least five consequences.
(Amygdala article)
(DVD from 44-45 min, 67-72 min, 108-115 min)

4. In your own words, describe your understanding of the “Model of Investment Parenting”. Provide an example of investment parenting.
(DVD from 63-65 min)
(The Connected Child, p. 132)

5. Recall a child, parent or family system in which you felt there were attachment impairments. Utilizing the “Model of Investment Parenting” and evidenced-based research, please share what applications might have assisted you further at that time.

THOUGHT PROVOKING QUESTIONS

- How could the explanation of research contained in this assignment allow you to reinterpret problematic behaviors such as lying, stealing, or opposition to authority?

- How would you start to establish “felt safety” in a child’s home environment?

APPENDIX B

PRE-MODULE 2: NEUROCHEMISTRY OF FEAR

Understanding the neurochemistry of fear is at the heart of successful intervention with at-risk children. This module is designed to present specific insights about the connection between the neurochemistry of fear and aberrations in development and behavior. Gaining trust with an at-risk child is the foundation for making significant strides in helping them begin to heal. This module will present theoretical and practical information about how to gain trust, and how to modulate the neurochemistry of an at-risk child.

LEARNING OBJECTIVES

- Understand the importance of regulatory neurochemical functions in normal child development and the consequences of neurological impediments in early childhood due to abuse, neglect and/or institutionalization.
- Increase comprehensive skills and understanding related to neurotransmitter patterns in at-risk children as they relate to co-morbidity between mental illness and abnormal behavioral, cognitive and social patterns.
- Understand the correlation between brain chemicals and dysregulation.
- Recognize the connection between neurochemical patterns and nutritional and dietary needs.
- Implement research-based intervention skills to recognize and treat children and families with neurochemical imbalances.

MODULE ACTIVITIES

Readings

Purvis, K. B., Cross, D. R., & Sunshine, W. L. (2007). *The Connected Child: Bringing hope and healing to your adoptive family*. (pp. 47-72, 197-212). New York, NY: McGraw-Hill.

Purvis, K. B. & Cross, D. R. (2007). Improvements in salivary cortisol, depression, and representations of family relationships in at-risk adopted children utilizing a short-term therapeutic intervention. *Adoption Quarterly*, 10(1), 25-43. doi:10.1300/J145v10n01_02

Lecture Series DVDs: THE NEUROCHEMISTRY OF FEAR

Watch the TCU Institute of Child Development's Neurochemistry of Fear DVD, which is enclosed and can be stored in the DVD sleeve at the back of the binder.

The fundamental goal of this seminar is to empower parents and professionals to become healers in the lives of at-risk children and to discuss interventions developed through our work with families of at-risk children. Tragically, children who have been harmed, neglected and/or abused are at significantly increased risk for behavioral disorders, relationship failures and early-onset mental illness. This seminar will present specific skills and insights garnered from research with at-risk children on how to disarm fear responses that drive their aberrant behavior. Initial discussion will center on understanding of brain chemistry and how neurotransmitter testing can enhance therapeutic approaches.

NEUROCHEMISTRY OF FEAR DVD outline

Disk 1 (63 minutes)

- 1) Six Major Risks Factors and Trauma - 1:50
- 2) Impact of Neurochemical Changes to Developing Child - 14:24
- 3) Significance of Neurotransmitters - 22:12
- 4) Observation and Research - 41:00

Disk 2 (78 minutes)

- 1) Defining the Neurochemistry of Fear and the impact on “Felt Safety”
- 2) Intervention and Application - 42:15

Assignment 2: NEUROCHEMISTRY OF FEAR

Due:

Complete the assessment questions enclosed after watching the *Neurochemistry of Fear* DVD and completing the required readings. The assignment will be emailed to participants on XX so that responses can be typed and submitted electronically.

Please complete the assignment and email it to XX by the date specified in the course schedule.

NEUROCHEMISTRY OF FEAR

MODULE 2: ASSIGNMENT

DUE:

**Please note this assignment will be emailed to participants on XX so that responses can be emailed to XX.*

1. Define the six major risk factors to healthy development and provide an example for each.

(DVD 1 from 1:40-12:30 min)

2. What are some of the changes in neurochemistry when a child experiences trauma?

(DVD 1 from 14:12-16:21 min)

3. Name three neurotransmitters mentioned and describe their impact on healthy brain development and plasticity.

(The Connected Child, pp.197-212 and Article)

(DVD 1 from 35:00-50:00)

(DVD 2 from 3:00-10:00)

4. In the video with 12yr old Beth, who suffers from developmental delays, describe the type of seizures she experiences while completing the CREVT-Comprehensive Receptive and Expressive Vocabulary Test. When working with a child with development delays how can the tone/cadence of one's voice influence a child's behavior?

(DVD 2 from 42:00-56:40 min)

5. Name at least three techniques that can be used to help change the neurochemistry of fear.

(The Connected Child, pp.47-72)

(DVD 2 from 69-75 min)

THOUGHT PROVOKING QUESTION

- How might your knowledge of the neurochemistry of fear affect your approach in the assessment, treatment and intervention, and/or referring a child from the hard place? Why?

APPENDIX C

PREMODULE 3: SENSORY INTEGRATION

OVERVIEW

Understanding sensory integration is imperative for professionals working with at-risk children. This module is designed to present specific insights about the connection between sensory processing and regulatory and behavioral disorders. This module will present theoretical and practical information about how to recognize sensory processing disorder and how to modulate the behavior of at-risk children by creating safe, sensory-rich environments.

LEARNING OBJECTIVES

- Understand the etiology of Sensory Processing Disorder (SPD).
- Understand the direct correlation between sensory processing and behavioral regulation for children.
- Learn the importance of internal senses and the relationship between healthy brain development, cognition, internalizing and externalizing behaviors and motor skills.
- Recognize symptoms of SPD through evidence-based research.
- Develop insight about application of intervention measures that encourage sensory and behavioral regulation.
- Understand how elements of a sensory diet can be incorporated into any environment.

MODULE ACTIVITIES

Readings

Purvis, K. B., Cross, D. R., & Sunshine, W. L. (2007). *The Connected Child: Bringing hope and healing to your adoptive family*. (pp. 33-46). New York, NY: McGraw-Hill

Purvis, K. B. & Cross, D. R. (2005). The hope connection: A place of hope for children from the “hard places”. *SI Focus Magazine*, 4, 5, 12-15.

Lecture Series DVD: SENSORY INTEGRATION (83 minutes and Q & A 50 minutes)

Watch the TCU Institute of Child Development's *Sensory Integration* DVD, which is enclosed and can be stored in the DVD sleeve at the back of your binder.

A key element of normal development is the capacity to process and regulate environmental input. Children with backgrounds of neglect and abuse are at very high risk for disorders in sensory processing. In this DVD, Dr. Purvis will explain risk factors for Sensory Processing Disorder, and will discuss how to create a supportive, sensory-rich environment.

SENSORY INTEGRATION DVD outline

- 1) Goals of the Senses - 4:30
- 2) Disorders of Sensory Processing - 20:00
- 3) Sensory Diet - 26:30
- 4) Creating Sensory-Safe Environments - 50:00

Assignment 3: SENSORY INTEGRATION

Due:

Complete the assessment questions enclosed after watching the Sensory Integration DVD and completing the required readings. The assignment will be emailed to participants on XX so that responses can be typed and submitted electronically.

Please complete the assignment and email it to XX by the date specified in the course schedule.

SENSORY INTEGRATION
MODULE 3: ASSIGNMENT

DUE:

**Please note this assignment will be emailed to participants on XX, so that responses can be emailed to XX.*

1. List and describe the four “goals of the senses”? Why are these critical to development?
(DVD from 13:00-20:00 min)

—

2. Name at least four characteristics of sensory-rich environment?
(Hope Connection Camp, article)

—

3. Describe the unspoken message behind a child’s behavior as it applies to sensory needs and provide an example of the behavior.
(The Connected Child, Chapter 3, p 33-46)

—

4. How would you integrate this research when working with children, families, schools and additional systems?

—

THOUGHT PROVOKING QUESTIONS

- How could the explanation of research contained in this assignment allow you to reinterpret problematic behaviors such as lying, stealing, or opposition to authority?
 - a.
- What are some insights about the connection between SPD and behavioral problems you see in the children you are currently serving?

APPENDIX D

PRE-MODULE 4: FACILITATING BEHAVIORAL CHANGE

OVERVIEW

Facilitating Behavioral Change is a synthesis of child development research that provides the foundation of our behavioral intervention with at-risk children. This module incorporates concepts from Attachment Theory, sensory integration, brain development, and brain chemistry, which are integral to implementing behavioral change, and is designed to provide practical concepts and skills for improving long-term outcomes. Designed with the practitioner and parent in mind, this DVD serves as the foundation of behavioral change in at-risk children.

LEARNING OBJECTIVES

- Develop competency in integrating research with proven intervention models to facilitate change through the utilization of Connecting and Correcting Principles.
- Recognize the different Levels of Response as they relate to the behavioral change model.
- Implement and practice intervention methods to help bring healing and “felt-safety” to at-risk children.

MODULE ACTIVITIES:

Readings

Purvis, K. B., Cross, D. R., & Sunshine, W. L. (2007). *The Connected Child: Bringing hope and healing to your adoptive family*. (pp. 73-196). New York, NY: McGraw-Hill.

Purvis, K.B., Cross, D.R., & Pennings, J.S. (2009). Trust-based relational intervention: interactive principles for adopted children with special social-emotional needs. *Journal of Humanistic Counseling, Education and Development*, 48(1), 3-22.

Lecture Series DVD: FACILITATING BEHAVIORAL CHANGE (86 minutes)

Watch the TCU Institute of Child Development’s *Facilitating Behavioral Change* DVD, which is enclosed and can be stored in the DVD sleeve at the back of the binder.

One of the most commonly asked questions for the staff at the Institute of Child Development is how to deal with “problem behaviors”. In this DVD Dr. Purvis explores the concepts of the Connecting and Correcting Principles. The information in this session will give you an introduction to the TBRI® approach developed by Drs. Purvis and Cross, and will give you some examples of applying these to real life situations.

FACILITATING BEHAVIORAL CHANGE DVD outline

- 1) Introduction
- 2) What drives the maladaptive behaviors start time - 4:45
- 3) Connecting principles start time - 28:30
- 4) Correcting principles start time - 42:40
- 5) Concluding story as example start time - 81

Assignment 4: FACILITATING BEHAVIORAL CHANGE

Due:

Complete the assessment questions enclosed after watching the *Facilitating Behavioral Change* DVD and completing the required readings. The assignment will be emailed to participants on XX so that responses can be typed and submitted electronically.

Please email the completed assignment to XX by the date specified in the course schedule.

FACILITATING BEHAVIORAL CHANGE

MODULE 4: ASSIGNMENT

DUE:

**Please note this assignment will be emailed to participants on XX so that responses can be emailed to XX.*

1. Name at least 5 “connecting” interventions. Have you ever used similar methods in your practice? How effective were they? In what ways?

(The Connected Child, Chapter 8)

(DVD from 28:30-43:00 min)

2. Name the characteristics of the IDEAL[®] Response Model. What are some examples from your own work in which you have already applied principles from this model? Describe these examples.

(The Connected Child, ps. 96-97)

(DVD from 47:30-59:00 min)

3. Give an example of each Level of Response?

(TBRI[®] article, Table 2)

(The Connected Child, Chapters 6 & 7)

(DVD from 60-69 min)

4. Name at least 4 specific Connecting or Correcting activities that caught your attention to use in the future. What was it about these activities that caught your attention?

THOUGHT PROVOKING QUESTIONS

- In what ways do the simple acts associated with connecting with the child work to correct the problem behaviors that child might have?
- TBRI promotes a very proactive stance towards correcting problem behaviors. In what ways is this more difficult to implement than the standard reactive behavior management strategies?
- What are the primary obstacles in reality to maintaining an attitude of playful engagement with a child who is being aggressive, manipulative, and/or controlling?

APPENDIX E

PRE-MODULE 5 : THE ATTACHMENT DANCE

OVERVIEW

Understanding Attachment Theory is fundamental for professionals because and the ATTACHMENT DANCE between parents and children is the single most important predictor of long-term emotional and behavioral outcomes. This module is designed to present specific insights about the connection between attachment disorders and behavior disorders. In addition, the assigned article by Judith and Allan Schore, demonstrates pragmatic information about how attachment is intertwined with the ability to self-regulate. This module will present theoretical and practical information about how to recognize and address attachment disorders in both adults and children.

LEARNING OBJECTIVES

- Build on current knowledge of evidence-based attachment research to understand the antecedents and consequences of attachment and the intergenerational impacts of impaired attachment.
- Recognize infant behaviors demonstrated through the Strange Situation and the potential developmental trajectory as it relates to attachment.
- Develop comprehension and understanding of importance of reafferent (active/involved) learning.
- Understand the implications of Adult Attachment styles as a reflective model for professionals to better engage healing and serving at-risk children and families.

MODULE ACTIVITIES

Readings

Purvis, K. B., Cross, D. R., & Sunshine, W. L. (2007). *The Connected Child: Bringing hope and healing to your adoptive family*. (pp. 219-234). New York, NY: McGraw-Hill.

Schore, J.R., & Schore, A.N. (2008). Modern attachment theory: the central role of affect regulation in development and treatment. *Clinical Social Work Journal*, 36(1), 9-20. doi: 10.1007/s10615-007-0111-7

Lecture Series DVD: THE ATTACHMENT DANCE (136 minutes)

Watch the TCU Institute of Child Development's *The Attachment Dance* DVD, which was mailed to you with Module 4 and should be in the DVD sleeve at the back of the binder.

The attachment relationship between parents and their children is one of the most cherished experiences of our lives. This DVD focuses on recognizing features of the attachment relationship, how to help your child heal from attachment problems, and facing your own attachment, so that you can become a healer for your child. Information shared in this seminar is designed to enrich your understanding of attachment, both theoretically and practically, and to provide a rich foundation for adoptive parents and their children.

THE ATTACHMENT DANCE DVD outline

- 1) Importance of attachment
- 2) Attachment of parents and children start time - 35:30
 - a. Developing states of attachment
 - b. Antecedents of secure attachment start time - 51:30
 - c. Bowlby behavioral systems start time – 75:00
- 3) AAI start time - 86:30
 - a. Classifications start time - 91:15
 - b. Attachment research start time - 111:30

Assignment 5: THE ATTACHMENT DANCE

Due:

Complete the assessment questions enclosed after completing the required readings and watching selected sections of *The Attachment Dance* DVD which are noted in the assignment.

Please email your completed assignment to XX by the date specified in the course schedule.

THE ATTACHMENT DANCE

MODULE 5: ASSIGNMENT

DUE:

1. Describe at least 4 prerequisites for healing ruptured attachment. Why are these important?

(DVD from 28-35 min, from 84-86:30 min)

Understanding of the nature and importance of attachment issues

Emotionally present

Blank slate

Honor their story

Security on the part of the parent

2. Name at least 4 of the antecedents of (things that come before) secure attachment.

How does each antecedent provide a foundation for secure attachment?

(Schore article)

(DVD from 37-38:30 min, 40-41:30 min, 50:25-60 min)

3. Give at least 2 ways in which Adult Attachment styles influence a caregiver's contribution to healing and helping at-risk children?

(The Connected Child, ch 12)

(DVD from 61-75 min, 86:30-111 min, especially from 93:20-95:20 min)

4. In what two ways could this research impact your approach to working with at-risk children and parents?

(DVD from 8-11 min)

5. Consider a current or past case in which this research could potentially impact the outcome. How might you apply this? In what ways is that different from what you might have done prior?

THOUGHT PROVOKING QUESTIONS

- How have new insights about your clients' attachment styles impacted your ideas about how to bring healing to the children and their families?
- How would you now interpret the strategies that people use in order to manage their emotional and relational needs in the light of the 4 major attachment styles?

APPENDIX F

Means and Standard Deviations for AAI LIWC Linguistic Processes Analysis (n=44)

LIWC Variables	<i>M</i>	<i>SD</i>
Word Count	6769.45	3270.82
Words/Sentence	18.37	4.92
Words >6 letter	10.52	1.25
Dictionary Words	93.00	2.28
Total Function Words	61.19	2.54
All Punctuation	21.68	3.66
Total Pronouns	21.81	2.08
Personal Pronouns	16.16	1.89
1 st Person Singular	8.46	1.64
1 st Person Plural	1.38	0.58
2 nd Person	1.89	0.79
3 rd Person Singular	3.32	1.05
3 rd Person Plural	1.11	0.59
Impersonal	5.66	0.93
Articles	3.96	0.55
Common Verbs	16.27	1.87
Auxiliary Verbs	8.43	1.50
Past Tense	7.09	1.04
Present Tense	7.16	1.36
Future Tense	0.96	0.37
Adverbs	6.86	0.94
Prepositions	10.18	1.14
Conjunctions	9.02	1.00
Negations	1.30	0.74
Quantifiers	2.28	0.37
Numbers	1.02	0.32
Swear Words	0.02	0.04

APPENDIX G

Means and Standard Deviations for AAI LIWC Psychological Processes Analysis (n=44)

LIWC Variables	<i>M</i>	<i>SD</i>
Social Processes	13.22	1.67
Family	2.24	0.52
Friends	0.15	0.10
Humans	0.75	0.24
Affective Processes	4.34	0.78
Positive Emotion	2.92	0.64
Negative Emotion	1.38	0.45
Anxiety	0.33	0.15
Anger	0.32	0.19
Sadness	0.36	0.21
Cognitive Processes	22.22	1.92
Insight	4.42	1.08
Causation	1.21	0.24
Discrepancy	1.82	0.52
Tentative	3.38	0.77
Certainty	1.56	0.32
Inhibition	0.30	0.11
Inclusive	6.67	0.82
Exclusive	4.00	0.84
Perceptual Processes	1.52	0.43
See	0.43	0.16
Hear	0.54	0.21
Feel	0.49	0.22
Biological Processes	1.23	0.34
Body	0.28	0.14
Health	0.61	0.21
Sexual	0.18	0.12
Ingestion	0.20	0.14
Relativity	11.93	1.38
Motion	1.98	0.39
Space	4.67	0.67
Time	5.99	1.34

Personal Concerns	4.41	0.77
Work	1.32	0.35
Achievement	1.01	0.25
Leisure	0.70	0.30
Home	0.76	0.20
Money	0.23	0.12
Religion	0.18	0.14
Death	0.20	0.15
Spoken Categories		
Assent	0.87	0.39
Non-fluencies	3.61	1.55
Fillers	0.97	1.02

APPENDIX H

Means and Standard Deviations for Pre-Module AAI Linguistic Processes Analysis (n=44)

LIWC Variables	<i>M</i>	<i>SD</i>
Word Count	1915.30	1702.88
Words/Sentence	23.62	18.15
Words >6 letter	26.91	4.75
Dictionary Words	87.21	3.37
Total Function Words	48.89	6.87
All Punctuation	15.03	4.10
Total Pronouns	9.29	3.05
Personal Pronouns	5.33	2.01
1 st Person Singular	1.33	0.87
1 st Person Plural	0.44	0.45
2 nd Person	0.66	0.69
3 rd Person Singular	0.90	0.89
3 rd Person Plural	2.00	0.90
Impersonal	3.96	1.45
Articles	7.71	2.13
Common Verbs	11.55	2.72
Auxiliary Verbs	7.35	1.99
Past Tense	1.86	0.86
Present Tense	7.22	2.10
Future Tense	1.19	0.52
Adverbs	2.86	0.93
Prepositions	13.77	1.95
Conjunctions	6.82	1.60
Negations	1.11	0.57
Quantifiers	2.15	0.91
Numbers	0.33	0.23
Swear Words	0.01	0.03

APPENDIX I

*Means and Standard Deviations for Pre-Module LIWC Psychological Processes Analysis
(n=44)*

LIWC Variables	<i>M</i>	<i>SD</i>
Social Processes	13.69	2.09
Family	1.57	1.45
Friends	0.03	0.05
Humans	3.95	1.07
Affective Processes	8.04	1.77
Positive Emotion	5.08	1.31
Negative Emotion	2.89	0.95
Anxiety	0.90	0.52
Anger	0.65	0.34
Sadness	0.63	0.35
Cognitive Processes	19.44	2.64
Insight	3.22	0.85
Causation	3.13	0.89
Discrepancy	2.16	0.55
Tentative	2.10	0.70
Certainty	0.91	0.44
Inhibition	1.50	0.40
Inclusive	5.71	1.65
Exclusive	2.10	0.83
Perceptual Processes	2.36	1.05
See	0.45	0.26
Hear	0.43	0.24
Feel	1.22	0.92
Biological Processes	2.89	1.53
Body	0.87	0.47
Health	1.61	1.21
Sexual	0.18	0.14
Ingestion	0.42	0.33
Relativity	11.72	1.67
Motion	2.56	0.74
Space	4.91	0.80
Time	3.85	1.08

Personal Concerns	7.83	2.64
Work	2.23	0.82
Achievement	3.14	0.69
Leisure	1.15	0.94
Home	0.61	0.75
Money	0.46	0.33
Religion	0.16	0.16
Death	0.09	0.12
Spoken Categories		
Assent	0.01	0.03
Non-fluencies	0.09	0.08
Fillers	0.07	0.09

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ABSTRACT

MENTAL REPRESENTATIONS OF ATTACHMENT IN CHILD WELFARE PROFESSIONALS

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Previous research has documented how case managers' behavior is influenced by their mental representations of attachment (secure or insecure; Dozier et al., 1994). However, at least one study has demonstrated that attachment-related and employment-related discourse were not associated (Crowell et al., 1996). The current study explores the relationship between attachment and employment discourse in child welfare professionals. Participants included 44 child welfare professionals who were well educated (64% had a Masters or Doctorate degree) with most having at least five years experience working with families (81%). Prior to a professional workshop, the Adult Attachment Interview (AAI) was administered and pre-training assignments (pre-modules) were completed. Using Linguistic Inquiry and Word Count (LIWC; Pennebaker, Francis, & Booth, 2007), a text-analysis software, both the AAI and the pre-modules were analyzed. The results revealed no significant associations among the AAI LIWC and the pre-modules LIWC providing support for both the complexity involved in scoring the AAI and validation of the integrity of the AAI in its ability to activate the attachment system, bringing evidence of a person's attachment-based working model to the forefront of the discourse. Results also indicated few associations between the AAI three-way distribution and LIWC analysis on both the AAI (word count; $F=3.41, p<.05$) and the pre-modules (affective processes; $F=3.69, p<.05$). In addition, results indicated significant differences between the AAI distribution of child

welfare professionals and a non-clinical norm (AAI three-way distribution: Goodness of fit $\chi^2 = 24.56, p < .01$; Bakermans-Kranenburg & van IJzendoorn, 2009). Dismissing classifications were overrepresented and free-autonomous classifications were underrepresented. These results may indicate challenges in the child welfare system that could alter the effectiveness and decision-making processes of child welfare professionals. Further research is needed to evaluate whether these differences are typical for samples of child welfare professionals and if so, the impact it could have on families who are being served. Effective interventions, focused on shifting attachment from insecure to secure, for child welfare professionals also should be explored through further research.