Childhood Attachment Insecurity as a Predictor of Shame-Proneness in Adulthood

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Childhood Attachment Insecurity as a Predictor of Shame-Proneness in Adulthood

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Shame can be defined as a painfully self-conscious emotion that involves a sense of feeling fundamentally flawed, deficient, and defective. Shame-proneness refers to one’s dispositional tendency to experience shame across a variety of situations. Numerous studies have shown that shame-proneness is significantly related to a wide range of mental health disorders including depression, anxiety, post-traumatic stress, substance abuse, and more. Therefore, understanding the determinants of shame-proneness has ramifications for a wide range of issues social workers address.

Attachment theory and interpersonal neurobiology suggest that secure attachment protects against shame-proneness, whereas insecure attachment contributes to shame-proneness. However, there is scant empirical research exploring this relationship. This study explored childhood attachment with primary caregivers as a predictor of shame-proneness in adulthood. The researcher hypothesized that attachment security would be negatively related to shame-proneness, and that each insecure attachment style – anxiety, avoidance, disorganization – would be positively related to shame-proneness.

This cross-sectional study involved primary data collection through survey administration. A sample of 340 adults, U.S. residents aged 18 and over, was recruited through Amazon Mechanical Turk (MTurk), an online crowdsourcing platform. The researcher conducted univariate and bivariate analyses, and formally tested the hypotheses using multiple regression analyses. The researcher found that certain insecure attachment styles, anxiety and disorganization, significantly related to shame-proneness, whereas avoidance did not. Secure attachment was negatively related to shame-proneness, but the relationship was statistically insignificant. Social workers and other mental health professionals can benefit from an increased understanding of the relationship between childhood attachment and shame-proneness that this study provides.
This dissertation by Christine J. Park fulfills the dissertation requirement for the doctor of philosophy in social work approved by Joseph Shields Ph.D., as Director, and Eileen Dombo, Ph.D., and Eun Koh, Ph.D. as Readers.

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Dedication

I dedicate this work to my son, Justin Chaterdon, who was received as a gift in the midst of the dissertation writing process. You have expanded our hearts and given new depth of meaning to what attachment is really all about.
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Chapter One: Introduction

Shame is experienced universally by humans in varying ways and degrees of intensity. Shame can be defined as a painfully self-conscious emotion that involves a sense of feeling fundamentally flawed, deficient, and defective (Bradshaw, 1988; Brown, 2008). Although everyone experiences moments of shame, shame becomes an ingrained dispositional style when repeatedly internalized over time. Shame-proneness refers to one’s dispositional tendency to experience shame across a variety of situations (Covert et al., 2003).

Shame causes a person to want to hide in order to escape exposure, leading to alienation from others and oneself, and can drive aggressive or blaming behaviors. When one’s level of shame-proneness is so high that one comes to experience his or her being as defective, in a way that shapes one’s identity, it is referred to as “chronic shame” or “toxic shame” (Bradshaw, 1988; Pattison, 2000). When chronic shame pervades a person’s personality and life experience, it causes disruption in one’s sense of self and interpersonal relationships (Bradshaw, 1988; Brown, 2008; Kaufman, 1996; Pattison, 2000; Tangney & Dearing, 2002; Thompson, 2015).

The population affected by high shame-proneness is not clearly delineated or easily identified due to the pervasive and far-reaching impact of shame. For individuals experiencing mental health disorders, shame may play a significant role in the development and maintenance of symptoms (Sinha, 2017; Tangney et al., 1992). Numerous studies have shown that shame-proneness is significantly related to a wide range of mental health disorders including depression, anxiety, narcissistic personality, borderline personality, post-traumatic stress, obsessions and compulsions, substance abuse, self-injury, and eating disorders (Burney & Irwin, 2000; Kim et al., 2011; Leskela et al., 2002; Schoenleber, Berenbaum, et al., 2014; Schoenleber, Chow, et al., 2014; Scott et al., 2015; Tangney et al., 1992; Thomaes et al., 2008).
Research shows that certain populations report high levels of shame including prison inmates, women who have been sexually abused, and survivors of intimate partner violence (IPV) (Buchbinder & Eisikovits, 2003; Rahm et al., 2006; Talbot, 1996; Tangney et al., 2014). When considering the link between shame and mental health in treatment with vulnerable populations, it is crucial to bear in mind that social and economic forces including poverty and discrimination contribute to the shame experience, as a person-in-environment perspective suggests. For example, research shows that poverty is a strong, consistent correlate of IPV (Cunradi et al., 2002; Resko, 2010), and poverty has been linked to various shame-related effects including withdrawal, self-loathing, and depression (Walker et al., 2013).

Shame, especially chronic shame, can present a clinical challenge in mental health treatment and can block therapeutic progress if not appropriately addressed. Conversely, addressing shame in mental health treatment has been found to improve therapeutic outcomes. For example, when shame has been therapeutically addressed, symptoms of post-traumatic stress disorder (PTSD) frequently resolve spontaneously (Herman, 2011), and recovery from substance use issues is enhanced (Bradshaw, 1988).

Recently, there has been increasing understanding among clinicians and researchers that understanding and addressing shame is crucial for effective mental health treatment (DeYoung, 2015; Sinha, 2017). Shame-proneness has become arguably the most significant explanation for multiple psychopathology (Sinha, 2017). Shame-proneness increases vulnerability to many mental health disorders including anxiety, depression, substance abuse, and eating disorders, by contributing to their origin and maintenance, and presents major challenges in effective treatment for existing ones (Sinha, 2017; Tangney et al., 1992). Therefore, a deeper understanding of the
determinants of shame-proneness has ramifications for a wide range of issues social workers address.

One important potential determinant of shame-proneness is the quality of a person’s attachment relationship with his or her primary caregiver in childhood. Attachment theory and interpersonal neurobiology suggest that secure attachment, marked by consistently attuned caregiving and a corresponding confidence in the child that the caregiver will be available and responsive, may protect against shame-proneness, whereas insecure attachment, marked by an absence of consistent attunement and a corresponding lack of confidence in the child that the caregiver will be available and responsive, may contribute to shame-proneness (DeYoung, 2015; Schore, 1998; Thompson, 2015).

In the current literature on infant and childhood attachment, four primary attachment styles are commonly recognized: secure, anxious, avoidant, and disorganized. The first three were first identified by Mary Ainsworth (1978) and the last by Mary Main (Main & Solomon, 1990). Anxious, avoidant, and disorganized attachment are different types of insecure attachment, each characterized by distinct interactional patterns in the primary caregiver-child dyad, which will be explained in greater detail in the subsequent chapter. The lack of attuned caregiving that leads to various patterns of insecure attachment may affect brain development and shape neural wiring such that the child develops a neurobiological predisposition to become shame-prone (DeYoung 2015; Thompson, 2015).

**Purpose of the Study**

The purpose of this study is to explore childhood attachment insecurity with primary caregivers as a predictor of shame-proneness in adulthood. The researcher posed the following research question: Controlling for demographics (age, gender, race, ethnicity, education level,
primary caregiver), does a person’s level of attachment security, attachment anxiety, attachment avoidance, or attachment disorganization in childhood relate to level of shame-proneness in adulthood? The researcher hypothesized that attachment security would be negatively related to shame-proneness, and that each insecure attachment style – anxiety, avoidance, disorganization – would be positively related to shame-proneness.

**Attachment and Shame-Proneness**

Brain development is influenced by the quality of attachment patterns with primary caregivers, including the proclivity to become shame-prone (DeYoung, 2015; Schore, 1998; Thompson, 2015). Attachment theory and interpersonal neurobiology suggest that secure attachment, marked by attuned and consistent caregiving, promotes healthy brain development, which makes a person less likely to become shame-prone in the future, whereas insecure attachment, marked by lack of attuned caregiving, is more likely to result in encounters that create a neurobiological predisposition towards shame (DeYoung, 2015; Schore, 1998; Thompson, 2015).

According to Siegel (2012), neuropsychologist Hebb in 1949 made an important discovery: neurons that fire together at one time will tend to become associated with each other such that they fire together in the future. In other words, the more particular neural pathways are activated, the more fixed they become in the brain. Repeated shame-inducing encounters, occurring in the context of insecure attachment, may encode networks in the brain such that shame becomes more easily activated later on, even by minor stimuli (Thompson, 2015). However, there is scant empirical research exploring the relationship between childhood attachment insecurity and shame-proneness in adulthood.
Very few empirical studies have been found that examine this connection. Among existing studies, four examine adult attachment in close and romantic relationships using samples of undergraduate students (Gross & Hansen, 2000; Lopez et al., 1997; Passanisi et al., 2005; Wei et al., 2005). One study evaluates attachment and shame-proneness among children (Muris et al., 2014).

The current study explores the relationship between childhood attachment insecurity and shame-proneness in adulthood, which has not been done, and uses a more recent instrument for measuring shame-proneness than prior work. In addition, this study uses a more diverse sample than prior studies conducted on adults, including adults above age 25, the approximate age at which current science suggests that brain maturation occurs (Giedd, 2010). Based on the findings of this exploratory study, researchers conducting future studies may wish to examine in greater depth the relationship between childhood attachment insecurity and shame-proneness in adulthood among specific clinically defined populations.

**Professional Interest in the Issue**

This researcher’s interest in shame as a clinical issue stems from over a decade of professional experience providing outpatient mental health services to primarily low-income individuals and families at a non-profit mental health treatment center. This researcher has observed in clinical practice the pervasiveness of shame among those who suffer from a wide range of mental health disorders. She has experienced with her clients the agony of deep-seated chronic shame and its powerful, at times apparently unrelenting, influence on thoughts, feelings, and behaviors that contributes to and exacerbates symptoms. The experience of chronic shame is typically one of intense self-hatred, which becomes the lens through which one views the self and interacts with the world. Sometimes, the experience of shame remains too painful for the
client to acknowledge but may unconsciously manifest as anger or blaming. Shame in its complex and varied manifestations is seemingly ubiquitous in the therapy room among a broad range of clients and often appears most entrenched among those with more severe symptomatology.

This researcher notes that in her capacity as a mental health clinician working with primarily low-income individuals and families, she has observed shame as an issue shaped by micro-level and macro-level factors. The experience of poverty, for example, can be one laden with shame, and social forces such as stigma can contribute to a person’s experience of shame. A person-in-environment perspective supports the conceptualization of shame as a social work issue shaped by an intersection of micro-level and macro-level factors. Acknowledging this complexity at multiple levels, this researcher focuses on the clinical dimension given her background in clinical social work practice.

As a mental health clinician, this researcher has observed a strong connection between a person’s dispositional tendency to experience shame in adulthood and his or her relational foundation as experienced in the early years of life with one’s primary caregivers. Repeatedly, in her clinical role, this researcher has followed the client’s lead as he or she connects current shame-inducing triggers back to earlier experiences of shame in one’s family of origin, often with one’s primary caregiver in childhood. To this researcher, it has become apparent that there is a relationship between these early attachment experiences and one’s level of shame-proneness in adulthood, although little research exists to confirm this link empirically. Repeated and prolonged disruptions in attachment relationships during childhood seem to significantly predispose a person to experience shame throughout life into adulthood.
Implications for Social Work

This study has significant implications for social work research, theory, and clinical practice. As mentioned previously, this study fills a gap in the current literature by exploring a connection between variables, childhood attachment insecurity and shame-proneness in adulthood, that has not yet been analyzed. In addition, this study has implications for theory development, because it has the potential to confirm assumptions based in attachment theory that have been reported anecdotally by mental health professionals but have not been empirically validated. Finally, for social workers and other mental health professionals, this study provides guidance for treatment interventions around mental health issues where shame is a contributor.

Furthermore, this study’s purpose aligns with the mission and vision of the Grand Challenges of Social Work, an initiative promoting scientifically backed efforts to tackle our toughest social problems. Within the Grand Challenges, this study supports Individual and Family Well-being, aligning with the goal of “Ensuring healthy development for youth” by providing knowledge that can inform interventions to promote mental health and well-being (Grand Challenges for Social Work, n.d.). Indeed, it is crucial for social workers to have an understanding of early childhood attachment because of its implications for development and well-being across the lifespan. The more social workers understand about childhood attachment and its impact on well-being, especially mental health, the more equipped they will be to support healthy development of youth. In this way, this dissertation contributes to the Grand Challenges of Social Work.

This dissertation is structured as follows. Chapter Two reviews literature on shame as it relates to mental health, presents attachment theory as the theoretical framework guiding the study’s research questions, reviews the current research on shame and attachment, and discusses
the limitations of existing research. Chapter Three presents the study’s methodology including sampling methods, data collection procedures, and data analysis plan. Chapter Four presents results from the statistical analyses, including bivariate and multiple regression analyses. Chapter Five interprets the findings of the study, discusses the study’s limitations, and considers implications for social work practice and research.
Chapter Two: Literature Review

In this chapter, the researcher first provides an overview of shame as it relates to mental health. Then, she discusses the theoretical framework guiding the research questions posed in this study – attachment theory – as well as the intersection of attachment theory and interpersonal neurobiology in relation to shame-proneness. Finally, she reviews the current literature exploring the connection between shame and attachment and discusses the limitations of existing research.

Overview of Shame

Shame is an acutely painful experience about the self, a visceral experience that occurs in relation to others when one experiences an unworthiness to be in connection, a sense of unlovability (DeYoung, 2015). An individual experiencing shame typically wants to hide and may feel as if he or she “could die” or “crawl through a hole” (Lewis, 1971). The experience may evoke retaliatory hostility and anger towards the other who has triggered shame (Lewis, 1971). Shame experienced repeatedly and intensely can lead to a deep sense of isolation, even despair, and become a chronic condition (DeYoung, 2015). A dispositional propensity towards shame is connected to a wide range of negative outcomes (Tangney & Dearing, 2002).

In this section, the researcher discusses the nature of shame, differentiates shame from guilt, presents behavioral patterns associated with shame that are relevant to mental health, and reviews empirical research exploring the connection between shame-proneness and mental health disorders.

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Nature of Shame

Shame may be one of the most unbearably painful emotional states that human beings experience. Characterized by an experience of unexpected or unwanted exposure by others (Pattison, 2000; Whitehead & Whitehead, 1994), this sense of exposure is combined with internal, global, negative evaluations of the self (Brown, 2008; Tangney & Dearing, 2002). Kaufman writes, “…to feel shame is to feel seen in a painfully diminished sense” (Kaufman, 1996, p. 17). There is a sense in which a shamed person has internalized a critical gaze; this gaze typically originates from an external object but becomes an internal representation (Miller, 1996; Pattison, 2000; Wurmser, 1981).

Shame is essentially a non-verbal emotional experience, accompanied by associated thoughts and images. Shame also has the effect of shutting down positive affect, which may manifest bodily in downcast eyes or slumping posture (DeYoung, 2015). Brown (2008) defines shame as “the intensely painful feeling or experience of believing we are flawed and therefore unworthy of acceptance and belonging” (p. 5). There is a difference, however, between moments of shame and a pervasive sense of shame that fundamentally affects how a person relates to himself and the world. Bradshaw (1988) writes, “As a state of being, shame takes over one’s whole identity. To have shame as an identity is to believe that one’s being is flawed, that one is defective as a human being” (p. vii). Fossum and Mason (1986) define shame as “an inner sense of being completely diminished or insufficient as a person. It is the self judging the self… A pervasive sense of shame is the ongoing premise that one is fundamentally bad, inadequate, defective, unworthy, or not fully valid as a human being” (p. 5). Bradshaw (1988) describes toxic shame as an excruciatingly painful agony felt in the core of one’s being.
Although shame may appear to be an individual problem, research shows that it is fundamentally a relational problem caused by relationships and requires relationships for healing (Brown, 2008; DeYoung, 2015; Thompson, 2015). Chronic shame may be conceptualized as a symptom of relational trauma often rooted in a childhood characterized by repeated disrupted attachment with primary caregivers (DeYoung, 2015). Shame may be reinforced and exacerbated by relational interactions throughout life and social forces such as stigma.

At the heart of chronic shame is a sense of unloveability, or unworthiness to be connected with others as one longs to be connected. Shame is about fear of disconnection, because a shamed person senses something unacceptable about himself has been exposed, thereby making him deserving of abandonment. The fear of disconnection yields incredible power, because all human beings are wired to need connection (Brown, 2008; DeYoung, 2015; Thompson, 2015).

According to psychiatrist Curt Thompson (2015), acute shame moves the mind toward a disintegrated state. When shame is triggered, it becomes difficult to shift attention away from affect; logical thought processes may become unavailable; and one’s mind may become overwhelmed and disrupted. When the shame reaction is intense, the functional parts of the brain involved in thinking, feeling, and sensing become disconnected from one another and from the regulatory functions of the prefrontal cortex (Thompson, 2015). Shame operates at a lower level of brain functioning than cognitions, meaning that even before a person can think about his or her worthlessness or defectiveness, there is a visceral experience of shame (Thompson, 2015). Shame may slow the mind’s ability to think creatively and can even cause paralysis; in extreme situations, a person can feel frozen, blank, and incoherent, wanting to disappear or cease to exist (DeYoung, 2015; Thompson, 2015).
**Shame and Guilt**

Shame cannot be adequately understood without distinguishing it from guilt, a construct with which it is often conflated (Kim et al., 2011; Tangney, 1990, 1991). Clinical psychologist and researcher Judith Tangney and colleagues found in their research that undergraduate students’ ratings of shame and guilt experiences differed significantly on a number of dimensions, supporting that they are distinct affective experiences (Tangney, 1995; Tangney & Dearing, 2002).

According to Tangney, shame and guilt are similar in that they both fall into a category of “moral” emotions meaning that they influence moral behavior; they are both self-referential, negative, involve some kind of internal attributions, are experienced interpersonally, and can be triggered by similar events (Tangney, 1991; Tangney & Dearing, 2002). Helen Block Lewis (1971), pioneer researcher on shame and guilt, claimed that the difference hinges on the role of the self; shame focuses on the self as the object of evaluation, whereas guilt focuses on a specific behavior. Block also suggested that guilt can be painful but doesn’t affect one’s core identity or self-worth. Empirical research conducted by Tangney and Dearing (2002) supports this important conceptual distinction made by Block in regards to the role of the self. In a similar vein, social worker and shame researcher Brené Brown (2008) states simply that shame is about who one is, whereas guilt is about what one has done.

Guilt can be a positive motivator for changing behavior, while shame often results in unhelpful behaviors or paralysis. Guilt typically involves remorse and regret, motivating one to confess, apologize, and make amends. In contrast, shame involves shrinking and feeling worthless resulting in wanting to hide, escape, or attack, potentially leading to self-destructive and harmful behaviors (Brown, 2008; Tangney, 1991, 1995; Tangney & Dearing, 2002).
Research supports that a dispositional tendency to experience shame, termed shame-proneness, has negative effects compared to a dispositional tendency to experience guilt, termed guilt-proneness. A longitudinal study found that shame-proneness in fifth graders predicted suspension in high school, drug use, and suicide attempts, while guilt-proneness in fifth grade predicted applying to college and engaging in community service (Tangney & Dearing, 2002).

Tangney and colleagues found in numerous independent studies that proneness to “shame-free” guilt was unrelated to psychopathology, whereas shame-proneness was linked to many psychological problems. They conclude that guilt is only problematic when fused with shame; it is the shame component that causes psychological symptoms. Guilt that is free of shame is adaptive; such guilt focuses on behavior, protecting one from globally condemning the self, while still allowing and encouraging one to change guilt-producing behavior (Tangney et al., 1995; Tangney & Dearing, 2002; Tangney et al., 1992).

**Behavioral Patterns Associated with Shame**

The manifestation of shame is individualized, depending on personal as well as contextual and cultural factors. However, certain shame-related behavioral patterns are commonly identified in the literature including disconnection from others and self, reduced empathy, anger and blaming, addictions, narcissism, power-seeking, and perfectionism (Bradshaw; 1988; Brown, 2008; DeYoung, 2015; Kaufman, 1996; Leith & Baumeister, 1998; Tangney & Dearing, 2002).

**Withdrawal, Isolation, Disconnection.** Shame involves an inclination to hide in order to prevent intensification of shame through further exposure. Shame therefore causes a person to withdraw from others. Paradoxically, the act of turning away from others to avoid shame seems to actually reinforce it. The resulting social isolation further decreases the resilience of the mind
Shame also causes disconnection from one’s authentic self. In an effort to hide a self perceived to be defective, shame causes one to become preoccupied with appearances. In order to cover oneself from exposure, a person develops masks; when masks become fixed, a person operates out of a “false self,” an image of the person one believes she ought to be based on ideals imposed by others. A person therefore becomes disconnected from her true self (Bradshaw, 1988; Kaufman, 1996; Pattison, 2000; Smedes, 1993; Thompson, 2015). In some cases, a person may develop a mask that takes the form of moral hypocrisy whereby a person’s behavior deviates from professed moral standards. Naso (2007) suggests that hypocrisy is driven by a desire to avoid shame by concealing shameful aspects of the self.

**Lack of Empathy.** Reduced empathy for others is an important consequence of shame (Brown, 2008; Tangney, 1991, 1995; Tangney & Dearing, 2002; Thompson, 2015). The highly self-focused nature of shame interferes with other-oriented empathy. Shame tends to pull attention away from the other person and focuses on negative characteristics of the self. Rather than concern for others, it creates personal distress responses (Leith & Baumeister, 1998; Tangney, 1991; Tangney & Dearing, 2002).

Leith and Baumeister (1998) found among undergraduates that feeling guilt was associated with a greater ability to take on another’s perspective, whereas feeling shame was associated with an impaired ability to do so. They also found that guilt was linked to better relationship outcomes, while shame was linked to relationship deterioration. Numerous studies of children, adolescents, college students, and adults show that guilt-proneness is positively
correlated with empathic responsiveness, while shame-proneness is negatively correlated with empathic responsiveness (Tangney & Dearing, 2002).

**Anger and Blame.** Although a shamed person’s anger is initially directed toward the self, the experience is so painful that there is often a tendency to shift the anger outwards. The tremendous threat to one’s core identity posed by shame can be overwhelming, especially because a person can feel hopeless in being able to change his defective self. A shamed person copes by escaping and hiding, or by shifting anger and blame onto others. Blaming can turn into scapegoating, as shame is transferred onto another person or group (Albers, 1995; Kaufman, 1985, 1996; Tangney & Dearing, 2002).

Shame-based anger and blame can be detrimental for interpersonal relationships. Guilt is not as likely to produce blaming responses, because it is connected to greater empathy and concern for one’s effects on others, which serve to reduce anger and aggression. Numerous empirical research studies confirm that shame elicits angry, aggressive, and blaming responses rather than inhibiting such responses in both children and adults (Tangney, 1995; Tangney & Dearing, 2002; Tangney et al., 1992; Tangney et al., 1996; Schoenleber et al., 2015; Scott et al., 2015; Thomaes et al., 2008; Thomaes et al., 2007).

**Addiction.** Shame can lead to addiction, because addictive substances and behaviors serve to temporarily assuage the pain of shame, becoming a substitute for interpersonal relationships that may be perceived as involving more risk for triggering shame. The loss of control and powerlessness associated with addiction further cause shame, in a viciously reinforcing cycle (Bradshaw; 1988; Brown, 2008; DeYoung, 2015; Kaufman, 1996; Morrison, 1996).
Narcissism. Narcissism is characterized by excessive over-valuation of the self. Shame-prone people are inclined to overcompensate by pretending as though they are superior to others, leading to self-obsession, arrogance, and contempt, although internally they may doubt the image they have projected, (Pattison, 2000; Smedes, 1993). A study by Wright et al. (1989) found that shame played an important role in narcissism, with men more prone to narcissism than women.

Power-seeking. Striving for power is a way of compensating for a sense of worthlessness. Gaining power over others makes a person less vulnerable to further shame, since those with more power have greater capacity to shame those below them in the power hierarchy (Albers, 1995; Kaufman, 1985; Loader, 1998).

Perfectionism. Perfectionism is an effort to compensate for feeling inherently defective by excelling and concealing flaws from others. This strategy ultimately fails, because perfection is impossible to attain, reinforcing shame in a vicious cycle. The seeds of perfectionism are frequently sown when parental love and acceptance are made conditional upon a child’s success and achievement. Oftentimes parents who demand perfection in their children are attempting to compensate for their own shame (Albers, 1995; Kaufman, 1985, 1996; Loader, 1998; Wilson, 2002). A study by Ashby et al. (2006) found that maladaptive perfectionism is linked to depression, a relationship partially mediated by shame.

Shame and Mental Health Disorders

Behavioral patterns associated with shame may be connected to diagnosable mental health disorders for certain individuals. Indeed, numerous studies have demonstrated the relatedness of shame-proneness to psychopathology generally and to specific types of mental disorders. Several research studies have found that shame-proneness is predictive of psychopathology. For example, Pinto-Gouveia and Matos (2011), in a sample of 811 adult
participants, found that various measures of shame significantly predicted depression, anxiety, and post-traumatic stress symptoms. In two separate studies, Tangney and colleagues found that shame-proneness was strongly related to overall psychological maladjustment and to particular symptom clusters including those for depression and anxiety (Tangney et al., 1992). Although an exhaustive review of the literature on this topic is beyond the scope of this dissertation, in this sub-section the researcher reviews some current research exploring the connection between shame and specific categories of mental health disorders.

**Depression and Shame.** Numerous studies have confirmed a strong relationship between shame and depression. Thompson and Berenbaum (2006), in a sample of 195 undergraduates, found that individuals in current depressive episodes and individuals in remission from past depressive episodes experienced higher shame compared to controls in response to hypothetical interpersonal and everyday dilemmas. In another study among undergraduates, Cheung and Gilbert (2004) found that shame significantly contributed to depression; this relationship was partially mediated by rumination but remained even when rumination was controlled.

In a study of 35 depressed patients, Andrews and Hunter (1997) found that three measures of shame (bodily, characterological, behavioral) were positively related to chronic or recurrent courses of depression. Among depressed people, Wright et al. (1989) found that shame is a central affective experience. In a meta-analytic review of 108 studies, Kim et al. (2011) found that shame showed significantly stronger associations with depressive symptoms than guilt, concluding that shame ought to take a more prominent role in understanding the emotional basis of depressive symptoms.

**Anxiety and Shame.** Although there appear to be fewer extant studies relating shame and anxiety, compared to those relating shame and depression, many studies have demonstrated...
the significant role of shame in anxiety disorders. Lutwak and Ferrari (1997) found that shame-proneness is specifically related to higher levels of social anxiety. In another study, Schoenleber, Chow, et al. (2014) found that shame plays a prominent role in generalized anxiety disorder (GAD). Matos et al. (2013) found that shame and shame memories are specifically related to paranoid anxiety and social anxiety, concluding that treatment for these conditions ought to integrate strategies for working with shame. In a meta-analytic study, Cândea and Szentagotai-Tătar (2018) analyzed the associations of shame and guilt with anxiety, both for broad categories of anxiety symptoms and for individual anxiety disorders, finding that shame was more strongly associated with anxiety symptoms than guilt.

**Trauma and Shame.** A wide body of literature has explored the connection between trauma and shame. In one study, Pinto-Gouveia and Matos (2011) examined the link between shame memories and traumatic stress reactions. They found that in individuals for whom shame memories serve as points that structure their life story, the centrality of these memories was significantly positively related to traumatic stress reactions, especially intrusion, hyperarousal, and avoidance. Platt and Freyd (2012) found that college students with a history of at least one traumatic event had higher levels of negative underlying assumptions (i.e. attitudes such as “If I make a mistake, it means I am a bad person”) at baseline, and that these negative underlying assumptions contributed to an increase in shame after receiving negative feedback on an academic task.

Studies have confirmed a relationship between shame and PTSD symptoms among specific populations exposed to trauma. In a study exploring how shame-proneness and guilt-proneness are related to post-traumatic stress disorder (PTSD) symptoms among war veterans, Leskela et al. (2002) found that shame-proneness was significantly positively correlated with
PTSD symptom severity while guilt-proneness was not related. In another study conducted among women survivors of intimate partner violence, shame was found to have significant associations with PTSD (Beck et al., 2011).

In a longitudinal study conducted by Feiring and Taska (2005), 118 sexually abused youth were interviewed after the abuse was discovered, then again one and six years later. Youth with high levels of shame at one year were at risk for high levels of shame six years later, and those with high levels of shame at one and six years were the most likely to report clinically significant intrusive memories at six years, showing that persistent shame likely plays a role in the maintenance of PTSD symptoms. These findings are consistent with research conducted by clinicians documenting the centrality of shame among childhood sexual abuse survivors and the necessity of addressing shame for effective clinical treatment in this population (Talbot, 1996).

**Substance Use Problems and Shame.** Research supports a link between substance use problems and shame, supporting observations by clinicians in treatment settings. In a study conducted on three samples with different degrees of substance use severity, including two samples of undergraduates and one sample of prison inmates, Dearing et al. (2005) found that shame-proneness was generally positively related to substance use problems, whereas guilt-proneness was inversely related or unrelated to substance use problems. In a meta-analytic review of all published correlational cross-sectional data on shame, substance consumption, and substance use-related problems, Luoma et al. (2019) found significant associations between shame and substance use-related problems, or substance dependence, although significant associations between shame and substance consumption were not found.

**Eating Disorders, Self-injury, and Shame.** Several studies have suggested that shame plays a role in eating disorders and self-injurious behaviors. In a study conducted by Troop et al.
(2008) among a sample of women with histories of eating disorders, shame was associated with symptoms of anorexia nervosa and bulimia nervosa, after controlling for depression. In a similar vein, Murray et al. (2000) found that shame appears to play a critical role in the relationship between perceived family dysfunction and bulimic psychopathology. In a study conducted among participants of an eating disorder treatment program, Kelly and Carter (2013) conclude that shame helps explain why self-critical participants present with more severe eating disorder symptomatology. High shame-proneness has also been associated with more frequent non-suicidal self-injury, even when other related dimensions such as proneness to general negative affect have been accounted for (Schoenleber, Berenbaum, et al., 2014).

**Personality Disorders and Shame.** The effects of shame may in some cases contribute to personality disorder traits. Heinze (2017) suggests that certain shame reactions, such as rage and contempt, may be expressed in some individuals as psychopathic behaviors. For example, extreme anger and lack of empathy stemming from shame may be connected to remorseless acts of violence. Shame has also been found to contribute to hostile irritability among adolescent girls diagnosed with borderline personality disorder (Scott et al., 2015).

The literature covering the complex relationship between shame and mental health disorders extends far beyond the studies reviewed above. Nonetheless, these studies provide empirical support for the critical role of shame in a wide range of mental disorders that social workers and other mental health professionals confront.

**Theoretical Framework for Research**

Attachment theory suggests that attachment security in childhood is a protective factor against developing shame-proneness. Research has proven the significance of early attachment with primary caregivers on healthy development of the brain and suggests that the proclivity to
become shame-prone may be connected to the quality of attuned caregiving (DeYoung, 2015; Schore, 2001; Thompson, 2015). When neural pathways in the brain associated with the shame response are repeatedly activated by interactions with attachment figures in childhood, and these disruptions to the attachment bond are left unrepaired, one may become neurobiologically sensitive to shame and therefore predisposed to shame-proneness as an adult (DeYoung, 2015; Schore, 1998).

In the following section, the researcher discusses attachment theory, which provides the theoretical underpinning for this study. Then, she discusses the intersection of attachment theory and interpersonal neurobiology in the context of its relevance to shame-proneness.

**Overview of Attachment Theory**

Attachment theory was developed by British psychoanalyst John Bowlby, with contributions by his colleague Mary Ainsworth. Bowlby viewed human beings as relationally-oriented with a biologically-based need to attach that is most obvious in infancy but lasts throughout a person’s life. According to Bowlby, how early attachment relationships are formed and internalized affects a person’s development and relationships throughout life (Bowlby, 1988; Wallin, 2007).

Bowlby developed the construct of the *internal working model*, which refers to the mental representations of primary caregivers that a child has internalized from relational experiences; they encompass the degree to which a child expects sensitive, attuned responsiveness from caregivers. These expectations are carried into future relationships and

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explain how early attachment relationships affect future relationship functioning (Applegate & Shapiro, 2005; Wallin, 2007).

Mary Ainsworth developed the classification of attachment styles into three distinct categories: secure, anxious resistant, and anxious avoidant (also referred to as secure, anxious, and avoidant, respectively). Anxious and avoidant styles are both indicative of insecure attachment to the primary caregiver (Bowlby, 1988; Wallin, 2007).

According to Ainsworth, a securely attached person is confident that the primary caregiver will be available and responsive and feels courageous in exploring the world. This person uses the primary caregiver (usually the mother but not always) as a “secure base,” exploring away from the attachment figure but seeking proximity when alarmed, tired, or anxious. Secure attachment is supported by the mother’s availability and sensitivity to her child’s signals. An anxiously attached individual is uncertain if the parent will be available or responsive when needed, inclined to exhibit separation anxiety and clinging behavior, and hesitant to explore the world. This style is typically developed in response to the mother’s inconsistent availability and responsiveness. An individual with an avoidant attachment style does not expect that the parent will respond and attempts to live life without the emotional support of others. This style is promoted by the mother rejecting the child when the child attempts to reach out for comfort and protection (Bowlby, 1988).

Nearly 20 years after Ainsworth’s original classification, Mary Main and her colleagues discovered a fourth type of attachment style referred to as the disorganized style. This style does not fit clearly into the anxious or avoidant categories and is marked by disorientation such as being dazed, immobile, or starting and stopping (Bowlby, 1988; Wallin, 2007). These behaviors seem to be related to unpredictable behavior on the part of the caregiver who may have
unresolved losses or unresolved attachment-related traumas (Mikulincer & Shaver, 2007). Maltreatment by the caregiver, including abuse and neglect, predict attachment disorganization (Sroufe, 2005). Typically, a person displays a predominant attachment style, although many individuals also exhibit a secondary style or show characteristics of more than one pattern of insecure attachment.

During the 1980’s, Mary Main and her colleagues expanded the concept of attachment style into adulthood through the development of the Adult Attachment Interview (AAI). Based on answers to open-ended questions, respondents were classified into three categories that paralleled Ainsworth’s classification system for infants: secure, dismissing, and preoccupied. Main’s dismissing category parallels avoidant attachment while the preoccupied category parallels anxious attachment (Mikulincer & Shaver, 2007).

Long-term longitudinal studies have demonstrated that secure attachment in childhood predicts a wide range of positive outcomes (Sroufe, 2005). Data confirm Bowlby’s original findings that securely attached infants who use the primary caregiver as a secure base for exploration later become more self-reliant and independent. Research demonstrates that individuals with a history of secure attachment have higher social competence, at various ages, from childhood to adulthood. In addition, research shows that individuals with a history of secure attachment have a better foundation for emotional regulation (Sroufe, 2005).

**Attachment and Interpersonal Neurobiology**

Recent advances in neuroscience research have confirmed that in the first few years of life, the brain structures involved in social and emotional functioning develop in a way that is dependent upon relational experience (Siegel, 2001; Schore, 2000, 2001, 2019). More specifically, secure attachment between primary caregiver and child in the early years, as
exemplified by consistently attuned, emotion-regulating interactions within the dyad, promotes healthy brain development, which provides a foundation for mental health (DeYoung, 2015; Siegel, 2001; Schore, 2000, 2001, 2019; Thompson, 2015). Such emotion-regulating communications involve the primary caregiver helping the child to increase positive emotions, as well as reduce negative emotions (Siegel, 2001; Schore, 2000; 2001). In short, the quality of attachment in the first years of a child’s life profoundly shapes the young child’s neurobiology, the effects of which endure into adulthood.

A brief discussion of neurobiology can help shed light on the connection between attachment and brain development. The brain is made up of cells called neurons; the length of the neuron is referred to as an “axon,” which connects to other neurons at a “synapse.” When electrical impulses sufficiently activate neurons, neurotransmitters flow across synapses to receiving neurons, which then activate neurons at their own synapses, in an extremely complex web-like neural network consisting of about 100 billion neurons (Siegel, 2001). Neuroscience research confirms that experiences, especially those involving emotional relationships, activate neurons and shape the formation of neural firing patterns in the brain by creating new neural networks or by maintaining and strengthening existing ones. The study of how interpersonal experiences shape the development of the human brain is referred to as “interpersonal neurobiology” (Schore, 2019; Siegel, 2001).

Research has shown that experiences shape the human brain throughout the lifespan; this malleability of the brain is often referred to as “plasticity” of the brain. However, the fact that brain change is possible throughout the lifespan does not diminish the critical importance of the early years during which interpersonal experiences profoundly affect the neural circuitry responsible for social and emotional functioning (Siegel, 2001; Schore, 2000, 2001, 2019).
Indeed, the quality of attuned, emotion-regulating interactions between primary caregiver and young child within the attachment relationship fundamentally shapes the wiring of the brain (DeYoung, 2015; Siegel, 2000; Schore, 2001; Thompson, 2015). Neuroscience now shows that the quality of attachment during infancy, even before a child has developed language and cognition, has an especially profound impact on healthy brain maturation, and that secure attachment during this time lays a foundation for infant mental health and mental health throughout the lifespan (Schore, 2000, 2001; Thompson, 2015).

Understanding the difference between “implicit” and “explicit” memory can shed light on how attachment experiences in early life, though they cannot be recalled directly, shape one’s internal working models, as conceptualized by Bowlby (1988). Infants in the first year of life have “implicit” memory, which are generalizations of repeated experiences in the form of emotional, behavioral, and perceptual memory (Siegel, 2001). Implicit memory does not involve a sense that something is being recalled, although it influences emotions, behaviors, and perceptions (Siegel, 2001). In contrast, “explicit memory” does involve a sense that something is being recalled, including facts and autobiographical events; explicit memory doesn’t begin development until around the middle of the second year of life (Siegel, 2001). Although infants only have implicit memory available, early attachment experiences with caregivers have long-lasting impact through implicit processes in the brain (Siegel, 2001). Research suggests that the internal working models of the attachment relationship are processed and stored in implicit memory in the brain’s right hemisphere (Schore, 2000).

In several works, psychologist and researcher in neuropsychology Allan Schore (2000, 2001, 2019) has presented evidence demonstrating that healthy maturation of the infant brain is dependent upon experiences, especially those involving emotional communications between the
infant and primary caregiver. Schore’s (2001) research suggests that the brain is in a “critical period” of growth from the third trimester of pregnancy until the second year of life, during which period external factors have particularly profound and lasting effects. During this time, the brain requires sufficient nutrients but also regulated interpersonal experiences for optimal growth. More specifically, attachment experiences, primarily through attuned face-to-face interactions between caregiver and child but also through voice and bodily interactions, directly shape the neural wiring of the orbital prefrontal cortex. This area is especially developed in the right hemisphere, is involved in emotional regulation, and functions in an executive control role for the entire right brain (Schore, 2000).

In the first few years of life, the right hemisphere of the brain grows more rapidly and is more active than the left hemisphere (Siegel, 2001; Schore, 2000). A brain imaging study conducted by Chiron et al. (1997) shows that the right brain is dominant in infancy and for the first three years of life. Therefore, it is not primarily verbal communications that influence attachment during this time, language being a predominantly left-brain function, but rather emotional communications that occur non verbally through facial expressions, voice tone, and touch (Siegel, 2001; Thompson, 2015).

Emotionally attuned interactions involve exchanging nonverbal signals that allow the child to “feel felt,” which creates a sense of connection and builds secure attachment (Siegel, 2001). Such interactions involve the primary caregiver sharing and amplifying the child’s positive emotional states, as well as sharing and reducing negative emotional states (Siegel, 2001; Schore, 2000, 2001). Communications in which the primary caregiver is attuned and appropriately responsive to the child’s emotional states help the child depend on the caregiver for
emotional regulation. Over time, this interpersonal emotional regulation develops in the child the capacity to self-regulate (Siegel, 2001).

**Attachment, Interpersonal Neurobiology, and Shame**

Secure attachment between primary caregiver and young child, especially in the first few years of life, profoundly contributes to healthy brain development, particularly in the right hemisphere. More specifically, secure attachment leads to optimal growth in the orbital prefrontal cortex, which regulates affect and emotionally attuned conversation (Schore, 2000, 2001; Siegel, 2001). In this way, the quality of attachment may shape the child’s right brain capacities for self-regulation and interpersonal relationships (Siegel, 2001). If secure attachment is directly linked to adaptive right brain functioning and overall mental health, as suggested by Schore’s (2000) developmental model, it makes sense that a healthier securely attached brain that is more capable of managing affect and interpersonal relationships will be less likely to develop a dispositional propensity towards shame, or shame-proneness. The question of whether secure attachment in childhood is in fact related to decreased shame-proneness in adulthood is the subject of the current research study.

The way caregivers respond to a young child’s early shame experiences influences the quality of attachment and may affect the child’s dispositional propensity towards shame, or shame-proneness. Research shows that shame first manifests in a child as early as the second year of life (Thompson, 2015; Schore, 1998). Schore (1998) proposes that shame initially appears around fourteen to sixteen months of age. Around this time, as babies become more mobile and active, caregivers are more likely to inhibit the child’s exploration and activities than before; when a child, expecting the caregiver to share in his positive affect, instead encounters disgust in the caregiver’s eyes and facial expression, shame is triggered (Schore, 1998). This
produces emotional distress and a shutting down response, causing the child to deflate and withdraw (Schore, 1998). Clinical social worker and shame researcher DeYoung (2015) emphasizes that when a child encounters such misattunement rather than mirroring in the attachment relationship, shame is produced. In a similar vein, psychiatrist and researcher Thompson (2015) states that as early as fifteen to eighteen months, a young child experiences shame by registering a felt sense of disapproval through non-verbal cues, such as tone of voice or a glance.

Shame experiences happen in every primary caregiver-child dyad, but it is the way in which the primary caregiver responds to these experiences that can have a critical impact on attachment security and the extent of damage done (DeYoung, 2015; Schore, 1998). If the parent is attuned and sensitive to the child’s emotional state, reestablishing the attachment bond quickly upon recognizing the child’s shame reaction, negative impact is mitigated (DeYoung, 2015; Schore, 1998). Because the shame state is one that a young child is not yet able to regulate independently, he or she needs the assistance of another to return to a positive emotional state (DeYoung, 2015; Schore, 1998). An attuned caregiver quickly recognizes nonverbal cues, including facial expression, deflation in posture, and avoidance of eye contact, then reinitiates mutual gaze and connection such that positive affect is restored and attachment reestablished (Schore, 1998).

Schore (1998) suggests it is not simply shame itself but difficulty in regulating this powerful affect that is problematic and linked to pathology. In other words, if a person experiences momentary shame but is generally resilient enough to return quickly to positive affect, this person is not considered shame-prone, and shame is not likely to be the source of significant emotional and interpersonal problems. “Good enough” caregiving, through the
caregiver’s consistent timely correction of misattunement, creates a sort of neurobiological shame resilience, laying down neural networks in the brain such that the young child develops the capacity to return to positive affect from shame rather than becoming stuck in shame.

DeYoung (2015) emphasizes that repeated experiences of unrepaired disconnection, rather than a parent’s overt intention to shame, leads to chronic shame, and that this happens in both infants and young children. A child may experience momentary shame when a parent is displeased, but if the parent is attuned to the child’s shame reaction and quickly returns to relational connection, the child understands that he did something wrong but is still a good kid (DeYoung, 2015). In such circumstances, there is a small break in the attachment bond that is quickly repaired. However, if the caregiver is not attuned, leaving the child to manage the affect alone without assistance in returning to a positive state, the child gets stuck in shame (DeYoung, 2015). The caregiver’s active involvement in bringing the young child back to a positive emotional state from a negative one serves to build emotional resilience (DeYoung, 2015; Schore, 2001).

In short, attachment theory, supported by research in interpersonal neurobiology, provides theoretical grounding for the proposition that secure attachment in childhood predicts shame-proneness in adulthood. The quality of the primary caregiver’s attunement and responsiveness to her child, especially in infancy and the first several years of life, profoundly shapes brain maturation and neural circuitry. A child who is securely attached is more likely to have adaptive right brain functioning, and therefore be more capable of managing affect and interpersonal experiences, including those involving shame.

Shame and attachment security are deeply intertwined, since misattunement in the attachment relationship causes shame, and how the caregiver responds to the child’s shame
reaction shapes attachment security. Based on current research and evidence, it is plausible to assume that repeated experiences of getting stuck in shame, due to the caregiver’s lack of attunement and responsiveness, reinforce neural networks in the child’s brain associated with the shame response, creating a neurobiological predisposition to shame-proneness. Given the evidence in neuroscience research proving the long-lasting effects of early experiences on brain growth and circuitry, it is reasonable to assume such neurobiological predisposition to shame-proneness will endure into adulthood, which the current study explores.

**Research on Attachment and Shame**

As discussed, there is theoretical support and anecdotal evidence from practitioners that early interactions with primary attachment figures, and specifically the quality of attunement therein, influence shame responses that become encoded in the brain, therefore laying a foundation for dispositional shame, or shame-proneness. However, there is little quantitative research to validate these claims. Several studies have explored the connection between adult attachment and shame-proneness, and one study has explored this connection among children. Although none of these studies has specifically examined how childhood attachment experiences influence shame-proneness in adulthood, their findings lay a groundwork for understanding the relationship between attachment and shame, on which the current study seeks to build.

This researcher found five existing studies that address the relationship between attachment insecurity and shame in adulthood (Gross & Hansen, 2000; Lopez et al., 1997; Mikulincer & Shaver, 2005; Passanisi et al., 2015; Wei et al., 2005). These studies assess individuals’ overall dispositional tendency to experience shame, or shame-proneness, except for one study that evaluates how shame is experienced in a specific relational context (Mikulincer & Shaver, 2005). Three of the studies measure adult attachment with the commonly used four-
category framework developed by Bartholomew and Horowitz (1991), which identifies adult attachment patterns based on respondents’ internal models of self and internal models of others (Gross & Hansen, 2000; Lopez et al., 1997; Passanisi et al., 2015). Two studies rely on the Experiences in Close Relationships Scale (ECRS) (Brennan et al., 1998), which measures anxiety and avoidance dimensions in adult romantic relationships (Mikulincer & Shaver, 2005; Wei et al., 2005).

In the four-category model of adult attachment developed by Bartholomew and Horowitz (1991), “secure” attachment represents individuals who have a positive view of self and others, in other words, those who are neither anxious about abandonment nor avoidant of others, corresponding to the “secure” classification in infant attachment research (Brennan et al., 1998). “Preoccupied” attachment represents those individuals who are anxious about abandonment but non-avoidant in behavior, corresponding to the “anxious” category in infant research. The “dismissing” category in the adult attachment classification represents those individuals who are avoidant of intimacy in relationships and ostensibly do not demonstrate anxiety about abandonment, corresponding most closely to the “avoidant” category in infant research. Finally, the “fearful” category is a combined avoidant-anxious type, representing individuals who have anxiety about abandonment but are avoidant in interpersonal behavior. This fourth mixed avoidant-anxious type bears similarity to the “disorganized” attachment style identified by Main and Solomon (1990). The Relationship Style Questionnaire (RSQ), based on this four-category framework, asks participants to rate 30 attachment related statements (e.g. People are never there when you need them) on a 5 point likert scale from 1) not at all like me to 5) very much like me. Items associated with each attachment category are summed, and then scores are standardized for cross-category comparisons (Gross & Hansen, 2000).
Three studies rely on Bartholomew and Horowitz’s (1991) four-category attachment style framework, including a study by Gross and Hansen (2000), who found that a secure attachment style was negatively associated with shame-proneness while preoccupied and fearful styles were positively associated with shame-proneness, in a sample of undergraduate students. The dismissing style, however, was unrelated to shame-proneness. The authors used the Brief Shame Rating Scale (BSRS) derived from the work of Hibbard (1994), which asks respondents to what extent or how often certain adjectives associated with shame (e.g. embarrassed, ashamed, mortified) characterize them.

In another study, conducted in an undergraduate sample of 209 students aged 19 to 24, Passanisi et al. (2015) found that securely attached students reported lower levels of shame-proneness than insecurely attached students. Linear regression analysis showed that secure attachment predicted lower levels of shame-proneness, while preoccupied and fearful attachments predicted higher levels of shame-proneness, consistent with the findings reported by Gross and Hansen (2000). Statistical analyses also revealed that females had significantly higher levels of shame-proneness compared to males. The authors employed the Experience of Shame Scale (ESS), which addresses experiential, cognitive, and behavioral aspects of shame using some direct questioning (e.g. Have you felt ashamed of your personal habits?” (Andrews et al., 2002).

Lopez et al. (1997) conducted a study among 142 undergraduates, using two different measures of adult attachment and the original version of the Test of Self-Conscious Affect (TOSCA) for shame- and guilt-proneness. Using Bartholomew & Horowitz’s (1991) classification of adult attachment, the authors found that individuals with insecure attachment styles, particularly those with preoccupied attachment styles, exhibited higher levels of shame-
proneness compared to individuals with secure attachment styles. Using another instrument, the Adult Attachment Style Inventory (Simpson, 1990), assessing respondents’ comfort with interpersonal closeness and dependency (avoidance sub-scale) and degree of tension or worry in close relationships (anxiety sub-scale), they found that attachment anxiety was positively related to shame-proneness. In other words, using two different measures of adult attachment, Lopez et al. (1997) found that attachment anxiety was associated with shame-proneness whereas avoidance was not.

Two additional studies exploring adult attachment and shame rely on the Experiences in Close Relationships Scale (ECRS) (Brennan et al., 1998; Fraley, Waller, et al., 2000), which measures anxiety and avoidance dimensions within adult romantic relationships.

In a study among undergraduates at a Mid-Western university, Wei et al. (2005), used structural equation modeling and found that attachment anxiety was directly related to higher levels of shame-proneness, while there was no such direct effect between attachment avoidance and shame-proneness (a relationship that was fully mediated by other variables). They utilized the Harder Personal Feelings Questionnaire (HPFQ) for shame-proneness, which measures the frequency with which one experiences shame-related affective descriptors (e.g. embarrassed, self-conscious, humiliated).

Finally, Mikulincer and Shaver (2005) explored a more specific manifestation of shame as it arises in romantic relationships, among a sample of 65 Israeli university students. It is important to note that rather than assessing shame-proneness, these authors studied how individuals experienced shame in a specific situation. Nonetheless, their research findings have relevance for the current study, since theoretically, how individuals experience shame in a romantic relationship is related to how they experience shame generally, given that shame is an
emotion triggered by relational events. Examining individuals’ emotional reactions to their hurtful behavior towards a romantic partner, Mikulincer and Shaver (2005) found that high scores in attachment anxiety were significantly positively related to shame. On the other hand, high attachment avoidance scores were significantly related to less shame and greater hostility towards one’s partner. Basically, individuals with anxious attachment tended to experience shame in response to their partner’s distress, whereas individuals with avoidant attachment did not report awareness of self-conscious emotions such as shame. The authors evaluated shame and guilt reactions to a specific episode in which they hurt their romantic partner or did not meet their partner’s needs, using the State Shame and Guilt scales in the Multi-dimensional Anger Inventory (no citation provided by authors). Although shame in this study was explored within a narrowly defined context, their findings are in line with those of other studies suggesting that attachment anxiety is related to an increased experience of shame whereas avoidance is not.

Empirical research exploring the relationship between attachment and shame-proneness in childhood is virtually non-existent. A study conducted over twenty years ago by Lutwak and Ferrari (1997), among undergraduate students, found that retrospective negative evaluations of both maternal and paternal care in childhood were significantly related to higher levels of shame. These authors employed the Adapted Shame Scale (AS), which uses descriptive adjectives to assess shame, and measured maternal and paternal care using a 25-item Parental Bonding Instrument. Although the Parental Bonding Instrument did not directly assess attachment as a construct, it captured aspects of parental care that are theoretically related to attachment security, such as affection, emotional warmth, and empathy. The study’s findings suggest that retrospective evaluations of one’s primary caregiver with regard to attachment may be related to shame-proneness, which the current study seeks to explore.
A single study currently exists that specifically evaluates attachment and shame-proneness among children. In this unique study conducted on a non-clinical sample aged 9-13, Muris et al. (2014) found significant differences among groups of children classified as having secure, anxious, and avoidant attachment with regard to shame. Specifically, children with anxious attachment exhibited significantly higher levels of shame-proneness compared to children who were securely attached, results that remained unchanged when guilt scores were added as a covariate to the analyses. Shame-proneness scores of avoidantly attached children fell between those of securely attached children and anxiously attached children but did not significantly differ from either group. The authors used the Self-conscious Emotions Maladaptive and Adaptive Scales (SCEMAS), a scenario-based instrument for measuring shame- and guilt-proneness in children, and the Attachment Questionnaire for Children (Muris et al., 2000), an age-adapted version of Hazan and Shaver’s (1987) instrument for measuring adult attachment.

In conclusion, the few existing studies exploring the relationship between attachment and shame-proneness in adults indicate that secure attachment appears to be related to lower levels of shame-proneness. More specifically, these studies demonstrate that attachment anxiety seems to be related to higher levels of shame-proneness, while attachment avoidance appears largely unrelated to shame-proneness. In the only study conducted on children, Muris et al. (2014) state that their results are largely consistent with what has been reported in adult populations. Indeed, their study is an important, first exploration into the relationship between attachment and shame-proneness among children. The current study seeks to build on the findings from Lutwak and Ferrari (1997) and Muris et al. (2014) by exploring how specific patterns of attachment
insecurity in childhood are related to shame-proneness in adulthood, which has not yet been done.

**Limitations of Existing Research**

There are limitations to the above studies, on which the current study seeks to improve and build. All five current studies exploring attachment and shame in adult populations use self-assessment measures of adult attachment that focus exclusively on attachment patterns in adult close and romantic relationships without drawing on childhood experiences. The single existing study conducted on children (Muris et al., 2014) utilizes a one-item attachment questionnaire, an age-adapted version of Hazan and Shaver’s (1987) questionnaire. This questionnaire asks children about how they currently relate to other children in relationships but does not directly draw on their attachment experiences with their primary caregiver.

Although research indicates continuity in attachment styles from childhood to adulthood, these styles can change with new relationships and experiences (Feeney, 1999; Wallin, 2007). Therefore, these existing studies do not explicitly address whether childhood attachment security predicts shame-proneness in adulthood. The five studies conducted on adult populations demonstrate a link between adult attachment insecurity and shame-proneness. The single study conducted on children shows patterns consistent with those found in adults; however, the relationship between childhood attachment insecurity and adult shame-proneness has not been evaluated in the current literature. The instrument that this researcher uses, the Primary Attachment Style Questionnaire (PASQ), is a relatively new attachment measure that retrospectively draws on childhood attachment experiences to capture childhood attachment insecurity. Currently, there are no studies that explore the relationship between retrospectively assessed childhood attachment insecurity and shame-proneness in adulthood.
In addition, four of the five studies conducted on adults employ shame measures that have important limitations, because they rely on direct questioning and are not scenario-based. Direct questioning (i.e. asking respondents how frequently they experience shame-related descriptors) has disadvantages compared to scenario-based measures (i.e. inquiring about affective, cognitive, and behavioral responses to hypothetical scenarios), because they rely on respondents’ abstract understanding of shame and are likely to elicit defensive denial (Tangney & Dearing, 2002). Indeed, denial is a characteristic defense against shame (Lewis, 1971), therefore collecting data about shame using indirect means is likely to garner a more accurate portrayal. One study employs a scenario-based measure of shame-proneness, the original version of the Test of Self-Conscious Affect (TOSCA) (Lopez et al., 1997). In this study, this researcher uses a revised, updated version of the TOSCA, the TOSCA-3, a widely used and accepted measure of shame-proneness.

Finally, existing studies conducted on adults are limited in their generalizability, because they have all utilized undergraduate college samples. All five studies have found that adult attachment security is related to lower shame, and adult attachment anxiety is related to higher shame. Although these studies measure adult attachment rather than childhood attachment, the findings suggest that a similar relationship may exist between childhood attachment and shame in adulthood, given that childhood attachment patterns, though changeable, tend to persist, especially without intervention. However, the fact that none of these studies have been conducted on an adult sample other than undergraduate students limits the conclusions that can be drawn, especially given that undergraduate students are predominantly young adults whose brains are not yet fully developed.
In the current study, the researcher has recruited a larger, more diverse sample of adults including those above age 25, the approximate age at which current science suggests that brain maturation occurs (Giedd, 2010). In doing so, she hopes to make a significant contribution to existing literature by shedding light on whether connections between childhood attachment insecurity and shame-proneness exist among a broad sample of adults.
Chapter Three: Methodology

The overall goal of the current study is to examine how early childhood attachment patterns with primary caregivers in childhood relate to level of shame-proneness in adulthood. This is a cross-sectional study that involves primary data collection through survey administration. In this chapter, the researcher states the research question and hypothesis, explains sampling methods, describes the instrument utilized for data collection, defines variables, presents procedures for data collection, presents the data analysis plan, and discusses human subjects concerns.

Research Question and Hypothesis

Data collected in this study will be used to answer the following research question:

Controlling for demographics (age, gender, race, ethnicity, education level, primary caregiver), does a person’s level of attachment security, attachment anxiety, attachment avoidance, or attachment disorganization in childhood relate to level of shame-proneness in adulthood?

Based on the theoretical framework grounded in attachment theory and interpersonal neurobiology, it was anticipated that attachment security would be negatively related to shame-proneness, and that each insecure attachment style – anxiety, avoidance, disorganization – would be positively related to shame-proneness.

Sampling

Data in this study have been drawn from a sample recruited through Amazon Mechanical Turk, an online crowdsourcing platform. Crowdsourcing refers to “the practice of obtaining needed services, ideas, or content by soliciting contributions from a large group of people and especially from the online community rather than from traditional employees or suppliers”
On Amazon Mechanical Turk, or MTurk, requestors post jobs and workers choose which jobs to do for pay; jobs are referred to as Human Intelligence Tasks (HIT). MTurk provides researchers with easy access to a large, available group of individuals who are willing to complete tasks, including participating in research studies. The platform allows researchers to recruit samples that are significantly more diverse than typical undergraduate samples (Mason & Suri, 2012). Paolacci et al. (2010) conclude that the population of workers on MTurk is closer to nationally representative samples than traditional undergraduate samples typically chosen for convenience. Research confirms that the quality of data obtained through MTurk is at least equivalent to or exceeds the quality of data obtained through traditional methods (Buhrmester et al., 2011).

The overall population of workers on MTurk is about 80 percent American and 20 percent Indian. The gender split is about even at 50 percent male and 50 percent female. In terms of age, over half were born in the 1980’s, roughly 20 percent were born in the 1990’s, roughly 20 percent were born in the 1970’s, and about 10 percent were born in the 1950’s and 1960’s, which means that workers in general are older than college students but younger than the general population. The educational levels and income levels of workers are very diverse with the average income slightly lower than the national average, a larger proportion of workers are single compared to the general population, and workers tend to be more liberal and more involved in social media than average (Sheehan & Pittman, 2016).

For the purposes of this study, the researcher screened potential MTurk workers based on demographics to include only participants who were located in the U.S. and aged 18 or over. The sample was limited to individuals residing in the U.S in order to control for factors that using an international sample would introduce. In addition, the researcher limited participants to workers
who met certain qualifications in order to ensure high quality data. Amazon has developed two elements of worker reputation in order for requestors to be selective about their participants. The first element is the percentage of HITs completed that have been accepted; the second element is the total number of HIT’s that a worker has submitted. The researcher initially limited the participant pool to workers who have high reputations, as defined by having completed 500 HITs with a 97 percent acceptance rate. However, a review of preliminary data collected based on these qualifications yielded some poor-quality data; therefore, the researcher further increased the required qualifications of workers, limiting access to the study only to workers who have completed 1000 HITs with a 99 percent acceptance rate, with the aim of improving overall data quality. In addition, a review of preliminary data indicated lack of attention by some workers; therefore, the researcher embedded five attention-check questions throughout the survey for subsequent data collection.

Initially, 372 people were recruited for the study, but data from 32 of them were eliminated because they were not reliable. Therefore, the final sample size for the study was 340.

**Data Collection Instrument**

The data collection instrument used in this study is a questionnaire that consists of three sections. The first section presents a short version of the Test of Self-Conscious Affect-3 (TOSCA-3; Tangney et al., 2000); the second section presents the Primary Attachment Style Questionnaire Before Age 12 (PASQ; Salzman et al., 2013); and the third section consists of several demographic and personal history questions. A complete copy of the questionnaire can be found in the Appendix.
Test of Self-Conscious Affect-3 (TOSCA-3)

The TOSCA-3 is a questionnaire that measures shame- and guilt-proneness. Shame-proneness refers to one’s dispositional tendency to experience shame across a variety of situations, and is distinguished from guilt-proneness, which refers to a person’s dispositional tendency to experience guilt across a variety of situations. Instruments that are effective in assessing shame-proneness tend to measure both shame-proneness and guilt-proneness and distinguish between them, because measures assessing only shame-proneness or guilt-proneness tend to confound the two constructs (Tangney & Dearing, 2002).

Indeed, shame cannot be adequately understood without distinguishing it from guilt, an emotion with which it is often conflated (Kim et al., 2011; Tangney, 1990, 1991). Although shame and guilt are similar in that they are both self-referential, negative, involve internal attributions, are experienced interpersonally, and can be triggered by similar events, the primary distinction is that shame focuses on the self as the object of evaluation, whereas guilt focuses on a specific behavior (Tangney, 1991; Tangney & Dearing, 2002).

The distinction is significant in light of research demonstrating that shame-proneness is maladaptive with major negative effects on a wide range of outcomes compared to guilt-proneness, which is adaptive with positive effects (Tangney & Dearing, 2002). The TOSCA-3 distinguishes between the two affects and therefore more accurately captures shame-proneness than other instruments (Tangney & Dearing, 2002).

The TOSCA-3 is a scenario-based measure. Researchers using scenario-based measures present participants with a series of specific, everyday situations, such as “You make a big mistake on an important project at work. People were depending on you and your boss criticizes you.” Each scenario is followed by descriptions of shame and guilt, without using these words,
a given context. For example, a shame response would be, “You would feel like you wanted to hide,” and a guilt response would be, “You would think ‘I should have recognized the problem and done a better job’”. The responses are meant to evaluate affective, cognitive, and behavioral aspects of shame and guilt without using these terms. Participants indicate on a 5-point scale how likely they would be to respond in a given manner; the test allows for experiencing both shame and guilt in a given scenario (Tangney & Dearing, 2002).

Scenario-based assessment has advantages over previously constructed measures (such as overtly asking respondents to rate how frequently they experience shame- and guilt-related affective descriptors) for several reasons, including that it does not rely on respondents’ understanding of the abstract concepts of shame and guilt and is less likely to generate defensiveness than other measures that ask directly about shame reactions, which could elicit defensive denial. Many individuals inclined towards shame deny their shame experiences; scenario-based measures are better able to avoid such defenses, because they ask about experiences in given situations but do not ask about a person’s inclination towards shame and guilt directly (Tangney & Dearing, 2002).

The TOSCA-3 has good reliability as shown by strong Cronbach’s alpha scores ranging from .76 to .88 for the shame-proneness scale (Tangney & Dearing, 2002, p. 238). The developers of the instrument point out that scenario-based measures tend to yield lower internal consistency estimates due to the situation variance inherent in the scenario approach and that test-retest estimates tend to be higher. The original TOSCA shame-proneness scale yielded a .85 test-retest stability over a 3- to 5-week period in a study of undergraduates (Tangney & Dearing, 2002, p. 41). The TOSCA-3 has strong discriminant validity in that the instrument clearly distinguishes between shame-proneness and guilt-proneness, with the two constructs showing
very different relationships to various aspects of psychological adjustment and social behavior (Tangney & Dearing, 2002). For example, a longitudinal study found that shame-proneness in fifth graders predicted behavioral problems including drug use and suicide attempts, whereas guilt-proneness predicted positive behaviors such as applying to college and engaging in community service (Tangney & Dearing, 2002). In addition, numerous studies have found that shame-proneness is linked to many psychological problems whereas guilt-proneness that is free of shame is unrelated to psychopathology (Tangney & Dearing, 2002).

The TOSCA-3, short version, consists of 11 hypothetical scenarios and associated responses. The short version of the shame-proneness scale has been found to correlate .94 with the full-length version consisting of 16 scenarios, supporting utility of the abbreviated form (Tangney & Dearing, 2002). The researcher administered the TOSCA-3, short version, in the first part of the questionnaire.

Primary Attachment Style Questionnaire (PASQ)

The PASQ is a self-report questionnaire that measures a person’s recalled experience of attachment to one’s primary caregiver (Salzman et al., 2013). There are two identical versions of the questionnaire, the PASQ before age 12 and the PASQ after age 12, of which the researcher employed the PASQ before age 12 to capture childhood attachment security and insecurity.

Attachment security refers to a person’s level of confidence that the primary caregiver will be available and responsive. More specifically, it is the degree to which a person has consistently experienced the primary caregiver as a safe haven where one can be comforted in times of distress, as well as a secure base from which to safely explore the world (Salzman et al., 2013). Attachment insecurity refers to a person’s lack of confidence that the primary caregiver will be available and responsive and manifests in three main styles as identified in the current
literature: anxiety, avoidance, and disorganization. Anxiety refers to the degree to which a person experienced the caregiver as unable to provide consistently a safe haven or secure base and is characterized by a pattern of inconsistent maternal behavior; children exhibiting this style may show clinging or erratic behavior, such as alternating between neediness and resistance of the caregiver’s attempts to soothe (Salzman et al., 2013). Avoidance refers to the degree to which a person experienced the primary caregiver as rejecting the child’s dependency needs and using discipline more than comfort; it is characterized by the child prematurely attempting to become self-sufficient, relying on self-soothing rather than proximity to the caregiver for comfort (Salzman et al., 2013). Disorganization refers to the degree to which a person experienced the primary caregiver as abusively frightening, helplessly frightened, or both, unable to provide even minimally adequate care (Salzman et al., 2013).

The original PASQ consists of six sub-scales, from which the researcher selected four sub-scales corresponding to the four distinct attachment styles most commonly recognized in infant and childhood attachment literature: secure, anxious, avoidant, and disorganized. These four sub-scales consist of a series of 30 statements pertaining to a person’s retrospective assessment of experiences with one’s primary caregiver; respondents indicate on a 7-point scale the degree to which each statement reflects one’s experience before the age of 12. The questions on each scale inquire about dynamics in the primary caregiver-child dyad that characterize each attachment style. The secure scale consists of 12 questions, while each of the anxious, avoidant, and disorganized scales consists of six questions.

The following items are examples from the PASQ before age 12 questionnaire (Salzman et al., 2013) that may help to clarify the meaning of attachment security, anxiety, avoidance, and disorganization.
These items are from the attachment security scale:

- My primary caregiver was there for me when I needed him/her.
- I could rise to challenges at school or other places, because I had my primary caregiver’s support.
- I felt as if my primary caregiver knew and appreciated me for who I was.

These items are from the attachment anxiety scale:

- My self-confidence went up and down with my primary caregiver’s changing attitude toward me.
- When I was upset, my primary caregiver’s responses varied from comforting to blaming or ignoring.

These items are from the attachment avoidance scale:

- I learned to protect myself because my primary caregiver didn’t want me to lean on him/her.
- My primary caregiver didn’t like demonstrations of affection, physical or otherwise.

These items are from the attachment disorganization scale:

- My primary caregiver left me exposed to danger.
- I couldn’t trust my primary caregiver because he/she seemed to hate me.

Salzman et al. (2013) calculated a Cronbach’s alpha of .904 for the secure attachment scale, .773 for anxious attachment, .764 for avoidant attachment, and .828 for disorganized attachment, demonstrating good reliability (p. 120). In addition, three validity studies conducted by the authors have supported the use of the PASQ in attachment research (Salzman et al., 2013). In these studies, the authors evaluate criterion-related validity; in other words, they assess whether the PASQ’s operationalization of attachment styles performs as expected based on
theory. More specifically, they assess predictive validity, which is the degree to which the operationalization accurately predicts something that it ought to theoretically predict (Trochim, 2000).

In the first validity study, Salzman et al. (2013) analyzed correlations between the PASQ’s styles of attachment before age 12 and styles of romantic attachment as categorized by the Experiences in Close Relationships (ECR) scale (Brennan et al., 1998). In a cross-tabulation of ECR romantic attachment categories with PASQ attachment categories, they found imperfect but statistically significant associations. In the second study, the authors evaluated and confirmed the hypothesis that certain insecure attachment styles in childhood would be related to particular traits of personality disorders as defined in the DSM-IV. In the third study, the authors used the PASQ before age 12 and the PASQ after age 12 questionnaires to evaluate the effects of maternal death, parental divorce, and disruption of maternal caregiving on the course of attachment security; they found changes in attachment security in the presence of these negative life events. Each of the attachment styles assessed in the PASQ before age 12 questionnaire demonstrated predictive validity in one or more of the above studies (Salzman et al., 2013).

The PASQ results can be represented either dimensionally, as mean ratings on all attachment scales, or typologically, as a predominant category of attachment (Salzman et al., 2013). The researcher has chosen to represent the results dimensionally, in light of the fact that some individuals are expected to have high levels in more than one category of insecurity; for instance, Bartholomew and Horowitz (1991) described adults with both anxious and avoidant tendencies as yielding a category sometimes referred to as “fearful avoidant.” The researcher administered the PASQ in the second section of the survey questionnaire.
Demographics and Personal History

In the third section of the questionnaire, the researcher asked several questions related to the control variables in the study. These questions pertain to the respondent’s age, gender, race, ethnicity, highest level of education attained, and primary caregiver from birth to age 12.

Pilot Testing

The researcher conducted two rounds of pilot testing among a small group of five individuals before finalizing the data collection instrument and publishing the survey on the MTurk platform. In the first round of pilot testing, the researcher utilized a different retrospective childhood attachment questionnaire but found multiple issues in the scoring of data collected. Upon further exploration, the researcher found that that the PASQ had overall better psychometric properties than the previously used instrument, the Retrospective Attachment Questionnaire (RAQ; Parkes, 2006); therefore, the PASQ was chosen for the final survey. In addition, respondents in pilot testing indicated that it would be beneficial to reduce respondent burden by shortening the length of the survey; therefore, the original long-version of the TOSCA was replaced with the short-version in the final survey. In the second round of pilot testing, the researcher checked for glitches in survey administration through Survey Monkey and calculated an estimated survey completion time.

The researcher also conducted a preliminary trial run of the survey on the MTurk platform before formally collecting data. In this trial, the researcher determined it would be beneficial to heighten the requirements for eligibility in the study and embed attention-check questions into the survey (i.e. If you are at least 18 years old, select Often) in order to improve overall data quality.
Variables

**Dependent Variable**

The dependent variable is shame-proneness, defined as one’s dispositional tendency to experience shame across a variety of situations. Shame-proneness is operationalized from the short-version of the TOSCA-3, consisting of 11 hypothetical scenarios and associated responses. The “shame-proneness” score is calculated by summing the likert scale responses to relevant items, ranging from a possible score of zero to 55 (the highest score of 55 represents the highest shame response to all 11 scenarios).

**Independent Variables**

There are four independent variables: attachment security, attachment anxiety, attachment avoidance, and attachment disorganization. Attachment security refers to a person’s level of confidence that the primary caregiver will be available and responsive; more specifically, it refers to the degree to which a person has consistently experienced the primary caregiver as a safe haven and secure base (Salzman et al., 2013). Attachment security is operationalized from the security scale of the PASQ before age 12 questionnaire, consisting of 12 questions. Attachment anxiety refers to the degree to which the primary caregiver-child relationship exhibited characteristics of an anxious attachment style, including a pattern of inconsistent maternal behavior. Attachment avoidance refers to the degree to which the primary caregiver-child relationship exhibited characteristics of an avoidant attachment style, such as the primary caregiver rejecting the child’s dependency needs. Attachment disorganization refers to the degree to which the primary caregiver-child relationship exhibited characteristics of a disorganized attachment style, such as abusive or neglectful behavior by the caregiver. Anxiety, avoidance, and disorganization are operationalized from the anxiety, avoidance, and
disorganization scales of the PASQ, each consisting of six questions. Mean ratings on each scale are calculated by summing the scores of items in the scale and dividing this sum by the number of items.

**Control Variables**

The researcher controlled for the following demographic and personal history variables: age, gender, race, ethnicity, education level, and primary caregiver (whether or not the respondent identified his or her primary caregiver before age 12 as mother).

**Data Collection Procedures**

All data were collected through the Amazon MTurk platform. Amazon gives requestors the option of setting up a survey using Amazon’s internal template or by directing the worker to an external site such as Survey Monkey. In order to ensure confidentiality, the researcher used an external rather than internal template, since Amazon has access to data collected through its interface. The researcher set up a Requestor account on the MTurk platform; then, she created and published batches of HIT’s that provided eligible workers with a link to the survey on the Survey Monkey site (the complete survey is found in the Appendix). Qualified workers who chose to participate were directed to the site in order to complete the survey. Data collected through Survey Monkey were then exported to SPSS for analysis.

Data were collected in eight batches between March 15, 2019 and March 17, 2019. The researcher chose to collect data in batches rather than at one time, in order to monitor data as data were coming in and to ensure the platform was operating properly. Features in Survey Monkey prevent a worker from completing the same survey more than once; furthermore, the researcher checked for duplicate worker ID’s to double-check that a worker had not completed the survey more than once. A small preliminary batch was collected on March 1, 2019, however,
the data from this batch were excluded from the study due to subsequent modifications that were made to the survey and worker requirements.

Data were initially collected from a total of 372 respondents. Data from three of these respondents were deleted, because the researcher found that these respondents had responded to the survey in the preliminary trial round (Survey Monkey did not catch these respondents as having already completed the survey, since the survey in the preliminary round was subsequently modified). Data from these respondents were deleted due to the possibility of test-retest bias. Furthermore, data from eight additional respondents were deleted due to the respondent providing incorrect answers to one or more embedded attention-check questions. Finally, the remaining deletions were made at the researcher’s discretion based on the survey being completed in an unrealistic amount of time. Pre-testing conducted by the researcher indicated an average survey completion time of approximately 30 minutes; data from surveys completed in fewer than six minutes were not included in the analysis. A final sample of 340 adults was obtained.

Research participants were compensated $4.50 per completed survey through their Amazon accounts. In order to determine the exact reward amount for this study, the researcher pretested the survey with a small group of individuals before posting the study on the MTurk platform and calculated the average amount of time needed for survey completion within the group. The average time for survey completion in the group was slightly over 29 minutes, which was rounded up to 30 minutes. The compensation amount was calculated based on a 30-minute completion time at a rate of fifteen cents per minute, which came out to $4.50 per survey. This rate has been recommended by researchers Sheehan and Pittman (2016) as well as by MTurk academic survey consultants MTurk Data (www.mturkdata.com).
Data Analysis Plan

Data Preparation

To prepare data for analysis, the researcher evaluated and accounted for missing data on the dependent and independent variables. Out of the total data collected by the researcher using the TOSCA-3 and PASQ, only a small percentage of data were missing; of those cases that had missing values, the vast majority were missing data on only one or two questions. Twenty-seven cases were missing at least one data point on either the TOSCA or one of the PASQ attachment scales; 25 of these were missing data on only one or two questions, while two cases were missing data on three questions.

Nine questions on the TOSCA shame and guilt-proneness scales had missing values (with a total of 12 missing values). On any given question on the TOSCA, there were no more than two missing values. Due to the relatively small number of missing values (only 0.16% of values were missing on the TOSCA shame and guilt-proneness scales), the researcher chose to preserve rather than discard data and imputed missing values with the median value “3.”

Fifteen questions on the PASQ had missing values (with a total of 21 missing values). On 14 of the 15 questions that had missing values on the PASQ, there were no more than two missing values. One question that had missing values on the PASQ had three missing values. Again, due to the relatively small number of missing values (only 0.2% of values were missing on the PASQ), the researcher chose to preserve rather than discard data and imputed missing values with the median value “4.”

The researcher recoded data and accounted for missing data on the control variables to prepare for data analysis. The numerical variable Age had two missing values for which the median age “36” was imputed. The categorical variable Gender was recoded as a dummy
variable Male (1 if male, 0 if female); one missing value was not recoded and excluded from analysis. Since the majority of the sample, approximately 80 percent, identified as White, and the sample sizes of the other racial categories were small, the categorical variable Race was recoded as a dummy variable White (1 if white, 0 else); “0” included one missing value. The categorical variable Ethnicity was recoded as a dummy variable Hispanic (1 if Hispanic, 0 else); “0” included four missing values. The ordinal variable Education (originally six categories) was recoded as a dichotomous dummy variable College Graduate (1 if highest level of education was a college degree or higher, 0 if highest level of education was less than a college degree); there were no missing values for this variable. The researcher chose to recode Education in this way due to a natural break in the variable distribution, with 57.3% of respondents indicating having a college degree or higher and 42.6 % of respondents indicating having lower than a college degree.

The categorical variable Primary Caregiver was recoded as a dummy variable, Mother. Mother is 1 if the respondent indicated one’s mother as one’s primary caregiver from birth to age 12 (0 else). “0” included “Father,” “Other caregiver,” and two missing values, which were manually recoded as 0. The researcher chose to combine “Father” and “Other” into one group for the analyses due to small numbers in each group (Nearly 89 % responded “Mother” as primary caregiver, while only 8 % responded “Father” and 3.3 % responded “Other”).

Overall, the amount of missing data on all variables was relatively small, and no cases were discarded from analysis due to a large number of missing values.

**Analysis Methods**

The researcher conducted univariate analyses, i.e. frequency distributions, in order to present descriptive statistics for the sample and descriptive statistics for the shame-proneness and
attachment scales. Then, she conducted bivariate analyses, i.e. Pearson correlations, to measure the strength of the correlations between control variables, attachment scores on each of the four attachment scales, and shame-proneness. Finally, she formally tested the hypotheses using multiple regression analyses (MRA), with shame-proneness as the dependent variable, each of the attachment categories (secure, anxious, avoidant and disorganized) as independent variables, and demographics (age, gender, race, ethnicity, education level, and primary caregiver) as control variables. The researcher conducted analyses using the software SPSS.

**Human Subjects Concerns**

**Informed Consent**

The researcher obtained an Institutional Review Board exemption on the basis that the study employs anonymous survey procedures that do not involve collection of any personally identifiable information; therefore, a formal informed consent was not required. However, in order for workers to make an informed decision about their participation, the researcher placed a statement on the first page of the survey in order to explain the purpose of the study; describe potential risks and benefits, such as the risk of potential distress in recalling childhood experiences if such experiences were emotionally painful; explain that participants will be asked to fill out a survey and give an approximate time for survey completion; explain protocols for ensuring confidentiality; inform participants that they can withdraw at any time without penalty by simply closing the survey window; inform participants of the amount of payment, how they would receive payment, and caveats including that the survey must be complete; and provide contact information for the researcher and the IRB in the event that participants had concerns or questions about the research. The statement clearly described eligibility criteria, including that respondents could not be minors and must reside in the U.S.
Confidentiality

Surveys were conducted anonymously, and the researcher did not collect personally identifiable information. Data collected were not shared with anyone except the researcher’s advisor.

Ethical Compensation

Research participants ought to be offered compensation that honors the time and effort they have invested in survey completion without being significant enough to constitute coercion. Many workers on MTurk receive low wages for the time they invest in task completion, which has raised concerns about exploitation of low-cost labor given that the average hourly remuneration on MTurk is below minimum wage. Although the majority of workers on MTurk do not rely on the income earned through the platform (Mason & Suri, 2012), this researcher acknowledges the potential for exploitation by researchers who may view MTurk as a way to obtain cheap, fast labor. This researcher is committed to ethical compensation and followed the guideline recommended by Sheehan and Pittman (2016) as well as by MTurk academic survey consultants MTurk Data (www.mturkdata.com) of rewarding participants approximately fifteen cents per minute, or nine dollars per hour, which is above minimum wage.

Summary

In this chapter, the study’s methodology was presented. The researcher stated the research question and hypothesis, explained sampling methods, described the data collection instrument, defined variables, presented data collection procedures, discussed the data analysis plan, and reviewed human subjects concerns. In the next chapter, findings from the data analyses will be presented.
Chapter Four: Results

In this chapter, the researcher presents the findings from the statistical analyses performed. First, she presents sample demographics and descriptive statistics for the shame-proneness and attachment scales. Next, she presents the results from bivariate analyses. Finally, she presents the findings from the multiple regression analyses (MRA) that were conducted to formally test the research hypotheses on the relationships between childhood attachment variables (secure attachment, anxious attachment, avoidant attachment, and disorganized attachment) and shame-proneness in adulthood.

Sample Demographics

Table 1 contains descriptive data for the sample. In the sample of 340 adults, the age of respondents ranged from 20 to 73, with a mean age of 39 years old (standard deviation = 11.6), and a median age of 36 years old. Approximately 57 % were male, and 43 % were female. In terms of race, 80.2 % self-identified as White, 7.7 % identified as Asian, 6.2 % identified as Black or African-American, 3.8 % identified as Bi-racial or Multi-racial, and 2.1 % identified as Other. Ninety-one and a half percent of respondents identified their ethnicity as Non-Hispanic or Latino; 8.5 % identified as Hispanic or Latino. In terms of educational attainment, 57.3 % of respondents reported having completed a college degree or higher, while 42.6 % reported having completed less than a college degree. Approximately 89 % of respondents reported that their mother was their primary caregiver before age 12, and 8 % reported that their father was their primary caregiver; approximately 3 % indicated that neither mother nor father was their primary caregiver, i.e. another relative such as a grandparent was their primary caregiver, or parents were divorced and they spent equal time with their mother and father.
The researcher acknowledges that the recruited sample is less diverse than would be a nationally representative sample. However, the sample is significantly more diverse than traditional undergraduate samples on which existing research studies related to adult attachment insecurity and shame have been conducted. In addition, traditional undergraduate samples predominantly consist of young adults whose brains are not yet fully developed. In the current study sample, over 92 percent of respondents were adults above age 25, the approximate age at which current science suggests that brain maturation occurs (Giedd, 2010).

Table 1

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean (SD)</th>
<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>Age</td>
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<td>39 (11.6)</td>
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<tr>
<td>Gender</td>
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<td></td>
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<tr>
<td>Male</td>
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<td></td>
<td>57.2</td>
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<tr>
<td>Female</td>
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<tr>
<td>Race</td>
<td>339</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td></td>
<td></td>
<td>80.2</td>
</tr>
<tr>
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<td>6.2</td>
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<td></td>
<td>3.8</td>
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<tr>
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<td>Primary Caregiver (birth to age 12)</td>
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<td>88.8</td>
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<tr>
<td>Other</td>
<td></td>
<td></td>
<td>3.3</td>
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Descriptive Statistics for Shame-Proneness and Attachment Scales

Table 2 shows descriptive statistics for the shame-proneness scale and the attachment scales used in this study. In the final sample of 340 adults, shame-proneness scores ranged from 13 to 55, with a mean of 34.53 (standard deviation = 7.81). On the secure attachment scale, scores ranged from 12 to 84, with a mean of 59.51 (standard deviation = 17.93). On the anxious attachment scale, scores ranged from 6 to 42, with a mean of 18.04 (standard deviation = 8.74). On the avoidant attachment scale, scores ranged from 6 to 40, with a mean of 17.51 (standard deviation = 8.72). On the disorganized attachment scale, scores ranged from 6 to 40, with a mean of 13.06 (standard deviation = 8.81).

<table>
<thead>
<tr>
<th>Scale</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>SD</th>
<th>Adjusted Mean*</th>
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<td>55</td>
<td>34.53</td>
<td>7.81</td>
<td>3.14</td>
</tr>
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<td>12</td>
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<td>Avoidant Attachment</td>
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<td>Disorganized Attachment</td>
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<td>6</td>
<td>40</td>
<td>13.06</td>
<td>8.81</td>
<td>2.18</td>
</tr>
</tbody>
</table>

*Note.* The adjusted mean is calculated by dividing the total score by the number of items on each scale. Higher scores indicate higher levels of shame-proneness, attachment security, attachment anxiety, attachment avoidance, and attachment disorganization.

Frequency distributions show that the shame-proneness scores clustered around the middle, with approximately 86% of respondents having scores between 25-45 (possible score range is 11-55). The frequency distributions for the attachment scales are somewhat skewed. For secure attachment, most respondents had scores falling in the upper range of the scale, with 56.5% of respondents scoring between 60 to 84 (possible score range is 12-84). The distributions for the insecure attachment scales were somewhat skewed in the opposite direction with most
respondents’ scores falling in the lower range of the scale (possible score range for each of the insecure attachment scales is 6-42). On the anxious attachment scale, 62.6% of respondents had scores ranging from 6 to 20. On the avoidant attachment scale, 65% of respondents had scores ranging from 6 to 20. On the disorganized attachment scale, 79.1% of respondents had scores ranging from 6 to 20, with 28.8% having the minimum possible score of 6.

There are no agreed upon norms for shame-proneness with which to compare the scores in this study’s sample. Although the developer of the TOSCA-3 has published studies showing mean shame-proneness scores on several samples, these studies used the original TOSCA-3 containing 16 scenarios instead of the short version containing 11 scenarios used by this researcher (correlating .94 with the original [Tangney & Dearing, 2002]). Therefore, it is not reasonable to compare this study’s mean scores with those in Tangney & Dearing’s (2002) studies, since the scores are based on similar but different instruments. Studies show differences in shame-proneness scores among different populations, with clinical samples typically showing higher scores compared to non-clinical samples (Tangney & Dearing, 2002).

The adjusted mean in Table 2 is calculated by dividing the total score by the number of items on each scale. The adjusted mean on the shame-proneness scale was approximately in the middle of the possible range at 3.14 (on a scale of 1 to 5, with 5 indicating the highest shame rating). The adjusted means on the insecure attachment scales followed a pattern similar to those found by Salzman et al. (2013) in their sample of undergraduate students, in that the adjusted mean for secure attachment was noticeably the highest, followed by the adjusted means for anxious attachment, avoidant attachment, and disorganized attachment. In this study, the adjusted mean on the secure attachment scale was 4.96 compared to 5.64 in Salzman et al.’s (2013) study (on a scale of 1 to 7 with 7 indicating the highest security rating). The adjusted
mean on the anxious attachment scale was 3.01 compared with 2.68 in Salzman et al.’s study (on a scale of 1 to 7 with 7 indicating the highest anxiety rating). This study’s adjusted mean for avoidant attachment was 2.92 compared to 2.25 in Salzman et al.’s study, and this study’s adjusted mean for disorganized attachment was 2.18 compared to 1.46 in Salzman et al.’s study. The sample in this study had an overall lower adjusted mean on secure attachment compared to Salzman et al.’s sample and higher adjusted means on all three insecure attachment scales compared to Salzman et al.’s sample. These differences in adjusted means could reflect differences in sampling, as this study used a broader sample of adults than the undergraduate sample used by Salzman et al.

**Bivariate Analyses**

Table 3 shows a correlation matrix of control variables, attachment scores on each of the four attachment scales, and shame-proneness. One case in the sample of 340 had a missing value on gender, and therefore was deleted from the analyses. In the sample, males had significantly lower shame-proneness scores than females (r = -.186, p < .01). Individuals whose primary caregiver before age 12 was their mother had significantly higher shame-proneness scores than those whose primary caregiver was not their mother (r = .197, p < .01). In addition, higher childhood attachment anxiety scores were significantly related to higher shame-proneness scores (r = .188, p < .01), and higher childhood attachment disorganization scores were significantly related to higher shame-proneness scores (r = .110, p < .05).

The correlation matrix reveals that the four attachment scales from the Primary Attachment Scale Questionnaire (PASQ) are highly correlated, with correlation coefficients having a magnitude near 0.8 between each of the four scales. In order to avoid statistical problems associated with multicollinearity, the researcher determined that in the multiple
regression analyses, the four attachment scales ought not be included in the same regression, but rather the effect of each attachment variable ought to be isolated from the others, such that four separate regressions were performed.
Table 3

Correlation Matrix of Control Variables, Attachment Scores, and Shame-Proneness (N = 339)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
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</thead>
<tbody>
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<td></td>
<td></td>
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<td></td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>2. Male</td>
<td>-.202**</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3. White</td>
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<td>-.031</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Hispanic</td>
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<td>.179**</td>
<td>-.216**</td>
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<td>-.135*</td>
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<td></td>
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</tr>
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<td>6. Mother</td>
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<td>.044</td>
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</tr>
<tr>
<td>9. Avoidant Attachment</td>
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<td>-.042</td>
<td>.086</td>
<td>.005</td>
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<td>-.818**</td>
<td>.801**</td>
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<td>10. Disorganized Attachment</td>
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<td>.026</td>
<td>.077</td>
<td>-.019</td>
<td>-.102</td>
<td>-.782**</td>
<td>.775**</td>
<td>.824**</td>
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<td>-.186**</td>
<td>-.022</td>
<td>-.001</td>
<td>.052</td>
<td>.197**</td>
<td>-.084</td>
<td>.188**</td>
<td>.078</td>
<td>.110*</td>
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</tr>
</tbody>
</table>

** p < .01
* p < .05
Multivariate Regression Analyses

The researcher used a researcher-controlled method for conducting MRA, also known as hierarchical analysis or blocked-entry analysis. In blocked-entry analysis, the researcher sequentially enters variables into the regression analysis in conceptual blocks rather than individually. In each of the four analyses, the control variables were entered on Step One; the independent variable, the attachment scale score, was entered on Step Two.

Table 4 shows the results for regression analysis of shame-proneness on the control variables and secure attachment. In Step One, in which only control variables are included in the analysis, results show that being male significantly predicts lower shame-proneness scores (Beta = -.210, p < .05), and that having one’s mother as one’s primary caregiver in childhood significantly predicts higher shame-proneness scores (Beta = .195, p < .05). The control variables by themselves explain 6.6 % of the variance in shame-proneness scores. The addition of attachment security in Step Two did not change the predictive significance of these control variables on shame-proneness; the adjusted R² increased slightly. Attachment security itself did not predict shame-proneness to a significant degree.

Table 5 shows the results for regression analysis of shame-proneness on the control variables and anxious attachment. Results show that higher attachment anxiety scores significantly predict higher shame-proneness scores (Beta = 0.172, p < .05). The control variables and anxious attachment account for approximately 9.3 % of the variance in shame-proneness scores.
### Table 4

**Regression Analysis of Shame-Proneness on Control Variables and Secure Attachment** (N = 339)

<table>
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<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
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<tbody>
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<td>SE-b</td>
<td>Beta</td>
<td>b</td>
<td>SE-b</td>
<td>Beta</td>
<td>b</td>
<td>SE-b</td>
<td>Beta</td>
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<td>-.057</td>
<td>.037</td>
<td>-.086</td>
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<td>.863</td>
<td>-.210*</td>
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<td>-.104</td>
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<td>-.008</td>
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<td>.316</td>
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<td>.011</td>
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<td>.847</td>
<td>.006</td>
<td>.176</td>
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<td>.096</td>
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<td>4.769</td>
<td>1.296</td>
<td>.195*</td>
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<td>.069</td>
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* p < .05

### Table 5

**Regression Analysis of Shame-Proneness on Control Variables and Anxious Attachment** (N = 339)

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<td>b</td>
<td>SE-b</td>
<td>Beta</td>
<td>b</td>
<td>SE-b</td>
<td>Beta</td>
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<td>.036</td>
<td>-.079</td>
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<td>.037</td>
<td>-.086</td>
</tr>
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<td>-.210*</td>
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<td>.857</td>
<td>-.188*</td>
<td>-3.308</td>
<td>.863</td>
<td>-.210*</td>
</tr>
<tr>
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<td>-.008</td>
<td>-.013</td>
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<td>-.001</td>
<td>-.153</td>
<td>1.066</td>
<td>-.008</td>
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<td>.011</td>
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<td>.096</td>
<td>.847</td>
<td>.006</td>
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<td>1.296</td>
<td>.195*</td>
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<td>.093</td>
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<td>.066</td>
<td>.093</td>
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</table>

* p < .05
Table 6 shows the results for regression analysis of shame-proneness on the control variables and avoidant attachment. Results show that attachment avoidance did not predict shame-proneness to a significant degree.

Table 7 shows the results for regression analysis of shame-proneness on the control variables and disorganized attachment. Results show that higher attachment disorganization scores significantly predict higher shame-proneness scores (Beta = 0.111, p < .05). The control variables and disorganized attachment account for approximately 7.6 % of the variance in shame-proneness scores.

**Table 6**

*Regression Analysis of Shame-Proneness on Control Variables and Avoidant Attachment (N = 339)*

<table>
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<tr>
<th>Variable</th>
<th>Step 1</th>
<th>Step 2</th>
</tr>
</thead>
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<tr>
<td>Age</td>
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<td>.037</td>
</tr>
<tr>
<td>Male</td>
<td>-3.308</td>
<td>.863</td>
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<tr>
<td>White</td>
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<td>1.066</td>
</tr>
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<td>Hispanic</td>
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<td>1.537</td>
</tr>
<tr>
<td>College Graduate</td>
<td>.096</td>
<td>.847</td>
</tr>
<tr>
<td>Mother</td>
<td>4.769</td>
<td>1.296</td>
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<tr>
<td>Avoidant Attachment</td>
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<td>Intercept</td>
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<td>F-value</td>
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* p < .05
Table 7

Regression Analysis of Shame-Proneness on Control Variables and Disorganized Attachment (N = 339)

<table>
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<th>Variable</th>
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</thead>
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<td>Beta</td>
<td>b</td>
</tr>
<tr>
<td>Age</td>
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<td>.037</td>
<td>-.086</td>
<td>-.053</td>
</tr>
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<td>Male</td>
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<td>-.210*</td>
<td>-3.103</td>
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<tr>
<td>College Graduate</td>
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<td>.847</td>
<td>.006</td>
<td>.131</td>
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<td>Mother</td>
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<td>.099</td>
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<td>.076</td>
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</tbody>
</table>

* p < .05

The Parsimonious Models

In order to summarize the results, two final regression models were analyzed. These are presented to clarify the most significant findings. In both of these models, both control variables that were found to be significant in the multiple regression analyses were included. These are gender (i.e. being male) and primary caregiver (i.e. having one’s mother as one’s primary caregiver before age 12). In addition, the attachment variables that were found to be significant, anxious attachment and disorganized attachment, were included in two separate models. In the first final regression, the two control variables and anxious attachment were added in one step. In the second final regression, the two control variables and disorganized attachment were added in one step. The results are presented in Table 7 and Table 8.

In Table 8, all factors are statistically significant, explaining 9.8 % of the variance in shame-proneness. Results show that being male significantly predicts lower shame-proneness scores (Beta = -.173, p < .05), and that having one’s mother as one’s primary caregiver in childhood significantly predicts higher shame-proneness scores (Beta = .206, p < .05). Higher
attachment anxiety scores significantly predict higher shame-proneness scores (Beta = 0.176, p < .05).

### Table 8

*Final Regression Model of Shame-Proneness on Control Variables and Anxious Attachment (N = 339)*

<table>
<thead>
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<th>Beta</th>
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<td>Mother</td>
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<td>Anxious Attachment</td>
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<td>0.046</td>
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</table>

* p < .05

In Table 9, all factors are statistically significant, explaining 8.0% of the variance in shame-proneness. Results show that being male significantly predicts lower shame-proneness scores (Beta = -.181, p < .05), and that having one’s mother as one’s primary caregiver in childhood significantly predicts higher shame-proneness scores (Beta = .213, p < .05). Higher attachment disorganization scores significantly predict higher shame-proneness scores (Beta = 0.115, p < .05).
Table 9
Final Regression Model of Shame-Proneness on Control Variables and Disorganized Attachment (N = 339)

<table>
<thead>
<tr>
<th>Variable</th>
<th>b</th>
<th>SE-b</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>-2.852</td>
<td>0.827</td>
<td>-0.181*</td>
</tr>
<tr>
<td>Mother</td>
<td>5.212</td>
<td>1.283</td>
<td>0.213*</td>
</tr>
<tr>
<td>Disorganized Attachment</td>
<td>0.103</td>
<td>0.047</td>
<td>0.115*</td>
</tr>
<tr>
<td>Intercept</td>
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<td>1.491</td>
<td></td>
</tr>
<tr>
<td>F-value</td>
<td></td>
<td></td>
<td>10.800*</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td></td>
<td></td>
<td>0.080</td>
</tr>
</tbody>
</table>

* p < .05

Summary

The hypotheses were partially supported by the results of the multiple regression analyses, showing the significance of anxious and disorganized attachment on shame-proneness, as well as the significance of gender and one’s primary caretaker on shame-proneness. These results will be discussed further in the next chapter.
Chapter Five: Discussion

This study explored the relationships between childhood attachment to one’s primary caregiver and shame-proneness in adulthood among a non-clinical sample of 340 adults. The results of the data analyses show important relationships between the insecure attachment styles – anxiety, avoidance, and disorganization – and shame-proneness. Certain types of attachment insecurity in childhood, specifically anxiety and disorganization, significantly predicted shame-proneness, whereas avoidance did not. Secure attachment was negatively related to shame-proneness, but the effect was not statistically significant. Therefore, the research hypotheses were partially supported by the data.

In each of the regression analyses performed, the model was statistically significant at Step One (control variables only) and Step Two (addition of attachment variable — security, anxiety, avoidance, or disorganization), meaning that the predictors as a set accounted for a statistically significant amount of the variance in shame-proneness. The control variables alone accounted for 6.6% of the variance in shame-proneness. The addition of anxious attachment increased this percentage by 2.7% (adjusted $R^2$ change), which is a small incremental change. The addition of disorganized attachment to the control variables increased the percentage of variance explained by 1% (adjusted $R^2$ change), which was also a small incremental change.

In the final models containing only significant variables, the control variables and anxious attachment accounted for 9.8% of the variance in shame-proneness; the control variables and disorganized attachment accounted for 8% of the variance in shame-proneness. These findings are modest but statistically significant, implying there are other variables contributing to the variance in shame-proneness that are not accounted for in the model. In the final regression model, the standardized Beta coefficient for anxious attachment was .176, and
the Beta coefficient for disorganized attachment was .115, indicating that anxious attachment was a more potent predictor of shame-proneness than disorganized attachment.

This researcher has discussed previously five existing studies that address the relationship between adult attachment insecurity and shame in adulthood (Gross & Hansen, 2000; Lopez et al., 1997; Mikulincer & Shaver, 2005; Passanisi et al., 2015; Wei et al., 2005). Generally, in these studies, attachment anxiety, as measured in close adult relationships, was significantly related to higher levels of shame-proneness, while the relationship between dismissive attachment and shame-proneness was not significant or unclear. In the only study conducted on children, Muris et al. (2014) found results that are similar to what has been reported in adult populations. In this study, children with anxious attachment exhibited significantly higher levels of shame-proneness compared to those who were securely attached, while children with avoidant attachment had shame-proneness scores that fell between the secure and anxious groups but did not significantly differ from either.

In terms of the relationship between anxious attachment and shame-proneness and the relationship between avoidant attachment and shame-proneness, this study’s findings are similar to what has been found in related studies (Gross & Hansen, 2000; Lopez et al., 1997; Passanisi et al., 2015; Wei et al., 2005). Existing studies have explored the effect of anxious and avoidant attachment styles on shame-proneness but have not explored the effect of disorganized attachment, since most utilized adult attachment questionnaires in which the disorganized style is not included.

In this chapter, the researcher discusses in greater depth the findings related to the insecure attachment styles and shame-proneness. Then, she discusses the relationship between secure attachment and shame-proneness, along with other findings.
Attachment Insecurity and Shame-Proneness

Based on the theoretical understanding that shame stems from repeated misattunements in the attachment relationship, the researcher hypothesized that each insecure attachment style – anxiety, avoidance, and disorganization – would be positively related to shame-proneness, given that each involves a pattern of misattunement on the part of the primary caregiver. However, these hypotheses were only partially supported by the data analyses, which revealed that anxiety and disorganization significantly predicted shame-proneness, whereas avoidance did not.

One possible interpretation for these findings is that individuals with different attachment styles learn to regulate affect in different ways, such that anxiety lends itself towards an intensification of shame, while avoidance lends itself towards a suppression or minimization of shame. In the following section, the researcher reviews concepts and literature related to attachment and affect regulation in order to provide an explanation for why this study’s findings may differ from what was initially hypothesized. Afterwards, she discusses the study’s specific findings within this context.

Attachment and Patterns of Affect Regulation

According to Bowlby (1982), the attachment system’s primary strategy for obtaining needed protection and support is to seek proximity to an attachment figure. Mary Main (1990) developed the notion of secondary attachment strategies to explain how one copes when the primary strategy of proximity-seeking is ineffective.

There are two classes of secondary attachment strategies: hyperactivation and deactivation. Hyperactivation is akin to a “fight” response, in which the person does not give up proximity-seeking but rather intensifies efforts to obtain an attachment figure’s love and support (Mikulincer & Shaver, 2003). Deactivation is a type of “flight” reaction, in which a person gives
up proximity-seeking in response to the attachment figure’s unavailability, deactivating the attachment system and attempting to manage alone (Mikulincer & Shaver, 2003). An anxious attachment style is characterized by the use of hyperactivating strategies, while an avoidant attachment style is characterized by the use of deactivating strategies (Mikulincer & Shaver, 2003). These different strategies influence how an individual manages emotions, which may affect their propensity towards shame.

Hyperactivating strategies involve insistent attempts to gain attention from an attachment figure who is perceived as unreliable or insufficiently available. In order to do this, the child’s attachment system remains in a state of chronic activation, which involves a high level of vigilance and worry about potential threats and the caregiver’s availability or unavailability. Hyperactivating strategies involve hypervigilance to internal distress, which entails intensification of negative emotions, rumination on negative thoughts, self-criticism, and overt displays of distress. Indeed, research shows that anxiously attached persons easily access negative thoughts and emotions and have difficulty suppressing them (as opposed to avoidantly attached persons) (Mikulincer & Shaver, 2003; Pereg and Mikulincer, 2004). Reliance on hyperactivating strategies causes problems with affect regulation, which leads to intense emotional distress that may feel uncontrollable and overwhelming (Mikulincer & Shaver, 2003).

Deactivating strategies are used when proximity seeking is not likely to produce the desired effect of protection and security (Main, 1990; Mikulincer & Shaver, 2003). This strategy involves denial of attachment needs and extreme self-reliance, minimizing threats and not paying attention to the caregiver’s availability in order to avoid activating the attachment system (Mikulincer & Shaver, 2003). The strategy involves cutting off affective responses, protecting the child from further alienating the parent by expressing anger or making more demands for
closeness, and manifests as an absence of overt distress and attachment behavior when attachment behavior would normally be expected (Cassidy & Kobak, 1988). Research shows that the cognitive systems of avoidantly attached persons are organized such that there is low accessibility to emotionally laden thoughts (Mikulincer & Shaver, 2003; Pereg & Mikulincer, 2004) and negative memories (Mikulincer & Orbach, 1995). In terms of affect regulation, this translates to inhibition of negative emotions, accomplished through means such as suppression of unwanted thoughts and repression of painful memories (Mikulincer & Shaver, 2003).

Parallels between the interpersonal and intrapersonal realms with regard to attachment style (Mikulincer & Orbach, 1995) may help explain differences in how avoidant and anxious individuals respond to shame. Secure attachment is associated with an openness to relationships, as well as an openness to one’s own inner emotional world and an ability to be aware of distress without being overwhelmed. Avoidant internal working models reflect distance from both relationships and one’s own inner world, in that avoidant individuals put up barriers socially and internally to avoid emotional distress. In contrast, anxious individuals show more inner chaos and difficulty distancing from unsatisfactory or problematic relationships, as well as difficulty detaching from overwhelming inner emotional pain (Mikulincer & Orbach, 1995).

**Anxiety and Shame-Proneness**

In this study, anxious attachment was positively related to shame-proneness to a statistically significant degree. This finding is consistent with the researcher’s hypothesis and generally consistent with similar studies exploring adult attachment and shame (Gross & Hansen, 2000; Lopez et al., 1997; Mikulincer & Shaver, 2005; Passanisi et al., 2015; Wei et al., 2005). Understanding this significant relationship within the context of affect regulation provides an explanation.
Anxious individuals engage in strategies that hyperactivate the attachment system and heighten associated affect (Pereg & Mikulincer, 2004). Research shows that anxiously attached individuals have difficulty repressing negative affects and thoughts (Mikulincer & Orbach, 1995). The inability of anxious individuals to repress negative affect presumably includes the inability to suppress shame. If hyperactivating strategies intensify negative affect in individuals with anxious attachment, through rumination and tendency of one negative affect or thought to trigger related negative affects and thoughts in working memory (Pereg & Mikulincer, 2004), it makes sense that these same strategies would result in the intensification of shame.

The current study measures childhood attachment rather than adult attachment, therefore it is reasonable to question whether this relationship between attachment and affect regulation is still relevant. In other words, is one’s childhood attachment style indicative of one’s affect regulation pattern in adulthood? The internal working models conceptualized by Bowlby (1982) are based on accumulated experiences with attachment figures in childhood, and research shows they are relatively stable constructs (Crowell et al., 1999). Continuity of attachment from infancy to adulthood is supported by longitudinal research showing 70-75% correspondence between infant attachment classifications as determined in the Strange Situation and adult attachment as measured by the Adult Attachment Interview (AAI) in late adolescence and young adulthood (Crowell et al., 2008). Lack of correspondence has been associated with significant life stressors that changed the caregiving environment such as death of a parent, a life-threatening illness in the child or parent, or divorce (Crowell et al., 2008). In light of this continuity, it is plausible to expect that those respondents reporting high attachment anxiety in childhood in the current study have developed affect regulation strategies characteristic of preoccupied attachment as adults (“preoccupied” in adult attachment literature parallels “anxious” in infant attachment literature.
This provides one possible explanation for the finding that higher attachment anxiety in childhood is related to higher shame-proneness in adulthood.

**Avoidance and Shame-Proneness**

In this study, avoidant attachment was positively related to shame-proneness, but the relationship was not statistically significant. This finding does not fully support the researcher’s hypothesis that the two variables would be significantly related but is somewhat consistent with similar studies exploring adult attachment and shame. Understanding attachment avoidance and shame-proneness within the context of affect regulation provides an explanation for the absence of a significant relationship.

Unlike individuals with anxious attachment styles, individuals with avoidant attachment styles engage in strategies that deactivate the attachment system and suppress affect (Pereg & Mikulincer, 2004). If deactivating strategies involve the suppression of negative affect, it makes sense that this includes suppression of shame. The ability of avoidant individuals to divert attention away from emotional distress and suppress negative thoughts about the self presumably includes suppression of negative emotions and thoughts associated with shame, especially given that shame is characterized by high distress and negative self-referential cognitions. Mikulincer and Shaver (2005) believe avoidant individuals do not experience shame as much, because they minimize emotional involvement and interdependence in their relationships, and therefore do not perceive transgressions as problematic, making them less susceptible to experience self-conscious emotions.

In light of research showing continuity of attachment from infancy to adulthood, as discussed previously, it is plausible to expect that those respondents reporting high attachment avoidance in childhood in the current study have developed affect regulation strategies
characteristic of dismissing attachment as adults (“dismissing” in adult attachment literature parallels “avoidant” in infant attachment literature [Mikulincer & Shaver, 2007]). The affect regulation strategies used by avoidant individuals, including a reliance on suppression of unwanted thoughts and emotions, offer one possible explanation for the absence of a statistically significant relationship between attachment avoidance and shame-proneness in this study.

In addition, it is possible that there actually is a relationship between avoidant attachment and shame-proneness that is not captured by this study. It is conceivable that avoidant attachment is related to unconscious shame or a different experience of shame not measured by the instrument used in this study.

Indeed, research indicates that avoidant individuals tend to underreport emotional distress, which may call into question the reliability of their self-report related to affective experiences such as shame. Studies suggest discrepancies among dismissing adults between their self-report of distress and distress as observed by others, with dismissing adults reporting less distress than observed by others (Dozier & Lee, 1995; Kobak & Sceery, 1988). It is unclear whether avoidant individuals actually experience less shame or whether their experience is not fully captured by self-report.

In one study, among a sample of adults with severe mental health disorders, researchers found that dismissing adults underreported psychiatric symptomatology compared to observation by trained interviewers (Dozier & Lee, 1995). In a similar study, individuals categorized as dismissing did not differ from individuals categorized as secure on self-report measures of emotional distress; however, based on peer report, dismissing individuals were rated as having higher anxiety and hostility than secure individuals, showing discrepancies between self-report and observation by others (Kobak & Sceery, 1988). The authors interpreted this incongruence as
evidence that dismissing individuals in general tend not to acknowledge negative affect. In the same study, peer ratings of preoccupied individuals were generally consistent with self-report, in contrast to the dismissing group, suggesting that self-reports of preoccupied individuals may be more reliable than self-reports of dismissing individuals.

Based on these studies and others demonstrating that avoidant individuals are more capable of suppressing unwanted thoughts and feelings (Fraley & Shaver, 1997), it is unclear whether the lack of correlation between avoidant attachment and shame-proneness in this study is due to the fact that avoidant individuals are actually less-shame-prone, underreport shame, and/or experience shame differently than captured by the shame-proneness instrument used. Those who score high on avoidance may be prone to underreport their emotional experience related to shame. For example, shame responses on the TOSCA such as “You would feel incompetent” or “You would feel inadequate,” though they don’t specifically refer to feeling ashamed, might evoke minimizing responses in avoidant individuals who may not be fully aware of such beliefs or suppress them.

The TOSCA is a scenario-based measure and therefore meant to minimize biases related to defensive denial by not asking about shame directly. Even so, shame responses such as, “You would want to hide,” may not capture the experience of avoidant individuals who are more able to suppress unwanted thoughts and feelings. Avoidant individuals may experience shame in a way that is not fully captured by the TOSCA. They may be more able to compartmentalize or suppress thoughts and feelings associated with shame, while still questioning their worthiness at an unconscious level. In other words, they may consciously report low shame but internally experience high shame (Gross & Hansen, 2000).
Deactivating strategies on which avoidant individuals rely involve suppressing thoughts about personal weakness and imperfection. Research shows that avoidant individuals score high on explicit self-esteem, have limited access to negative traits about the self, inflate positive self-image in response to threat, and project onto others their own negative traits (Mikulincer et al., 2004). Inflation of self-image is a component of narcissism, and projecting negative traits may result in blaming others. This is significant, since narcissism and blaming are both effects of shame (Kaufman, 1996; Pattison, 2000; Tangney & Dearing, 2002; Wright et al., 1989) and may be understood as shame-avoidant strategies. Although the current study found that avoidance was not related to shame-proneness, whether persons with high avoidance do not experience as much shame, or whether they experience it in a way not captured by the current study, is a question for future research.

**Disorganization and Shame-Proneness**

In this study, disorganized attachment was positively related to shame-proneness to a statistically significant degree. This finding is consistent with the researcher’s hypothesis, but there are no similar studies with which to compare the result, since existing studies on attachment insecurity and shame-proneness, primarily conducted on adults, have not explored the effect of disorganized attachment. A deeper understanding of disorganized attachment, particularly its traumatic nature, can provide an explanation for the significant relationship.

By definition, disorganized attachment is a traumatic attachment in which the primary attachment figure, the object of safety, becomes a frightening and threatening object. Mary Main referred to disorganized attachment as “fright without solution” (Hesse and Main, 1999). The source of safety becomes the source of danger when parents are “frightened or frightening,” creating a situation in which the child must find a way to maintain the attachment bond while
simultaneously mobilizing defenses for protection (Fisher, 2016; Hesse & Main, 1999). Because children’s attachment systems are designed to seek proximity when afraid, caregivers who are frightened or frightening elicit a fear/fight/flight response while at the same time intensifying the child’s desire for proximity, which Fisher (2016) refers to as a “double threat” (p. 105). Therefore, the child is caught between forces pulling in different directions, manifesting in behaviors such as backing away, closing eyes, hiding, or shutting down (Fisher, 2016; Main & Solomon, 1990). The conflict about approaching the parent in these situations results in contradictory approach-avoidance behaviors, either at the same time or sequentially, which characterize disorganized attachment (Lyons-Ruth et al., 2006). Understanding the traumatic nature of these kinds of interactions is important for explaining why disorganized attachment may contribute to shame-proneness.

Caregivers who are frightened or frightening are prone to abuse or neglect their children. Indeed, abuse and neglect are precursors to disorganized attachment (Liotti, 1999) and contribute to shame. Children who are abused take responsibility for the abuse, concluding their pain is deserved because of something wrong in who they are. Self-blame allows children to maintain an image of their caregivers as good and caring. Abuse in all its forms diminishes a person’s self-worth and produces shame (Bradshaw, 1988; Loader, 1998). Similarly, physical and emotional abandonment communicate to the child that she does not matter, producing shame. In cases of child abuse and neglect, DeYoung (2015) emphasizes that it is the repeated rejection of a child’s needs for emotional connection that produces a distorted sense of self shrouded in shame. Empirical research demonstrates that psychological trauma, including abuse and abandonment,
negatively affects one’s internal beliefs about the self and the world, engendering a strong vulnerability to shame (Platt & Freyd, 2012).

Disorganized attachment has been linked to psychological problems including pathological dissociation. Liotti (1999) suggests that disorganized attachment patterns are a first step on developmental trajectories that cause individuals to be susceptible to dissociation in response to later traumas. In other words, early attachment disorganization appears to be a precursor to dissociation later in life. Longitudinal research shows that disorganized attachment in the first two years of life is a strong predictor of adult dissociative symptomatology, even more so than trauma history (Lyons-Ruth et al., 2006). Because disorganized attachment leads to psychological and emotional instability, which contributes to difficulties in developing healthy relationships, persons with disorganized attachment styles may suffer from greater shame, because all people desire to be mentally stable and relationally connected.

In cases of disorganized attachment, the primary caregiver causes what Allan Schore refers to as “traumatic states of enduring negative affect in the child” (Schore, 2019, p. 24). Rather than helping to modulate the child’s emotional state, the caregiver causes extreme levels of stressful arousal, too high in abuse or too low in neglect. Because the caregiver does not typically repair these ruptures of attunement, the young child’s intense negative affective states endure for long periods of time (Schore, 2019). Such experiences are imprinted neurologically into the young child’s developing right brain and accessed later in life during periods of interpersonal emotional stress (Schore, 2019). Impaired neurobiological resilience, internalization of negative self-beliefs caused by trauma such as abuse and neglect, and shame

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stemming from mental instability and relational problems, provide some possible explanations for the significant positive relationship between disorganized childhood attachment and shame-proneness found in this study.

**Attachment Security and Shame-Proneness**

In this study, secure attachment was negatively related to shame-proneness, but the relationship was not statistically significant. Although the relationship was in the direction predicted by the researcher, in that the variables were negatively related, it was insignificant. Therefore, this finding is inconsistent with the researcher’s hypothesis that the two variables would be related and inconsistent with other studies (Gross & Hansen, 2000; Lopez et al., 1997; Passanisi et al., 2015) finding that higher security is related to lower shame-proneness. These inconsistencies may reflect differences in the instruments used and limitations related to how overall security was measured in this study.

The inconsistency of this finding with those of similar studies (Gross & Hansen, 2000; Lopez et al., 1997; Passanisi et al., 2015) may reflect differences in the instruments used. None of the existing studies on attachment and shame employ the PASQ to retrospectively measure attachment security. All studies conducted on adults assess attachment in adult relationships, and the one study conducted on children uses an age-adapted version of an adult attachment questionnaire. All these studies assess attachment in terms of how the person relates in peer relationships, rather than evaluating relationships with caregivers. Theoretically, one would expect continuity between the two, since attachment theory suggests that internal working models developed with primary caregivers in childhood serve as templates for future relationships. Nonetheless, different constructs are being measured, therefore it is important to
keep in mind that comparability between the results of this study and those of related studies is limited.

The inconsistency of this study’s findings with the hypothesis that retrospectively assessed childhood attachment security would be related to shame-proneness in adulthood may in part be explained by the somewhat general and vague nature of questions contained on the PASQ security scale, compared to questions on the insecurity sub-scales that are more specific. The questions on the secure attachment scale, intended to capture the person’s overall sense of the primary caregiver as a secure base and safe haven, may as a whole not capture specific relationship dynamics or the nature of emotional communications within the dyad as well as questions on the insecurity sub-scales that are more pointed. Some items on the security scale may be interpreted in such a way that they do not reflect the dimension of emotional attunement critical for attachment security. For example, one item on the attachment security scale states: “My primary caregiver was there for me when I needed him/her.” A respondent may indicate that his caregiver was there for him, in that the caregiver was responsive to his basic material needs, but the respondent may not be thinking about the statement in relation to his emotional needs.

Some questions on the security scale do address emotional communications, such as: “My primary caregiver was good at responding to my feelings, even when I was angry.” However, such questions may be too vague to capture the quality of attunement in the relationship (i.e. how one interprets “good” may be unclear). In other words, in part due to the somewhat ambiguous nature of statements on this scale, the items may not sufficiently capture important components of attunement, such as how observant and responsive the caregiver was to the child’s emotional state, including ability to read non-verbal cues, how well she was able to
soothe the child in emotional distress, and how quickly she could repair disconnection in the
attachment relationship when a rupture occurred. It is plausible that the questions on the
insecurity scales targeting specific negative interactional patterns better reflect relationship
dynamics that influence shame-proneness.

Some researchers on adult attachment have measured attachment security based on
variations along dimensions of attachment anxiety and avoidance rather than on a separate scale
(Mikulincer et al., 2004). In other words, security is determined by low scores on both anxiety
and avoidance scales rather than measured as a separate construct. People low on both
dimensions are considered secure, marked by having positive internal working models, positive
self-regard, and constructive affect regulation strategies (Mikulincer et al., 2004). A potential
approach to future research might be to consider measuring security as the absence of anxiety,
avoidance, and disorganization. This might have a different predictive effect on shame-
proneness.

**Additional Findings**

Gender and one’s primary caregiver in childhood were significantly related to shame-
proneness in adulthood. Men reported lower shame-proneness scores than women, and
individuals reporting their mother was their primary caregiver reported higher shame-proneness
scores than those reporting their mother was not their primary caregiver (although the “Other”
category was small with almost 89 % reporting their mother was their primary caregiver).
Further research needs to be conducted to understand how gender and primary caregiver affect
shame-proneness.
The finding that males report lower shame-proneness scores than females is consistent with research conducted on a wide range of samples (Tangney & Dearing, 2002). However, more research is needed on whether men are less shame-prone than women, or whether they simply report less shame. Research shows that shame is strongly linked to depression; for men, this link may be influenced by the norms of masculinity that have been internalized and the degree to which one feels he lives up to these norms (Shepard & Rabinowitz, 2013). Socialization to be self-reliant and not share emotional pain may contribute to men reporting lower shame and not reaching out for needed support. In addition, research based on semi-structured attachment interviews reveals gender differences in attachment styles, with males reporting higher scores on avoidant attachment, and lower scores on anxious attachment, compared to females (Bartholomew & Horowitz, 1991). Future research may wish to further explore gender differences in attachment styles, and whether a correlation between being male and attachment avoidance contributes to the lower shame-proneness scores reported by males.

Further research also needs to be conducted on how having one’s mother, father, or another person as one’s primary caregiver may affect shame-proneness, as little empirical research exists on this topic. Prior attachment studies have not thoroughly examined if and how differences in primary caregiver affect attachment. It is conceivable that primary caregiver affects attachment style, which in turn influences shame-proneness. Currently, little attention has been given to the impact of the primary caregiver’s gender on the development of the attachment relationship. Of those respondents who did not have their mother as primary caregiver, most (approximately 71%) had their father as primary caregiver. Given that males are more likely to have avoidant attachment, it is possible that the parenting the child receives from more
avoidantly attached male caregivers influences the attachment style that the child develops, which in turn affects shame-proneness.

Research shows that parental attachment style relates to various aspects of parenting behavior (Jones et al., 2015), and parenting behaviors influence the child’s attachment style (Siegel & Hartzell, 2003). For example, a parent with high avoidance may have learned based on past experience to keep safe by not depending on others and not allowing others to depend on him; such a belief may cause the parent to view the child’s dependency as a threat and influence his response (Jones et al., 2015), possibly engendering a response that rejects the child’s dependency needs and promotes avoidant attachment in the child. Gender differences in attachment style (Bartholomew & Horowitz, 1991) could be related to differences in parenting behavior between mothers and fathers that differentially affect the child’s attachment style and therefore their shame-proneness.

Fathers are more likely than mothers to have avoidant behaviors such as being emotionally unavailable, unresponsive, and rejecting of dependency needs; when applied to parenting, these behaviors promote avoidant attachment in the child (Siegel & Hartzell, 2003), which is associated with lower shame-proneness scores compared to anxious and disorganized attachment. In other words, the lower shame-proneness scores reported by respondents whose primary caregiver was not their mother could be related to being parented mostly by fathers whose parenting behaviors are more likely to promote avoidant attachment compared to mothers. It is also possible that the absence of one’s mother as primary caregiver is connected to losses, such as death or divorce, that affect the child’s attachment style to another caregiver, which may affect shame-proneness. Future research may wish to examine more closely the relationship
between primary caregiver and shame-proneness, paying special attention to whether the gender and attachment style of the caregiver play a role in this relationship.

**Limitations of the Current Study**

**Sampling**

The researcher made an effort to enhance the sample beyond undergraduate students, which have typically been used in prior studies on adult attachment and shame. However, the sample derived from Amazon MTurk has limitations. While the sample is more nationally representative and diverse than traditional undergraduate samples, it is still biased. In general, MTurk workers are older than college students but younger than the general population, their average income is slightly lower than the national average, a larger proportion of workers are single compared to the general population, and workers tend to be more liberal and more involved in social media than average (Sheehan & Pittman, 2016). In this study, demographic statistics show the sample is relatively young (mean age is 39), mostly White (approximately 80%), and educated (about 57% have a college degree or higher). Because the sample is not representative of the general population, the generalizability of the findings is limited.

**Problems with Retrospective Assessment**

The retrospective attachment questionnaire used in this study, the PASQ, has limitations inherent to instruments that rely on recalled experiences. Indeed, recalled memories are inherently biased, and a person’s state of mind at the time of memory encoding and at the time of memory retrieval can distort memories (Siegel & Bryson, 2012). As a result, although adults have valuable information to share based on their recalled experience, sometimes one’s recollection may not be a reliable indicator of one’s actual attachment experience. Research shows that although conscious and unconscious beliefs usually align, sometimes conscious
beliefs do not accurately reflect individuals’ true attachment organizational system (Crowell et al., 2008). Individuals with disrupted attachment may have developed psychological defenses that impair their ability to accurately assess the quality of their experiences. For example, some persons may idealize their parents causing them to overlook parental shortcomings and faults, a defense more likely to be employed by those with avoidant tendencies.

Research has shown that adults classified as dismissing utilize strategies that minimize, dismiss, devalue, or deny the impact of negative attachment experiences, referred to as “the dismissing strategy” (Crowell et al., 2008). In other words, the same deactivating strategies that dismissing adults use to minimize the significance of emotionally distressing material, such as shame-related cognitions and affect, also apply in relation to attachment-related material. Research confirms that individuals with dismissing attachment have poorer recall of attachment-related events (Siegel, 2001). Avoidant individuals seem less attentive to emotional experiences as they occur (Fraley et al., 2000) and appear to have less attachment-related memory than non-avoidant individuals (Fraley & Brumbaugh, 2007).

As a result of dismissing adults’ impaired autobiographical recall and tendency to minimize negative experiences, self-report attachment measures have encountered problems in accurately distinguishing between secure and dismissing adults (Crowell et al., 1999). It is possible that the instrument used in our study has limitations in distinguishing clearly between secure and avoidant attachment. For instance, the PASQ is not able to capture if a respondent is idealizing his or her parents, and therefore answering in such a way as to indicate low avoidance or high security when this was not actually the case. Some people may not consciously be aware that they learned not to depend on their caregiver emotionally, minimizing this experience and scoring low on PASQ avoidance questions (i.e. 2. I learned to protect myself because my
primary caregiver didn’t want me to lean on him/her; 17. My primary caregiver didn’t know how to comfort people, so I learned not to go to him/her when I was upset). These same people may score on high attachment security questions because they are not fully in touch with their true attachment experience and minimize negative aspects.

Research using the Adult Attachment Interview (AAI) has shown that college students classified as dismissing showed difficulty recalling negative childhood experiences, while students classified as preoccupied did not have difficulty with recall, although their narratives were often confused or incoherent (Kobak & Sceery, 1988). Those classified as secure had narratives that were coherent and demonstrated good recall (Kobak & Sceery, 1988). Based on these findings, inaccuracy in the PASQ due to impaired autobiographical recall may occur among respondents with high unconscious avoidance.

A related limitation of the PASQ used in our study is that it assesses only conscious aspects of recalled attachment (whereas the AAI also assesses unconscious aspects). For example, the AAI is able to capture if a person idealizes his or her parents, portraying them as perfect but unable to come up with actual memories of warmth and love. The AAI is well-validated and overall may provide a more comprehensive, accurate depiction of attachment than the PASQ, however it was not feasible to employ for the current study due to prohibitive costs and extensive required training for interviewing and scoring. Future studies exploring the connection between attachment and shame may benefit from utilizing the AAI if these barriers can be overcome, or using the AAI in conjunction with a self-report attachment measure.
Future Research

Replication of Study Results

Because the current study is the first to examine childhood attachment and shame-proneness in adulthood, the study ought to be replicated in future research to provide further validation for the findings. Future researchers could replicate the current study among different adult samples, including clinically defined samples, to see if the significant results hold across different populations. In addition, researchers could replicate the current study using different instruments for measuring attachment and shame-proneness. Replication of this study’s findings across varying samples and using different measurements would provide valuable information to further validate the relationships between childhood attachment and adult shame-proneness found in this study.

Utilization of the Adult Attachment Interview (AAI) in future research could build upon findings from the current study. The AAI is well-validated, comprehensive, and able to capture unconscious aspects of attachment. For instance, the AAI can assess the overall coherence of one’s attachment narrative, which provides valuable information related to the person’s attachment style and the degree to which one has made sense of one’s attachment history; it can also evaluate unconscious patterns such as idealization of parents associated with avoidant attachment. Because the AAI captures aspects of attachment that retrospective questionnaires are not able to assess, utilizing the AAI in future research evaluating the relationship between attachment and shame-proneness could offer valuable knowledge, provided resources are available for the extensive time and training necessary to interview and score. Future researchers may wish to explore whether the same results found in this study hold using the AAI.
Need for Longitudinal Research

The current study is cross-sectional in nature; therefore, no definitive conclusions can be drawn in terms of cause-effect relationships. The study shows that anxious attachment and disorganized attachment in childhood, retrospectively assessed, statistically predict shame-proneness to a significant degree. Although the strength of these relationships is modest, the findings suggest these insecure attachment styles may contribute to the development of shame-proneness. However, the study does not prove these attachment styles are actually precursors to shame-proneness or cause shame-proneness. Future longitudinal research is necessary to explore whether specific attachment styles actually act as precursors to shame-proneness in adulthood as theory would suggest.

In such longitudinal studies, documenting childhood attachment based on observation of actual parent-child interactions could provide vital information that retrospective assessment cannot provide. If possible, it would be beneficial in these studies to incorporate different family structures and diversity in terms of age, gender, socio-economic status, race, and other demographic characteristics.

In these longitudinal studies, it would be beneficial for trained observers to focus on the caregiver’s ability to repair attachment disruptions in a timely manner, especially how the caregiver facilitates bringing the infant or child back to a positive affective state after he or she experiences shame. Prior research suggests that restoring relational connection after a child experiences shame is critical, and repeatedly allowing the child to be left stuck in shame without repairing the rupture could cause lasting damage, although there is little empirical evidence to support these claims. The current study suggests that overall parent-child attachment patterns may influence the development of shame-proneness, but the retrospective questionnaire used
does not hone in on this specific aspect of attunement, the ability of the caregiver to repair an
attachment disruption by quickly restoring relational connection. Although this ability on the part
of the caregiver is certainly implied in many of the questions asked, it may be more accurately
assessed through observation in real time.

Conducting a longitudinal study could significantly build on the findings from the current
study, and observation in real time could provide vital information that retrospective assessments
are not able to capture. However, it is important to recognize that there are important logistical
challenges inherent to conducting longitudinal research, given the timeline between childhood
and adulthood, including the difficulty in following-up with and maintaining a large sample over
the course of 25-30 years. In addition, there are inherent challenges to in-person observation,
including the effect of the observation itself on parental behavior and the extensive time and
training necessary to properly equip those carrying out the parent-child observations.

Nonetheless, a longitudinal study could confirm that certain attachment patterns are
precursors to shame-proneness in a way that a cross-sectional study cannot, therefore building on
the current study’s findings. Such findings could have important implications for preventive
research, potentially confirming that reducing dynamics related to attachment insecurity in
childhood could improve mental health across the lifespan by way of reducing shame-proneness.

**Potential Interaction Effects**

As previously discussed, avoidant individuals deactivate negative emotions, whereas
anxious individuals have difficulty doing so. In other words, anxiety and avoidance appear to
oppose one another in terms of effect on emotional state. As a result, individuals high on both
dimensions may not be able to effectively utilize defenses employed by those typically
characterized as dismissing, defined frequently as those with high avoidance and low anxiety (Fraley & Brumbaugh, 2007; Fraley et al., 2000).

It is important to note that avoidance is theoretically distinct from anxiety; therefore, one can be both highly avoidant and highly anxious. Indeed, on the PASQ used in the current study, one can score high on both avoidance and anxiety. Bartholomew and Horowitz (1991) have categorized this combination type in adult attachment research as “fearful-avoidance,” those who are avoidant of closeness and dependence but still have anxiety related to rejection or abandonment. For these, anxiety seems to undermine their ability to use defensive strategies typically used by dismissing individuals (high avoidance, low anxiety) such as suppression of thoughts and emotions (Fraley & Brumbaugh, 2007).

There appears to be a lot of variation in the emotional experiences of individuals who score high on attachment avoidance, from those who are highly dismissing, to those who have anxiety in addition to avoidance. Whether there exists a potential interaction effect between anxiety and avoidance is a question for future research. The two may work in opposing directions; therefore, there could be a potential interaction effect, which future research may wish to explore. However, the two are highly correlated, which adds to the difficulty of untangling an interaction effect.

**Clinical Implications**

A better understanding of attachment is directly relevant for understanding change in the therapeutic process. Indeed, recent advances in attachment theory have contributed to an increasing focus across disciplines on the relational processes involved in psychotherapeutic change. Consequently, clinicians are now widely employing attachment models for the treatment of mental health disorders involving right brain relational-emotional dysfunctions (Schore,
The findings of this study show modest but statistically significant relationships between childhood attachment and shame-proneness, implying that an attachment-oriented, right brain focused model of psychotherapy may be especially beneficial for shame-prone individuals. In addition, this study has implications for preventive interventions in clinical work with families.

**Implications for Treatment with Individuals**

**Right Brain Psychotherapy.** An attachment-oriented, right brain model of psychotherapy, referred to as “right brain psychotherapy,” has been delineated by Allan Schore (2019). The model is informed by his research drawing on an expanding body of research in the field of neurobiology over the past two decades. In this approach, right brain-to-right brain communications between therapist and client are central to change (Schore, 2019). Attachment theory supported by neuroscience shows that in early childhood, interactive regulation of affect influences healthy maturation of the early developing right brain, whereas early interactive dysregulation leads to later psychological problems (Schore, 2019). As a mother’s responsiveness to her baby’s changing emotional state moment by moment involves communication between the mother’s right brain and baby’s right brain, a strong therapeutic alliance also involves right brain-to-right brain communications between therapist and client, providing an opportunity for a corrective emotional experience.

Right brain-to-right brain communications require that the therapist listen to and interact with the client beneath verbalization to process nonverbal and unconscious emotional information, such as subtle shifts in facial expression or posture (Schore, 2019). The therapist tracks the client’s internal states moment-to-moment and modifies him or herself to synchronize with the client’s state. Core clinical skills involve right brain capacities such as the ability to
empathically receive and express nonverbal communications and the ability to regulate one’s own and another’s affect (Schore, 2019).

**Corrective Attachment Experience.** Therapeutic interactions frequently awaken earlier attachment memories, which brings the possibility of a reparative attachment experience (Schore, 2019). In other words, the therapeutic relationship potentially becomes an attachment experience that heals the repeated attachment ruptures that may have contributed to shame-proneness in the first place. Attunement helps clients get in touch with denied relational needs and associated intense feelings; empathy and curiosity encourage clients to share the stories of their emotional and relational lives; and acceptance allows shame to be brought into the light. Working through shame experiences that emerge in the therapeutic relationship, and repairing associated relational ruptures, provides a corrective relational experience (DeYoung, 2015).

Relationally-oriented, emotionally focused therapy brings about change in the right brain (Schore, 2019). Indeed, neurobiology shows the brain is malleable, which means that new experiences and relationships build new neural networks. However, research shows that when there has been relational trauma, old pathways do not disappear, and building new ones takes hard work and repetition over a long period of time. In other words, new neurons need to fire together repetitively for new networks to be established (DeYoung, 2015). For many individuals who have histories of disrupted childhood attachment, the therapeutic relationship is the safest way to begin to experience consistently attuned, empathic interaction over time. Therapy creates a safe place where attachment and relational needs that have often been shut down for a long time emerge along with associated emotions (DeYoung, 2015), providing an opportunity for shame to emerge in a safe and healing context.
**Attachment-Informed Treatment for Shame-Prone Clients.** There has been a shift in psychotherapy from a focus on left brain conscious cognition to right brain unconscious, relational, and emotional functions informed by an attachment-oriented perspective (Schore, 2019). This study’s findings suggest such a shift may be especially beneficial for mental health issues where shame is a contributor, since the therapeutic relationship can provide a corrective attachment experience for the disrupted attachment dynamics that may have contributed to the development of shame-proneness in the first place.

This study suggests that clients’ individual childhood attachment histories influence their shame-proneness, therefore clinical treatment of shame-related presenting issues, which are many and varied, may be enhanced by incorporation of attachment-related considerations into the therapeutic process. Clinicians working with clients manifesting high levels of shame-proneness will likely benefit from applying an attachment perspective, paying close attention to how the client’s propensity towards shame has been shaped by earlier attachment dynamics.

More specifically, clinicians may wish to take into consideration the higher levels of shame-proneness reported among individuals reporting higher levels of anxious and disorganized attachment in childhood, observing whether these patterns hold true in their clinical practices and modifying therapeutic approaches accordingly to better meet clients’ unique needs. For clients with high shame-proneness who have histories of attachment anxiety and disorganization, a right brain focused attachment-oriented model of psychotherapy that provides an opportunity for a corrective attachment experience may be especially effective. Clinicians may wish to consider the hyperactivating strategies used by individuals with anxious attachment, which influence how they regulate affect and may increase their propensity towards shame. Clinicians may also wish
to consider also how those with disorganized attachment histories have experienced traumas that have likely impaired right brain functions and predisposed them to become shame-prone.

In addition, clinicians may consider the lack of correlation between avoidant attachment and shame-proneness found in the current study, as they work with clients demonstrating high attachment avoidance. More specifically, clinicians could benefit from keeping in mind the deactivating strategies utilized by dismissing clients, paying attention to observe whether these clients have low shame-proneness, as they may self-report, or whether they are minimizing distress. When working with avoidantly attached clients, it is important for clinicians to keep in mind that distress even related to presenting issues may be minimized. Although these clients may ostensibly report high self-esteem or low shame, clinicians may wish to keep in mind the possibility of avoidant defenses at play, attempting to understand and respect these defenses. For these clients, the main therapeutic goal is to learn how to acknowledge, process, and communicate emotions.

**Implications for Prevention and Family Treatment**

This study has potential implications for the prevention of shame-proneness and related mental health problems. The findings seem to imply that reducing the dynamics in the parent-child dyad that contribute to attachment insecurity could potentially serve to improve the child’s mental health in the long-run, by protecting against shame-proneness. This may be especially true in cases where dynamics contributing to attachment anxiety and attachment disorganization are present. Of course, future research including longitudinal research is needed to validate this study’s findings, in order for these propositions to be made more conclusively.

In clinical treatment with families and parent-child dyads, decreasing dynamics that contribute to attachment insecurity may be a worthy treatment goal, because improving the
quality of the attachment relationship is likely to improve overall family functioning and satisfaction. However, interventions focused on strengthening parent-child attachment by improving connection and attunement may have an additional long-term effect of reducing shame-proneness and corollary mental health related effects for the child into adulthood. This study seems to support current attachment research showing that early intervention focused on improving attachment may prevent mental health problems and therefore have an enduring positive impact on mental well-being.

In conclusion, this study provides an introductory exploration into the relationship between childhood attachment and shame-proneness in adulthood, and therefore contributes to the existing body of literature on attachment and shame. The results indicate statistically significant relationships between childhood attachment and shame-proneness in adulthood, namely between anxious attachment and shame-proneness as well as between disorganized attachment and shame-proneness, which are explained in part by research elucidating the connection between attachment styles and patterns of affect regulation. These findings have implications for future research and clinical social work practice. Social workers and other mental health professionals who work with clients dealing with a wide range of shame related mental health issues can benefit from an increased understanding of the relationship between childhood attachment and shame-proneness that this study provides.
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You are invited to participate in a study on how people experience self-conscious emotions in everyday life. The purpose of the study is to understand how individuals' relationships with their primary caregiver in childhood may influence the way they experience self-conscious emotions in adulthood.

**What will I be asked to do?**

This survey is divided into two parts. In the first part, you will be presented with a series of hypothetical scenarios from everyday life and will be asked to indicate how likely you would be to respond in each of several different ways. In the second part, you will be asked to answer a series of questions related to your childhood experiences with your primary caregiver. Finally, you will be asked to provide some demographic information, including your age, gender, race, ethnicity, and education level. This survey is estimated to take approximately 20-25 minutes to complete.

**What are the risks?**

This survey asks participants to reflect on their childhood experiences with their primary caregiver, which may cause emotional distress. If you are negatively affected by any part of this survey, you can contact an online chat service such as Lifeline Crisis Chat (crisischat.org) or an information and referral service for mental health and substance issues such as SAMHSA's National Helpline (1-800-662-HELP).

**What are the benefits?**

This research will be used to expand understanding of how individuals' experiences with their primary caregiver may affect their emotional lives. The findings may be used to inform future clinical interventions.
You will be compensated $3.75 (USD) within three days of survey completion through your Amazon Mechanical Turk account. No compensation will be given if the survey is not completed.

**What if I want to withdraw from the research?**

Participation in this research is completely voluntary. You are free to withdraw at any time, without giving justification for withdrawing, by simply closing the survey window. If you withdraw, any data you have supplied will be deleted.

**How will my confidentiality be protected?**

Survey responses will remain anonymous, and the records of this study will be kept confidential. In the event that you decide to withdraw from the study, all data supplied will be destroyed. Research records will be stored securely, and only the researcher will have access to the records. All data presented from this study will refer to the whole group of participants and will not refer to any one person's responses.

**Where can I get further information?**

If you have any questions about this study, please contact the researcher listed above. This research project has been approved by the Committee for the Protection of Human Subjects in the Office of Sponsored Programs and Research at The Catholic University of America with reference number 17-077, in accordance with its ethics review and approval procedures.

If you have any concerns or complaints about the conduct of this research project, which you do not wish to discuss with the researcher, you may contact Ralph Albano in the Office of Sponsored Programs and Research at 202-319-5218 or albano@cua.edu. All complaints will be treated confidentially. In any correspondence, please provide the name of the researcher or ethics ID number of the research project.

**How do I agree to participate?**

In order to participate in this study, you must be a U.S. resident aged 18 or over.

By clicking 'Next' and completing the survey, you indicate agreement with the terms stated above.
Instructions for Part One

In the following pages, you will be presented with 11 different situations that people are likely to encounter in day-to-day life, followed by several common reactions to those situations.

As you read each scenario, try to imagine yourself in that situation. Then indicate how likely you would be to react in each of the ways described. We ask you to rate all responses because people may feel or react more than one way to the same situation, or they may react different ways at different times.

For example:

A. You wake up early one Saturday morning. It is cold and rainy outside.

<table>
<thead>
<tr>
<th>a) You would telephone a friend to catch up on news.</th>
<th>Not likely (1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>Very likely (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>b) You would take the extra time to read the paper.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>c) You would feel disappointed that it's raining.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) You would wonder why you woke up so early.</td>
<td></td>
<td></td>
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</tbody>
</table>

In the above example, I will rate ALL of the answers by selecting a number. I will select a "1" for answer (a) because I wouldn't want to wake up a friend very early on a Saturday morning -- so it's not at all likely that I would do that. I will select a "5" for answer (b) because I almost always read the paper if I have time in the morning (very likely). I will select a "3" for answer (c) because for me it's about half and half. Sometimes I would be disappointed about the rain and sometimes I wouldn't -- it would depend on what I had planned. And I will select a "4" for answer (d) because I would probably wonder why I had awakened so early.

Please do not skip any items. Rate ALL responses.
Part One

1. You make plans to meet a friend for lunch. At 5 o’clock, you realize you stood him up.

<table>
<thead>
<tr>
<th>Not likely (1)</th>
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<th>(3)</th>
<th>(4)</th>
<th>Very likely (5)</th>
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</thead>
<tbody>
<tr>
<td>a) You would think: “I’m inconsiderate.”</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) You would think: “Well, they’ll understand.”</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>c) You’d think you should make it up to him as soon as possible.</td>
<td></td>
<td></td>
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<tr>
<td>d) You would think: “My boss distracted me just before lunch.”</td>
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</tr>
</tbody>
</table>

2. You break something at work and then hide it.

<table>
<thead>
<tr>
<th>Not likely (1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>Very likely (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) You would think: “This is making me anxious. I need to either fix it or get someone else to.”</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>b) You would think about quitting.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) You would think: “A lot of things aren’t made very well these days.”</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>d) You would think: “It was only an accident.”</td>
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</tbody>
</table>
3. At work, you wait until the last minute to plan a project, and it turns out badly.

<table>
<thead>
<tr>
<th>Not likely (1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>Very likely (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) You would feel incompetent.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b) You would think: &quot;There are never enough hours in the day.&quot;</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>c) You would feel: &quot;I deserve to be reprimanded for mismanaging the project.&quot;</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>d) You can show you are paying attention to this survey by selecting &quot;Very likely.&quot; Please select the response &quot;Very likely.&quot;</td>
<td>☐</td>
<td>☐</td>
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</table>

4. You make a mistake at work and find out a co-worker is blamed for the error.

<table>
<thead>
<tr>
<th>Not likely (1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>Very likely (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) You would think the company did not like the co-worker.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>b) You would think: &quot;Life is not fair.&quot;</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c) You would keep quiet and avoid the co-worker.</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>d) You would feel unhappy and eager to correct the situation.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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</tr>
</tbody>
</table>
5. While playing around, you throw a ball and it hits your friend in the face.

<table>
<thead>
<tr>
<th>a) You would feel inadequate that you can't even throw a ball.</th>
<th>Not likely (1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>Very likely (5)</th>
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<td></td>
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<td>○</td>
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<tr>
<td>b) You would think maybe your friend needs more practice at catching.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>c) You would think: “It was just an accident.”</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>d) You would apologize and make sure your friend feels better.</td>
<td>○</td>
<td>○</td>
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</table>

6. You are driving down the road, and you hit a small animal.

<table>
<thead>
<tr>
<th>a) You would think the animal shouldn't have been on the road.</th>
<th>Not likely (1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>Very likely (5)</th>
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<tbody>
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<td>○</td>
<td>○</td>
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<td>○</td>
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<tr>
<td>b) You would think: “I'm terrible.”</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>c) You would feel: “Well, it was an accident.”</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>d) You'd feel bad you hadn't been more alert driving down the road.</td>
<td>○</td>
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</table>

7. You walk out of an exam thinking you did extremely well. Then you find out you did poorly.

<table>
<thead>
<tr>
<th>a) You would think: “Well, it's just a test.”</th>
<th>Not likely (1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>Very likely (5)</th>
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<td>○</td>
<td>○</td>
<td>○</td>
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</tr>
<tr>
<td>b) You would think: “The instructor doesn't like me.”</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>c) You would think: “I should have studied harder.”</td>
<td>○</td>
<td>○</td>
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</tr>
<tr>
<td>d) You would feel stupid.</td>
<td>○</td>
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</table>
8. While out with a group of friends, you make fun of a friend who's not there.

<table>
<thead>
<tr>
<th></th>
<th>Not likely (1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>Very likely (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) You would think: &quot;It was all in fun; it's harmless.&quot;</td>
<td></td>
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<tr>
<td>b) You would feel small...like a rat.</td>
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<tr>
<td>c) You would think that perhaps that friend should have been there to defend himself/herself.</td>
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<tr>
<td>d) You would apologize and talk about that person's good points.</td>
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</tbody>
</table>

9. You make a big mistake on an important project at work. People were depending on you, and your boss criticizes you.

<table>
<thead>
<tr>
<th></th>
<th>Not likely (1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>Very likely (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) You would think your boss should have been more clear about what was expected of you.</td>
<td></td>
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<td>b) You would feel like you wanted to hide.</td>
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<tr>
<td>c) You would think: &quot;I should have recognized the problem and done a better job.&quot;</td>
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<tr>
<td>d) You would think: &quot;Well, nobody's perfect.&quot;</td>
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</tbody>
</table>
10. You are taking care of your friend's dog while they are on vacation and the dog runs away.

<table>
<thead>
<tr>
<th>a) You would think, &quot;I am irresponsible and incompetent.&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not likely (1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>b) You would think your friend must not take very good care of their dog or it wouldn't have run away.</th>
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<tbody>
<tr>
<td>Not likely (1)</td>
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<table>
<thead>
<tr>
<th>c) You would vow to be more careful next time.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not likely (1)</td>
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<tr>
<th>d) You would think your friend could just get a new dog.</th>
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<tbody>
<tr>
<td>Not likely (1)</td>
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</table>

11. You attend your co-worker's housewarming party and you spill red wine on their new cream-colored carpet, but you think no one notices.

<table>
<thead>
<tr>
<th>a) You think your co-worker should have expected some accidents at such a big party.</th>
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<tr>
<td>Not likely (1)</td>
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<thead>
<tr>
<th>b) You would stay late to help clean up the stain after the party.</th>
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<tr>
<td>Not likely (1)</td>
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<tr>
<th>c) You would wish you were anywhere but at the party.</th>
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<tr>
<td>Not likely (1)</td>
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<thead>
<tr>
<th>d) You can show you are paying attention to this question by selecting &quot;Not likely.&quot; Please select the response &quot;Not likely.&quot;</th>
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<td>Not likely (1)</td>
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Instructions for Part Two

In the following pages, you will be presented with around 30 statements related to your childhood experiences with your primary caregiver. Please rate each statement from 1 to 7 (Never to Always true), according to how true it was of your experience with your primary caregiver before you reached 12 years of age.

Part Two

1. My primary caregiver was there for me when I needed him/her.

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<tr>
<th>Never (1)</th>
<th>Almost not at all (2)</th>
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2. I learned to protect myself because my primary caregiver didn't want me to lean on him/her.

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3. I could rise to challenges at school or other places, because I had my primary caregiver's support.

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4. My primary caregiver left me exposed to danger.

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5. My primary caregiver and I enjoyed hanging out together.

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6. My self-confidence went up and down with my primary caregiver’s changing attitude toward me.

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7. When my primary caregiver and I argued we could really hurt each other.

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8. When I was upset, my primary caregiver’s responses varied from comforting to blaming or ignoring.

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10. From my primary caregiver I learned to be a good judge of whether a situation would be safe for me.

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11. My primary caregiver took no joy in me.

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12. My primary caregiver liked to make me feel bad.

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13. My primary caregiver didn’t like demonstrations of affection, physical or otherwise.

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14. My primary caregiver preferred not to have me lean on him/her, so I learned not to.

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15. My primary caregiver was good at responding to my feelings, even when I was angry.

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16. I felt that my primary caregiver had confidence in me and that I could get along ok in the world.

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17. When my primary caregiver hugged or kissed me, I could feel his/her love.

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18. My primary caregiver didn’t know how to comfort people, so I learned not to go to him/her when I was upset.

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19. If you are at least 18 years old, select Often.

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20. My primary caregiver made me feel that I lacked any power to get along in the world.

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21. I think my primary caregiver helped me to feel good about myself.

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22. My primary caregiver was good at understanding my feelings, when I discussed them with him/her.

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23. When my primary caregiver and I argued, I could tell that he/she still loved and respected me.

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24. My primary caregiver made me feel as if there was something so wrong with me that I wasn’t quite human.

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25. I think my primary caregiver was a good role model for me, but he/she didn’t pressure me to be just like him/her.

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26. If I tried to discuss things with my primary caregiver, I would end up feeling angry and frustrated.

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27. Please select Almost not at all.

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28. Being with my primary caregiver could switch from feeling really secure to feeling frustrating and confusing.

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29. I felt as if my primary caregiver knew and appreciated me for who I was.

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30. I couldn’t trust my primary caregiver because he/she seemed to hate me.

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31. When my primary caregiver and I argued, he/she upset me so much that it interfered with the rest of my life.

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32. When my primary caregiver criticized or challenged me, I tuned him/her out.

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33. Because I wasn’t sure my primary caregiver would understand my point of view, I learned to stay away from sensitive topics with him/her.

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From birth to 12 years old, who was your primary caregiver?

- Mother
- Father
- Other (please specify)

What is your age?

What is your gender?

- Male
- Female
- Other

What is your race?

- White
- Black or African-American
- American Indian or Alaska Native
- Asian
- Native Hawaiian or Other Pacific Islander
- Bi-racial or Multi-racial
- Other

What is your ethnicity?

- Hispanic or Latino
- Not Hispanic or Latino

What is the highest level of education that you have attained?

- Less than high school
- High school grad
- Some college
- College grad
- Some graduate school
- Graduate degree

Please enter your Amazon Mechanical Turk Worker ID (this information will be used exclusively for payment purposes):
Thank You

Thank you for participating.

Your validation code is:

[Validation code provided]

To receive payment for participating, enter this validation code in the Mechanical Turk window, then click "Submit."