Attachment Style as a Predictor of Social Anxiety Treatment Outcomes

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Abstract

In this study, we examined whether attachment style predicted treatment outcomes amongst patients undergoing cognitive behavior therapy treatment for social anxiety disorder (SAD). We predicted that patients with greater attachment security would experience more significant decreases in SAD over the course of treatment. Furthermore, we predicted that fearful-avoidant attachment would result in the opposite effects. We hypothesized that the therapeutic alliance would mediate the relationship between attachment style and psychotherapy outcomes, and that emotional expression would moderate the relationship between attachment style and therapeutic alliance. Results suggest that attachment style, measured both categorically and dimensionally, did not account for the change in social anxiety severity from baseline to twenty weeks. However, both categorical and dimensional measurements of dismissive attachment style predicted social anxiety at twenty weeks. Additionally, our findings indicate distinct patterns of emotional regulation in secure, fearful-avoidant, and dismissive attachment style. Neither attachment style nor emotional expression was able to predict the therapeutic alliance. However, emotional expression, measured through a subscale of emotional suppression, was associated with social anxiety at baseline and predicted severity at twenty weeks. In addition to exploring these constructs in clinical data, we also investigated them within an exploratory sample on Amazon’s Mechanical Turk. Results indicate that within both clinical and non-clinical samples, attachment style and social anxiety are closely linked.
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**Social Anxiety**

Whether it be public speaking, asking someone on a date, or going on a job interview, most people have experienced some form of social anxiety during the course of their life. While some social anxiety is to be expected, it becomes a disorder when it begins to pervade daily interactions and inhibit the majority of social situations. Affecting roughly 12% of the population, social anxiety disorder (SAD) is defined in the *Diagnostic Statistics Manual 5* as a persistent fear of one or more social or performance situations and where significant distress or impairment results (American Psychological Association, 2013; Kessler et al., 2005).

People suffering from SAD experience anxiety that impacts their daily life and functioning. Within the context of impersonal relationships, socially anxious individuals tend to avoid conflict and are less likely to assert themselves or to express emotion (Davila & Beck, 2002). When interacting with others, these individuals are more likely to make poor eye contact, blush, tremble, and disclose little about themselves (Alden & Taylor, 2004). Additionally, socially anxious people are less likely to view their relationships as intimate, functional, and as satisfying as their non socially anxious counterparts (Alden & Taylor, 2004). Other examples of the impact of SAD include: impairment in occupational functioning, increased risk for alcohol abuse and depression, and increased suicidal ideation (Weeks, 2014).

As a result of unrealistic negative beliefs about the risks involved with interacting with others, people diagnosed with SAD often engage in safety behaviors, such as concealing behaviors as a way to hide fear or discomfort from others (Cuming et al., 2009). These efforts to conceal or minimize exposure to others can have detrimental effects on the ability to form close
relationships. This paper will explore the interpersonal nature of this disorder and its impact on treatment.

**Cognitive Behavior Therapy**

Cognitive behavior therapy (CBT) is a psychosocial therapy used for the treatment of many psychological disorders, including SAD. CBT is founded on the idea that one’s beliefs and interpretations of their situation influence their emotions and behavior (Beck, 1979). As a result, this therapy attempts to alter these interpretations at a cognitive level. For example, people with SAD commonly perceive social situations as particularly threatening, view themselves as incompetent, and expect others to be judgmental. Cognitive behavioral therapy attempts to address these negative perceptions by using “cognitive restructuring” to promote alternative perspectives. In addition to cognitive restructuring, treatment includes psychoeducation, behavioral exposure (both imaginative and in vivo), and in some cases, social skills training (Hope, Heimberg, & Turk, 2010). Through these components, cognitive behavior therapy attempts to change the paradigm through which a socially anxious patient approaches social situations from one of fear and avoidance to one of coping.

Although there are several treatments for SAD, including a variety of psychosocial therapies as well as pharmacological interventions, CBT is among the most effective. In a randomized control trial, CBT was demonstrated to be superior to fluoxetine, a common pharmacological medication used to treat social anxiety (Clark et al., 2003). Furthermore, previous research has found CBT to be superior to other psychosocial therapies. In one meta-analysis, Rodebaugh, Holaway, and Heimberg (2004) compared the efficacy of a full package of cognitive behavior therapy with other behaviorally-focused treatments, such as exposure alone,
applied relaxation, social skills training, and cognitive restructuring alone. In comparison to these standalone treatments, the therapeutic treatment with the greatest success was cognitive behavior therapy (Rodebaugh, Holaway, & Heimberg, 2004).

Such findings are consistent with Zaider and Heimberg’s (2003) previous meta-analysis examining non-pharmacological treatments for SAD. Zaider and Heimberg examined relaxation training, social skills training, exposure, cognitive restructuring techniques, and combined exposure and cognitive restructuring. Their results indicated that cognitive behavior therapy was the most effective non-pharmacological treatment for SAD. The researchers noted that CBT is especially helpful for those diagnosed with SAD because the skills one learns during treatment aid in the protection against relapse (Zaider & Heimberg, 2003).

Not only does CBT foster the development of social skills but there is additional evidence to suggest that it may improve emotion regulation. As defined by Thompson (1994), emotion regulation “consists of the intrinsic and extrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions, especially their intensive and temporal features, to accomplish one’s goals” (Thompson, 1994, p. 27-28). As those with SAD are less likely to express emotions as a way to avoid conflict, improvement in emotion regulation through CBT aids in interpersonal interactions. In addition to targeting emotion regulation within its treatment, CBT also affects cognitive reappraisal. Through a randomized control trial, Goldin and colleagues (2012) found that cognitive reappraisal and self efficacy improved in those receiving CBT than in comparison to a control group. Furthermore, in a systematic review of CBT as treatment for SAD, Smits and colleagues’ suggest that CBT may impact threat reappraisal, which in turn, is associated with anxiety symptom improvement (Smits, Julian, Rosenfield, & Powers,
Goldin et al. (2014) extended this research by examining the role of emotion regulation in a group of patients receiving CBT. As social anxiety decreased throughout treatment, emotional expression increased. Goldin and colleagues highlight the development of emotion regulation as one of the main mechanisms for decreasing social anxiety (Goldin et al., 2014).

While there is significant evidence supporting CBT as an effective treatment, this therapy does not help everyone, and some patients benefit more than others (Rodebaugh et al., 2004). For example, Hope et al. (2000) found that 20-25% of clients do not achieve significant gains and drop-out rates average about 10-20% (Hope, Heimberg, & Juster, 2000; Rodebaugh, Holaway, & Heimberg, 2004). As expected, previous research has found that symptom severity and comorbid conditions served as predictors of outcome and attrition of CBT for SAD (Hoyer et al., 2016). Other factors including expectancy for improvement, homework compliance, subtype of SAD (generalized or specific), comorbidity, and anger were found to predict treatment outcomes (Rodebaugh et al., 2004). Within patients diagnosed with anxiety disorders, higher dosage and engagement (defined as completing homework, high attendance and completing exposures) predicted greater treatment success as indicated by a greater reduction of anxiety symptoms (Glenn et al., 2013). The importance of treatment engagement highlights a potential difficulty for socially anxious patients, who generally have difficulty connecting interpersonally, and thus may have difficulty feeling comfortable within the therapeutic relationship itself.

Eskildsen et al. (2010) extended this research by reviewing all pre-treatment patient variables as predictors of psychotherapy drop-out rates through a meta-analysis. Although they found very few studies examining dropout from CBT in a social anxious patient population, they did find that pre-treatment levels of severity were correlated with post-treatment levels of...
severity, with similar levels of improvement for both the very severe and less severe groups of patients (Eskildsen, Hougaard, & Rosenberg, 2010). All three studies demonstrate that there is consistently a group of patients with SAD who do not achieve success through CBT. This paper will focus on the interpersonal constructs responsible for treatment success and investigate potential predictors of therapeutic outcomes. Given the exceptionally interpersonal nature of social anxiety disorder, we chose to examine the role of attachment style within this relationship.

**Attachment Style**

John Bowlby (1969), commonly known as the pioneer of attachment theory, examined the bond between mother and child and proposed that the nature of this relationship would influence patterns of behavior across the lifespan. According to Bowlby, children attach to their primary caregivers— and vice versa — early in life, because their very survival depends on it. Starting in infancy, children depend on their caregivers for safety, care, and security. In daily interactions, infants and young children use attachment figures as a “secure base” to explore their environment. When stressed or overwhelmed, children often use their caregiver as a “safe haven” to receive affirmations of care, security, and safety. Internal working models of the self and others, established early in life, are thought to persist in adulthood.

Mary Ainsworth and Bell (1970) built upon Bowlby’s theory of attachment by identifying different attachment styles through empirical study within a laboratory. Ainsworth’s research focused on the relationship between mothers and infants and various behaviors thought intended to promote proximity. Ainsworth introduced the _Strange Situation_, a procedure which included a series of separations and reunions between mother and infant at the age of one year. Three distinct patterns of attachment were identified: secure, anxious, and avoidant (Ainsworth
& Bell, 1970). The majority of children could be classified as securely attached, with the remainder split between two “insecure” styles, including anxious and avoidant. Secure infants displayed assurance in their relationship with their mother in that they comfortably explored the environment at ease by their mother’s side. Anxious individuals also displayed comfort in their interactions with their mother, but were anxious about separation and displayed difficulty calming down after reunion, exhibiting significant clinging behavior. Unlike secure and anxious infants, avoidant infants displayed avoidant behavior towards their mother after reunion and did not display distress at separation. Ainsworth’s research on attachment styles in infancy has been replicated and expanded, now informing many interpersonal relationships throughout childhood.

**Attachment Style throughout the Lifespan**

Subsequent research examined the possibility that these same attachment styles are present later in life. One of the most influential studies was Hazan and Shaver’s (1987) examination of adult attachment in the context of romantic relationships. Previous research had indicated only that there were empirically measured attachment styles between young children and their primary caretaker. However, Hazan and Shaver concluded that the attachment styles that characterized earlier experiences with parents based on self-report were correlated with attachment styles characterizing the same individuals in adulthood. Researchers also found that the prevalence of different attachment styles in infancy and adulthood are very similar, with approximately two thirds of adults classified as securely attached (Hazan & Shaver, 1987).

One of the most significant findings from this line of research was that different attachment styles impacted the way adults experienced interpersonal relationships. In examining romantic relationships, Hazan and Shaver found that the greatest disparity was found between
those with a secure and avoidant attachment style. Specifically, securely attached participants tended to feel comfortable expressing and receiving care, while avoidantly attached participants displayed perspectives about relationships that were characterized by negativity and fears of intimacy (Hazan & Shaver, 1987). The attachment research conducted by Hazan and Shaver highlights the utility of examining distinct attachment styles in adulthood, and paves the way for future research on how different adult attachment styles influence interpersonal outcomes.

Bartholomew and Horowitz (1991) refined definitions of adult attachment styles with the development of a dimensional model rather than a categorical one. This model proposes four different attachment styles resulting from the intersection of two dimensions, including the individual's internal model of the self, or anxiety, and the individual’s external model of the self, or avoidance. Four distinct categories resulted from these dimensions: secure, preoccupied, fearful-avoidant, and dismissive (Bartholomew & Horowitz, 1991; see Figure 1). Similar to Hazan and Shaver, Bartholomew & Horowitz’s definition of secure represents individuals that have a positive internal model of the self and others and are thus comfortable in their close relationships. The three other categories, fearful-avoidant, preoccupied, and dismissive, represent insecure attachment styles. This nomenclature allows for a more detailed representation of attachment style in order to better capture the variety of attachment styles found in adulthood.

Mikulincer, Shaver, & Pere (2003) explored various attachment styles to determine the behavioral patterns that differentiate them. According to these authors, the styles of behavior that define secure and insecure individuals results from certain attachment strategies: hyperactivating and deactivating. When an insecurely attached individual feels stressed, their attachment strategies define their distinct attachment style as either anxious or avoidant. When an anxious
individual is stressed, they will engage in hyperactivating behavior, in which they try to elicit attachment behaviors from a caregiver through clinging and controlling behavior (Mikulincer, Shaver, & Pereg, 2003). Individuals with avoidant behavior, however, are the opposite. Instead, they often engage in deactivating strategies in order to distance themselves from feelings of rejection or hurt if their primary caregiver is unavailable. According to Mikulincer et al. (2003), these deactivating strategies can begin to define the majority of social interactions by causing the individual to distance themselves from threatening events and suppression of fearful thoughts. Those with higher scores on the attachment avoidance dimension are more likely to utilize deactivating strategies in their social interactions (Mikulincer, Shaver, & Pereg, 2003).

**Attachment Style within Social Anxiety Disorder**

As Bowlby theorized, when an individual feels stressed, their attachment system becomes activated and they seek proximity to an attachment figure. While this figure is often a parent or romantic partner, within the context of therapy, one’s therapist may represent their secure base (Bowlby, 1969). Since SAD is an interpersonal disorder, attachment style is an important variable to consider because of its potential effects on the therapeutic relationship. Research by Eng et al. (2001) examined adult attachment style among those with SAD. They found that, whereas secure is the most common attachment style in the general population, an anxious-preoccupied style was most common among those with SAD. Still, some patients with SAD were securely attached such that both anxious and secure attachment styles best represented socially anxious patients. In addition to a strong association between attachment style and the severity of SAD, patients with an anxious attachment reported greater stress and impairment than their secure counterparts (Eng, Heimberg, Hart, Schneier, & Liebowitz, 2001). These findings suggest
that attachment style may influence social anxiety’s symptomatology and, potentially, treatment.

Eng et al. (2001) utilized a cluster analysis to measure attachment style, categorizing participants and then separating them into homogenous groups. A study conducted by Erozkan (2009) similarly examined attachment style and social anxiety but used the Relationship Questionnaire (Bartholomew, 1990), a dimensional measurement, to assess a nonclinical sample of Turkish college students with varying degrees of social anxiety (Erozkan, 2009). Erozkan found a significant relationship between attachment styles and social anxiety in that insecure attachment styles, including fearful-avoidant, preoccupied, and dismissing, were positively correlated with social anxiety, with the strongest association being fearful-avoidant. Secure attachment, on the other hand, was negatively associated with social anxiety (Erozkan, 2009). As Erozkan’s study measured attachment style dimensionally, it is possible that the results are more reliable than in comparison to a categorical method. However, it is clear from the literature that insecure attachment styles are both overrepresented and associated with social anxiety. These finding therefore implies that attachment may play a role in the context of SAD treatment.

**Attachment style and treatment outcomes.** Previous research on attachment style and psychotherapy outcomes is limited. Dozier and colleagues (1990) found that patients with greater avoidance resist treatment more than secure patients, such as rejecting their therapist and disclosing less personal information, and therefore benefit less from treatment. Patients with greater attachment security, however, were more likely to comply with and improve from treatment (Dozier, 1990). A meta analysis conducted by Levy et al. (2011) further extended attachment style and psychotherapy research by examining the association between attachment anxiety, security, and psychotherapy outcome in multiple studies of individuals with a variety of
diagnoses. The meta analyses found that while higher attachment security predicted more successful outcomes in psychotherapy, higher attachment anxiety predicted worse outcomes. Attachment avoidance did not have a significant effect on psychotherapy outcomes (Levy, Ellison, Scott, & Bernecker, 2011). Though significant associations were found in only two out of the three attachment styles, the findings suggest that these associations are quite influential in psychotherapy outcome. Furthermore, when controlling for treatment length and therapist of young adults receiving psychotherapy, secure attachment at the end of treatment has been found to be associated with improvement of symptoms (Lilliengren, Falkenström, Sandell, Mothander, & Werbart, 2015). Lilligren and colleagues’ finding suggests that the more securely attached a patient becomes to their therapist, the more likely they are to improve. Since CBT is a psychotherapy that requires a trusting relationship between the patient and therapist, certain interpersonal processes, such as attachment style behavior, may impact the ability for this relationship, also known as the therapeutic alliance, to develop.

**Therapeutic Alliance**

The term “therapeutic alliance” refers to the relationship between the therapist and their patient. Bordin (1979) defined the therapeutic alliance as having three major components: agreement on goals for treatment, agreement on tasks to achieve these goals, and “the emotional bond of trust and attachment between the therapist and the patient” (Bordin, 1979). According to Bordin, this bond depends on the type of tasks the patient is asked to complete. For example, asking a patient to express their fears aloud inspires a different level of trust than if the patient reports them through completing a form. The bond, therefore, is extremely dependent on the type of therapy. Since CBT requires patients to complete tasks that may cause high anxiety and
distress, one might assume that CBT requires a strong bond between the therapist and patient, and therefore would require a strong therapeutic alliance in order to achieve success.

Previous research has found that a strong therapeutic alliance is critical in therapy in order to allow a client to process their discomfort and eventual acceptance of therapy tasks, such as exposures and cognitive restructuring (Horvath & Luborsky, 1993). Though there is evidence that the therapeutic alliance is generally stable throughout the course of therapy (Gaston, Marmar, Gallagher, & Thompson, 1991), other studies report that the alliance may change quite frequently (Horvath & Marx, 1990). Regardless of whether or not it changes, the therapeutic alliance is significant in psychotherapy outcome.

**Therapeutic alliance and treatment outcomes.** Previous research has consistently determined that there is a strong association between a positive therapeutic alliance and success in psychotherapy outcome. A meta-analysis conducted by Horvath and Symonds (1991) reported that the therapeutic alliance was responsible for 26% of the difference in psychotherapy efficacy. Additional research reported that alliance predicted 36%-57% of psychotherapy variance in outcome (Gaston et al., 1991).

A meta-analysis conducted by Martin, Garske, and Davis (2000) found that the therapeutic alliance is moderately, yet consistently, associated with psychotherapy outcomes. Additionally, this association is better predicted earlier in therapy (Martin, Garske, & Davis, 2000). Early assessments of the relationship have been demonstrated to be the most accurate predictors of treatment outcomes than later assessments (Hersoug, Monsen, Havik, & Høglend, 2002). According to Martin et al., the results suggest that the therapeutic alliance may be therapeutic itself. As the therapeutic alliance accounts for a significant percentage in therapeutic
success, this relationship may be more critical in determining efficacy than the use of specific therapeutic techniques.

In addition to Martin et al.’s meta-analysis, Sharf, Primavera, and Diener (2010) conducted a large meta-analysis that studied the relationship between therapeutic alliance and psychotherapy dropout and found a strong association—clients with a weaker therapeutic alliance were more likely to drop out of psychotherapy. Additionally, Sharf et al. explored other factors contributing to dropout and noted that stronger associations between alliance and dropout could be identified in studies examining longer treatments as well as inpatient settings rather than research clinics (Sharf, Primavera, & Diener, 2010). As both settings provide more extensive time with a therapist, this finding suggests that stronger relationships as a function of time may also be an important component to consider.

A meta-analysis conducted by Lambert and Barley (2002) on the therapeutic relationship and psychotherapy outcomes examined the percentage of improvement in psychotherapy patients due to several therapeutic factors. The results found that extra-therapeutic change accounted for 40% of improvement of symptomatology. According to Lambert & Barley, extra-therapeutic change includes previous life elements or experiences, such as attachment style (Lambert & Barley, 2002). Due to the importance of the therapeutic change in treatment efficacy, Lambert and Barley advocate for therapist training in relationship skills as well as for frequent evaluation of relational factors in order to improve psychotherapy outcome. In this study, we aim to examine this therapeutic relationship, and its potential role in explaining the association between pre-therapeutic attachments and therapy outcomes.

**Attachment style and therapeutic alliance.** As attachment style impacts one’s close
relationships, it may also have a deep impact on a patient’s relationship with their therapist. According to Obegi (2008), there are many similarities between the relationships one forms with common attachment figures, such as parents or intimate partners, and the therapeutic relationship. Just as one turns toward an attachment figure when stressed, a patient will turn towards their therapist as a safe haven. Once the patient establishes a relationship with their therapist, they will begin to explore their feelings, just as an individual explores their surroundings after making contact with their attachment figure. Therefore, according to Obegi, patients rely on the same sense of attachment from their therapists that they would through any other form of attachment, such as a parent or romantic partner. Building upon Bowlby’s theory, Obegi and Berant (2010) propose that a psychotherapist can become a secure base for the client. Obegi and Berant report that securely attached clients tend to benefit more from psychotherapy than insecurely attached clients, and suggest that this is largely due to the development of the therapeutic alliance (Obegi & Berant, 2010).

Further evidence suggests that success in therapy may involve the relationship between attachment style and therapeutic alliance. A meta-analysis conducted by Diener and Monroe (2011) found that greater attachment security was associated with stronger therapeutic alliances. In turn, greater attachment insecurity was associated with weaker therapeutic alliances (Diener & Monroe, 2011). A second meta-analysis conducted by Smith et al. (2010) found a medium-sized positive relationship between attachment security and therapeutic alliance. However, anxious and avoidant attachment styles did not predict the quality of the therapeutic alliance (Smith, Msetfi, & Golding, 2010).

Consistent with Diener et al. (2011) and Smith et al. (2010), Eames and Roth (2000) also
found that secure attachment was associated with stronger therapeutic alliances, while fearful attachment was associated with weaker therapeutic alliances. In addition, the researchers found these relationships emerged over the course of therapy, as opposed to just the early sessions, and therefore, according to Eames and Roth, as the therapeutic alliance develops, the attachment style influences the relationships more and more (Eames & Roth, 2000).

Siefert and Hilsenroth (2015) further investigated the relationship between attachment style and changes in the therapeutic alliance early in the relationship. They found that fearful-insecure attachment style predicted declines in the therapeutic alliance throughout treatment. On the other hand, secure attachment style predicted an increase in the therapeutic alliance throughout treatment (Siefert & Hilsenroth, 2015). These results indicate that patient attachment style impacts the therapeutic alliance gradually and that secure and insecure attachment styles may react to the process of therapeutic change differently.

**Therapeutic Alliance as a Mediator:** Only one study to date has examined the role of the therapeutic alliance in the relationship between attachment style and treatment outcomes. Byrd, Patterson, and Turchik (2010) investigated the role of the therapeutic alliance in the relationship between attachment and psychotherapy. Consistent with previous research, patient attachment style predicted the working alliance (Obegi et al., 2010; Diener & Monroe, 2011; Smith et al., 2010; Eames & Roth, 2000; Siefert & Hilsenroth, 2015) which, in turn, predicted treatment outcome, resulting in the therapeutic alliance acting as a partial mediator (Byrd, Patterson, & Turchik, 2010). Byrd et al.’s model examined this relationship through measuring attachment dimensionally, rather than categorically, expanding the sample size to include comparable scores for all participants. However, they used the Adult Attachment Scale (Collins, 1996) to measure
attachment, which categorizes attachment styles into three subscales: comfort with closeness, comfort depending on others, and rejection anxiety, rather than Bartholomew’s (1990) attachment model. Additionally, Byrd et al.’s sample included participants with a wide variety of reasons for seeking therapy rather than a group of clinically diagnosed individuals. Lastly, there was no standard for the type of therapy the therapists in Byrd et al.’s sample practiced. Byrd et al.’s findings are important foundational knowledge for this study, as we plan to investigate the mediating role of the therapeutic alliance in the treatment of SAD with CBT.

**Emotional Expression**

As discussed above, emotional expressiveness, or lack thereof, is an important part of SAD symptomatology. The current study sought to examine the potential role of emotional expression for two reasons. First, emotional expression is a primary way through which human beings communicate and bond with each other (Gross & John, 2003). This may be especially important during therapy, which typically involves experiencing intense emotions in the context of therapeutic relationships. Second, individuals with different attachment styles have different ways of regulating, and ultimately communicating, their emotions (Mikulincer, Shaver, & Pereg, 2003). Attachment style is characterized by one’s emotional expressiveness and this expression may play a role in the relationship between attachment and therapeutic alliance because attachment styles evolve as functions of emotional expression. Research conducted by Kerr and colleagues (2003) demonstrated that securely attached participants reported the highest levels of emotional expressivity while insecurely/avoidantly attached participants reported the lowest levels (Kerr, Melley, Travia, & Pole, 2003). The avoidant group also reported low levels of positive emotional experience, in addition to low levels of negative experience. However, they
also reported high inhibition scores. According to Kerr et al., this finding indicates that those with insecure attachment have both a lack of awareness and difficulty expressing emotion (Kerr et al., 2003). Their study also suggests significant variability in the emotional expression and potential social skill knowledge based on attachment style. These findings were consistent with Aslam’s (2013) study, which found a significant positive correlation between emotional expression and secure attachment style. Also consistent with Kerr et al.’s study, anxious attachment style and avoidant attachment style were found to be negatively correlated with emotional expression (Aslam, 2013), highlighting the difficulty those with insecure attachment styles face when regulating their emotions.

This association is influential to the extent that previous literature has found that attachment, even from a young age, impacts one’s emotional expression. Simpson et al. (2007) examined the connection between attachment style and emotional expressiveness through a developmental study where participants were measured with attachment and emotional scales from infancy to early adulthood at three points: infancy, early elementary school, and adolescence. Researchers found that individuals with more secure attachment styles at the three critical time periods in development were more likely to experience positive emotional experience and expression in adulthood (Simpson, Collins, Tran, & Haydon, 2007). Research conducted by Cooper and colleagues (1998) adds further evidence to support that attachment affects emotion regulation along the lifespan. In an observational study of adolescents, securely attached adolescents were found to be the most well-adjusted and least impulsive of the group. Anxiously attached adolescents were the most impulsive and showed greater symptomatology. Avoidant adolescents, while demonstrating low levels of impulsivity, also had high levels of
symptomatology, suggesting that attachment style significantly impacts the nature of one’s emotional response (Cooper, Shaver, & Collins, 1998).

There is growing evidence that those with SAD experience difficulties understanding, expressing, and regulating their emotions. In one study, Sparrevohn and Rapee (2009) examined communication strategies between socially anxious patients and their romantic partners. Participants diagnosed with social anxiety reported lower levels of emotional expression and disclosure to their partners. The difficulty in expressing, communicating, and regulating emotion had such detrimental effects that, in comparison to a control group, participants with SAD rated their relationships as less intimate than the general population. Sparrevohn and Rapee conclude by suggesting that those with SAD are less likely to develop romantic relationships for this reason (Sparrevohn & Rapee, 2009). Additionally, Erwin and Heimberg (2003) examined the emotional experience and expression of anger in socially anxious patients receiving cognitive behavior group therapy. In comparison to non-anxious controls, socially anxious patients experience anger more frequently, usually as a result of perceived negative evaluation. Furthermore, socially anxious patients had more difficulty in expressing their anger than the non-anxious controls (Erwin, Heimberg, Schneier, & Liebowitz, 2003). Erwin and Heimberg speculate that if this anger is not identified by a therapist, it may cause significant conflict between the therapist and the patient. To avoid this outcome they advocate for targeting this anger within cognitive behavioral therapy. This finding is consistent with a previous finding that socially anxious individuals are less likely than others to assert themselves or express emotion in order to avoid conflict (Davila & Beck, 2002). This reluctance is important to note because CBT requires emotional expression to a certain degree. The lack of that expression, or emotional
suppression, may negatively impact the therapeutic alliance to such an extent that treatment is affected. In our study, we aim to investigate the role of emotional expression within the therapeutic alliance, and whether it will be predicted by attachment style.

The Current Study

The current study sought to examine several questions pertaining to attachment style, therapeutic alliance, emotional expression, and treatment outcomes within a sample of patients being treated for SAD with CBT. Our primary question concerned the extent to which the therapeutic alliance would explain the anticipated relationship between attachment style and treatment outcomes. In addition, we explored whether emotional expression would moderate the relationship between attachment style and therapeutic alliance.

Hypotheses. We hypothesized that attachment style would predict treatment outcomes and that the therapeutic alliance would be responsible for this relationship. Furthermore, we predicted that emotional expression would moderate the relationship between attachment style and the therapeutic alliance.

Hypothesis 1: Attachment style at Time 1, measured categorically, would predict psychotherapy outcome at Time 3, such that securely attached patients would achieve greater psychotherapy success than insecurely attached patients.

Hypothesis 2: The therapeutic alliance would mediate the relationship between attachment style and psychotherapy outcome. (See Figure 2).

2a. Higher scores of secure attachment, measured dimensionally, at Time 1 would predict a stronger therapeutic alliance at Time 2. Higher scores of fearful-avoidant attachment, measured dimensionally, at Time 1 would predict a weaker therapeutic
alliance at Time 2.

2b. Stronger therapeutic alliance at Time 2 would predict better treatment outcomes at Time 3.

2c. The therapeutic alliance at Time 2 would mediate the relationship between a secure attachment style at Time 1 and successful treatment outcomes at Time 3; the therapeutic alliance at Time 2 would mediate the relationship between a fearful-avoidant attachment style at Time 1 and weaker treatment outcomes at Time 3.

Hypothesis 3: Emotional expression at Time 1 would moderate the relationship between attachment style at Time 1 and the therapeutic alliance at Time 2, such that greater emotional expression at Time 1 would predict a greater association between secure attachment style at Time 1 and a stronger therapeutic alliance at Time 2. Conversely, we predicted that greater emotional suppression at Time 1 would predict a stronger association between fearful-avoidant attachment styles at Time 1 and a weaker therapeutic alliance at Time 2.

Exploratory Analyses. We sought to ground our findings in a comparative sample from Amazon’s Mechanical Turk (M-Turk), a crowdsourcing tool that employers users from around the globe. We wanted to be able to reference typical levels of social anxiety, attachment, and emotional expressiveness in order to ground our findings from a clinical population. Therefore, we collected a non-clinical sample with M-Turk by taking a sample of people who did not endorse clinical levels of SAD, had previously sought treatment or were currently seeking treatment for social anxiety disorder. In addition to examining constructs in a non-clinical sample, we hoped this exploratory analysis would give us a new opportunity to collect new data, which was an important opportunity in the senior thesis process.
Method

Participants

Clinical Patients. Our sample consisted of patients who were diagnosed with SAD using the Anxiety Disorders Interview Schedule (Silverman, Saavedra, Pina, 2001), a clinical interview based on diagnostic criteria found in the DSM-IV and DSM-5. Patients had or were currently receiving cognitive behavior therapy for SAD at the Adult Anxiety Clinic at Temple University, Philadelphia PA. Therapy was delivered by doctoral students at Temple’s graduate program in clinical psychology, in conjunction with a licensed clinical supervisor. Participants ranged in age from 18 years old to 75 years old ($M = 28.49$, $SD = 10.28$). 60.6% of the population was male ($N = 183$), 39.1% of the population was female ($N = 118$) and with one participant not identifying as male or female ($N = 1$). 70.4% of the participants were White ($N = 207$), 15.6% of the participants were Black ($N = 46$), 7.5% were Asian/Pacific Islander ($N = 22$), and 6.1% participants identified as “other” ($N = 18$).

Exploratory M-Turk Sample: The participant sample contained 278 participants from various parts of the globe. The participants were collected over M-Turk, an online crowdsourcing tool through Amazon, in which participants were paid to complete a series of self-report measures. These measures were administered via Qualtrics, a survey software. Participants ranged in age from 19 years old to 77 years old ($M = 39.8$, $SD = 12.19$). A majority (63.3%) of the sample was female ($N = 176$), with 36.3% identifying as male ($N = 101$) and one person identifying as “other”. The majority of participants (82.4%, $N = 229$) were not currently in treatment for SAD. However a surprisingly large percentage of participants (17.6%, $N = 49$) were receiving treatment.
Assessments and Measures

In order to examine treatment outcomes, we examined the variables of social anxiety, therapeutic alliance, and emotional expression. There were three timepoints isolated in our study: Time 1, baseline pre-treatment; Time 2, the first session; and Time 3, at twenty weeks. A one-way ANOVA was used to examine the first hypothesis while we used a regression framework to measure the second hypothesis. We tested our third hypothesis, a moderational model, with a multiple regression.

**Social Anxiety.** The social interaction anxiety scale (SIAS; Mattick and Clark, 1998) is a self-report measure in which individuals can report their feelings of social anxiety and the degree to which they inhibit daily life. In this 20-item scale, individuals report the degree to which they agree with statements about interacting in dyads or groups on a Likert-type scale, ranging from 0 (not at all characteristic or true of me) to 4 (extremely characteristic or true of me). Higher scores reflect higher experiences social anxiety. Items include “I find myself worrying that I won't know what to say in social situations,” “When mixing in a group, I find myself worrying I will be ignored,” and “I feel tense if I am alone with just one person.” Reliability is strong with $r = .93$ (Mattick & Clarke, 1998). The SIAS was measured at baseline (Time 1) and again at twenty weeks (Time 3).

**Attachment Style.** The Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991) is an 8-item scale in which individuals can report their attachment style and yields four categories: secure, fearful-avoidant, preoccupied, and dismissing. The first four items measure attachment categorically, while the last four measure it dimensionally. Dimensional ratings range from 1 (disagree strongly) to 7 (agree strongly). Items include “I am uncomfortable getting close
to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others,” and “I am comfortable without close emotional relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.” The RQ was administered at baseline (Time 1).

**Therapeutic Alliance.** The Working Alliance Inventory (WAI; Horvath & Marx, 1990) is a measure of the therapeutic alliance. There are two subscales: a client-rated alliance and a therapist-related alliance. We used the client-rated WAI to measure the therapeutic alliance. This 12-item scale has three sections: goals, tasks, and emotional bond of their therapeutic treatment in which an individual can report the extent to which they feel they are satisfied. Items include “What I am doing in therapy gives me new ways of looking at my problem,” “I believe ___ likes me,” and “I feel ____ cares about me even when I do things that he/she does not approve of.” Horvath & Marx found the reliability of the client-rated WAI to range from .85-.92 (Horvath & Marx, 1990). The WAI was administered at the first CBT session (Time 2).

**Emotional Expression.** The Emotion Regulation Questionnaire (Gross & John, 2003) is a 10-item scale in which individuals can report their emotions through emotional suppression and cognitive reappraisal. Each item is answered on a Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). Items include “When I want to feel more positive emotion (such as joy or amusement), I change what I’m thinking about,” and “When I’m faced with a stressful situation, I make myself think about it in a way that helps me stay calm.” Both the cognitive reappraisal and emotional suppression scales include at least one item asking about regulating negative emotion, using sadness and anger as examples, and regulating positive emotion, using
joy and amusement as examples (Gross & John, 2003). Alpha reliabilities averaged .79 for the
cognitive reappraisal scale and averaged .73 for the emotional suppression scale. According to
John and Gross, test–retest reliability across 3 months was .69 for both scales (Gross & John,
2003). The ERQ was administered at baseline (Time 1).

Treatment Outcomes. Treatment outcome was measured using two measures: social
anxiety severity and twenty weeks, measured with the SIAS, and the change in social anxiety
severity from baseline to twenty weeks, measured by the difference between pre- and post-SIAS.
We had also intended to measure dropout-rate and treatment length, but were only able to get
data from SIAS at week 20.

Exploratory M-Turk Sample. Our exploratory study using M-Turk collected data from a
single timepoint. Participants were administered the SIAS, RQ, and ERQ.

Results

Clinical Patient Statistical Analyses

Descriptive Statistics. The majority of patients had fearful-avoidant attachment (54%, N
= 47), followed by preoccupied (25.3%, N = 22), secure (10.3%, N = 9), and dismissing (10.3%,
N = 9). Baseline SIAS score ranged from 13 to 65, (M = 47.29, SD = 10.35, N = 111). SIAS at
week 20 score ranged from 10 to 66, (M = 35.65, SD = 14.23, N = 38). Change in SIAS score
ranged from increasing by 17 to decreasing by 47, (M = 10.5, SD = 15.38, N = 38). Emotional
suppression score at baseline ranged from 7 to 28 (M = 17.67, SD = 4.89, N = 105). Cognitive
reappraisal at baseline range from 6 to 42 (M = 24.5, SD = 7.01, N = 105). Working alliance
inventory measured at the third session ranged from 39 to 84 (M = 69.55, SD = 9.86, N = 87).

Attachment as Predictor. In order to investigate whether categorical attachment styles
predicted treatment outcomes, a one-way ANOVA was used. Attachment, measured categorically, was not shown to be associated with change in SIAS score. However, it was shown to be associated with social anxiety severity at week 20. A one-way ANOVA revealed that different attachment styles predicted SIAS at week 20 such that $F(3,32) = 3.13, p<.05$. Post-hoc analyses using Tukey’s HSD test yielded significant differences between dismissive attachment and secure attachment for SIAS at week 20 ($35.65 \pm 9.33, p = .035$). There were no significant differences between secure, fearful-avoidant, and preoccupied attachments.

In order to control for baseline SIAS when examining treatment outcomes of relationship styles, an ANCOVA was performed. The results reduced the association to be only marginally significant $F(3,31) = 2.71, p=.062$. Therefore, though attachment style, measured categorically, predicted social anxiety post-treatment, when baseline social anxiety was controlled for, we did not generate significant results.

In order to examine associations between dimensional attachment style and treatment outcomes, a linear regression was used. Regression analyses revealed that attachment style, measured dimensionally, did not predict change in SIAS score from baseline to week 20. However, these analyses revealed that dismissive attachment at baseline predicted social anxiety severity at week 20, such that $\beta = .446, t(38) = 2.993, p = .005$; see Table 1. No other dimensional attachment styles predicted any other form of treatment outcomes.

*Working Alliance as Mediator.* In order to examine whether working alliance would mediate the relationship between attachment style and treatment outcomes, we first needed to establish a significant relationship between attachment style and working alliance, as well as between working alliance and SIAS score at week 20 or change in SIAS score from baseline.
Unfortunately, neither or these relationships were supported by our data. There was no significant relationship between the WAI and attachment style, measured categorically or dimensionally. Additionally, WAI, as measured at the third session, failed to predict treatment outcomes, measured by either SIAS measure.

*Emotional Expression as Moderator.* We hypothesized that attachment style would predict the working alliance, and that this association would be moderated by emotional expression. We specifically predicted that there would be a positive association between the working alliance and individuals with a secure attachment style, who would presumably have greater emotional expression, than for individuals with insecure attachment style, who we presumed to have greater emotional suppression. To test this hypothesis, we used a moderated linear regression with the two subscales of emotion regulation: emotional suppression and cognitive reappraisal. In conducting this linear regression, attachment security and the WAI were entered in the first step and the term representing their interaction was entered in the second step. This was repeated using fearful-avoidant attachment. In the first step, it was found that neither attachment style, emotional suppression, nor cognitive reappraisal were significant predictors of the therapeutic alliance. Moderation analyses revealed no significant relationship between attachment style and WAI moderated by either subscale of emotion regulation. However, emotion regulation was associated with attachment style (*see Table 2*). Emotional suppression was found to be negatively associated with secure attachment style (*r* = -.382, *p*<.01), and positively associated with fearful-avoidant attachment (*r* = .328, *p*<.05) and dismissive attachment (*r* = .387, *p*<.01). Cognitive reappraisal was found to be negatively associated with a fearful-avoidant attachment style (*r* = -.453, *p*<.001).
Further Findings. Further investigation revealed that baseline SIAS was correlated with secure attachment \((r = -0.401, \ p < .01)\) and fearful-avoidant attachment \((r = 0.319, \ p < .05)\) measured dimensionally (see Table 1). Emotional suppression was associated with the SIAS at baseline \((r = 0.320, \ p < .001)\) and linear regression analyses revealed that it predicted SIAS score at week 20, such that \(\beta = .00, t(38) = 2.615, \ p = .013\).

M-Turk Participant Findings

Descriptives. The majority of participants were secure in their attachment \((36.2\%, \ N = 83)\), followed by fearful-avoidant \(34.1\% \ (N = 78)\), dismissive \(18.3\% \ (N = 42)\), and preoccupied \(11.4\% \ (N = 26)\). We excluded those who were currently in treatment for social anxiety disorder. After exclusion of 17.6% of the sample, SIAS score ranged from 0 to 80, \((M = 32.6, SD = 19.97)\). Cognitive reappraisal score ranged from 6 to 42 \((M = 30.6, SD = 7.11)\). Emotional suppression score ranged from 2 to 38 \((M = 14.8, SD = 5.41)\).

Findings. Compared with our clinical sample, the M-Turk sample had significantly lower levels of social anxiety as measured by the SIAS and a different profile or attachment styles, with a higher percentage secure than our clinical sample.

After excluding those who reported that they were currently in treatment for social anxiety disorder, a one-way ANOVA revealed that attachment style, measured categorically, significantly predicted SIAS score \(F(3,225) = 18.8, \ p < .001\). Post-hoc analyses using Tukey’s HSD test yielded significant differences between secure and fearful-avoidant attachment \((32.6 \pm 2.83, \ p = .000)\), secure and preoccupied attachment \((32.6 \pm 4.04, \ p = .000)\), fearful-avoidant and dismissive attachment \((32.6 \pm 3.44, \ p = .003)\).

Bivariate correlations revealed associations between social anxiety and dimensional
measures of attachment (see Table 3). SIAS score was found to be negatively associated with secure attachment style ($r = -.430, p<.001$) positively associated with a fearful-avoidant attachment style ($r = .471, p<.001$), and positively associated with preoccupied attachment style ($r = .352, p<.001$). Dismissive attachment was not associated with the SIAS.

Further findings indicate that attachment style, measured categorically and dimensionally, and subscales of emotion regulation were significantly associated (see Table 3): a one-way ANOVA revealed that attachment style was associated with emotional suppression $F(3,325) = 13.29, p<.001$, and cognitive reappraisal $F(3,325) = 4.62, p<.01$. Post-hoc analyses using Tukey’s HSD test for emotional suppression yielded significant differences between secure and fearful-avoidant attachment (14.87 ± .791, $p = .000$), secure and dismissive attachment (14.87 ± .951, $p = .000$), and preoccupied and dismissive attachment (14.87 ± 1.25, $p = .014$). Post-hoc analyses using Tukey’s HSD test for cognitive reappraisal yielded significant differences between secure and fearful-avoidant attachment (30.60 ± 1.09, $p = .043$), fearful-avoidant and dismissive attachment (30.60 ± 1.33, $p = .031$).

Furthermore, emotional suppression was positively associated with dimensional measurements of fearful-avoidant attachment ($r = .300, p<.001$) and dismissive attachment ($r = .282, p<.001$), and negatively associated with secure attachment ($r = -.292, p<.001$). Cognitive reappraisal was positively associated with secure attachment ($r = .142, p<.05$), and negatively associated with fearful-avoidant attachment ($r = -.150, p<.05$). Emotion regulation was also associated with social anxiety severity in that SIAS was positively correlated with emotional suppression ($r = .341, p<.001$) and negatively associated with cognitive appraisal ($r = -.231, p<.001$; see Table 4).
Discussion

Clinical Findings. The results indicate that attachment style can have a significant impact on treatment success. As demonstrated in the results, dismissive attachment, measured categorically, were shown to be associated with worse treatment success, as measured through social anxiety severity at twenty weeks. However, the results yielded no significant associations between attachment style, measured categorically, and social anxiety disorder when baseline severity was controlled for. Additionally, attachment style, measured categorically or dimensionally, did not account for change in social anxiety from baseline to twenty weeks.

Surprisingly, the results also indicated that secure, avoidant, or anxious attachment, measured dimensionally, did not predict social anxiety at twenty weeks. However, dismissive attachment predicted social anxiety severity at twenty weeks to a significant degree. These findings are consistent with previous research on the effects of attachment style within a client-therapist relationship (Alexander & Anderson, 1994; Shorey & Snyder, 2006). According to Shorey (2006), dismissive attachment is characterized by positive views of oneself and negative views of others. However, these positive self views are often indicative of underlying defense structures. Alexander and colleagues (1994) investigated attachment styles as predictive of the therapeutic alliance and note that persons characterized by dismissive attachment can be difficult to treat. They note that even after patients with dismissive attachment “disclose their problem, they may deny anything is wrong” (Alexander & Anderson, 1994). This research supports our finding that dismissive attachment was associated with emotional suppression. Therefore, within a therapeutic and interpersonal relationship, this denial of one’s problems as a defense mechanism may be a significant hindrance to therapeutic success.
Unfortunately, perhaps due to our small sample size, we were unable to prove our second hypothesis, in which we predicted a mediation effect. Attachment style was not associated with the therapeutic alliance, and in turn, the therapeutic alliance was not associated with treatment outcomes. These results therefore indicate that the therapeutic alliance did not mediate the relationship between attachment style and treatment outcomes. Once again, due to a lack of directional associations, we were unable to examine our third, and final, hypothesis as the results indicate that emotional expression could not moderate the association between attachment style and therapeutic alliance.

Initial findings revealed that baseline social anxiety was positively correlated with avoidant attachment and negatively correlated with secure attachment, measured dimensionally. These findings replicate those of Erozkan (2009) and Eng et al. (2001), both of whom found social anxiety severity to be associated with insecure attachment styles, with the strongest association being fearful-avoidant (Erozkan, 2009). In addition, emotional expression at baseline predicted social anxiety symptomatology at twenty weeks. This finding supports previous research on the role of emotional expression within cognitive behavior therapy (Goldin et al., 2014; Sparrevohn & Rapee, 2009; Erwin et al., 2003; Davila & Beck, 2002) and highlights its necessity to be successful in treatment for SAD.

The relationship between emotional regulation and social anxiety can perhaps be explained through the role of one’s attachment style. Further findings from our study indicate that attachment style, prior to treatment, was associated with emotional regulation. Supporting previous research by (Kerr et al., 2003; Aslam, 2013; Mikulincer et al., 2003), secure attachment was positively associated with cognitive reappraisal measures and negatively associated with
measures of emotional suppression. Conversely, avoidant attachment was found to be negatively associated with measures of cognitive appraisal and positively associated with measures of emotional suppression. As stated earlier, dismissive attachment was found to be associated with measures of emotional suppression. In summary, our findings indicate that there were distinct patterns of emotion regulation in three out of four attachment styles.

Unfortunately, there were several limitations to our research, the primary one being the small size of our sample. Data was collected at baseline but less data was available at twenty weeks. By our third timepoint of twenty weeks, our sample size had decreased by 65.76% compared to the number of patients included as baseline. Additionally, because our research began after much of the data collection process was already underway, we were unable to obtain as much attachment and therapeutic alliance related data points as would have been statistically beneficial.

This study utilized three major qualities of interpersonal relationships—attachment style, emotional expression, and therapeutic alliance—in relation to outcomes of cognitive behavioral therapy. We were unable to generate many significant findings, perhaps a result of our small statistical sample. However, due to the relatedness of these interpersonal qualities, there is significant theoretical evidence to support their association. Therefore, further research into this field of psychology, particularly in the realm of attachment styles, is strongly recommended. In addition to examining potential mediating and moderating effects of these variables, change in attachment style throughout the course of therapy should be further researched.

*M-Turk Exploratory Findings.* Though the group of securely attached participants in our M-Turk sample was larger than the secure patients in our clinical sample, we expected the
majority of participant pool to securely attached, as other studies have found around two thirds of participants to be secure (Hazan & Shaver, 1987). However, this was not the case for our exploratory dataset, as the majority of our participants had an avoidant attachment style. Additionally, our exploratory sample demonstrated greater levels of social anxiety severity than would be expected from a non-clinical sample, even after excluding the 17.6% who reported current treatment for SAD. These findings suggest that participants using M-Turk may be more socially anxious than the general population, supporting previous research that internet users report greater levels of social anxiety than the general population (Shapiro, Chandler, & Mueller, 2013; Erwin, Turk, Heimberg, Fresco, & Hantula, 2004).

Once patients within treatment for SAD were excluded, our results revealed that social anxiety predicted attachment style both categorically and dimensionally. Social anxiety was associated with avoidant and anxious attachment style. This finding supports previous research suggesting that, amongst non-clinical populations, insecure attachment is associated with interpersonal difficulties (Hazan & Shaver, 1987; Mikulincer et al., 2003) specifically social anxiety disorder (Eng et al., 2001; Erozkan, 2009) while secure attachment was revealed to be negatively associated with social anxiety.

Within both clinical and non-clinical samples, our results indicate that attachment style and social anxiety are closely linked. Our research suggests that emotional expression, or suppression, is an important factor in these interpersonal relationships. Research should be conducted with a larger sample using the same constructs. Our findings indicate that further research on dismissive attachment and psychotherapy should be conducted, especially within the context of social anxiety disorder.
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Figures

Figure 1. Attachment style dimensional quadrant (Bartholomew, 1991)

Figure 2. Representation of our hypothesized mediational model.
Figure 3. Frequency of Attachment Styles for Clinical Patients

Figure 4. Frequency of Attachment Styles for M-Turk Exploratory Sample
### Table 1. Attachment Style and Social Anxiety Severity within Clinical Patients

<table>
<thead>
<tr>
<th>Attachment Style</th>
<th>Social Anxiety Severity at Baseline</th>
<th>Social Anxiety Severity at Twenty Weeks</th>
<th>Change in Social Anxiety Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure</td>
<td>-.401**</td>
<td>-.193</td>
<td>-.105</td>
</tr>
<tr>
<td>Fearful-Avoidant</td>
<td>.319*</td>
<td>.189</td>
<td>.045</td>
</tr>
<tr>
<td>Preoccupied</td>
<td>.234</td>
<td>-.171</td>
<td>.294</td>
</tr>
<tr>
<td>Dismissive</td>
<td>.184</td>
<td>.466**</td>
<td>-.286</td>
</tr>
</tbody>
</table>

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

### Table 2. Attachment Style, Emotional Regulation, and Working Alliance within Clinical Patients

<table>
<thead>
<tr>
<th>Attachment Style</th>
<th>Emotional Suppression</th>
<th>Cognitive Reappraisal</th>
<th>Working Alliance Inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure</td>
<td>-.382**</td>
<td>.239</td>
<td>.064</td>
</tr>
<tr>
<td>Fearful-Avoidant</td>
<td>.328*</td>
<td>-.453**</td>
<td>-.070</td>
</tr>
<tr>
<td>Preoccupied</td>
<td>-.087</td>
<td>-.122</td>
<td>-.082</td>
</tr>
<tr>
<td>Dismissive</td>
<td>.387**</td>
<td>-.280</td>
<td>.235</td>
</tr>
</tbody>
</table>

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).
Table 3. Attachment Style and Social Anxiety Severity within M-Turk Participants

<table>
<thead>
<tr>
<th>Attachment Style</th>
<th>Social Anxiety</th>
<th>Emotional Suppression</th>
<th>Cognitive Reappraisal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure</td>
<td>-.430**</td>
<td>-.292**</td>
<td>.142*</td>
</tr>
<tr>
<td>Fearful-Avoidant</td>
<td>.471**</td>
<td>.300**</td>
<td>-.150*</td>
</tr>
<tr>
<td>Preoccupied</td>
<td>.352**</td>
<td>.019</td>
<td>-.115</td>
</tr>
<tr>
<td>Dismissive</td>
<td>-.053</td>
<td>.282**</td>
<td>.065</td>
</tr>
</tbody>
</table>

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Table 4. Social Anxiety Severity and Emotional Regulation within M-Turk Participants

<table>
<thead>
<tr>
<th></th>
<th>Emotional Suppression</th>
<th>Cognitive Reappraisal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Anxiety</td>
<td>.341**</td>
<td>-.321**</td>
</tr>
</tbody>
</table>

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).