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## The Relationship Between Parental Attachment Styles And Acting-With-Awareness

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THE RELATIONSHIP BETWEEN PARENTAL ATTACHMENT STYLES  
AND ACTING-WITH-AWARENESS

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A Dissertation

Presented to

The College of Graduate and Professional Studies  
Department of Applied Clinical and Educational Sciences  
Indiana State University  
Terre Haute, Indiana

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In Partial Fulfillment  
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Doctor of Philosophy

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by

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Keywords: parental attachment, mindfulness, acting-with-awareness, college students

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## ABSTRACT

Parental attachment impacts multiple life outcomes and abilities from infancy to adulthood, including mindfulness. Acting-with-awareness is one facet of mindfulness involving an individual's ability to attend to the present moment. Independently, both attachment-based strategies and mindfulness-based strategies are incorporated into therapy; however, therapeutic strategies considering both constructs are limited. Further, research investigating the relationship between parental attachment and acting-with-awareness in college-aged individuals is narrow. The present study investigated three research questions: (a) what the factor structure of modified The Experiences in Close Relationships-Revised (ECR-R) for parental attachment is; (b) if there are significant differences across parental attachment styles based on acting-with-awareness; (c) if parental attachment factors, anxiety and avoidance, predict acting-with-awareness while controlling for gender and adverse event history (Fraley et al., 2000). Participants included young adults and college students between 18 and 25 years of age in the Midwest. The Experiences in Close Relationships-Revised (Fraley et al., 2000) was used to assess parental attachment, and the Mindful Attentional Awareness Scale (Brown & Ryan, 2003) was used to assess acting-with-awareness. The results found that a modified ECR-R for parental attachment displayed a two-factor structure; however, goodness of fit was poor. In the remaining analyses, attachment-related anxiety was the most influential variable on acting-with-awareness. Participants with anxious and disorganized styles of attachment displayed lower acting-with-awareness levels than participants with a secure style. Attachment-related anxiety predicted

acting-with-awareness when controlling for the Adverse Childhood Experiences (ACE)total score and gender. Further, the ACE total score had a negative association with acting-with-awareness without attachment factors. Overall, this study supported previous research regarding the influence of attachment on outcomes, like acting-with-awareness, and the continued need to integrate attachment and mindfulness into psychological practice.

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## CHAPTER 1

### INTRODUCTION

#### **Statement of the Problem**

Parental attachment is a well-researched construct that impacts multiple life outcomes from infancy to adulthood. Specifically, secure attachment to a parent has been shown to be a resiliency factor (An et al., 2018). Parental attachment style has been of interest because it is one of the first bonds to develop, and it is the foundation upon which to build future relationships. Similar to parental attachment style, the psychological construct of mindfulness is shown to impact life outcomes. Current researchers (Pepping et al., 2015; Stevenson et al., 2018) suggest several factors future researchers should explore in the relationship between parental attachment style and mindfulness. First, there is limited research exploring the impact of parental attachment style on young adults. As children develop into adults, parental impact decreases, and peer and romantic partner impact increase. Second, there is minimal research investigating the relationship between mindfulness (specifically the facet of mindfulness called acting-with-awareness) and parental attachment. Implementation of mindfulness skills is currently being reported in journals of therapeutic care; however, current research indicates a need for additional research regarding the relationship between attachment and mindfulness. Third, there is a

need to develop interventions for children and adults who have insecure attachment styles. Each attachment style has a different impact on life outcomes. Finally, with mindfulness-based practices receiving high interest, therapists are beginning to implement mindfulness strategies, especially trauma therapists. Trauma has been one of the most difficult mental health stressors to resolve, and mindfulness-based strategies are developing to aid in this concern.

### **Key Terms**

Attachment is defined as an emotional bond between two people, and this definition encompasses all types of attachments (Bartholomew, 1990). Kabat-Zinn (2003) defined mindfulness as “a basic human quality characterized by the present-centered awareness and non-judgmental attitude” (p. 144). Brown et al. (2007) framed the notion of dispositional mindfulness as “the consistency of mindful states over time” (p. 218). Dispositional mindfulness is trait mindfulness, and it is composed of five facets:

- Observing involves noticing stimuli.
- Describing involves coming up with words to identify and express the stimuli.
- Acting-with-awareness involves complete attention to the environment without being on autopilot.
- Non-reacting involves not responding to the stimulus.
- Non-judging involves not evaluating the stimulus (Duan & Li, 2016, p. 2).

### **Parental Attachment**

Fundamental aspects of attachment have been well researched since the 1940s (van Rosmalen et al., 2016). Attachment develops in all types of relationships; the first

attachment relationship typically forms between a parent and an infant. Research has found that this primary attachment relationship provides the foundation for the infant to use when building later relationships with peers and partners in adulthood (Bartholomew, 1990). Attachment is classified into four styles: secure, avoidant, anxious, and disorganized (Ainsworth, 1989; Duschinsky, 2015). Avoidant, anxious, and disorganized attachment styles are then classified as insecure attachment style.

Most studies in attachment research focusing on adolescents or adults have used a general relationship style, a peer attachment relationship, or a romantic attachment relationship. For instance, Caldwell and Shaver (2013) utilized the Experiences in Close Relationships Revised (ECR-R) survey, which determines attachment style by examining romantic relationships. It is common for researchers to use romantic attachment measures with adult populations due to the decreased role of the parental figure. The current study focused on parental attachment (i.e., attachment with either a maternal or paternal figure).

### **Interventions for Insecure Parental Attachment Styles**

Research suggested individuals who have insecure attachment styles have more difficulties in multiple aspects of life. Children who have an insecure parental attachment style tend to exhibit lower cognitive abilities, have higher rates of mental disorders such as depression and anxiety, and struggle with social skills (Benoit, 2004; West et al., 2013). With these deficits encompassing multiple aspects of life, it is important to intervene in the attachment system before adolescence. Although many therapies for children use a family therapy approach to strengthen the attachment relationship, it is

often difficult to achieve parental buy-in for these therapies because parents may lack ability and time to participate.

Bowlby (1969) suggested parental attachment provides the foundation for future attachments to develop. If the insecure parental attachment is not resolved in childhood, then it is likely the insecure attachment carries over in adulthood. Research has shown that adults with insecure general attachment styles display lower goal-attaining behavior, decreased competence in coping with stressful situations, underdeveloped social problem-solving skills, and lower levels of emotional intelligence (Hamarta et al., 2009; Levi & Steele, 2011; McCarthy et al., 2001; Shi, 2003). Currently, there is research to support that each attachment style influences the effectiveness of therapy differently (Innerhofer, 2013). One can, therefore, infer that if different attachment styles have different effects in therapy, then attachment styles will have different effects in mindfulness training. It is important to identify and intervene with individuals who have insecure parental attachment styles because there is a snowball effect that may result in multiple negative life outcomes since interpersonal difficulties can impact adaptive functioning.

### **Trauma Therapy**

Since mindfulness-based practices are popular among clinicians for relaxation skills, therapists are beginning to utilize mindfulness strategies in trauma therapy. It is well-known that trauma can negatively impact different life aspects and outcomes. In particular, Felitti et al. (1998) discovered that participants with four or more adverse experiences (e.g., trauma) were more likely to have multiple health risk factors, such as

substance abuse, depression, suicide attempts, sexual promiscuity, and chronic medical diseases. When traumatic events arise, many individuals cope with such events by suppressing, avoiding, or numbing their feelings and thoughts. This type of coping is unhealthy and often results in psychological inflexibility, i.e., not being mindful (Follette et al., 2006). For example, the attempt to suppress thoughts and feelings may result in rumination and an increase in psychological distress.

Most common interventions used to treat trauma utilize cognitive behavioral therapies (Monson & Shnaider, 2014). However, the addition of mindfulness strategies is believed to assist with increasing acceptance strategies and skillful behavior in conjunction with a cognitive behavioral approach (Follette et al., 2006). By being aware in the present moment, the individual has the cognitive ability to accept the traumatic experience. Individuals who are not coping effectively with a traumatic experience may be in denial that the experience occurred, thus causing continued difficulties. Additionally, by being aware in the present moment, Erozkhan (2016) suggested that emotional regulation and interpersonal relationships can improve. Typically, individuals who struggle to cope with a traumatic experience do not have effective coping skills or supportive networks. By resolving the thoughts and feelings of a traumatic experience in the present moment, the individual can focus on improving these other skill areas (Joubert et al., 2012). Teaching trauma victims to be open to and aware of their present selves will allow them to process the trauma in a healthy manner. Joubert et al. (2012) suggested that depending on when the trauma occurs, the development of a secure parental attachment style may be interrupted or impeded.

### **Parental Attachment and Mindfulness**

Mindfulness is a human quality involving both being aware in the present and possessing a non-judgmental attitude (Duan & Li, 2016). Additionally, mindfulness is considered to be both a trait (dispositional) and state (cultivated) psychological construct (Brown et al., 2007; Kabat-Zinn, 2003; Pepping & Duvenage, 2016). Meditation is considered a method of cultivated mindfulness. Pepping and Duvenage (2016) suggested that dispositional mindfulness has not received as much attention as cultivated mindfulness. The authors reported that it is easier to study cultivated mindfulness using experimental research, which leads to more robust findings. This may be due to the ability to use a pretest-posttest research design. In contrast, to measure dispositional mindfulness, a survey research design is needed since dispositional mindfulness is innate and not amenable to experimental manipulation. These dispositional mindfulness traits are stable and constant over time, which serves as a baseline for future cultivated mindfulness. Mindfulness is present in most individuals; however, some individuals have more developed dispositional abilities. With most individuals having the ability to be mindful, it makes it more difficult to observe effects of dispositional mindfulness without implementing a control and treatment group. I investigated a facet of dispositional mindfulness and not state mindfulness.

Mindfulness has connections with the first established attachment, as Pepping and Duvenage (2016) concluded that adults with parents who were warm and non-rejecting, indicative of secure attachment style, had higher levels of dispositional mindfulness. In contrast, adults with parents who were neither warm nor rejecting, indicative of avoidant

and anxious attachment styles, had lower levels of mindfulness. Pepping and Duvenage hypothesized individuals with secure attachment styles have higher levels of dispositional mindfulness because they have higher attentional capabilities due to the absence of both fear of abandonment and fear of relationship closeness.

Currently, investigations regarding possible mediators between parental attachment and dispositional mindfulness are occurring, with most studies focusing on emotional regulation (Pepping et al., 2015; Stevenson et al., 2018). One study by Pepping et al. (2015) demonstrated participants with avoidant and anxious attachment styles had increased difficulties with emotional regulation. Additionally, Stevenson et al. (2018) showed that negative emotional regulation strategies of individuals with insecure attachment styles correlated with lower levels of mindfulness. Specifically, Stevenson et al. indicated the mindfulness facet of acting-with-awareness correlated with adaptive coping skills.

### **Acting-With-Awareness**

Within mindfulness, the facet of acting-with-awareness is one of the first strategies taught in mindfulness-based therapy. Acting-with-awareness refers to being attentive and aware to the present moment, and this aligns with one key Gestalt therapy technique called being in the “here and now.” In Gestalt therapy, the focus of the session is on the “here and now” because this is the dimension that truly exists, unlike the past or future (Wills, 1978). For example, a student thinking about a big test next week creates anxiety in the “here and now” because it is impossible for anxiety to take place in the future while the individual is in that moment. In therapy, the “here and now” allows the

individual to process past thoughts, feelings, and behaviors in a clearer mental state to cope better in the future. Similarly, acting-with-awareness is the process of attending to the past thoughts, feelings, and behaviors in the “here and now” to allow the individual to work toward reframing them (Kabat-Zinn, 2003). With acting-with-awareness involving the higher-order cognitive process of being aware of one’s awareness, it is expected to develop when the individual is able to sustain attention and perform metacognitive abilities (Graziano et al., 2011; Rochat, 2003). These begin to develop approximately between ages two to five years, with metacognitive abilities developing later than sustained attention.

Additionally, acting-with-awareness abilities are shown to be impacted by the attachment style an individual possesses. It is believed that an insecure attachment style depletes cognitive energy required to be aware in the present moment; as such, Pepping and Duvenage (2016) reported insecure attachment leads the individual to apply their cognitive energy to either actively avoid establishing a relationship or constantly worry that the relationship is endangered. The development of interventions using acting-with-awareness strategies for individuals with insecure attachment styles will assist the individual in clearing up cognitive space and energy to establish supportive networks.

### **Purpose of Study and Contribution**

The purpose of the current study was to investigate the relationship between parental attachment style and acting-with-awareness in young adults. This study will contribute to the research in several ways. First, there is a lack of studies investigating the effect of parental attachment in young adults. Specifically, I observed the impact of

parental attachment in young adults ages 18 to 25 years old because they are emerging into adulthood and beginning to develop independence from their parents. In traditional research in this area, parental attachment is explored during infancy to early adolescence, given parental involvement is high during these ages (Bowlby, 1969).

Second, additional research is needed regarding parental attachment modifications of the Experiences in Close Relationships Revised (ECR-R) measure given that minimal investigation has occurred in previous research (Fraley et al., 2011; Sibley & Liu, 2002; Wilkinson, 2011). Additional investigation is also warranted exploring the emerging adulthood period regarding adulthood stress and identified differences within attachment style in different relationships. Individuals within the emerging adulthood period are transitioning to adulthood, and the parental attachment relationship is being tested due to stress. Additionally, research has suggested differences between attachment contexts that may indicate attachment changes within relationships over time or due to significant life experiences (Fraley et al., 2011; Sibley & Liu, 2002; Waters et al., 2000; Wilkinson, 2011).

Third, with the mindfulness construct, and, in particular, the acting-with-awareness construct emerging in the literature, there is a need to investigate the impact parental attachment style has on mindfulness since both constructs independently correlate with positive outcomes (Calvete et al., 2017; Hamarta et al., 2009; Held et al., 2017; Hong et al., 2016; Huguet et al., 2017; Waszczuk et al., 2015). For example, the relationship between parental attachment style and acting-with-awareness may partly explain why young college students stay in school versus drop out since both constructs

are associated with positive outcomes. Further, research has shown that confounding variables are present when exploring romantic attachment and mindfulness (Caldwell & Shaver, 2013; Pepping & Duvenage, 2016; Stevenson et al., 2018). Potential confounding variables considered in this study are adverse experiences, gender, and ethnicity. Adverse life experiences, such as trauma, have been shown to influence parental attachment and dispositional mindfulness development, which further demonstrates the importance of understanding the relationship to assist with psychological practice (Calvete et al., 2017; Held et al., 2017). Previous research suggests the role of the demographic variables of gender and ethnicity in adult attachment have inconsistent support, in addition to minimal research being conducted regarding demographic variables in acting-with-awareness (Agishtein & Brumbaugh, 2013; Brem et al., 2019).

The results from the current study are intended to aid in the development of acting-with-awareness strategies for individuals with insecure attachment. With the presence of different life outcomes dependent on attachment, therapy strategies need to consider each type of attachment when teaching strategies. One insecure attachment develops from avoidance, and the other develops from anxiety, suggesting different strategies are needed to resolve the concerns.

## CHAPTER 2

### REVIEW OF LITERATURE

#### **Attachment**

##### **Theory and History**

According to Shaver and Mikulincer (2005), the psychological construct of attachment developed from psychoanalytic theory, as the theory states that adult behavior can be explained by childhood experiences. However, John Bowlby and Mary Ainsworth were dissatisfied with traditional psychoanalytic theory, as they viewed motivation as being determined by innate behavioral systems that facilitate adjustment (van Rosmalen et al., 2016). According to Bowlby and Ainsworth, attachment can partially be explained by social psychological theory; in order for humans to live, it is vital they feel a sense of belonging and security in their society (van Rosmalen et al., 2016). William Blatz (1966) believed that the child's security in the availability of the caregiver to satisfy the child's needs is important in developing stability later in life. If the child were not able to rely on the caregiver to provide security in meeting its needs (attachment insecurity), then the child would be dysregulated and have to rely on Freudian defense mechanisms in stressful situations. These defense mechanisms are not adaptive and can lead to psychological problems in adulthood (van Rosmalen et al., 2016). In contrast, attachment

security is adaptive, as Blatz (1966) described security as acceptance of consequences by either the self or another. The child with attachment security is regulated and adapts to stressful situations more easily than a child with attachment insecurity.

John Bowlby (1944) observed children sent to the countryside during the Blitz in London and found that the separation resulted in detachment. Children who experienced separation from their mothers displayed more emotional and behavioral problems than children who did not have those experiences. Bowlby explained the problem as due to the children's lack of proximity to the same caregiver. Proximity to a caregiver is significant because Bowlby indicates it allows the caregiver to readily protect the child and ensure feelings of security.

Bowlby (1969) later proposed that the attachment system is the interaction between the caregiver and child, as this interaction develops the child's concept of the caregiver as a secure base. The secure base develops when the child learns that they will consistently receive support from their caregiver, resulting in the child perceiving their caregiver as a reliable resource to meet its needs. When in stressful situations, the child is easily able to retreat to the base for security from the caregiver. The child may also alert the caregiver that their support is required or that they are receiving the support needed through attachment behaviors such as crying, smiling, and cooing. Further, Bowlby believed attachment does not emerge suddenly; rather, it develops through a series of phases. Between birth and two months, the infant directs attention to all humans, and the infant displays the same behaviors to different individuals. Between two and seven months, the infant begins to focus attachment on one caregiver and learns to distinguish

familiar and unfamiliar individuals. Between seven and 24 months, the infant develops specific attachments to primary caregivers (mother and father) and actively seeks contact with them.

Mary Ainsworth worked under Blatz and collaborated with Bowlby to combine both the views of Bowlby and Blatz to develop her own theory of caregiver-child relationships. Ainsworth (1989) emphasized attachment as more than a relationship. A relationship grows from multiple positive and negative experiences that occur along the way to developing an attachment. In particular, Ainsworth believed attachment occurs when the child experiences security and comfort with the caregiver and perceives the caregiver as irreplaceable. In simpler terms, to develop an attachment to another, felt security is required; a relationship does not necessarily require a sense of security. In line with Bowlby's attachment stages, Ainsworth believed that as children reach the age of four years, both cognitive and locomotive abilities allow the child to explore further from the secure base. These abilities continue to develop into childhood as children begin to explore relationships with other peers.

Ainsworth took Bowlby's theory further to focus on the felt security children receive or do not receive through the attachment system (Bartholomew, 1990). Ainsworth studied felt security in the attachment system of infants by using her Strange Situation procedure (Bartholomew, 1990). The Strange Situation procedure includes three main observation points: when the mother leaves the infant alone, when the stranger enters the room, and when the mother returns. The attachment behaviors the infant displays at these points demonstrate the style of attachment the infant has to his or her mother, since

infants are not able to express verbally their thoughts and emotions (van Rosmalen et al., 2016).

Out of Ainsworth's (1989) procedure, three types of attachment styles derived from the attachment behaviors the infants displayed towards their mothers when a series of episodes occurred involving the mother and a stranger. The attachment styles were secure, ambivalent, and avoidant. Bartholomew (1990) and Brumariu and Kerns (2008) described each attachment style as follows. Secure attachment is characterized by having a strong connection with the caregiver and the confidence to navigate through the environment. Additionally, these infants are able to rely on the caregiver for support in times of need, and these infants learn they are worthy of the caregiver's attention.

An ambivalent attachment style, also known as anxious attachment style, is characterized by inconsistent support and frustration when alerting the caregivers. As such, anxiety is felt. These infants are not able to rely consistently on the caregiver for support and do not learn they are worthy of the caregiver's attention. These infants develop mistrust in the caregiver, although they desire to feel security from the caregiver.

An avoidant attachment style is characterized by the infant's disregard of the relationship to their caregivers. These infants learn the caregiver cannot be trusted to assist them in many times of need. Additionally, there is a fourth attachment style called disorganized, and it was developed later by Mary Main and Judy Solomon to identify children who did not completely fit into a secure, an anxious, or an avoidant style (Duschinsky, 2015). Infants with a disorganized attachment style are characterized as having both fear of abandonment and discomfort within attachment relationships in that

both the parent and child respond in erratic and less predictable interactions. In the literature, many authors combine anxious, avoidant, and disorganized attachment styles to encompass one category of insecure attachment.

Previous research indicated that most adult individuals are classified as securely attached; however, the composition of attachment style was reassessed through a meta-analysis by Konrath et al. (2014). The meta-analysis they performed demonstrated that in 2011, 41.6% of American college students were classified as secure, 13.6% classified as anxious, 18.6% classified as avoidant, and 26.1% classified as disorganized. The current study adhered to Ainsworth's theoretical view of attachment style and uses the four attachment styles. According to Bowlby (1969), all of these attachment styles represent the infant's working model as the baby progresses into childhood, adolescence, and adulthood.

### **Attachment Development**

Attachment develops through interactions between parent and child, peer and individual, or romantic partner and individual throughout the lifespan (Bowlby, 1969). Attachment begins in infancy, with the first interactions occurring between infant and caregiver (Ainsworth, 1989). As the infant develops into childhood, Ainsworth (1989) and Bowlby (1969) proposed the parental attachment model is used to navigate through social relationships to establish friendships. Further, Margolese et al. (2005) suggested that from childhood to young adulthood, peer attachments are very important; however, there is a gradual shift toward a focus on romantic relationships. Even though there are shifts in target individuals of attachment (parent, peer, romantic partner), the parent-

infant attachment style provides the foundation on which future attachment relationships are built (Bartholomew, 1990). Further, Bowlby believed attachment style is generally stable over time, although changes in attachment style are possible with the occurrence of significant life events.

Based on Bowlby's theory, Waters et al. (2000) conducted a 20-year longitudinal study to provide information on the developmental trajectory and stability of attachment style from infancy to early adulthood. The authors assessed for negative significant life experiences such as loss of parent, divorce, life-threatening illnesses in parent or child, parent psychological disorders, and physical or sexual abuse by a family member. Waters et al.'s results supported Bowlby's hypothesis of attachment style being stable over time with negative life experiences impacting stability. Specifically, Waters et al. found that 48% of participants experienced negative life events that were associated with a change in attachment style; in contrast, 22% of participants who did not report negative life events remained consistent in attachment style, and the remaining 20% participants experienced negative life events without a change in attachment style.

van IJzendoorn and Bakermans-Kranenburg (2010) found that socio-economic status (SES) of the household was associated with parental attachment style, with participants from low SES backgrounds displaying higher proportions of an avoidant style than participants from middle-class backgrounds. Attachment style stability across the lifespan is still in the beginning stages of investigation, and longitudinal studies are needed to gain clarity about the stability of attachment style.

Infants display attachment behaviors in response to the parent's responsiveness and availability, although Chess and Thomas (1991) suggested these behaviors are also associated with temperament. Temperament is the infant's internal response to changes in the environment, while attachment is a transactional construct dependent upon the interaction with others (Lickenbrock et al., 2013). Examples of behaviors that demonstrate temperament include crying, tantrums, withdrawal, and comfort in transitions. These are very similar to attachment behaviors, although Mangelsdorf and Frosch (1999) reported that the association between interpersonal elements and attachment behaviors suggests these behaviors do not occur in isolation, as do temperament behaviors.

### **Attachment Style Effects in Childhood and Adolescence**

Attachment style affects children in several different domains, from academics to development of psychological problems. West et al. (2013) found that secure attachment is correlated with stronger cognitive performance in elementary school children. According to West et al., four hypotheses, originally described by van IJzendoorn et al. (1995), may explain increased cognitive performance in elementary school children: the teaching hypothesis, the social network hypothesis, the cooperation hypothesis, and the self-regulation hypothesis. The teaching hypothesis suggests children with secure attachments perform better in school due to caregivers being able to teach their children in an encouraging fashion. van IJzendoorn et al. stated the social network hypothesis indicates children with secure attachments use their secure model (caregiver) as a reference when developing new relationships. From their caregivers, children are able to

learn effective communication skills to alert teachers and peers when assistance is needed. Further, the cooperation hypothesis states that children with secure attachments are willing to accept school demands more readily due to not experiencing anxiety when away from their secure base. Last, the self-regulation hypothesis states that securely attached children have more developed skills in motivation and behavioral control. In their study, West et al. (2013) demonstrated that securely attached children performed better than insecurely attached children in association with a higher quality of maternal assistance, establishment of more positive and closer relationships at school, increased comfort with school procedures, and increased self-motivation and control. In contrast, insecure attachment with a parent resulted in the opposite effect.

Parental attachment also impacts the development of psychological disorders such as depression and social anxiety. Margolese et al. (2005) investigated the likelihood of adolescents developing depression in relation to the adolescents' working models of self and others based on their close relationships. It was hypothesized that when the working models have a negative lens, there is an increased risk of depression. Margolese et al. defined the self-model as whether individuals view themselves as worthy of love and support, while other models are defined based on whether individuals view other attachment figures as either trustworthy/available or unreliable/rejecting. Three types of working models were analyzed: mother, peer, and romantic attachment. Girls who had a negative perception of their mother models tended to develop depression, while this was not the case for boys. Additionally, working models of romantic partners predicted

depression when the adolescent had a negative view of self, but not partner, for both girls and boys.

Similarly, Lewis-Morrarty et al. (2015) investigated the relationship between insecure attachment style and the temperament type of behavioral inhibition on social anxiety development. Behavioral inhibition is characterized by experiencing feelings of distress and then withdrawing from unfamiliar people, environments, and situations. Lewis-Morrarty et al. concluded that the interaction between insecure attachment and high behavioral inhibition predicted social anxiety development in adolescents.

### **Attachment Style Effects in Adulthood**

According to Bowlby, children use attachment figures to develop mental representations of the self and others, which might provide a mechanism for how attachment style could transfer into adulthood (Bartholomew, 1990). Ainsworth (1989) believed even though older children have a decreased need for proximity to their caregivers, the parental attachment endures. Her belief is supported by the fact that many adult children keep in contact with their parents. Bowlby and Ainsworth described the attachment system through felt security, which is characterized as the child's confidence in the attachment figure to meet his/her needs (Bartholomew, 1990). However, Ainsworth stated that when the child is less confident in the attachment figure's ability to satisfy his/her needs, then an insecure attachment system develops that consists of felt anxiety or avoidance towards the attachment figure. Attachment anxiety is most common in an ambivalent attachment style, while attachment avoidance is most common in an avoidant attachment style.

Attachment has been shown to impact grit, a relatively new construct in research characterized by consistency of interest and perseverance in obtaining a long-term goal (Levi & Steele, 2011). In Levi and Steele's (2011) study, attachment was measured in different ways, and they concluded that positive memories of both maternal and paternal care and protection correlated with higher levels of grit. Maternal care was the variable that correlated the most strongly with grit, and a negative correlation was found.

Regarding attachment, both avoidant and anxious attachment correlated with lower levels of grit. Levi and Steele were surprised that secure attachment was not significantly correlated with grit since parental care and protection correlated with both grit and secure attachment individually. This study found that parental care and attachment influence grit.

Both maternal and paternal parental attachment have been shown to impact perceived stress and affect regulation in adulthood (McCarthy et al., 2001). McCarthy et al. (2001) discovered that participants with more secure maternal or paternal attachments had lower levels of perceived stress and more confidence in coping with stress. It is important to note the sample consisted of college students, and many were newly out of high school. Investigation into parental attachment with this age group is needed since previous researchers are beginning to demonstrate the presence of parental dependence for this age group.

Additionally, romantic relationship conflict resolution skills are impacted by attachment styles in adulthood; as such, Shi (2003) concluded that individuals with secure attachment styles possessed more developed skills in problem-solving and

compromising, while those with insecure styles (avoidant and anxious) did not have such well-developed skills. Shi observed that participants with an avoidant style displayed similar behaviors to Ainsworth's Strange Situation procedure infants: turning away from the stressful experience or avoiding talk about the problem. Additionally, these individuals were less likely to develop win-win solutions in relationship conflicts. In contrast, participants with an anxious style, characterized by attachment anxiety, had increased concern for the other, although they used dominating behaviors to decrease their anxiety over the stressful experience.

Emotional intelligence is predicted by attachment style in adulthood (Hamarta et al., 2009). With parental attachment providing the foundation from which to develop relationships, it is logical to assume emotional intelligence also develops from this foundation (Bowlby, 1944). Hamarta et al. (2009) defined emotional intelligence as "the ability to express, understand, communicate, and cope with self-emotions and those of others" (p. 214). Hamarta et al. (2009) reported that secure attachment correlated positively with all aspects of emotional intelligence: interpersonal, adaptive (ability to problem solve), stress management, and general mood (optimism and happiness). Further, Hamarta et al. showed that secure attachment was associated with the capacity to be attuned to other internal and external factors in adults. To conclude, attachment relationships are important for children and adults.

### **Attachment and Trauma**

Trauma can occur at any point in life, although when trauma occurs within the time frame during which parental attachment is developing, the effects of trauma have a

greater impact (Joubert et al., 2012). Attachment is a vital piece in understanding the impact of trauma because of the important influence caregivers have on their children's psychological and social development. Parental attachment style is influenced differently by different types of traumatic events (Erozkan, 2016). Childhood trauma types include abuse (emotional, physical, or sexual) and neglect (physical or emotional). Children who experience neglect or abuse by parents often do not have a secure attachment base from which to seek support or security, and as a result, both Bowlby (1969) and Joubert et al. (2012) proposed that these children adapt by learning unhealthy coping strategies.

The Adverse Childhood Experiences (ACE) Study (Felitti et al., 1998) indicated seven adverse experience categories consisting of abuse; neglect; parents who were separated or divorced; violence against the mother; and residing with family members who abuse(d) substances; experience(d) mental illness; or who are or were incarcerated. Felitti et al. (1998) found that participants who endorsed four or more adverse experiences had an increased risk for substance abuse; were more likely to have greater than 50 sexual partners; were more likely to be diagnosed with a sexually transmitted disease; reported more physical inactivity; and had more adult diseases such as heart disease, cancer, chronic lung disease, and liver disease. Further, more than half of participants endorsed one adverse experience in childhood, suggesting the occurrence of adversity is common in contemporary society.

Since the ACE Study, several researchers have investigated the influence of adverse experiences on parental attachment. Murphy et al. (2014) found that participants with four or more ACE and who witnessed violence towards their mothers as children

had higher rates of disorganized attachment style as adults. Gustafsson et al. (2017) found similar results, as middle childhood children who witnessed physical intimate partner violence were rated as having insecure attachment styles using a qualitative measure. Participants who solely endorsed residing with a parent with mental illness had lower rates of adult disorganized attachment than those who endorsed other ACE items (Murphy et al., 2014). Additionally, Hipwell et al. (2000) concluded that mothers with severe mental illness tended to have infants with insecure attachment. Parental separation, such as occurs in divorce or incarceration, impacts attachment style. Children who experienced parental divorce displayed higher rates of insecure attachment with their parents as adults. An increased risk of attachment insecurity occurred when parental divorce occurred in early childhood (Fraley & Heffernan, 2013). Poehlmann-Tynan et al. (2017) examined parental attachment in children whose parent was incarcerated and found that they were also more likely to have insecure attachment styles.

Erozkan (2016) identified common unhealthy coping strategies as including having difficulty establishing friendships, being distant, being oppositional toward authority figures, and having difficulty with development of trust and intimacy. Erozkán investigated childhood trauma types and attachment style in college-aged students. As these children reached college, there was a significant negative association between secure attachment and childhood trauma. This negative association suggested more childhood trauma may impede attachment development, which then may adversely impact functioning.

In attachment theory, children who experience frequent trauma while young are prone to develop multiple, incompatible internal working models of attachment called unresolved attachment (Joubert et al., 2012). Joubert et al. (2012) described that these children are often caught between wanting to seek help and being fearful of their attachment figures, further leading to incompatible internal working models. The results indicated an unresolved attachment is developed unconsciously by the child to cope with conditions of severe threats to self, typically due to current or recalled loss or abuse. This attachment type does not fit within secure or insecure attachment styles because these styles are considered resolved. With these attachment styles, the child is able to use mental or behavioral strategies to assist with integration of the traumatic experience to protect the child later from mental distress.

Joubert et al. (2012) investigated the relationships between unresolved attachment, cognitive functioning, and trauma-related symptomology. The results indicated that adolescents with an unresolved attachment had increased symptomology of post-traumatic stress disorder (PTSD) and decreased abilities in working memory. Other areas of cognitive abilities, such as verbal and nonverbal ability, consisting of long-term retrieval, visual-spatial ability, auditory processing, and fluid reasoning, were not different between adolescents with unresolved and resolved attachments. The authors attributed decreased working memory abilities to the fact that typical children with unresolved attachment are more attentive to dealing with the stress of trauma, decreasing their attentional capacities for other external events. Joubert et al. suggested that interventions should focus on the cognitive training of attentional awareness. This

intervention focused on learning strategies to shift attention away from the trauma memory to a neutral or positive stimulus. Cognitive training of attentional awareness is very similar to mindfulness-based interventions in that one preliminary skill taught in mindfulness-based intervention is how to attend to the present moment.

Attachment is shown to impact children's and adolescent's success in therapy, and, as such, many therapy clients enter services with insecure attachment styles (Innerhofer, 2013). In therapy, clients with secure attachments required fewer sessions, while insecure clients required increased numbers of sessions. Innerhofer (2013) suggested that clients with insecure attachment present with psychological disorders more frequently than clients with secure attachment, which may be due to securely attached people possessing more efficacious coping strategies. Further, Innerhofer stated that anxious clients rely more on the therapist's skills to provide safety and emotional support, while children with disorganized attachment struggle with a sense of security and do not engage in therapy. Innerhofer stated that there are therapeutic differences in attachment, further indicating the need to develop specific attachment-based interventions. Understanding attachment can be beneficial in treating trauma with children, adolescents, and adults.

### **Attachment and Parental Stress**

Similar to trauma, parental stress also influences the development of attachment (Cyr et al., 2010; Bakermans-Kranenburg et al., 2004; Ødegård, 2005; van IJzendoorn & Bakermans-Kranenburg, 2010). Socioeconomic status (SES) is a prevalent stressor in society, in particular, the SES risk factors of low income and low education per van

IJzendoorn and Bakermans-Kranenburg (2010). Bakermans-Kranenburg et al. (2004) investigated the influence of low income on maternal sensitivity and later attachment and showed children residing in low-income homes displayed higher rates of insecure attachment. Similar results were obtained in a later study (van IJzendoorn & Bakermans-Kranenburg, 2010) as children from low SES backgrounds displayed higher proportions of an avoidant attachment. However, a meta-analysis (Cyr et al., 2010) indicated that the relationships between low income and low education and attachment development were not significant. Also, children with chronic medical conditions require additional support that then disrupts the attachment system related to attachment-related anxiety from both parent and child (Ødegård, 2005). According to Keenan et al. (2016), other chronic conditions in the child, such as Autism Spectrum Disorder (ASD), add stress to the parent and increases parental anxiety. However, differences in secure attachment style between children with ASD and neurotypical children were not present in Keenan et al.'s study. That may be due to the emotional processing deficits associated with ASD.

### **Parental Attachment Measures**

In parental attachment research, many developed measures assess infants or children due to the predominant presence of parents (Ravitz et al., 2010). The Strange Situation procedure is often used to assess parental attachment in infancy. As infants develop into children, Ravitz et al. (2010) proposed that play therapy assessments should be used for the child to determine how the family interacts, and, depending on the developmental level of the child, interviews can be used in conjunction. Interviews on attachment are conducted primarily with adolescents and adults. According to Ravitz et

al., one common attachment interview is the Adult Attachment Interview. This interview focuses on the adult's perceptions of both parents and their childhood. The interview contains 20 semi-structured interview questions to assess the environment and the relationships the adult has had with their parents.

The Experiences in Close Relationships-Revised (ECR-R) developed by Fraley et al. (2000) is the most common measure used to assess attachment in adults and uses two subscales of attachment-related anxiety and attachment-related avoidance in romantic relationships (Ravitz et al., 2010). The ECR-R consists of 36 questions, 18 for each subscale and displays good psychometric properties (Fraley et al., 2000). Wei et al. (2007) reduced the ECR-R to 12 questions due to redundancy and were able to increase participation from community participants. An exploratory factor analysis and confirmatory factor analysis were used to determine and verify the factor structure of this shorter version of the ECR-R. The results indicated comparable psychometric properties to the original ECR-R. Another study that modified the ECR-R for adolescents also found the two attachment subscales and achieved good model fit (Wilkinson, 2011).

Fraley et al. (2011) developed a separate short form of the ECR-R, ECR-RS, that resulted in 10 questions to reduce redundancy for United States adults. This study displayed a two-factor model that explained 69% of the variance with moderate cross-loadings and moderate reliability. Fraley et al. investigated global, romantic, peer, and parental attachment (both maternal and paternal) using the experiences in Close Relationships Revised-Relationship Structures (ECR-RS). The ECR-RS consisted of 10 questions. Fraley et al.'s results suggested differences between attachment to parents and

to other attachment figures (friend and partner). Further, Fraley et al. reported a moderate amount of similarity in attachment-related anxiety and attachment-related avoidance occurred between parental attachment specifiers of maternal and paternal attachment. However, other researchers reported that modifying the ECR-R for specific attachment dimensions may produce different results and may inadequately assess attachment (Sibley & Liu, 2002; Wilkinson, 2011).

The use of categorical measures to assess attachment is not common practice as most participants do not fit into a strict category (Ravitz et al., 2010; Sibley & Liu, 2002). According to Scharfe (2016), attachment researchers have only begun to discuss the strengths and weaknesses of categorical versus continuous measurement of attachment. Among clinical and developmental researchers, categorical measurement is preferred, whereas, among social and personality researchers, continuous measurement is preferred. However, many social and personality researchers interpret continuous measure results in categorical language (i.e., relatively avoidant individuals). Scharfe indicated that assessing attachment in a categorical manner also leads to inaccurate classifications of individuals near the boundaries, shows variations in baseline proportions among clinical and non-clinical groups, and emphasizes restricted black-and-white thinking. Further, Fraley et al. (2015) reported that the statistical power and precision of the ECR-R weakens when researchers assign participants into attachment style groups. For the purpose of this study, attachment was analyzed both continuously and categorically to assist in conceptual understanding and follow current research suggestions.

### **Attachment Interventions**

Bianco (2017) reviewed specific therapeutic techniques using attachment concepts ranging from individual therapy to family therapy. Attachment-based therapy is fairly new in the literature, with previous research on attachment-based therapy including children and adolescents who are classified as “at risk”. At-risk youth typically have histories involving trauma, mental health concerns, aggression, and loss. Bianco emphasized that for the child or adolescent to be well-adjusted, they need to feel valued, connected, and supported. Further, predominant attachment styles in at-risk youth were either insecure or unresolved, thus impeding development of needed social and emotional skills.

When treating at-risk youth who have severe emotional and behavioral needs, the combination of psychopharmacological treatments and psychotherapy are routes taken in trauma treatment that are dependent on diagnosis and current needs (Underwood & Washington, 2016). Additionally, Underwood and Washington (2016) concluded that cognitive behavioral therapy is an efficacious treatment for many psychological disorders across populations. However, psychopharmacological treatment and cognitive behavioral therapy modalities are interventions that manage symptoms, but they do not resolve mental health disorders when the root cause is relational. Tsvieli and Diamond (2018) indicated that attachment-based therapy is effective in evaluating relational aspects that may be causing distress or dysfunction in a youth’s life.

According to Bianco (2017) for individual therapy with younger children, play therapy techniques are useful to confront barriers and change perceptions and behaviors

positively. With adolescents, by comparison, the focus of sessions is on the client's story, and client strengths and, through the therapist validating the child or adolescent's story, a therapeutic bond will develop (Bianco, 2017; Tsveli & Diamond, 2018). In contrast, group therapy considering attachment can be used with a group composed of similar peers or with family members (Tsveli & Diamond, 2018). Group therapy with similar peers is facilitated by a therapist to socialize peers to develop resiliency when parental figures are not present. Within this framework, children and adolescents partake in group activities to increase social skills. Similarly, Bianco (2017) explained that family therapy uses the same techniques as group therapy but applies these techniques within the family dynamic. In both therapy options, communication and responsiveness to emotional needs are core topics addressed.

Additionally, attachment-based family therapy can be applied to adolescents (Tsveli & Diamond, 2018). It involves discussing the client's concerns with the parent, discussing the parent's concerns with the client, having the client share how past emotional needs were unmet, and assisting the parent to demonstrate empathy and discuss unresolved past problems. Tsveli and Diamond emphasized that, as the parent displays empathy and willingness to discuss problems, this allows the client to be validated and begin to adjust his or her internal working model of the parent. An adjusted internal working model of the parent then resolves the anger the client has toward the parent.

Tsveli and Diamond (2018) also determined focusing on unmet attachment needs and vulnerable emotions through an empty-chair technique leads to healthier emotional

processing. This technique is a Gestalt therapy intervention used to resolve unfinished business. An empty chair is placed in front of the client, and the therapist encourages the client to discuss unresolved interpersonal issues. For many adults who were at-risk youth, contact with their biological caregivers may not be feasible or safe. Thus, by using the empty chair technique, adults can express their thoughts and feelings to resolve unfinished business about their parents with the therapist's guidance. These strategies may be particularly beneficial for adult-focused attachment therapy, given that parental attachment serves as a template for future close relationships. Therefore, attempting to improve romantic attachment without addressing underlying parental attachment difficulties may impede new skill acquisition, such as mindfulness when treating mental health difficulties.

## **Mindfulness**

### **Mindfulness Theory**

Mindfulness is an emerging construct in the early twenty-first century in American psychological research and practice, although it is an ancient concept in Eastern culture. It is defined as “a basic human quality characterized by the person-centered awareness and non-judgmental attitude” (Kabat-Zinn, 2003, p. 144).

Mindfulness is a Buddhist practice used to quiet the mind, decrease suffering, and improve quality of life. It also has ties to many other philosophical and psychological practices all over the world (Brown et al., 2007). The construct of mindfulness is rooted in the conscious ability of awareness and attention. According to Moffitt (2017), awareness is the ability to focus consciously on the five senses, kinesthetic senses, and

mind activities. Attention arises when the awareness of a particular piece of information is strong. Within this processing, Moffitt stated that perception could lead to distorted pictures of reality through self-centered thought processes and conditioning. The ability to take in the information as it is leads to cognitive clarity and flexibility in psychological and behavioral responses.

A philosophical framework suggests that mindfulness is a state ability, also known as cultivated mindfulness (Duan & Li, 2016). For mindfulness to be cultivated, meditation (i.e., processing through internal conflicts to reach enlightenment) is a state method; however, there is research suggesting that mindfulness is not simply a cultivated ability. Brown et al. (2007) proposed that mindfulness may also be considered as a personality trait also called dispositional mindfulness. Dispositional mindfulness is present when the individual habitually directs attention to the present moment and non-judgmentally reacts. Most individuals have the capability to be mindful; however, some individuals have more developed abilities absent of cultivated interventions such as meditation. Dispositional mindfulness is relevant to attachment style because there is research indicating individuals who are mindful without cultivated interventions (e.g., meditation) have better psychological functioning outcomes in a similar manner as those having attachment security (Hong et al., 2016; Raphiphatthana et al., 2018; Stevenson et al., 2018). Interestingly, research has shown that dispositional mindfulness can be improved through the practice of cultivated mindfulness strategies with small to moderate effect sizes (Quaglia et al., 2016).

## **Mindfulness Research**

Raphiphatthana et al. (2018) hypothesized the three facets of mindfulness, acting-with-awareness, non-judging, and non-reacting, would positively predict the two aspects of grit-the consistency of interest and perseverance-with hope mediating the relationship. Acting-with-awareness predicted higher levels of consistency of interest, while non-judging predicted higher levels of perseverance over a four-month period. The authors suggested acting-with-awareness promotes consistency of interest by helping individuals pay attention to present behaviors that allow them to adapt behaviors to align with their overall goal. Additionally, Raphiphatthana et al. reported that non-judging promotes perseverance by decreasing the impact of negative thoughts and feelings. Raphiphatthana et al. recommended using both acting-with-awareness and non-judgment in therapy to increase goal attainment.

In particular, overall dispositional mindfulness was shown to be a protective factor against the development of post-traumatic stress disorder (PTSD) symptoms and academic burnout in Chinese adolescents after a severe tornado destroyed the city of Jiangsu (An et al., 2018). In this study, dispositional mindfulness mediated the relationship between parental attachment, PTSD, and academic burnout. Parental attachment was also shown to foster resilience in response to trauma effects, and An et al. (2018) concluded that levels of both PTSD symptoms and academic burnout were lower in adolescents with a secure parental attachment style and higher dispositional mindfulness abilities. Additionally, dispositional mindfulness alone predicted a reduction

in the levels of both PTSD and academic burnout. Arnaudova and Amaro (2020) found similar results as women with higher levels of acting-with-awareness had lower levels of PTSD symptom severity.

Hong et al. (2016) investigated dispositional and primed mindfulness (i.e., participation in a mindful task) and their individual effects on affective forecasting. The authors defined affective forecasting as “predicting one’s emotional response to an experience” (Hong et al., 2016, p. 153). Logically, there should be a relationship between mindfulness and affective forecasting since individuals who are mindful are both aware of and nonjudgmental about the “here and now.” Hong et al. discovered that overall mindfulness increased affective forecasting. Participants who participated in a mindful task had scores that showed an increase in both negative and positive affective forecasting, while dispositional mindfulness, only was associated with an increase in positive affective forecasting. This study demonstrated that priming individuals to be mindful results in improved affective forecasting.

Waszczuk et al. (2015) conducted a study with twins to observe trait mindfulness and its effects on the development of depression and anxiety in order to investigate the genetic and environmental components of mindfulness. Genetic factors in low trait mindfulness, depressive symptoms, and anxiety sensitivity accounted for over half of the variance, and Waszczuk et al. concluded that biological factors play an important role in the development of mindfulness traits. Furthermore, Waszczuk et al. proposed that non-shared environmental factors influenced the development of mindfulness as the result of the increase of independence and autonomous experiences in adolescence.

## **Mindfulness Therapy**

A study of parents of children diagnosed with attention deficit hyperactivity disorder (ADHD) investigated the effect of mindfulness therapy in decreasing ADHD symptoms and anxiety (Huguet et al., 2017). With ADHD, several executive functioning abilities are affected: attention, inhibition, planning, and working memory. Huguet et al. (2017) hypothesized that by teaching children mindfulness strategies, deficits in executive functioning abilities improve; as such, the results aligned with their hypothesis in addition to demonstrating reductions in ADHD symptoms. Specifically, Huguet et al. reported that mindfulness strategies produced reductions in hyperactivity and impulsivity as reported by parents; however, reductions in inattention were not present in parent ratings. The authors stated this result might be due to parents having more awareness of externalizing behaviors compared to internalizing behaviors. Additionally, processing speed improved after implementation of the program, although working memory showed little improvement, and Huguet et al. attributed this result to the idea that the faster the processing speed ability, the less space is available for working memory. Last, children's anxiety decreased after implementation of the mindfulness intervention. The study suggested mindfulness training with children can be effective in reducing both ADHD and anxiety symptoms.

Idusohan-Mozier et al. (2015) investigated the effect of mindfulness-based cognitive therapy for adults with intellectual disabilities in treatment of depression and anxiety. Idusohan-Mozier et al. reported that previous research has shown that individuals with intellectual disabilities tend to have increased mental illness, and that

these individuals may also have difficulties with cognitive therapy, depending on the severity of the intellectual disability. The results indicated adapted mindfulness therapy was effective in decreasing depressive and anxious symptoms in the sample. This study further provided evidence for the use of mindfulness-based therapies with individuals with intellectual disabilities when adaptations are in place.

Trauma-related guilt can cause severe distress to individuals and keep them from moving past the trauma experience. According to Held et al. (2017), often, veterans feel as though they did not do everything they could have, causing thought rumination about the experience. In treatment of PTSD, cognitive therapies are traditionally used; however, mindfulness training utilizes cognitive energy to bring the individual to the “here-and-now” and away from the thoughts about the traumatic experience. Held et al. reported that higher self-reported ratings of each facet of mindfulness correlated with a lower trauma-related guilt, suggesting mindfulness strategies are efficacious in PTSD treatment. To summarize, mindfulness interventions were shown to be effective in several populations with mental disorders, further supporting their use in therapy and the need to investigate therapeutic strategies with attachment style in mind.

### **Acting-With-Awareness**

Out of the five facets of mindfulness, acting-with-awareness is one of the characteristics of dispositional mindfulness that can be taught, as stated by Duan and Li (2016), and it is influenced by several cognitive processes (Graziano et al., 2011; Rochat, 2003). Acting-with-awareness is associated with similar outcomes as overall mindfulness (Calvete et al., 2016; Held et al., 2017). Duan and Li (2016) investigated which facets

from the Five Factor Mindfulness Questionnaire (FFMQ) correlated with cultivated or dispositional mindfulness in Chinese students. Specifically, the four items from the FFMQ that measured acting-with-awareness included the following items: “I am easily distracted,” “I don’t pay attention to what I am doing because I am daydreaming, worrying, or otherwise distracted,” “When I do things my mind wanders off and I’m easily distracted,” and “I find it difficult to stay focused on what’s happening in the present moment” (Duan & Li, 2016, p. 5). Duan and Li concluded acting-with-awareness could serve as both a dispositional and cultivated mindfulness facet.

Acting-with-awareness involves a higher order cognitive process of being aware of one’s awareness, and this type of cognitive ability is expected to develop when the individual is able to sustain attention and perform metacognitive abilities (Graziano et al., 2011; Rochat, 2003). Research has shown that both abilities begin to develop between ages two and four years, with Rochat (2003) indicating that metacognitive abilities develop later. Additionally, Vygotsky’s (1978) theory asserted that maternal behavior impacts socialization of the child’s cognitive abilities, such as attention. Sustained attention is defined by Graziano et al. (2011) as simply the ability to attend to a stimulus for an extended period. In the instance of acting-with-awareness, the stimulus is the self. Graziano et al. studied sustained attention development in children aged two years with maternal behavior and emotional regulation strategies as independent variables. Graziano et al. found that common maternal behaviors of insecure attachment styles (overcontrol and intrusiveness) were associated with lower levels of sustained attention abilities; in contrast, maternal behaviors of secure attachment (warmth and responsiveness) were

associated with higher levels of sustained attention abilities. According to Graziano et al., emotional regulation strategies were impacted similarly to sustained attention.

After the ability to hold attention is developed, higher order cognitive processes of metacognition develop (Rochat, 2003). Metacognition is one's ability to think about thinking, which relates to being able to act-with-awareness. As defined earlier, acting-with-awareness is the ability to attend to the present moment before deciding to act (Duan & Li, 2016). In order to do this, one needs to be able to use metacognition to focus on one's own cognitive processes in both first and third person (Rochat, 2003). Self-awareness develops through a series of developmental stages, and Rochat (2003) indicated children around age four begin to evaluate beyond the temporal dimension to how they are perceived in self-other dimensions. Further, Rochat reported adults move through each stage of self-awareness development during different time periods and situations. Self-awareness abilities are compared to onion layers; as one increases self-awareness, then one is able to peel a layer off to achieve a deeper level of self-understanding. These articles further support the direction of the relationship between attachment and mindfulness as it moves from parental attachment to acting-with-awareness due to the capabilities of sustained attention and self-awareness developing and improving between two and five years of age.

Acting-with-awareness was shown to buffer predicted effects of stressful events on psychological symptoms in adolescents (Calvete et al., 2017). According to Calvete et al. (2017), acting-with-awareness is assumed to be a protective factor for psychological problems that involve emotional regulation and behavioral control deficits. Calvete et al.

assessed psychological symptoms including depression, non-suicidal self-harming behaviors, drug abuse, and general externalizing problems. Acting-with-awareness was shown to be a resilient factor for non-suicidal self-harming behaviors and externalizing problems when adolescents find themselves dealing with adversity.

As previously discussed, mindfulness correlates with a reduction of trauma-related guilt in veterans with PTSD (Held et al., 2017). Specifically, acting-with-awareness has been associated with a decrease in global guilt, guilt distress, guilt cognitions, and lack of justification. Held et al. (2017) attributed this finding to the participant being attentive and engaging in the activities, which led to the individual being in the “here and now.” This allowed the individual to accept reality without judgment. Further, Held et al. stated learning to act-with-awareness in conjunction with accepting oneself without judgment are vital steps in trauma-related guilt treatment. These studies suggest that teaching acting-with-awareness strategies can be used for treatment for mental disorders to assist clients with better coping regardless of parental attachment style.

### **Attachment and Mindfulness**

Previous research has demonstrated attachment and mindfulness separately correlate with positive outcomes, suggesting together these variables may lead to similar positive outcomes. Research (Caldwell & Shaver, 2013; Pepping et al., 2015) has found that individuals high in mindfulness typically have secure attachments, with secure attachments being characterized by low anxiety and low avoidance about the relationship. Specifically, both Caldwell and Shaver (2013) and Pepping et al. (2015) stated that

securely attached individuals learned they are able to receive support when needed and do not have to worry about seeking out support. By not being overwhelmed with anxiety or avoidance, the individual is able to attend to the present moment.

Pepping et al. (2015) reported, there is mixed research in the literature about the relationship between attachment and mindfulness, specifically regarding whether the relationship is bi-directional. Secure attachment allows the individual to adaptively regulate their emotions due to past learning of positive ways to cope, while mindfulness allows the individual to be open to and aware of his or her emotions. Similarly, Pepping and Duvenage (2016) showed that insecure attachment correlated with lower scores in mindfulness with emotional regulation difficulties mediating the relationship in both college students and high school students. Pepping and Duvenage investigated the influence of responsive parenting (high warmth and low rejection) on mindfulness with attachment security (i.e., low anxiety and low avoidance) mediating the relationship. Participants with higher attachment-related anxiety and avoidance were shown to have lower levels of mindfulness, and the authors concluded that individual differences in mindfulness have roots in early childhood development and attachment.

Melen et al. (2016) primed attachment anxiety and avoidance to observe their individual effects on both mindfulness and emotional regulation among participants. The measures consisted of state-mindfulness questions to address the present thoughts and feelings in a pretest–posttest manner. In the manipulation, participants were first asked to visualize a relationship characterized by each attachment security style, then to write down how they felt afterward. Avoidant priming had participants visualize a relationship

in which they felt uncomfortable and had difficulty trusting others. Anxiety priming had participants visualize a relationship in which they were reluctant to get close and had anxiety about whether they were loved. Melen et al. observed that priming of avoidant and anxiety attachment led to increases in state avoidant and anxiety attachment securities. Particularly, participants primed with anxious attachment showed a decrease in state emotional regulation and then state mindfulness. The relationship was explained in the following way: When one has heightened fear of abandonment, this fear impacts emotional regulation negatively, thus causing a decrease in the capacity to be mindful.

Surprisingly to Melen et al. (2016), primed avoidant attachment was not significantly associated with decreases in emotional regulation or mindfulness. They attributed this finding to the emotional regulation measure's inability to measure emotional regulation strategies held by avoidant participants. Additionally, Melen et al. described how some strategies of avoidant attachment could be seen as both negative and positive. For example, the ability to inhibit threat processing may lead to increased mindfulness, as these individuals do not process the threat, and this allows an increase in the individual's capacity to be aware and non-judging. Research is still needed to address functions of an avoidant style in mindfulness and emotional regulation. The priming of secure attachment was not administered by Melen et al., so that indicates research is needed regarding secure attachment style's function in mindfulness.

Caldwell and Shaver (2013) investigated the effect of attachment anxiety and avoidance on mindfulness with thought processes mediating the relationship. They hypothesized that attachment anxiety would correlate with thought rumination, while

attachment avoidance would correlate with thought suppression. Insecure attachment correlated with lower levels of mindful awareness; however, Caldwell and Shaver indicated that only attachment avoidance was significantly correlated with decreased mindfulness. The authors explained attachment avoidance led to decreased mindfulness due to these participants actively avoiding and suppressing thoughts, causing them to deplete their capacity to be attentionally aware. Their study somewhat contradicts Melen et al. (2016), further indicating the need to clarify constructs that influence mindfulness. Additionally, Caldwell and Shaver reported there had been little research on how attachment styles shape acting-with-awareness. Stevenson et al. (2018) investigated the relationships among disorganized attachment style, mindfulness, emotional regulation, and psychological well-being. Stevenson et al. reported there is considerable overlap between dispositional mindfulness and emotional regulation strategies regarding acting-with-awareness and acceptance of emotions and experiences in the context of disorganized attachment. Additionally, Stevenson et al. showed how several mindfulness facets relate to emotional regulation strategies, in particular how acting-with-awareness correlated with adaptive coping mechanisms.

### **Demographic Variables Effects**

In the current study, several demographic variables will be addressed. Previous research by Shi (2003) stated there is a lack of strong evidence to support gender differences in attachment style, although van IJzendoorn and Bakermans-Kranenburg (2010) showed that age influenced parental attachment style stability in college populations). Specifically, van IJzendoorn and Bakermans-Kranenburg found that

adolescents and college students displayed higher proportions of avoidant attachment styles than did adults or children. This may be due to the fact that most college students and adolescents are beginning to seek independence from their parents. Low SES was also associated with higher proportions of an avoidant attachment style, according to van IJzendoorn and Bakermans-Kranenburg. There is limited research investigating the relationship between attachment style and ethnicity, and the research literature suggests inconsistent support. Wei et al. (2004) investigated attachment style differences among African American, Asian American, Hispanic American, and Caucasian college students. The authors reported a lack of significant differences in attachment style based on ethnicity; however, Asian Americans displayed more attachment-related anxiety than other ethnic categories. In a later study (Agishtein & Brumbaugh, 2013), attachment-related anxiety and attachment-related avoidance did not show a significant correlation with any ethnic category.

Previous research has displayed differences in acting-with-awareness with gender and ethnicity. Alispahic and Hasanbegovic-Anic (2017) found that men exhibited higher acting-with-awareness scores while women exhibited higher observing scores using the Five Factor Mindfulness Questionnaire in a Bosnian sample. Further, acting-with-awareness was negatively associated with compulsive sexual behavior for both women and men; however, stronger association occurred in women (Brem et al., 2019). Masuda et al. (2018) found that dispositional mindfulness moderated the association between eating disordered cognition and behavior in White female Americans. There were not significant differences between Black female Americans and Asian female Americans.

These studies suggest research is limited regarding gender and ethnicity influence with acting-with-awareness.

### **Research Questions**

The current study investigated attachment categorically and continuously to align with traditional and contemporary research designs. The current study on parental attachment style and acting-with-awareness addressed several research questions. The first research question explored the factor structure of a modified ECR-R for parental attachment when several items were removed since the original ECR-R assesses romantic attachment with two attachment factors. Research has not investigated the validity of modifying the ECR-R for parental attachment, as researchers indicated suspicion regarding modifications for parental attachment that is based on attachment with adolescent research (Sibley & Liu, 2002; Wilkinson, 2011; Wilson & Wilkinson, 2012). It is speculated by Wilson and Wilkinson (2012) that modifying the ECR-R for various attachment dimensions (maternal and paternal instead of overall parent) may result in higher convergence with other attachment measures like the Inventory of Parent and Peer (IPPA) Mother and Father Scales for adolescents. Further, Wilson and Wilkinson expressed uncertainty whether modifications of the ECR-R would measure overall parental attachment in adolescent populations between the ages of 16 to 20 years of age. I sought to provide information as to whether the attachment factors, anxiety and avoidance, are present.

The second research question asked if there are significant differences among individuals with different parental attachment styles in terms of acting-with-awareness.

Based on previous research, there is evidence for a relationship between attachment and mindfulness, suggesting that there may also be a relationship between parental attachment and acting-with-awareness (Caldwell & Shaver, 2013; Melen et al., 2016; Pepping & Duvenage, 2015; Pepping et al., 2016; Stevenson et al., 2018).

The third research question asked if parental attachment style predicts acting-with-awareness after controlling for other known predictors. Currently, there is research to support that a secure attachment style is associated with many positive outcomes (An et al., 2018; Caldwell & Shaver, 2013; Levi & Steele, 2011; Margolese et al., 2005; West et al., 2013). Further, previous research has shown that individuals with anxious styles possess lower mindfulness due to anxiously attached individuals depleting their cognitive capacity by experiencing conflicting views and emotions about their attachment figures. The incompatibility between thoughts and emotions in individuals characterized by an anxious attachment style and the preoccupation to avoid close relationships in individuals characterized by an avoidant attachment style decreases their capacity to be mindful (Caldwell & Shaver, 2013; Melen et al., 2016; Pepping et al., 2015; Pepping & Duvenage, 2016; Stevenson et al., 2018). Variables controlled for included adverse experiences and gender. In my study, the adverse experiences variable not only included Adverse Childhood Experiences Study items (ACE Study) but also included parental stress items. Both adverse experiences and parental stress have been shown to influence secure attachment development with adverse experiences also influencing dispositional mindfulness to suggest importance to control for these variables when observing the relationship between attachment and acting-with-awareness (An et al., 2018; Bakermans-

Kranenburg et al., 2004; Cyr et al., 2010; Fraley & Heffernan, 2013; Held et al., 2017; Hipwell et al., 2000; Joubert et al., 2012; Keenan et al., 2016; Murphy et al., 2014; Ødegård, 2005). Gender was also controlled for as two studies have shown that Bosnian men have higher acting-with-awareness than women, and in a separate study acting-with-awareness greatly and negatively associated with compulsive sexual behavior in women (Alispahic & Hasanbegovic-Anic, 2017; Brem et al., 2019).

## CHAPTER 3

### METHODOLOGY

#### **Participants**

The total number of submitted surveys was 250, following consent and screening to ensure participants met the inclusionary criterion. The inclusionary criterion was to be between 18 and 25 years old. There were two conditions that described participants who exited the survey prior to completion: withdrawal or an incomplete. A withdrawal occurred when participants started and exited the survey before the end but did not provide a response for the remaining survey items. The number of participants who withdrew was 28. An incomplete occurred when participants skipped any number of questions. The number of participants with incomplete responses was 12. There were no patterns to the missing data detected, and therefore, the data were assumed missing at random. Participants with missing data were removed from the analysis. The total sample size was 210 participants with complete data. Demographic information was collected that included gender, ethnicity, and age. The sample included 124 females (59%) and 86 males (41%). The racial and ethnic composition was predominantly White ( $n = 157$ , 75%). There were 31 African American participants (14.8%), 11 Hispanic/Latino/Latina

participants (5.4%), three Asian participants (1.4%), two participants who marked Other (1%), and six participants who marked No comment (2.9%).

Each analysis required a minimum sample size. Tinsley and Tinsley (1987) reported that a fair sample size for a factorial analysis is 200; however, Hogarty et al. (2005) stated sample size has less influence when communalities are high. A sample size of 73 was deemed appropriate based on a G\*Power 3 analysis for an ANOVA with fixed effects, special main effects, and interactions; the required sample size is 73 participants to maintain a medium effect size and power or .95. A sample size of 119 was deemed appropriate based on four independent variables using a G\*Power 3.1 analysis with a medium effect size and a power of 0.95.

## **Measures**

### **Adverse Childhood Experiences**

#### ***Original Measure***

The Adverse Childhood Experiences Questionnaire (ACE Questionnaire) measures exposure to childhood abuse and household dysfunction (Felitti et al., 1998). The ACE Questionnaire was developed based on published surveys measuring childhood abuse and household dysfunction (see Appendix A). The questionnaire consists of 10 dichotomous questions asking participants to indicate any experience occurred from birth to 18 years of life. The adverse event questions describe the following seven categories: abuse, neglect, parents who were separated or divorce, violence against the mother, residing with family members who abuse(d) substances, residing with family members who experience(d) mental illness, or residing with family members who are or were

incarcerated. Each yes response is scored as one point, and each no response is scored as a zero. Scores range from zero to 10, with a 10 indicating high exposure to adverse experiences and a zero indicating no exposure to adverse experiences. The ACE Questionnaire has been used in a vast number of studies (Murphy et al., 2014; Wingenfeld et al., 2011; Zanotti et al., 2018). Test-retest reliability was moderate (0.71) in NCAA Division one college athletes (Zanotti et al., 2018). Further, internal consistency was moderate (0.88) in urban women (Murphy et al. 2014). There was evidence of convergent validity in German adults between the ACE Questionnaire and The Childhood Trauma Questionnaire (Wingenfeld et al., 2011). Felitti et al. (1999) did not provide validity or reliability statistics.

### ***Modified Measure***

For this study, the ACE Questionnaire was modified to use general adverse experience statements to minimize the risk of re-traumatization by asking participants about specific trauma experiences. The 10 questions from the original questionnaire were reduced to four statements. Three adverse experiences were retained, including parent separation/divorce (question 6), violence towards the mother (question 7), and residing with a mentally ill relative (question 9). A fourth item, “other adverse experience,” was created to capture other negative early childhood circumstances. A definition for adverse experiences was not provided, although participants were primed by the initial statement for questions as well as the ordering of those questions to think about negative experiences that impact attachment (Lavrakas, 2008). The “other adverse experience” item was presented second to last with the preceding questions consisting of parent

separation, violence towards the mother, and residing with a mentally ill relative. Priming was discussed as a potential limitation. The final statement asked participants to select “none” if the participant did not experience any statements on the adverse event list.

The modified adverse experience statements were presented in a list format instructing participants to mark all experiences that apply. All marked responses were coded as experienced. Responses that were unmarked were coded as not experienced. Participants selected event(s) that occurred between birth and six years of age. Birth to six years of age replaced the original ACE Questionnaire prompt, birth to 18 years of age; as Bowlby (1969) and Schalinski (2016) stated, this time is critical for parental attachment development. Adverse experience scores were summed for an adverse experience score. Endorsed items for these questions were then added to the parental stress for a total score of adverse experiences.

### **Parental Stress**

Three additional statements were developed based on my review of variables that influence attachment. These three statements were identified as parental stress section of this survey that were presented with adverse experience statements. The first statement asked about family financial difficulties. Bakermans-Kranenburg et al. (2004) and Cyr et al. (2010) noted family financial difficulties were related to disorganized attachment establishment. The second statement asked about college experience, based on Cyr et al. showing lower proportions of attachment security in children with mothers who had only a high school diploma or lower education. The third statement asked about severe medical conditions in the child. Parents caring for children with severe medical

conditions tended to have higher parental anxiety, which then influenced parental responding needed to establish attachment security (Keenan et al., 2016; Ødegård, 2005). The items were presented in a list format that was presented with the adverse experience items, and participants selected event(s) that occurred between birth and six years of age. Instructions were identical to the adverse childhood experiences section as both were integrated into one measure. All marked responses were coded as experienced. Responses that were unmarked were coded as not experienced. Parental stress questions were totaled with the set of adverse experience items to form an ACE total score, similar to the ACE Questionnaire. The range of endorsed questions was from zero, indicating “no exposure,” to seven, indicating “high exposure” to adverse experiences that included both adverse experience and parental stress questions.

## **Parental Attachment**

### ***Original Measure***

The Experiences in Close Relationships Revised (ECR-R; see Appendix B) was designed to measure adult attachment (Ravitz et al., 2010). The ECR-R is a 36-item questionnaire with two subscales, consisting of 18 questions each, that assesses attachment-related anxiety and attachment-related avoidance in romantic relationships (Fraley et al., 2000). Participants rate how they generally experienced relationships using a 7-point Likert-like scale: 1 = *strongly disagree*, 2 = *disagree*, 3 = *somewhat disagree*, 4 = *neutral*, 5 = *somewhat agree*, 6 = *agree* and 7 = *strongly agree*. Questions 1 through 18 measure attachment-related anxiety. Attachment-related anxiety is the tendency to fear rejection and abandonment with the parental figure. Each rating is translated into the

score for each item. Questions 9 and 11 use reverse scoring. Questions 1 through 18 are totaled and divided by 18 to obtain the subscale mean score of attachment-related anxiety. Possible scores range from 18 (lowest) to 126 (highest). High scores represent higher levels of fear of rejection and abandonment with attachment. Low scores represent lower levels of fear of rejection.

Questions 19 through 36 measure attachment-related avoidance. Attachment-related avoidance is the tendency to feel discomfort with intimacy and seek independence from the parental figure. The following questions are reverse scored: 20, 22, 26, 27, 28, 29, 30, 31, 33, 34, 35, and 36. Questions 19 through 36 are totaled and divided by 18 to obtain the subscale mean score of attachment-related avoidance. Each rating is translated into the score for each item. Possible scores range from 18 (lowest) to 126 (highest). High scores represent higher levels of discomfort with attachment. Low scores represent lower levels of discomfort. If a participant scores low on both attachment-related anxiety and avoidance, then they are considered to exhibit attachment-related security (Fraley et al., 2015).

Previous research has reported the ECR-R to be a valid and reliable measure in attachment research (Ravitz et al., 2010; Sibley et al., 2005; Sibley & Liu, 2002). Sibley and Liu (2002) performed a confirmatory factor analysis of the 36 items. The results indicated high internal test-retest reliabilities for anxiety (0.95) and avoidance (0.93). Further, a two-factor model was stable over a six-week period, indicating evidence for good construct validity with moderately positive correlations between anxiety and avoidance. In a study by Sibley et al. (2005), convergent and discriminant validity were

assessed by comparing the ECR-R with the Relationships Questionnaire. The results indicated the ECR-R accounted for 77% of the shared variance with a moderate positive correlation (.51) between attachment anxiety and avoidance. Fraley (2012) also provided normative data in the general population regarding attachment-related anxiety ( $M = 2.92$ ,  $SD = 1.19$ ) and attachment-related avoidance ( $M = 3.56$ ,  $SD = 1.12$ ); however, Fraley indicated these norms were conducted in the early 2000s with a lack of updated normative data provided.

### ***Modified Measure***

The ECR-R was modified for parental attachment by replacing the phrase “romantic partner” with “parent.” Even though Fraley et al. (2015) indicated the ECR-R could be modified for different attachment figures, when inserting “parent” for “romantic partner,” the wording sometimes became awkward. For example, “When my parent is out of sight, I worry that he or she might become interested in someone else.” Questions that were both awkward and potentially redundant were removed prior to data collection. Attachment-related anxiety questions removed included questions 2, 7, 9, 12, 14, 15, and 18. Attachment-related avoidance questions removed included questions: 20, 25, 27, 31, 32, 33, and 35. The modified survey now consisted of 22 questions in total, with 11 items for each subscale. ECR-R instructions were modified for parental attachment; however, administration was not altered in my study. The method of calculating sub-scores for attachment subscales remained the same, but the range of possible scores changed as there were fewer items. Questions 1 through 11 were totaled and divided by 11 to obtain a mean score of attachment-related anxiety, with a possible range of 0- 7. High scores for

attachment-related anxiety represented higher levels of fear of rejection and abandonment with attachment. Low scores for attachment-related anxiety represented lower levels of fear of rejection and abandonment. Questions 12 through 22 were totaled and divided by 11 to obtain a mean score of attachment-related avoidance, with a possible range of 0- 7. High scores for attachment-related avoidance represented higher levels of discomfort with attachment. Low scores for attachment-related avoidance represented lower levels of discomfort. The parental attachment subsection was presented following the adverse event history subsection.

### **Acting-With-Awareness**

The Mindful Attention Awareness Scale (MAAS) is a 15-item instrument that measures one core aspect of dispositional mindfulness characterized by being attentive to the present moment, also known as acting-with-awareness (Calvete et al., 2017; see Appendix C). Participants rate a collection of statements about their everyday experience using a 6-point Likert-like scale: 1 = *almost always*, 2 = *very frequently*, 3 = *somewhat frequently*, 4 = *somewhat infrequently*, 5 = *very infrequently*, or 6 = *almost never*.

Instructions ask participants to rate their everyday experience. Example items include “I find it difficult to stay focused on what’s happening in the present” and “I tend to walk quickly to get where I’m going without paying attention to what I experience along the way.” Each rating is translated into the score for each item. Scores range from 15 (lowest) to 90 (highest). High scores represented higher levels of acting-with-awareness. Low scores represented lower levels of acting with awareness. Questions 1 through 15

are totaled and divided by 15 to obtain a mean score of acting-with-awareness, with a possible range of 0- 6.

Previous research has demonstrated the MAAS is a reliable and valid measure of acting-with-awareness (Brown & Ryan, 2003; Osman et al., 2016). Evidence of a one-factor model was present with 92% of the shared variance from a confirmatory factor analysis with high reliability (.81) in college students (Brown & Ryan, 2003).

Additionally, a moderate level of convergent validity with the Mindfulness/Mindlessness Scale was present, and all items contributed significantly to stability of scores (Brown & Ryan, 2003; McKillop & Anderson, 2007). Carlson and Brown (2005) also indicated an adequate internal consistency using a Cronbach's alpha that ranged from 0.80 to 0.90.

Further, normative data were provided for community adults ( $M = 4.20$ ,  $SD = 0.69$ ) and college students ( $M = 3.83$ ,  $SD = 0.70$ ) based on four and 14 independent samples respectively (Brown & Ryan, 2003). The MAAS has been mostly used with undergraduate populations (Osman et al., 2016). The complete version of my survey is in Appendix D

### **Procedures**

The study was approved by Indiana State University's IRB. Data then were collected between May and November 2020. The study was implemented during the COVID-19 pandemic that required social distancing procedures and resulted in virtual recruitment. Three procedures were used to disseminate the study to college students and community participants.

## **University Zoom**

The primary recruitment procedure for this study was through Zoom, which replaced in-person recruitment. I contacted college professors by email through searching each university's website for teaching faculty across undergraduate programs to obtain consent to present the study to their classes. Professors were provided an email describing myself, study information, and a request for participation. Professors joined or created Zoom, video conferencing meetings, so that I could recruit participants following social distancing guidelines. Once the professor agreed to volunteer his or her class, a Zoom visit date was selected using one of two approaches. In the first approach, I hosted a Zoom meeting for in-person courses. I emailed a Zoom meeting link the professor and students used to join the Zoom meeting during the course. I read the informed consent to the students once the professor left the room. The second approach consisted of me joining a pre-arranged Zoom course meeting. The professor provided me with the Zoom meeting link prior to the course date. I joined the Zoom course meeting and read the informed consent once the professor left the Zoom meeting. The Zoom meeting ended when all participants walked out of the classroom or logged off Zoom. I arrived at each class by Zoom with ten minutes until the end to allow enough time for the presentation of the study and time to complete the survey upon leaving. The informed consent consisted of study information, risks and benefits, and contact information. I read aloud the informed consent. The Zoom meetings lasted between 10 and 15 minutes that allowed participants to complete the survey following informed consent. I provided students with

an opportunity to ask questions and contact information, and none of the participants asked questions.

### **University Blackboard**

Professors who were instructing asynchronous courses or were unable to permit me to visit by Zoom utilized the university Blackboard course sites. Professors were contacted by email through searching each university's website for teaching faculty across undergraduate programs to obtain consent to present the study to their classes. I provided an email to professors describing myself, study information, and a request for participation. Once the professor agreed to volunteer his or her class, the professor was provided with the written informed consent, survey link, and recruitment video to post on Blackboard. The Blackboard Learning Management System is a virtual learning environment and learning management system that was used to recruit participants in online asynchronous courses. The informed consent consisted of study information, risks and benefits, and contact information. The recruitment video showed me reading aloud the informed consent, and this video was provided to professors. The video was not a forced-choice requirement. The informed consent was also provided in written form to post on Blackboard. Professors posted the recruitment information and survey link on the announcement page, and the announcement was displayed until the end of the course.

### **Community Members**

I recruited community members by flyer distribution at two local businesses. I contacted local businesses were by phone or in-person to obtain written permission to post a flyer per IRB standards. Businesses that agreed to participate provided written

consent on letterhead from general managers. General managers controlled the location of the recruitment flyer, but I asked for a visible location for community members. Flyers included study information, the survey link, the QR code, and my email. Both the survey link and QR code were provided to assist with survey access. Community members could enter the survey using the survey link or the QR code. Two flyers were provided to general managers who granted permission.

### **Qualtrics**

Qualtrics is an online survey creator that was used to collect participant data. Participants were provided with a quick response code and an anonymous survey link that linked them to the study survey on their mobile devices. The survey asked participants to indicate that their age was between the ages of 18 to 25 years old to meet eligibility criteria and consent to participate. The study survey was anonymous and vulnerable to ballot box stuffing (i.e., collection of multiple entries).

## CHAPTER 4

### RESULTS

#### **Preliminary Analyses**

A sample size of 210 participants was obtained after participants who did not meet exclusionary criteria and those who exited the survey before completion were excluded. Attachment groups were created from each participant's score on the two parental attachment subscales: attachment-related anxiety and attachment-related avoidance. Fraley (2012) stated this procedure would create equal groups by assigning participants to groups based on their scores relative to the median for both attachment-related anxiety and attachment-related avoidance. Fraley permitted modifications to the measure and analysis can occur in this manner for an ANOVA, which was research question two in the current study. This statistical procedure allowed parental attachment style to be categorically analyzed, and this aligns with attachment research procedures using four attachment style groups.

Participants were classified as secure when attachment-related anxiety and attachment-related avoidance scores were below the medians. Participants were classified as avoidant when attachment-related anxiety score was less than or equal to the median and attachment-related avoidance score was greater than the median. Participants were

classified as anxious when attachment-related anxiety score was greater than the median and attachment-related avoidance score was less than or equal to the median. Participants were classified as disorganized when both attachment-related anxiety and attachment-related avoidance scores were greater than the medians. Fraley (2012) did not provide a cut-off range or recommendations if a participant score equals the median, as he emphasized his belief that “there are no real attachment types.” To account for participants who scored at the median, attachment style groupings used less than or equal to and greater than.

### **Exploratory Factor Analysis**

The first research question asked about the factor structure of a modified ECR-R for parental attachment. I conducted an exploratory factor analysis to examine whether the factor structure aligns with previous research. Research has indicated that a two-factor model of attachment, with the attachment factors of anxiety and avoidance, is present for romantic and general attachment (Fraley et al., 2000; Sibley et al., 2005; Sibley & Liu, 2004; Wilkson, 2011). I examined both a two-factor and three-factor model to assess the factor structure of a modified version of the ECR-R using parental attachment. SPSS was utilized to perform the EFA, using principal axis factoring with a promax rotation. Principal axis factoring was utilized to identify latent dimensions within established variables per Field (2013). A promax rotation was utilized as research has shown that attachment factors of anxiety and avoidance are correlated (greater than .31) and constitute the overarching structure of parental attachment (Field, 2013; Sibley et al., 2005; Sibley & Liu, 2004; Tabachnick & Fidell, 2007; Tinsley & Tinsley, 1987).

The assumptions for the EFA were examined. According to the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO), the sample is adequate for a factor analysis,  $KMO = .94$ . Bartlett's Test of Sphericity indicated the correlation structure is adequate for factor analyses,  $\chi^2(231) = 4253.03$ ,  $p < .001$ . The scree plot suggested a two-factor or three-factor model. However, a three-factor model was not appropriate for two reasons. First, only two questions loaded on the third factor, and at least three questions are needed to create a factor (Field, 2013; Yong & Pearce, 2013). Second, the two questions that loaded on a third factor also cross loaded on another factor. Question 11 loaded on factor three (.46) but cross loaded higher on factor two (.55). Factor one was labeled attachment-related anxiety, and Question 11, *I worry I will not measure up to my parents' expectations*, measured attachment-related anxiety in the original ECR-R (Fraley et al., 2000; Sibley et al., 2005; Sibley & Liu, 2004). Question 12 loaded on factor three (.33) but cross loaded higher on factor one (.53). Factor two was labeled attachment-related avoidance, and Question 12, *I prefer not to show a parent how I feel deep down*, measured attachment-related avoidance in the original ECR-R.

The principal axis factor analysis with a cut-off point of .30 and the Kaiser's criterion of eigenvalues greater than 1 yielded that a two-factor model was the best fit for the data, and it accounted for 66.6% of the variance. Communalities for a two-factor model ranged from .36 to .90. Thus, a two-factor model was determined as a conceptually and statistically appropriate structure (see Table 1). The two factors are attachment-related anxiety and attachment-related avoidance. Question 8 did not load on either factor. In addition, it had a communality of .03 that did not meet the .30 threshold, so it

was removed from the post-hoc analysis. Attachment-related anxiety consisted of 10 questions. This factor had an eigenvalue of 11.98 and accounted for 54.44% of the variance. Attachment-related avoidance consisted of 11 questions. This factor had an eigenvalue of 2.68 and accounted for an additional 12.16% of the variance. The cumulative variance for a two-factor model was 66.06%. The factor correlation between factor one and factor two was .64, in comparison to Sibley and Liu (2004), who reported a correlation of .41, and Fraley et al. (2000), who reported a correlation of .51. Cross loadings occurred throughout as all loadings in both factors were greater than .30. Yong and Pearce (2013) stated that, given the nature of latent variables, cross loadings could be retained. Cronbach's alpha was utilized to assess the reliability of the modified ECR-R that resulted in excellent reliability ( $\alpha = .95$ ). Further, Cronbach's alphas also resulted in excellent reliabilities for attachment-related anxiety without Question 8 ( $\alpha = .95$ ) and attachment-related avoidance ( $\alpha = .95$ ).

**Table 1**

*Pattern Structure Factor Loadings and Communalities for Modified ECR-R for Parental*

*Attachment with a Two-Factor Model*

Attachment Item	Factor Loadings		Communality
	1	2	
Factor 1: Anxious			
1. I'm afraid that I will lose my parent's love.	<b>.79</b>	.49	.64
2. I often worry that my parent doesn't really love me.	<b>.90</b>	.56	.81
3. I worry that my parent won't care about me as much as I care about them.	<b>.90</b>	.50	.81
4. I often wish that my parent's feelings for me were as strong as my feelings.	<b>.85</b>	.47	.72
5.I worry a lot about my relationship with my parent.	<b>.79</b>	.52	.63
6. When I show my feelings for parent, I'm afraid they will not feel the same.	<b>.83</b>	.50	.69
7. My parent makes me doubt myself.	<b>.82</b>	.66	.71
8. I do not often worry about being abandoned by my parent	.08	.17	.03
9. Sometimes my parent changes his or her feelings about me for no apparent reason.	<b>.78</b>	.67	.65
10. It makes me mad that I don't get the affection and support I need from my parent.	<b>.83</b>	.63	.70
11. I worry that I won't measure up to my parent's expectations.	<b>.60</b>	.35	.36
Factor 2: Avoidance			
12. I prefer not to show a parent how I feel deep down.	.69	<b>.72</b>	.60
13. I find it difficult to allow myself to depend on parent	.62	<b>.69</b>	.54
14. I am very comfortable being close to my parent	.47	<b>.76</b>	.60
15. I don't feel comfortable opening up to my parent	.67	<b>.77</b>	.65
16. I prefer not to be too close to my parent	.62	<b>.72</b>	.56
17. I find it relatively easy to get close to my parent.	.48	<b>.86</b>	.75
18. I usually discuss my problems and concerns with my parent	.44	<b>.84</b>	.72
19. It helps to turn to parent in times of need	.54	<b>.87</b>	.76
20. I tell my parent just about everything	.45	<b>.81</b>	.66
21. I find it easy to depend on my parent.	.53	<b>.81</b>	.66
22. My parent really understands me and my needs	.60	<b>.88</b>	.77

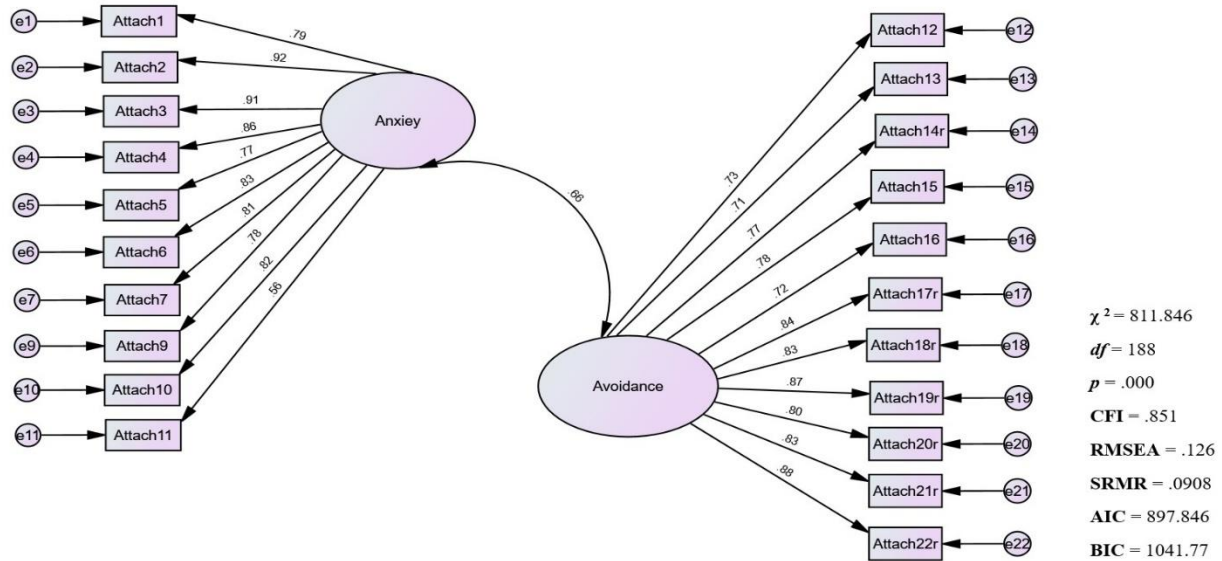
*Note.* N = 210. Factor loadings derived from principal axis factoring using a promax rotation. The

largest factor loading is bolded for its respective factor.

Because the structure aligned with that supported by the research literature, post hoc confirmatory factor analyses (CFA) were conducted to inquire if the model would be a good fit and align the literature's fit using IBM SPSS Amos 26. Previously established

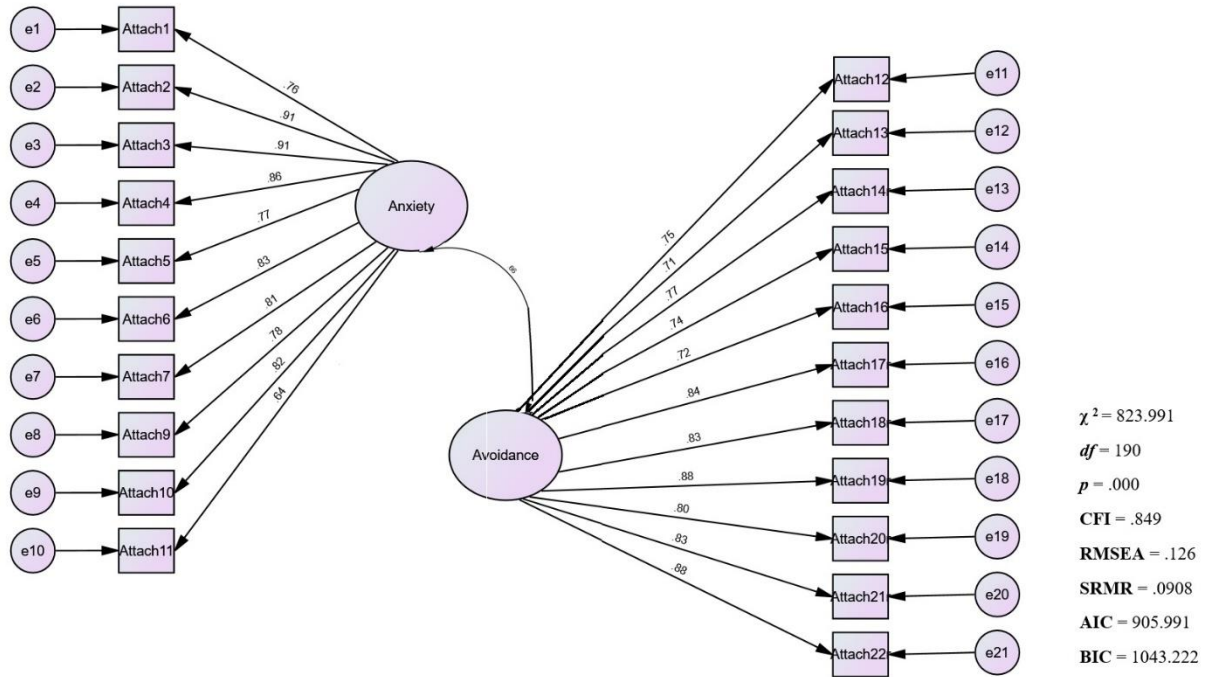
research parameters were used. Data were tested for normality and multivariate normality assumption. Skewness values ranged from .05 to 1.57, and kurtosis values ranged from -.04 to -1.61, suggesting normality was met. Data were found to be multivariate normal based on Mardia's test of multivariate normality.

First, a two-factor model using the parental data highest loadings as anchors was examined (see Figure 1) using Maximum likelihood (ML) to estimate the model. The highest factor loading for attachment-related anxiety was item 2 with a factor loading of .896; the highest factor loading for attachment-related avoidance was item 22 with a factor loading of .878. Error terms were not allowed to covary. For good fit, the Comparative Fit Index (CFI) value should be greater than or equal to .90 (Bryant & Yarnold, 1995). The Root Mean Square Error Approximation (RMSEA) and Standardized Root Mean Square Error of Approximation (SRMR) values should be less than .05. This model did not show a good fit (CFI = .85, RMSEA = .12, and SRMR = .13).

**Figure 1***Goodness of fit for ECR-R Parental Attachment Model 1*

*Note.* Anchor loading for attachment-related anxiety was set at .897 for item 2, and attachment-related avoidance was set at .878 for item 22 with item 8 deleted.

Second, a two-factor model using Sibley and Liu's (2002) romantic attachment anchor loadings was examined (see Figure 2) using Maximum likelihood (ML). The highest factor loading for attachment-related anxiety was item 1 with a factor loading of .896; the highest factor loading for attachment-related avoidance was item 15 with a factor loading of .829. Error terms were not allowed to covary. Similar to the parental model, this model did not show a good fit (CFI = .849, RMSEA = .126, and SRMR = .0908).

**Figure 2***Goodness of fit for ECR-R Romantic Attachment Model*

*Note.* Anchor loading for attachment-related anxiety was set at .896 for item 1 and attachment-related avoidance was set at .829 for item 15 with item 8 deleted.

To compare models, review of Akaike's Information Criteria (AIC), Bayesian Information Criteria (BIC), RMSEA, SRMR, and CFI for the two models occurred (see Table 2). The comparison revealed the best fit was for the parent attachment model over the romantic attachment model, especially considering the AIC and BIC that were substantially lower for this model (Bryant & Yarnold, 1995).

**Table 2***Goodness of Fit Statistics for Factor Models Summary*

Model	AIC	BIC	$\chi^2$	CFI	RMSEA	RMSEA 90% CI
Romantic Attachment	905.99	1043.22	823.99 *	.849	.126	[.12, .14]
Parental Attachment	897.85	1041.77	811.85*	.851	.126	[.12, .14]

\* $p < .05$ .

**One-Way ANOVA**

The second research question asked if there were significant differences among individuals with different parental attachment styles in their acting-with-awareness levels. To address this question, a one-way ANOVA was conducted. Participants were categorized into four attachment styles (secure, anxious, avoidant, and disorganized). In the analysis parental attachment style was the independent variable and acting-with-awareness was the dependent variable. Data were tested for the following assumptions: independence, normality, and homogeneity. Independence was met based on the Durbin Watson statistic, 1.88, which was adequate according to Field (2013). The assumption of normality was met as the skewness (.12), and kurtosis (-.55) of acting-with-awareness were in the normal limits, and the Shapiro-Wilk statistic was 0.25. Finally, homogeneity was met based on Levene's test indicating equal variances ( $F = 1.46, p = .23$ ). Inequality occurred between groups, although given equal variances occurred, the  $F$  is considered adequate when groups sizes are unequal. Means and standard deviations are provided for attachment style groups (see Table 3).

**Table 3***Means and Standard Deviations for Acting-with-Awareness by Attachment Group*

Attachment Group	<i>n</i>	<i>M</i>	<i>SD</i>
Secure	83	4.04	0.11
Avoidant	22	3.67	0.17
Anxious	21	3.33	0.16
Disorganized	84	3.15	0.11

*Note.* Scores ranged from 0 to 6.

The results of the ANOVA showed that there was a statistically significant difference in acting-with-awareness between attachment groups,  $F(3, 206) = 13.07$ ,  $p < 0.001$ ,  $\eta^2 = .19$ . The effect size was small, as 19% of the variance in acting-with-awareness was accounted for by the difference in attachment style groups. Post hoc analyses using Tukey's HSD indicated statistical differences between participants with a secure attachment style and those with either an anxious or a disorganized style (see Table 4). Participants classified as having secure attachment ( $M = 4.04$ ,  $SD = .96$ ) displayed higher mean levels of acting-with-awareness than participants classified as having disorganized attachment ( $M = 3.15$ ,  $SD = .99$ ) and those classified as having anxious attachment ( $M = 3.33$ ,  $SD = .72$ ). Acting-with-awareness levels were not significantly different for the remaining group comparisons.

**Table 4***Tukey Post-Hoc Analysis for ANOVA for Attachment Styles on Acting-with-Awareness*

Attachment styles combinations	$M_{\text{difference}}$	$SD_{\text{difference}}$	$p$	95% CI
Secure with avoidance	0.37	0.22	.364	[-0.23, 0.96]
Secure with anxious	0.70	0.23	.012	[0.10, 1.31]
Secure with disorganized	0.87	0.14	<. 001	[0.50, 1.27]
Avoidant with anxious	0.34	0.29	.634	[-0.42, 1.01]
Avoidant with disorganized	0.52	0.22	.095	[-0.07, 1.12]
Anxious with disorganized	0.18	0.23	.866	[-0.42, .79]

### Multiple Regression

The third research question asked if parental attachment factors such as anxiety and avoidance (attachment-related anxiety and attachment-related avoidance) predict acting-with-awareness. I used a multiple regression, using the enter method, to determine whether attachment style, adverse experience history, and gender predicted levels of acting-with-awareness. Ethnicity was not included in the analysis due to the sample sizes not being large enough to represent their respective populations and could result in potentially unstable correlations, as stated by Schönbrodt and Perugini (2013). I used a hierarchical multiple regression to give priority to primary variables and control for variables that impact the dependent variable (Field, 2013; Mertler & Reinhart, 2017). Research did not indicate a specified order to enter variables, as the current study is exploratory and parental attachment is infrequently researched with individuals 18 to 25 years of age (Mertler & Reinhart, 2017). The predictor variables were attachment-related anxiety and attachment-related avoidance. The outcome variable was acting-with-awareness. Demographic variables and adverse experience history statements were

potentially confounding variables that research has identified as impacting parental attachment development and acting-with-awareness, so they were entered into the regression first in order to control for their influence (An et al., 2018; Arnaudova & Amaro, 2020; Brem et al., 2019; McCarthy et al., 2001; Masuda et al., 2018; Waters et al., 2000; van IJzendoorn & Bakermans-Kranenburg, 2010).

Data were tested for the following assumptions: linearity, multicollinearity, homoscedasticity, and normality. The linearity assumption was met as most residuals in the model were of reasonable size (within  $\pm 2$  on both axes of the plot of residuals). Multicollinearity was assessed by tolerance and the Variance Inflation Factors (VIFs). Tolerance values ranged from 0.49 to 1, and VIF values ranged from 1 to 2, indicating the multicollinearity assumption was upheld according to Field (2013) and Mertler and Reinhart (2017). The homoscedasticity assumption was met as the residual scatterplot did not display a pattern. Rather, a fairly equal band was present among residuals. Normality was assessed by observing the histogram of the standardized residuals and observing the normal probability plot.

A two-stage hierarchical multiple regression was performed with the adverse experiences total score (ACE total score) and gender entered in block one. The attachment factors, attachment-related anxiety, and attachment-related avoidance that resulted from the EFA were entered in block two. Descriptive statistics for the demographic and predictor variables can be found in Table 5. Correlations between variables are provided in Table 6.

**Table 5***Descriptive Statistics for Acting-with-Awareness by Demographic Group and Predictor**Variables*

Demographics	<i>n</i>	<i>M</i>	<i>SD</i>
Gender			
Male	86	3.36	0.11
Female	124	3.53	0.09
Ethnicity			
White	157	3.53	0.08
African American	31	3.48	0.18
Hispanic/Latino/Latina	11	4.27	0.24
Asian	3	4.16	0.72
Other	2	3.23	0.83
No comment	6	3.60	0.68
Predictor Variables			
Attachment-related anxiety	210	2.55	1.60
Attachment-related avoidance	210	3.28	1.64
ACE total score	210	1.89	1.70

*Note.* Scores range from 0 to 6.**Table 6***Correlations for Predictors and Acting-with-Awareness*

Variable	1	2	3	4
1. Acting-with-awareness				
2. Attachment-related anxiety	-.44**			
3. Attachment-related avoidance	-.39**	.69**		
4. ACE total score	-.30**	.44**	.45**	
5. Gender	-.05	.10	-.05	.07

\* $p < .05$ . \*\* $p < .001$ 

The hierarchical regression indicated that block one was statistically significant,  $R^2 = .09$ , *adj. R*<sup>2</sup> = .08,  $F(2, 209) = 10.13$ ,  $p < .001$  (see Table 7). Specifically, ACE total score and gender accounted for 9% of variance in acting-with-awareness. ACE total score was a significant predictor of acting-with-awareness,  $t(207) = -4.43$ ,  $p < .001$ . Gender did not significantly contribute to acting-with-awareness  $t(207) = -.47$ ,  $p = .64$ .

The entry of block two that included attachment factors, anxiety and avoidance, accounted for an additional 13% of the variance in acting-with-awareness. For this model, attachment-related anxiety was the only significant predictor of acting with awareness,  $t(207) = -3.33, p < .001$ . Attachment-related avoidance was not a significant predictor of acting-with-awareness,  $t(207) = -1.67, p = .10$ , and the ACE total score became a non-significant predictor as well. The entire model accounted for 22% of the variance in acting-with-awareness,  $R^2 = .22, \text{adj. } R^2 = .20, F(4, 209) = 14.91, p < .001$ . Attachment-related anxiety was the most important variable in this model as it had the highest influence. The regression also showed that attachment-related anxiety and attachment-related avoidance were both highly and negatively correlated ( $r = -.68, n = 210, p < .05$ ). This correlation may explain why only one of these variables was a significant predictor in the regression equation.

**Table 7**

*Summary of Hierarchical Regression Analysis for Acting-with-Awareness Predictors*

Variable	<i>B</i>	<i>SE B</i>	$\beta$	<i>T</i>	$R^2$	$\Delta R^2$
Block 1					.09	.09
ACE total score	-.18*	.04	-.30*	-4.43		
Gender	-.07	.14	-.03	-.47		
Block 2					.22	.13
Attachment-related anxiety	-.18*	.06	-.29*	-3.33		
Attachment-related avoidance	-.09	.05	-.15	-1.67		
ACE total score	-.06	.04	-.10	-1.44		
Gender	-.05	.13	-.02	-.38		

\* $p < .05$ .

## CHAPTER 5

### DISCUSSION

The purpose of the current study was to investigate three research questions regarding parental attachment and acting-with-awareness in young adults using a modified ECR-R. The relationship between parental attachment and acting-with-awareness in young adults was investigated to provide information on this relationship and suggest therapeutic implications. Current research has neither addressed the role of parental attachment in young adults nor the relationship between parental attachment and acting-with-awareness (Calvete et al., 2017). Overall, comparing my sample with previous research sample, my sample means were different, although this cannot be determined whether these differences are significant. Brown and Ryan (2003) found higher levels of acting-with-awareness in college students ( $M = 3.83$ ,  $SD = .70$ ) and community adults ( $M = 4.2$ ,  $SD = .69$ ) than was found in the current sample ( $M = 3.57$ ,  $SD = 1.00$ ). Also, my sample had higher levels of attachment-related anxiety and attachment-related avoidance for parental attachment than levels for romantic attachment in previously established research (Fraley et al., 2000). This finding is somewhat expected due to the difference in research focus; mine was on parental attachment, while Fraley's study was on romantic attachment. My study also found that adverse experiences may potentially influence attachment factors, and this is supported by the research showing that trauma is associated with attachment insecurity (Fraley & Heffernan, 2013; Gustafsson et al., 2017; Hipwell et al., 2000; Murphy et

al., 2014; Poehlmann-Tynan et al., 2017). It is important to note attachment research has shifted away from categorical measurement to continuous measurement as “no real” attachment styles are present (Fraley, 2012). In current research, researchers measure attachment continuously and describe results as “relatively secure, anxious, avoidant, or disorganized.” In my study, research question two used a categorical measurement, and research question three used a continuous measurement. Thus, interpretations and research connections will be similar for parental attachment.

### **Research Question One**

The first question explored the factor structure of the modified ECR-R for parental attachment. A two-factor model was found that had excellent overall and subscale reliability. The attachment-related anxiety subscale was composed of 10 questions, and the attachment-related avoidance subscale was composed of 11 questions. Only Question 8, *I do not often worry about being abandoned*, was excluded from all further analyses due to it having below threshold factor loadings. Given that a two-factor model was observed from this exploratory factor analysis, I conducted two post hoc confirmatory factor analyses, and poor fit was found for both models, although the parent attachment model showed better fit than the romantic attachment model. My results show that when the ECR-R is modified for parental attachment, the theorized attachment factors of anxiety and avoidance are present. This may be explained by the theory that attachment is established in different contexts (e.g., romantic), and parental attachment is the template for future attachments, as such attachment factors are hypothesized to be similar across contexts (Bowlby, 1969; Ainsworth, 1989). An individual uses previously learned attachment behaviors from the parent relationship to later build future romantic relationships (Bowlby, 1969;

Waters et al., 2000). For example, anxious children may cling to parents when they leave for work, and then as adults, these anxious children may cling to partners in stressful situations.

My results converged with previous research using the ECR-R for romantic and general attachments in adults and adolescents as two factors were found. Multiple researchers who conducted exploratory factor analyses and confirmatory factor analyses found the two subscales of attachment-related anxiety and attachment-related avoidance within various attachment contexts using their ECR-R modifications (Fraley et al., 2011; Sibley & Liu, 2002; Wilkinson, 2011). Both Wilkinson (2011) and I found that the question (*I do not often worry about being abandoned by my parent*—Question 8 in my study) was the question whose factor loading was lower than the threshold to retain items. We both eliminated that question, possibly because it does not capture the intended aspect of parental attachment. My study also extends Fraley et al.'s (2011) work in that measuring for an overall parental attachment results in two attachment factors. Fraley et al. found similarities between maternal and paternal parental attachment specifiers in attachment-related anxiety and attachment-related avoidance. This implies, as my study showed, that an overall parental attachment would also indicate two factors. My study also converged with previous research regarding reliability of the original and modified versions of the ECR-R, as my study demonstrated that the scales had excellent reliability (Fraley et al., 2000; Fraley et al., 2011; Sibley & Liu, 2002; Wilkinson, 2011). The current study supported the statements that the ECR-R can be modified for parental attachment and display two attachment factors; however, additional research investigating the application of this modification to attachment theory is warranted (Fraley, 2012).

## Research Question Two

The second research question asked whether significant differences were present between attachment style groups (secure, avoidant, anxious, and disorganized) in levels of acting-with-awareness that align with traditional parental attachment research. The sample did not neatly fall into equal groups based on Fraley's (2012) group organization procedure, as nine participants' anxiety scores were equal to the median. Konrath et al. (2014) found that the rates of the four attachment styles in American college students' romantic attachments consisted of 41% secure, 13.6% anxious, 18.6% avoidant, and 26.1% disorganized. The current study's attachment style distribution differed in comparison to Konrath et al. with 39.5% secure, 10% anxious, 10.5% avoidant, and 40% disorganized. This may be due to the placement of the nine participants who fell at the median who were assigned to the greater than the median groups. For example, those who were at the median for an attachment-related avoidance were assigned to the avoidant group. The higher rate of disorganized attachment style may also be due to the sample's composition as the sample was predominantly White and included those who were only 18 to 25 years old, which may produce results not typical of the general population. Another potential reason could be due to the type of attachment being measured, given the current study investigated parental attachment and not romantic attachment. The present analysis showed that participants having anxious and disorganized attachments have lower levels of acting-with-awareness. This may be due to individuals with a secure attachment style having higher levels of confidence about their abilities, in combination with more developed social attentional abilities (Bartholomew, 1990; Caldwell & Shaver, 2013; Graziano et al., 2011; Pepping et al., 2015; Vygotsky, 1978). According to Pepping et al. (2015), having higher levels of confidence with more developed attentional abilities may lead to higher levels of acting-with-awareness.

## **Disorganized and Anxious Styles**

Participants who are classified as having disorganized attachment had the lowest levels of acting-with-awareness. Those who have a disorganized attachment are distrustful of relationships, even though they desire having relationships. This lack of cohesion results in constant relational ambivalence, and this decreases dispositional acting-with-awareness. Disorganized attachment consists of high levels of both attachment-related anxiety, and attachment-related avoidance as caregivers of these children responded inconsistently and erratically (Duschinsky, 2015). The combined influence of higher levels of anxiety and avoidance may explain the finding regarding lower levels of acting-with-awareness in those having a disorganized attachment style due to both fears of abandonment and relational discomfort. My results supported Joubert (2012) and Murphy et al. (2014) regarding disorganized attachment's influence on life outcomes. According to Murphy et al., the development of a disorganized attachment begins when adverse experiences are occurring in the family. Individuals with disorganized attachments often have experienced frequent and severe adverse experiences, as well as families that experienced constant mental distress. Additionally, Joubert reported that adolescents with disorganized attachments have more difficulty with PTSD symptoms and have less working memory capacity. The constant distress and adversity in these families may limit opportunities a caregiver has to teach and model acting-with-awareness abilities to their children. Prunetti et al. (2008) explained that one method that might help such individuals is therapist validation and teaching acting-with-awareness skills such as observing and participating. Another method could be using the empty chair technique to guide the disorganized individual to process unresolved emotions toward caregivers (Tsvieli & Diamond, 2018). Given my results, it appears that disorganized attachment is a risk factor for acting-with-

awareness that is due to the influence adverse experiences have on attachment development (Murphy et al., 2014).

Participants who were classified as having an anxious attachment had the third lowest level of acting-with-awareness. Anxious attachment includes attachment-related anxiety as these caregivers inconsistently provided support (Brumariu & Kerns, 2008). My results supported Melen et al. (2016) in that the fear of felt abandonment, the primary aspect of an anxious attachment, influences attentional capacity for the individual to be mindful. My results also expanded on McCarthy et al. (2001), who found that college students' maternal and paternal attachments influenced perceived stress and the college students' confidence in coping with stress. As children develop, parental attunement strategies that enable a secure attachment may provide environments where acting-with-awareness is modeled and valued (Graziano et al., 2011). Once these children reach young adulthood and attend college, acting-with-awareness abilities have been developed through instilled confidence from their caregivers and may strengthen with individual practice through meditation and other strategies. However, if caregivers are inconsistently available, young adults may take longer to build self-reliance to meet basic needs. College stresses, including more difficult courses and living away from home, may test the bond between the young adult and caregiver given smaller well-spring of confidence young adults have (Caldwell & Shaver, 2013). If the young adult receives inconsistent support during this stressful transition, attachment-related anxiety may surface, influencing acting-with-awareness with college duties (Pepping et al., 2015; Stevenson et al., 2018). One implication is that attachment anxiety may lead to difficulties adjusting to adulthood, given that these individuals timidly explored away from their caregiver's proximity during infancy (Ainsworth,

1989). Teaching anxious individuals acting-with-awareness coping skills may assist them to accept internal attachment conflicts to meet their needs (Duan & Li, 2016).

Overall, the fear of felt abandonment and rejection that occurs both in those who have anxious or disorganized attachment may explain the difference in acting-with-awareness in these participants when compared to participants with secure attachment. High attachment-related anxiety depletes cognitive capacity for acting-with-awareness; in contrast, those with lower attachment-related anxiety have more cognitive capacity for acting-with-awareness (Hamarta et al., 2009; Melen et al., 2016).

Uniquely, the pandemic and recent racial tensions within society may have increased both anxiety and avoidance that then resulted in a higher number of participants having disorganized attachments in the current study. The COVID-19 pandemic resulted in a sudden shift in social functioning within daily life as well as possible fear of spreading or catching the virus. People were not leaving their homes and missing the connection to society that had been present before, which may have resulted in fear of abandonment. Further, general anxiety was heightened regarding the well-being of the person and others in their social environment (Zeytinoglu et al., in press). Protests regarding the injustice of African American lives lost due to police brutality may have resulted in felt discomfort in relationships related to avoidance of opposing political discussions with others. Additionally, there was no difference between the anxious and disorganized groups. That may be because there was a moderate correlation between attachment-related avoidance and anxiety, so that the overlap between these two variables may have influenced their individual effect on acting-with-awareness.

## **Avoidant Style**

The group of participants who looked the least different from securely attached participants were those who were avoidantly attached. The difference between participants having an avoidant style and those having secure, anxious, or disorganized attachment categories was not significant. An avoidant style consists of disregard of the caregiver relationship, as these children could not trust the caregiver to meet their needs (Brumariu & Kerns, 2008). My results converged with current research finding negative, though not always significant, associations between attachment-related avoidance and broad mindfulness. Caldwell and Shaver (2013) showed that individuals with attachment-related avoidance had lower levels of mindfulness, which may have been due to one type of negative coping that uses active thought suppression. As stated by Caldwell and Shaver, participants as having an avoidant style actively push away relationship discomfort, which then leads to thought preservation and interferes with needed cognitive capacity to be in the present moment. Additional negative coping strategies of people with an avoidant attachment may include deactivation of the attachment system that results in the denial of attachment needs and suppression of vulnerability (Mikulincer & Shaver, 2007). As avoidant individuals use denial and suppression regarding relationship discomfort, their cognitive capacity may decrease, and emotional awareness will be impeded (Wei et al., 2005).

Further, my results found higher levels of acting-with-awareness associated in participants having an avoidant attachment, in comparison to lower levels of acting-with-awareness in participants having anxious and disorganized attachments. This result aligned with Melen et al. (2016) as their study also showed a negative but non-significant association between overall mindfulness and romantic attachment. Melen et al. found that individuals primed with an avoidant attachment style did not appear to aspire toward mindfulness, which may be due to

other negative coping strategies being used in those who have an avoidant style. For example, individuals having an avoidant attachment may not attend to their frustration with caregivers, which may enable their ability to attend to the present moment more than those having anxious or disorganized styles. Another explanation for my result is that my study explored parental attachment instead of romantic attachment because research has suggested that an individual can have a different attachment style with different individuals (Margolese et al., 2005).

Teaching avoidant individuals acting-with-awareness strategies helps them begin practicing self-compassion regarding their emotional needs in order to increase their comfort in relationships. Given Mikulincer and Shaver's (2007), Wei et al.'s (2005) findings, along with those of the present study, it appears that an avoidant attachment style functions as a risk factor to lower acting-with-awareness abilities, although to a lesser degree than an anxious or disorganized attachment style. Future research may consider using another attachment measure, such as the Relationships Questionnaire, to explore the influence of an avoidant style on acting-with-awareness.

### **Research Question Three**

The third question asked whether attachment-related anxiety and attachment-related avoidance predicted acting-with-awareness while controlling for both adverse experiences total score and gender. A multiple regression approach was used to address research question three regarding which variables predict acting-with-awareness. Block one included adverse event total score and gender. Block two included the factors from the EFA: attachment-related anxiety and attachment-related avoidance. My results showed that attachment-related anxiety was the most influential variable in the model.

### **Adverse Experience Total Score**

In block one, adverse experience total score was found to have a small, significant, and negative predictive relationship with acting-with-awareness. This may be due to the interrelationship between attachment and caregiver responsiveness, as families with fewer adverse experiences have more resources and family values that foster mindfulness (Pepping & Duvenage, 2016; Murphy et al., 2014).

My results converged with those of Held et al. (2017), indicating adverse experiences influence broad mindfulness. With regard to considering broad mindfulness, Held et al. showed that teaching veterans broad mindfulness skills enabled therapeutic healing of their trauma experiences. Specifically, when broad mindfulness levels increased, trauma-related symptoms decreased. Further, my results also converged with those of Bowlby (1969) and Joubert et al. (2012), who both proposed children who experienced adverse experiences or trauma were unable to develop a secure base for exploration, which led to these children developing unhealthy adaptive coping strategies. As these children mature into young adults, unhealthy coping strategies may consist of difficulty establishing friendships, being distant, being oppositional toward authority figures, and having difficulty with development of trust and intimacy (Erozkan, 2016). Specifically related to acting-with-awareness abilities, unhealthy coping strategies may also include thought and emotion suppression, avoidance, or numbness (Follette et al., 2006). Adverse experiences and attachment may have a simultaneous influence on acting-with-awareness, as attachment security development is influenced by adverse experience severity and frequency (Joubert et al., 2012).

The present study used different measures than those used in previous research looking at the general relationship between adverse experiences with both attachment and broad

mindfulness. The Adverse Childhood Experiences Study Questionnaire utilized multiple questions to measure adverse experiences to obtain both the severity and frequency of adverse experiences (Felitti et al., 1998). Their approach may have resulted in a more well-defined variable than my approach of simply asking participants to report whether an adverse experience occurred. Further, I added questions on parents' stress within the adverse experience total score, and this decision may have had an influence on acting-with-awareness scores that differs from typical trauma research (Cyr et al., 2010; Ødegård, 2005). Including parental stress items in the total score may have increased the likelihood of a participant to have a higher adverse experience score. Parental stress may influence acting-with-awareness differently from adverse experiences, given the indirect effect of parental stress on the child, such as family financial difficulties in comparison to adverse experiences such as abuse. I chose not to analyze adverse experiences and parental stress separately because my focus was on the relationship between attachment and acting-with-awareness and to control for their combined influence on primary variables. In my study, the purpose of asking adverse experience and parental stress questions was to consider their combined influence on acting-with-awareness since research has consistently shown their individual influence in a secure attachment establishment and broad mindfulness (Bowlby, 1969; Erozkhan, 2016; Joubert et al., 2012). My results indicate the continued need to investigate adverse experiences and parental stress' role with dispositional traits like acting-with-awareness.

### **Demographic Variables**

Gender did not predict acting-with-awareness, which may suggest gender differences may not be present in acting-with-awareness with a young adult population in the United States. This diverges from previous but insubstantial research, as two studies found contrasting results regarding gender differences. Brem et al. (2019) showed that women had higher levels of acting-

with-awareness in a Western sample, while Alispahic and Hasanbegovic-Anic (2017) showed that men had higher levels of acting-with-awareness in a Bosnian sample. It is a possibility that gender may not be important to acting-with-awareness in American young adults. Future researchers are encouraged to explore whether gender differences are present in acting-with-awareness in all cultures.

Unlike in many other studies in the literature, ethnicity was not included in the analysis. Group sizes for the five categories of non-White ethnic groups were small in my sample as the sample was predominantly White. Given the small group sizes, it was believed that analyzing ethnicity would not adequately represent each ethnic population. Combining ethnic groups into a “Non-White” comparison group is likely to ignore any differences between different non-White ethnic groups. In addition, smaller group sizes decrease power that then results in a potentially unstable correlation (Schönbrodt & Perugini, 2013). Unfortunately, substantial research investigating the relationship between ethnicity and acting-with-awareness was not located; however, there are some studies showing ethnic group differences in overall mindfulness and attachment. In a study on eating disorders, dispositional mindfulness was the mediating variable between thought and behavior and was only true for White females but not Black and Asian females (Masuda et al., 2018). Regarding attachment, Asian Americans showed somewhat more attachment-related anxiety than other ethnic categories; however, pronounced differences did not occur (Agishtein & Brumbaugh, 2013; Wei et al., 2004).

### **Anxiety and Avoidance**

The regression model showed that attachment-related anxiety was the only significant predictor of acting-with-awareness once all variables were entered. When anxious and avoidant attachment factors were added in block two, the regression model contribution increased by

13%, indicating attachment's influence on acting-with-awareness. As previously mentioned, attachment-related anxiety characterizes fear of abandonment and rejection that decreases attentional abilities (Melen et al., 2016). This result supported the findings from the second research question. Similar to findings for an avoidant style in the previous analysis, continuously measured attachment-related avoidance negatively predicted acting-with-awareness, although significance was not achieved. This finding also supported research question two in that attachment-related avoidance did influence acting-with-awareness but not in a pronounced way like attachment-related anxiety.

Given that an anxious style and attachment-related anxiety are based on the same variable, one categorical and the other continuous, the findings here were similar to those in research question two. My result regarding attachment-related anxiety converged with Mikulincer and Shaver (2007). Simply, individuals with higher levels of attachment-related anxiety possessed hyperactivation of the attachment system that resulted in thought rumination, hypersensitivity to rejection, and efforts to seek proximity. According to Mikulincer and Shaver, individuals with hyperactivation of the attachment system tend to rely on others for security and emotional regulation, and when others are not consistently available, this leads to emotional distress amplification. These increased responses then result in lower cognitive capacity to act-with-awareness.

Attachment-related avoidance did not significantly predict acting-with-awareness, although a negative association was present. Additionally, I found when attachment factors were included in the analysis within block two, the adverse experience total score became non-significant. Adverse experience total score was shown to have a significant moderate positive correlation with both anxiety and avoidance. These differences may be explained by the

correlations present between variables. The finding regarding attachment-related avoidance supports current research regarding attachment-related avoidance's role in acting-with-awareness, even though the effects were not as pronounced as the effects of attachment-related anxiety. With the attachment factors of anxiety and avoidance being entered into the regression model at the same time, attachment-related anxiety may have taken more statistical credit for the difference in acting-with-awareness. Attachment factors were moderately correlated with each other, and anxiety's influence was significantly stronger than avoidance's on acting-with-awareness. This stronger influence results in anxiety accounting for more of the variance on acting-with-awareness. Given my study's findings in relation to the previous research, emotional regulation is an aspect of acting-with-awareness that needs to be explored regarding attachment-related avoidance (Caldwell & Shaver, 2013; Melen et al., 2016; Rochat, 2003). Additionally, the difference in significance between block one and block two regarding adverse experiences may be explained by adverse experiences being related to attachment-related anxiety, which might have influenced how the variance was partitioned. This finding supports that an interdependent relationship may be present between adverse experiences and parental stress with the two attachment factors found in previous research (Pepping & Duvenage, 2016; Murphy et al., 2014).

### **Limitations**

The current study included several limitations that influence the applicability of results. The primary limitation consisted of recruitment adjustments related to the COVID-19 pandemic. Professors and college students alike were adjusting to full-time virtual learning as face-to-face learning suddenly ceased. Further, many local businesses followed the Centers for Disease Control and Prevention (CDC) and local restrictions by closing or limiting public access.

Recruitment flyers were asked to be posted in high visibility areas, including bulletin boards; however, a limited number of people were able to see recruitment flyers with social distancing procedures in place. Recruitment for my study took place during the beginning and middle months of the COVID-19 pandemic and required implementation of three social distancing procedures. The implementation of three procedures (Zoom, Blackboard, and flyer distribution) reduced replicability of my study due to multiple data collection procedures. Further, virtual synchronous recruitment had not been used in previous research, and as such, there is not a set procedure for researchers to follow. For example, I was unable to observe the total number of students in a Zoom meeting, and I did not have control over the placement of study information on the Blackboard announcement. These procedures reduced replicability, but also may have caused my sample to differ from what it might have been if in-person recruitment occurred. Recruitment limitations could not be addressed as I signed an IRB pause agreement indicating face-to-face recruitment was not permitted. Further, anxiety within the general population may have increased as COVID-19 health cases were increasing across the United States (Zeytinoglu et al., in press).

The second limitation consisted of sample composition and attachment style group organization. The sample included college students and community members; however, to encourage participation, an anonymous survey was utilized. This resulted in the inability to record the number of participants from each group and to assess differences within these groups. This limitation could not be overcome as I did not ask of which group participants were a member. Future research is recommended to explore potential difference between college students and community participants.

Convenience sampling was a limitation as participants included those who were accessible so that the data may not be generalizable to the overall population. This limitation has been present in previous research (An et al., 2018; Brown & Ryan, 2003; Caldwell & Shaver, 2013; Wei et al., 2007). Further, given the impact and scope of the pandemic, convenience sampling was deemed the best option due to social distancing requirements. Attachment group organization during the COVID-19 pandemic and societal tensions stemming from racial injustice protests may have also influenced sample composition, given that higher rates of participants having a disorganized attachment were found. Fraley (2012) emphasized that attachment styles categorizations are potentially inaccurate as the specific attachment factors of anxiety and avoidance can change within relationships and experiences, as humans often do not fit neatly into most categories of a construct. Therefore, researchers prefer to describe individuals as relatively anxious or relatively avoidant.

Three additional limitations occurred related to my chosen methodology. Fraley et al. (2015) emphasized that the categorical measurement of attachment reduces the precision of measurement and lowers statistical power. My study organized participants into attachment style groups using subscale medians to align with traditional research. To account for the influence of categorical measurement, I measured attachment continuously, in alignment with current research, to explore the predictive power of attachment factors on acting-with-awareness. Further, smaller sample sizes also limit power, and I had a fair sample size, per Tinsley and Tinsley, (1987). However, Hogarty et al. (2005) indicated sample size has less impact on the quality of a factor analysis when communalities are high with fewer factors and strong overdetermination of factors.

Additionally, another potential limitation regarded the extent to which participants understood the term “other adverse experience” since I did not provide a definition. Based on priming principles, questions prior to other adverse experiences shaped the participants’ view of the item (Lavrakas, 2008). Participants were asked to mark if whether negative experiences had occurred, such as if violence occurred in the home, and this item was presented prior to “other adverse experience.” I assumed priming occurred, given the order of items. Priming affected the results leading participants to think about their negative childhood experiences rather than positive ones, thus leading more people with negative experiences to choose this option. Finally, I considered use of a self-report survey as a limitation due to the potential for decreased precision of analyzing attachment in specific contexts (Fraley et al., 2000; Fraley, 2012; Fraley et al., 2013). I chose a self-report measure as Fraley (2012) stated attachment research typically utilizes self-report, and few studies have used anything else other than the Strange Situation to measure attachment.

### **Implications**

The primary purpose of the current study was to investigate parental attachment and acting-with-awareness to assist with psychological practice. The current study results showed that attachment-related anxiety negatively associated with acting-with-awareness both continuously and categorically (anxious and disorganized styles). This study suggested the importance of parental attachment as a dispositional trait since this is the first attachment bond to develop, which children use as a template for future relationships. Practitioners working with children and families should explore the parent-child relationship to teach caregivers ways to respond to their unique child to decrease risk for insecure attachment development and later cognitive deficits as a result of attentional unawareness (Graziano et al., 2011). Later in young

adulthood, practitioners working with adults who have anxious or disorganized attachment styles can begin to build trust in the therapeutic relationship and incorporate acting-with-awareness in their daily lives.

Since this study found that parental attachment-related anxiety influences acting-with-awareness, this indicates that emerging adulthood is a critical period for contemporary adults. Emerging adulthood has not been addressed in the attachment research, which has investigated parental attachment in adolescents and which shifts to romantic attachment in adulthood. With contemporary young adults (college students) relying on their caregivers for financial security while in college, fears of abandonment may be present as these young adults transition to independent adult roles as post-college life approaches. These fears of abandonment and rejection may influence young adults' abilities to act-with-awareness, which simultaneously influences emotional regulation during a stressful period (Pepping et al., 2015; Stevenson et al., 2018). Additionally, young adults who have experienced adverse experiences or whose parents experienced stress during the first six years of their child's life may have additional difficulties with parental relationships that further influence acting-with-awareness (Cyr et al., 2010; Joubert et al., 2012). This study displayed the interdependence between adverse experience total score (adverse experiences and parent stress) and attachment factors (anxiety and avoidance) on acting-with-awareness. Research has not discerned the direction of influence related to the interdependence.

Regarding research methodology, the current study utilized surveys, which are self-report measures. Self-report is frequently discussed as a limitation in attachment research. In several studies, attachment researchers reported the decreased precision of assessing attachment using self-report measures and assessing specific contexts (Fraley et al., 2000; Fraley, 2012; Fraley et

al., 2013). Regardless of this limitation in attachment research, self-report surveys and interviews are typically used with limited other methods available to measure this relational variable (Ravitz et al., 2010). My study also supported the influence of parental attachment, categorically and continuously, on acting-with-awareness. The presence of two factors (anxiety and avoidance) was supported. However, the goodness of fit between the modified ECR-R regarding attachment factors using romantic and parent models of the theory was not supported. It is believed that the sample composition, a combination of community and college participants, and a fair sample size influenced applicability of attachment factors in this model. This lack of goodness of fit may also be due to the difficulty of assessing attachment using trait-like approaches, as well as due to asking adults to reflect retrospectively about their first attachment relationship (Fraley et al., 2011). This study will benefit future research studies as a relationship between parental attachment (with two factors) and acting-with-awareness was found.

### **Future Directions**

The occurrence of the COVID-19 pandemic resulted in a rapid change away from in-person recruitment. Future research may consider exploring the validity and reliability of utilizing virtual recruitment as it potentially balances personability, research costs, and feasibility of participants. In particular, the use of video-conferencing might permit researchers to begin to account for generalizability to the population as participants could be recruited nationwide. Researchers may wish to create and explore procedures that future researchers could use to assist with consistency across research methodology.

The findings from this study suggested an anxious and disorganized attachment style and attachment-related anxiety both influenced acting-with-awareness. Future research may explore aspects of attachment-related anxiety that may interfere with acting-with-awareness. For

example, it would be interesting to qualitatively explore the self-talk in adults who are classified as having anxious or disorganized attachment styles during day-to-day activities. An experimental design may be used to compare the impact of cultivating acting-with-awareness pre- and post-test within the four attachment styles. Additionally, supplementing experimental data with qualitative data asking about internal processing may begin to observe mechanisms underlying the four attachment styles when learning acting-with-awareness skills. Finally, trauma has been shown to influence dispositional acting-with-awareness, as unresolved trauma consumes attentional capacities (Joubert et al., 2012). Future research may consider investigating whether the severity of adverse experiences correlates with lower acting-with-awareness abilities.

In consideration of measuring parental attachment using the ECR-R, future research may investigate alternative wordings and the question that was removed. Romantic attachment and general attachment using both longer and shorter measures have been researched; however, parental attachment is in the beginning stages of using the factors of attachment-related anxiety and attachment-related avoidance (Fraley et al., 2000; Fraley et al., 2011; Sibley & Liu, 2002; Wilkinson, 2011). By exploring multiple attachment styles, this may add to theory regarding attachment style consistency across contexts and relationships (Fraley et al., 2011; Sibley & Liu, 2002).

### **Conclusions**

Overall, this study investigated three research questions regarding parental attachment and acting-with-awareness using a modified ECR-R for parental attachment in young adults. First, this study showed that the attachment factor of anxiety both continuously and categorically influenced acting-with-awareness levels. Anxious and disorganized participants displayed lower

levels of acting-with-awareness than secure participants. Higher levels of attachment-related anxiety predicted lower levels of acting-with-awareness. Second, the combination of adverse experiences and parental stress questions using a total score displayed a small predictive influence on acting-with-awareness, which overlapped with that of attachment-related anxiety. Additionally, there was evidence of an interdependent relationship between adverse experiences and attachment factors, given a moderate correlation occurred between these variables. This study also demonstrated that modifying the ECR-R for parental attachment resulted in two attachment factors, although it did not fit attachment theory parameters particularly well. Ainsworth (1989) and Bowlby (1969) emphasized that parental attachment provides the template for future attachments. This study suggests parental attachment still plays a role in young adults and that acting-with-awareness is an adaptive coping skill that is beneficial for living life more presently.

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## APPENDIX A: ORIGINAL ADVERSE CHILDHOOD EXPERIENCE (ACE)

### QUESTIONNAIRE

#### Adverse Childhood Experience (ACE) Questionnaire Finding your ACE Score

While you were growing up, during your first 18 years of life:

1. Did a parent or other adult in the household often ... Swear at you, insult you, put you down, or humiliate you? or Act in a way that made you afraid that you might be physically hurt?

Yes No If yes enter 1 \_\_\_\_\_

2. Did a parent or other adult in the household often ... Push, grab, slap, or throw something at you? or Ever hit you so hard that you had marks or were injured?

Yes No If yes enter 1 \_\_\_\_\_

3. Did an adult or person at least 5 years older than you ever... Touch or fondle you or have you touch their body in a sexual way? or Try to or actually have oral, anal, or vaginal sex with you?

Yes No If yes enter 1 \_\_\_\_\_

4. Did you often feel that ... No one in your family loved you or thought you were important or special? or Your family did not look out for each other, feel close to each other, or support each other?

Yes No If yes enter 1 \_\_\_\_\_

5. Did you often feel that ... You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you? or Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?

Yes No If yes enter 1 \_\_\_\_\_

6. Were your parents ever separated or divorced?

Yes No If yes enter 1 \_\_\_\_\_

7. Was your mother or stepmother: Often pushed, grabbed, slapped, or had something thrown at her? or Sometimes or often kicked, bitten, hit with a fist, or hit with something hard? or Ever repeatedly hit over at least a few minutes or threatened with a gun or knife?

Yes No If yes enter 1 \_\_\_\_\_

8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?

Yes No If yes enter 1 \_\_\_\_\_

9. Was a household member depressed or mentally ill or did a household member attempt suicide?

Yes No If yes enter 1 \_\_\_\_\_

10. Did a household member go to prison?

Yes No If yes enter 1 \_\_\_\_\_

Now add up your “Yes” answers: \_\_\_\_\_ This is your ACE Score

Permission to use and adapt the ACE Study Questionnaire was not required as it is in the public domain (Felitti et al., 1998). Created by Felitti et al., 1998.

## APPENDIX B: ORIGINAL THE EXPERIENCES IN CLOSE RELATIONSHIPS-REVISED (ECR-R) QUESTIONNAIRE

**Scoring Information:** The first 18 items listed below comprise the attachment-related anxiety scale. Items 19 – 36 comprise the attachment-related avoidance scale. In real research, the order in which these items are presented should be randomized. Each item is rated on a 7-point scale where 1 = strongly disagree and 7 = strongly agree. To obtain a score for attachment-related anxiety, please average a person's responses to items 1 – 18. However, because items 9 and 11 are "reverse keyed" (i.e., high numbers represent low anxiety rather than high anxiety), you'll need to reverse the answers to those questions before averaging the responses. (If someone answers with a "6" to item 9, you'll need to re-key it as a 2 before averaging.) To obtain a score for attachment-related avoidance, please average a person's responses to items 19 – 36. Items 20, 22, 26, 27, 28, 29, 30, 31, 33, 34, 35, and 36 will need to be reverse keyed before you compute this average.

**Generic Instructions:** The statements below concern how you feel in emotionally intimate relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by [web: clicking a circle] [paper: circling a number] to indicate how much you agree or disagree with the statement.

**Special notes:** You may wish to randomize the order of the items when presenting them to research participants. The ordering below is simply a convenient one for illustrating which items belong to which scale. Also, some people have modified the items to refer to "others" rather than "romantic partners." This seems sensible to us, and in our own research we commonly alter the wording to refer to different individuals. For example, sometimes we reword the items to refer to "others" or "this person" and alter the instructions to say something like "The statements below concern how you generally feel in your relationship with your mother" or "The statements below concern how you generally feel in your relationship with your romantic partner (i.e., a girlfriend, boyfriend, or spouse)."

1. I'm afraid that I will lose my partner's love.
2. I often worry that my partner will not want to stay with me.
3. I often worry that my partner doesn't really love me.
4. I worry that romantic partners won't care about me as much as I care about them.
5. I often wish that my partner's feelings for me were as strong as my feelings for him or her.
6. I worry a lot about my relationships.
7. When my partner is out of sight, I worry that he or she might become interested in someone else.

8. When I show my feelings for romantic partners, I'm afraid they will not feel the same about me.
9. I rarely worry about my partner leaving me.
10. My romantic partner makes me doubt myself.
11. I do not often worry about being abandoned.
12. I find that my partner(s) don't want to get as close as I would like.
13. Sometimes romantic partners change their feelings about me for no apparent reason.
14. My desire to be very close sometimes scares people away.
15. I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am.
16. It makes me mad that I don't get the affection and support I need from my partner.
17. I worry that I won't measure up to other people.
18. My partner only seems to notice me when I'm angry.
19. I prefer not to show a partner how I feel deep down
20. I feel comfortable sharing my private thoughts and feelings with my partner.
21. I find it difficult to allow myself to depend on romantic partners.
22. I am very comfortable being close to romantic partners.
23. I don't feel comfortable opening up to romantic partners.
24. I prefer not to be too close to romantic partners.
25. I get uncomfortable when a romantic partner wants to be very close.
26. I find it relatively easy to get close to my partner.
27. It's not difficult for me to get close to my partner.
28. I usually discuss my problems and concerns with my partner.
29. It helps to turn to my romantic partner in times of need.
30. I tell my partner just about everything.
31. I talk things over with my partner.
32. I am nervous when partners get too close to me.
33. I feel comfortable depending on romantic partners.
34. I find it easy to depend on romantic partners.
35. It's easy for me to be affectionate with my partner.
36. My partner really understands me and my needs.

Permission to use and adapt the ECR-R was not required as it is in the public domain (Fraley, 2012). Created by Fraley et al., 2000

# APPENDIX C: ORIGINAL THE MINDFUL ATTENTIONAL AWARENESS SCALE (MAAS)

Instructions: Below is a collection of statements about your everyday experience. Using the 1-6 scale below, please indicate how frequently or infrequently you currently have each experience. Please answer according to what really reflects your experience rather than what you think your experience should be. Please treat each item separately from every other item.

Almost Always      Very Frequently      Somewhat Frequently      Somewhat Infrequently  
Very Infrequently      Almost Never

1. I could be experiencing some emotion and not be conscious of it until sometime later.
2. I break or spill things because of carelessness, not paying attention, or thinking of something else.
3. I find it difficult to stay focused on what's happening in the present.
4. I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.
5. I tend not to notice feelings of physical tension or discomfort until they really grab my attention.
6. I forget a person's name almost as soon as I've been told it for the first time.
7. It seems I am "running on automatic," without much awareness of what I'm doing
8. I rush through activities without being really attentive to them
9. I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there.
10. I do jobs or tasks automatically, without being aware of what I'm doing.
11. I find myself listening to someone with one ear, doing something else at the same time.
12. I drive places on 'automatic pilot' and then wonder why I went there.
13. I find myself preoccupied with the future or the past.

14. I find myself doing things without paying attention.

15. I snack without being aware that I'm eating.

## APPENDIX D: QUALTRICS SURVEY

### **The Relationship Between Parental Attachment Style and Acting-With-Awareness**

You are being invited to participate in a research study. This study aims to find out if parental attachment style predicts acting-with-awareness in young adults. The way you can help me answer the question is by answering the questions in this anonymous survey, which should take you about 20 minutes to complete in one sitting.

Some reasons you might want to participate in this research. First, your participation will aid the greater good of society by guiding psychotherapy research in developing interventions that consider adult insecure attachment styles in our modern society. Second, your participation may increase your self-awareness, by encouraging you to reflect on one personality trait that can be cultivated. One reason you might not want to participate in this research is that parental attachment items explore your relationship with your primary caregiver, as this may resurface any negative childhood experiences. Throughout the survey, I have provided you with local mental health resources if any distress arises when completing this survey.

The choice to participate or not is yours; participation is entirely voluntary. You also can choose to answer or not answer any question you like, and to exit the survey if you wish to stop participating. No one will know whether you participated or not. You will not be able to withdraw after survey submission; as I will not be able to identify and retrieve your data since any identifiable information, such as your IP address, is not being collected.

The survey asks questions about the relationship you have with an individual you classify as your primary caregiver (mother, father, stepparent, grandparent, etc.) and your ability to be attentive and aware in the present moment. You have been asked to participate in this research because you are between the ages of 18 and 25 years old, which is a time when parental attachment is believed to still have a substantial impact on the development and maintenance of mindfulness.

Although every effort will be made to protect your answers, complete anonymity cannot be guaranteed over the Internet. Other potential risks of the study include unforeseen loss of confidentiality or psychological discomfort regarding relationships with caregivers. It is unlikely that you will benefit directly by participating in this study, but the research results may benefit psychological research with the development of mindful-based therapies for insecure attachment styles.

If you have any questions, please contact Brandi Caudill, M.Ed.  
at [bcaudill1@sycamores.indstate.edu](mailto:bcaudill1@sycamores.indstate.edu) or Dr. Linda Sperry, faculty sponsor, at  
[linda.sperry@indstate.edu](mailto:linda.sperry@indstate.edu)

If you have any questions about your rights as a research subject or if you feel you have been placed at risk, you may contact the Indiana State University Institutional Review Board (IRB) by mail at Indiana State University, Office of Sponsored Programs, Terre Haute, IN 47809, by phone at (812) 237-3088 or by email at [irb@indstate.edu](mailto:irb@indstate.edu).

If you wish to participate, please select **BOTH** “I agree that I am between 18 and 25 years of age” and “I agree to participate in the survey and understand research study procedures as outlined above.

**Age**

18-19

20-21

22-23

24-25

**Gender**

Male

Female

**Ethnicity**

White/Caucasian

African American/Black

Asian/Pacific Islander

Hispanic/Latino/Latina

Middle Eastern

Other

Prefer not to comment

**ACE and Parental Stress**

These are some examples of early childhood events that can impact parental attachment. Please mark each experience you experienced between birth and 6 years old:

Parents separated or divorced

Severe medical conditions in self

Parent(s) with mental health concerns

Familial financial difficulties

Parent(s) did not complete at least 4 years of college

Exposure to violence in home

Other adverse experience

☒ None

### **Parental Attachment**

The statements below concern how you generally feel in your relationship with your primary parental figure. Please rate the following items from 1 (strongly disagree) to 7 (strongly agree)

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree
Strongly Agree					

1. I'm afraid that I will lose my parent's love.
2. I often worry that my parent doesn't really love me.
3. I worry that my parent won't care about me as much as I care about them.
4. I often wish that my parent's feelings for me were as strong as my feelings.
5. I worry a lot about my relationship with my parent.
6. When I show my feelings for parent, I'm afraid they will not feel the same about me.
7. My parent makes me doubt myself.
8. I do not often worry about being abandoned by my parent.
9. Sometimes my parent changes his or her feelings about me for no apparent reason.
10. It makes me mad that I don't get the affection and support I need from my parent.
11. I worry that I won't measure up to my parent's expectations.
12. I prefer not to show a parent how I feel deep down.
13. I find it difficult to allow myself to depend on parent.
14. I am very comfortable being close to my parent.
15. I don't feel comfortable opening up to my parent.
16. I prefer not to be too close to my parent.
17. I find it relatively easy to get close to my parent.
18. I usually discuss my problems and concerns with my parent.
19. It helps to turn to my parent in times of need.
20. I tell my parent just about everything.
21. I find it easy to depend on parent.

22. My parent really understands me and my needs.

### **Acting-with-Awareness**

Below is a collection of statements about your everyday experience. Using the 1-6 scale below, please indicate how frequently (1) or infrequently (6) you currently have each experience. Please answer according to what really reflects your experience rather than what you think your experience should be. Please treat each item separately from every other item.

Almost Always	Very Frequently	Somewhat Frequently	Somewhat Infrequently
Very Infrequently	Almost Never		

1. I could be experiencing some emotion and not be conscious of it until sometime later.
2. I break or spill things because of carelessness, not paying attention, or thinking of something else.
3. I find it difficult to stay focused on what's happening in the present.
4. I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.
5. I tend not to notice feelings of physical tension or discomfort until they really grab my attention.
6. I forget a person's name almost as soon as I've been told it for the first time.
7. It seems I am "running on automatic," without much awareness of what I'm doing
8. I rush through activities without being really attentive to them.
9. I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there.
10. I do jobs or tasks automatically, without being aware of what I'm doing.
11. I find myself listening to someone with one ear, doing something else at the same time.
12. I drive places on 'automatic pilot' and then wonder why I went there.
13. I find myself preoccupied with the future or the past.
14. I find myself doing things without paying attention.
15. I snack without being aware that I'm eating.

## APPENDIX E: INFORMED CONSENT

### **The Relationship Between Parental Attachment Style and Acting-With-Awareness**

You are being invited to participate in a research study. This study aims to find out if parental attachment style predicts acting-with-awareness in young adults. The way you can help me answer the question is by answering the questions in this anonymous survey, which should take you about 20 minutes to complete in one sitting.

Some reasons you might want to participate in this research. First, your participation will aid the greater good of society by guiding psychotherapy research in developing interventions that consider adult insecure attachment styles in our modern society. Second, your participation may increase your self-awareness, by encouraging you to reflect on one personality trait that can be cultivated. One reason you might not want to participate in this research is that parental attachment items explore your relationship with your primary caregiver, as this may resurface any negative childhood experiences. Throughout the survey, I have provided you with local mental health resources if any distress arises when completing this survey.

The choice to participate or not is yours; participation is entirely voluntary. You also can choose to answer or not answer any question you like, and to exit the survey if you wish to stop participating. No one will know whether you participated or not. You will not be able to withdraw after survey submission; as I will not be able to identify and retrieve your data since any identifiable information, such as your IP address, is not being collected.

The survey asks questions about the relationship you have with an individual you classify as your primary caregiver (mother, father, stepparent, grandparent, etc.) and your ability to be attentive and aware in the present moment. You have been asked to participate in this research because you are between the ages of 18 and 25 years old, which is a time when parental attachment is believed to still have a substantial impact on the development and maintenance of mindfulness.

Although every effort will be made to protect your answers, complete anonymity cannot be guaranteed over the Internet. Other potential risks of the study include unforeseen loss of confidentiality or psychological discomfort regarding relationships with caregivers.

It is unlikely that you will benefit directly by participating in this study, but the research results may benefit psychological research with the development of mindful-based therapies for insecure attachment styles.

If you have any questions, please contact Brandi Caudill, M.Ed. at [bcaudill1@sycamores.indstate.edu](mailto:bcaudill1@sycamores.indstate.edu) or Dr. Linda Sperry, faculty sponsor, at [linda.sperry@indstate.edu](mailto:linda.sperry@indstate.edu)

If you have any questions about your rights as a research subject or if you feel you have been placed at risk, you may contact the Indiana State University Institutional Review Board (IRB) by mail at Indiana State University, Office of Sponsored Programs, Terre Haute, IN 47809, by phone at (812) 237-3088 or by email at [irb@indstate.edu](mailto:irb@indstate.edu).

If you wish to participate, please select **BOTH** “I agree that I am between 18 and 25 years of age” and “I agree to participate in the survey and understand research study procedures as outlined above.”

## APPENDIX F: PROFESSOR SCRIPT

Dear Professor,

My name is Brandi Caudill, and I am a doctoral candidate in Indiana State University's School Psychology program. I am conducting a research study on parental attachment and mindfulness for my dissertation. I would visit the class for 10 minutes before the class ends to discuss the procedures and provide students with the quick response code to complete the survey before dismissing class or on their own time. You are not obligated to share study information with your students nor permit me to visit your classes.

I wish to recruit students between the ages of 18 years and 25 years old from multiple departments to anonymously complete a 41-item Qualtrics survey ([https://indstate.qualtrics.com/jfe/form/SV\\_5i3Vwm9c1kRsLJ3](https://indstate.qualtrics.com/jfe/form/SV_5i3Vwm9c1kRsLJ3)). Interested students, who volunteer to participate, will be provided an electronic consent form to agree to study procedures and their participation prior to beginning the survey.

The survey results will be pooled for the dissertation project and individual results of this study will remain absolutely anonymous, as identifiable information, including IP addresses, will not be collected. Should this study be published, only pooled results will be documented. No costs will be incurred by either your department, your course, or the individual participants. There are no consequences for non-participation.

Are you willing to have your class participate? If so, please indicate your course ending time and location. I look forward to hearing from you soon. Best, Brandi Caudill.

## APPENDIX G: BLACKBOARD RECRUITMENT VIDEO



Dissertation  
Recruitment Video C

## APPENDIX H: COMMUNITY FLYER

Brandi Caudill is a doctoral student in the Applied Clinical and Educational Sciences Department at Indiana State University. She is recruiting participants for a research study about the relationship between parental attachment and a facet of mindfulness called acting-with-awareness. This study may help her to better understand the impact parental attachment style has on therapeutic practices, such as mindfulness, that are often used to treat a variety of mental health disorders.

You are eligible to participate in this study if you are between the ages of **18 years and 25 years**.

To participate in this study, copy the QR code or website link and complete each question as it best applies to your situation. You must complete the survey in one sitting. Once submitted, your response cannot be retrieved, as this study is not collecting any identifiable information, such as your IP address.

As part of participating, you will be asked to rate items that align with your relationship with your parental figure (i.e., mother or father) and ability to attend to the present moment.

If you participate, there is no anticipated direct benefit, but your time is greatly appreciated for the good of our greater society.

Website link

[https://indstate.qualtrics.com/jfe/form/SV\\_5i3Vwm9c1kRsLJ3](https://indstate.qualtrics.com/jfe/form/SV_5i3Vwm9c1kRsLJ3)



Thank you! If you have any questions, please contact Brandi Caudill at [bcaudill1@sycamores.indstate.edu](mailto:bcaudill1@sycamores.indstate.edu) or Dr. Linda Sperry at [linda.sperry@indstate.edu](mailto:linda.sperry@indstate.edu)

## APPENDIX I: WRITTEN PERMISSION FOR COMMUNITY

3/1/2020

Name

Title and Company

RE: Permission to Conduct Research Study

Dear Name,

I am writing to request permission to conduct a research study at Business. I am a doctoral candidate at Indiana State University completing a dissertation in Applied Clinical and Educational Sciences Department. The study is entitled The Relationship Between Parental Attachment Style and Acting-With-Awareness.

I wish to recruit volunteers between the ages of 18 years and 25 years to anonymously complete a 41-item Qualtrics survey ([https://indstate.qualtrics.com/jfe/form/SV\\_5i3Vwm9c1kRsLJ3](https://indstate.qualtrics.com/jfe/form/SV_5i3Vwm9c1kRsLJ3)). I hope that Business will allow me to recruit volunteers from your business. Anyone interested in volunteering to participate, will be provided an electronic consent form to agree to study procedures and their participation prior to beginning the survey.

If approval is granted, participants will complete the survey at their own convenience. The survey process should take no longer than 20 minutes to complete in one sitting. The survey results will be pooled for the dissertation project and individual results of this study will remain absolutely anonymous, as identifiable information, including IP addresses, will not be collected. Should this study be published, only pooled results will be documented. No costs will be incurred by either your business or the individual participants.

Your approval to conduct this study will be greatly appreciated. I would be happy to answer any questions or concerns that you may have at that time. You may contact me at my email address: [bcaudill1@sycamores.indstate.edu](mailto:bcaudill1@sycamores.indstate.edu) or my faculty sponsor, Dr. Linda Sperry, Associate Dean at [linda.sperry@indstate.edu](mailto:linda.sperry@indstate.edu).

If you are willingly to grant me permission, kindly submit a signed letter of permission on your company's letterhead acknowledging your consent and permission for me to conduct this survey at your company. I have attached a template to follow.

Sincerely,

Brandi Caudill