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## The Influence Of Attachment Security Priming On Relationship Social Comparison Interpretations

Alex James Holte

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THE INFLUENCE OF ATTACHMENT SECURITY PRIMING ON RELATIONSHIP SOCIAL  
COMPARISON INTERPRETATIONS

by

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Alex James Holte

April 11, 2022

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## Abstract

Relationship social comparisons occur when an individual compares their relationship to another. These comparisons are unavoidable and the interpretation of them can influence how an individual feels about their relationship. Dispositional attachment style may influence how these comparisons are interpreted. Furthermore, research has shown individuals can be temporarily primed for specific attachment styles which results in cognitions and behaviors consistent with that attachment style. The current study examined the efficacy of priming attachment security on how an individual interprets relationship social comparison interpretations (RSCIs) and relationship satisfaction. A final sample of 505 individuals in a dating relationship were recruited from the United States. Though attachment priming had no effect on positive upward RSCIs, participants primed with secure attachment made RSCIs that were less negative and had more relationship satisfaction. In addition, participants with fearful-avoidant and preoccupied attachment who were primed for secure attachment had less negative RSCI compared to participants with the same attachment style who did not receive the secure prime. Collectively, these results may be important first steps that attachment priming may be effective at promoting relationship interpretations that are less negative and relationships that are more satisfying.

*Keywords:* Relationship social comparison; Attachment Theory; Relationship Satisfaction

## **CHAPTER 1**

### **INTRODUCTION**

Relationship social comparisons, the act of comparing one's relationship to another, is quite common (Buunk & Ybema, 2003; LeBeau & Buckingham, 2008). Provided how an individual interprets relationship comparisons has a direct implication to how satisfied they are about their relationship (Broemer & Diehl, 2003; Buunk & Van Yperen, 1991; White, 2011), it is important to identify factors which can promote positive and reduce negative interpretations. Though proneness to positive and negative relationship interpretations are not uniform, it is viable priming attachment security may assist individuals with insecure attachment styles to form interpretations that are more optimistic. This project aims to examine the influence attachment styles have on relationship social comparison interpretations and relationship satisfaction. In particular, the role of attachment priming on dispositional attachment style and relationship social comparison interpretations and relationship satisfaction after making an upward relationship comparison will be evaluated. After providing a detailed review of the extant literature of attachment theory, social comparison theory, the interaction of attachment styles and relationship social comparison, and the impact of secure attachment priming, specific objectives of the study will be addressed.

#### **Attachment Theory**

A key tenant of attachment theory is that early interactions between an infant and a caregiver influence how the infant will interact with others as an adult (Bowlby, 1973). Based on

how sensitive the caregiver is to the needs of the infant, the infant develops internal working models of themselves and others (Bowlby, 1973; Cassidy, 1988). Securely attached infants, are those whose parents are responsive and sensitive to their needs. As such, they develop internal working models that they are worthy of being helped and they trust others will be available for them if needed (Bowlby, 1973). Preoccupied infants receive inconsistent care from their parents (Ainsworth, 1978), which causes them to feel they are not worthy of being cared for and prompts mixed thoughts regarding if they can trust others. As a result of not knowing if they can trust their caregiver to be there for them, preoccupied infants seek close proximity to their caregiver and cling to them if they try to leave the room (Cassidy & Berlin, 1994). Avoidant infants on the other hand, have caregivers that are insensitive to their needs, more rejecting and that are uncomfortable holding them (Ainsworth et al., 1978). In addition, children with avoidant attachment report their mother being less supportive of them (Cassidy, 1988).

### **Attachment Conceptualizations in Adulthood**

Attachment has also been studied in adulthood. Specifically, Bartholomew and Horowitz (1990) proposed their model of attachment based off of Bowlby (1973) conception, that attachment working models are based upon one's perception of themselves being worthy of help (e.g., positive or negative) with one's view of others (e.g., positive or negative). Based on how an individual fares within their view of themselves and others, they can be classified into one of four attachment styles. Individuals can have a secure (positive view of self and others), preoccupied (negative self-view / positive view of others), fearful-avoidant (negative view of self and others) or a dismissive-avoidant (positive view of self / negative of others) attachment style. This model differs from other models of attachment, such as Hazan and Shaver (1987) tripartite model of attachment, as they identified two types of avoidant attachment: dismissive and fearful.

Dismissive-avoidant describes individuals who value their independence and do not desire close relationships. Fearful-avoidant adults, on the other hand, want close relationships but are uncomfortable getting close to their partner in fear they will be rejected (Bartholomew & Horowitz, 1991).

To validate the hypothesized conceptual categories of Bartholomew (1990), Bartholomew and Horowitz (1991) collected three types of attachment data (e.g., interview ratings, self-report, report from close friend) and used multidimensional scaling analysis of these data types. They found that each of the data points corresponded with their expected attachment quadrant (e.g., view of self / view of others). Moreover, as they hypothesized, individuals of an attachment style with a positive self-view of themselves (e.g., secure and dismissive-avoidant) scored higher on measures of self-concept than people of attachment styles theorized to have negative self-view (e.g., preoccupied and fearful-avoidant). In addition, though both forms of avoidant attachment scored higher in difficulties developing close relationships and trusting others, they found differences regarding one's self-worth. Specifically, fearful-avoidant scored higher than dismissive-avoidant participants in social insecurity, suggesting a lack of confidence in social settings, and low assertiveness. This provided a clear distinction between these forms of avoidant attachment and how any conceptualization that puts both forms of avoidant attachment as one typology may be an over-generalization.

Later work by Brennan et al. (1998) provided further validation for the model of attachment styles proposed by Bartholomew (1990) and Bartholomew and Horowitz (1991). Specifically, with the use of Fischer's linear discriminant function, they were able to place individuals into one of the four aforementioned styles. Though, their model was unique in the sense the measure they used to quantify attachment was modified to refer specifically to

romantic relationships. Additionally, in lieu of quantifying attachment on the basis of one's view of themselves and their view of others in general, these concepts were replaced with how an individual fared across the dimensions of attachment anxiety and avoidance, respectively. They also found support for many of the theoretical assumptions proposed for each specific attachment style. In particular, Brennan et al. (1998) found that participants with either avoidant attachment style, scored significantly higher in partner touch aversion compared to participants with secure and preoccupied attachment. Likewise, participants with a secure or preoccupied attachment reported a significantly higher desire for the touch of their partner compared to both avoidant styles. Collectively, these findings outline how individuals with negative views of others (e.g., avoidant attachment) are not comfortable with being close to their partner, while people with attachments characterized by having positive views of others are comfortable with this closeness. By corroborating the theoretical expectations outlined in Bartholomew (1990), taken together, the work of Brennan et al. (1998) further supports the model of attachment proposed by Bartholomew (1990) and Bartholomew and Horowitz (1991).

Alternative models of attachment have conceptualized by quantifying attachment with the continuous dimensions of attachment anxiety and avoidance (Cameron et al., 2012; Fraley, 2019). That is, in lieu of providing an individual a typology of a specific attachment style, how they score across these dimensions is what is reported. Research by Fraley et al. (2015) found the use of this dimensional approach, in comparison to the categorical, is better at measuring and identifying individual differences within attachment. One concern of classifying individuals into groups and assuming they are equal to others in terms of attachment qualities, is information regarding these individual differences are not accounted for (Cohen, 1983; Fraley, 2019; Gillath et al., 2016). For example, though you are able to classify an individual as someone with a



preoccupied attachment style, individual differences in terms of how preoccupied an individual is exist within that specific typology. Without quantifying attachment with the use of dimensional approaches, important information may be lost. In light of this limitation, it is important to address that by studying attachment with the use of a categorical approach, group differences in attachment are able to be identified. As such, therapeutic approaches which may be more efficacious for specific attachment styles may be more easily adapted to individuals on the basis of which attachment category they belong to.

### **Attachment and Romantic Relationships**

In adulthood, attachment characteristics often manifest in romantic relationships. For example, preoccupied adults are less trusting of their partner (Collins & Read, 1990; Marshall et al., 2013), have reoccurring apprehensions their partner will leave them (Bartholomew & Horowitz, 1991; Main et al., 1985), crave closeness to them (Hazan & Shaver, 1987), and are more prone to believe partner actions are threatening to relationship stability (Campbell et al., 2005; Collins, 1996). As it relates to dismissive-avoidant and fearful-avoidant, research has shown that individuals with avoidant attachments try to avoid closeness with their partner (Birnie et al., 2009; Dandurand & Lafontaine, 2013) and do not turn to them when they are stressed (Mikulincer & Shaver, 2007). Individuals with secure attachment score low on attachment anxiety and avoidance as they are comfortable being close with their partner and trust they will be there for them if distressed (Brennan et al., 1998; Edelstein & Shaver, 2004; Mikulincer et al., 2001). As such, people with secure attachment report having relationships characterized by trust (Fitzpatrick & Lafontaine, 2017; Marshall et al., 2013; Simpson, 1990), kindness (Sprecher & Fehr, 2011), emotional support (Kim & Carver, 2007), happiness (Moghadam et al., 2016; Hazan & Shaver, 1987), and commitment (Besharat, 2003; Ehrenberg et al., 2012; Simpson, 1990).

Reasonably, individual differences in attachment style have shown to contribute to relationship satisfaction. For example, while preoccupied and avoidant-attached individuals report being dissatisfied with their romantic relationships (Candel & Turliuc, 2019; Cao et al., 2019; Ho et al., 2011; Li & Chan, 2012; Mikulincer & Shaver, 2015; Saavedra et al., 2010; Stapleton et al., 2016), securely attached individuals report being more satisfied with their relationships (Diamond et al., 2018; Demircioğlu & Köse, 2021; Egeci & Gencoz, 2011; Trachtenberg-Ray & Modesto, 2021). Moreover, these findings have been identified across different relationship types including dating (Hudson & Fraley, 2014; Simpson, 1990; Stackert & Bursik, 2003) and married individuals (Banse, 2004; Butzer & Campbell, 2008; Mehta et al., 2009; Pollmann et al., 2010). Likewise, individuals with secure attachment have romantic relationships that last longer than those with insecure attachment styles (Butzer & Campbell, 2008; Feeney, 2004; Hazan & Shaver, 1987).

### **Social Comparison Theory**

Festinger's (1954) social comparison theory postulates we have a desire for self-evaluation, a motivation to validate oneself, and to understand our capabilities. As objective information about ourselves is not always available, we use social comparisons to understand how we fare in different domains such as values, abilities, and characteristics (Festinger, 1954). Wood (1996) describes social comparisons as a method of thinking about information regarding others in relation to oneself. Based on how we compare to the social information available, we appraise our competency in that domain. How we compare to others is based upon our motives for why we are making the comparison in the first place. Multiple motives have been proposed for why individuals make social comparisons. This includes the purposes of evaluation, improvement, and enhancement of oneself (Taylor et al. 1996; Wood, 1989). The selection of a

comparison target is influenced by the comparison motive. Individuals desiring an evaluation of how competent they are will compare to those they consider similar to them (Wood, 1989). This reasonably includes friends and colleagues whom one has information to compare to. Thus, it is more likely a high school soccer player interested in knowing how good they are at soccer will compare themselves to other high school soccer players to understand how good they are at soccer in lieu of comparing themselves to professional players who are more skilled.

With self-enhancement motives, people make downward comparisons to those they perceive to be less successful than themselves (Wood, 1989). Mussweiler and Strack (2001) suggest when individuals downward compare, they use other individuals and their competency as a low reference point, which makes their situation appear to be better than it is. One example of this could be a student who was initially disappointed by receiving a C on an exam, but later felt better after comparing themselves to their friends who all failed the same exam. For self-improvement motives, individuals make upward comparisons to those they perceive to be better in that domain (Wood, 1989). Prior research has found by comparing oneself to others that are better than them promotes a “path” to improvement (Gabriel et al. 2005). This is achieved when participants use the upward comparison target as an example for what they could be if they strive to improve. For example, recent literature has found individuals desiring to be more fit will compare themselves to Instagram users who post their fitness routines and progress (Lewallen, 2016). By seeing what one can become through following a similar fitness routine, people can be inspired to have similar success.

Social comparisons occur effortlessly, often without explicit intention to compare (Gilbert et al., 1995; Mussweiler & Epstude, 2009). Thus, while individuals may choose an upward or downward comparison target for self-improvement and self-enhancement motives

respectively, there are occurrences when an individual making a social comparison for self-evaluation purposes does not have the choice of comparison direction. For example, the seminal work of Morse and Gergen (1970) had job applicants sit in a waiting area with either a well or poorly dressed confederate. They found participants who sat in the presence of a well-dressed confederate had a significant decline in self-esteem while those who sat with the poorly dressed confederate demonstrated significant improvement in self-esteem. This research is important as while individuals who made a downward comparison had self-enhancement gains as expected from a downward comparison, individuals who made an upward comparison to the better dressed confederate found themselves feeling worse about themselves which goes against the common theme of upward comparisons yielding self-improvement outcomes.

Similarly, in Vogel et al. (2014), participants who read a fictitious profile consisting of information consistent with an upward comparison (e.g., healthy, high social status), endorsed lower levels of state self-esteem compared to participants that made a comparison to a profile that comprised of downward comparison information (e.g., unhealthy habits, low social status). Collectively, these and other research highlight the ambiguity of how upward social comparisons can not only self-motivate oneself, but in some cases, can make us feel worse. Thus, Pinkus et al. (2008) later expanded social comparison theory by identifying the impact of the comparison on how one feels about themselves, or their relationship depends not only on the direction of the comparison, but how the individual interprets what the comparison means for them. For example, research by Van der Zee et al. (1998) and Wood et al. (1985) found that cancer patients can have positive or negative outlooks of their condition after making social comparisons to others. The ambiguity of how comparisons are interpreted is a key aspect of social cognition that is continually being researched.

Festinger (1954) postulates we compare to similar others as the less similar we are to the person of comparison, the less likely we form an accurate appraisal of how we are in a given domain. Thus, people who are similar can be considered the most informative comparison target (Suls, 1977; Taylor et al., 1990). Likewise, the empirical literature has demonstrated how similar an individual is to their comparison target can influence the effects of a social comparison. For example, research by Cash et al. (1983) found that female students shown photos of physically attractive women only reported feeling less attractive when they were not told they were shown photos of professional models. In other words, when the participants knew their comparison target was not as similar to them, their appraisal of how attractive they were was not nearly as impacted as the women who did not have this information and may have assumed they were similar to them. Similarly, Mueller et al. (2010) found that the odds of adolescent girls trying to engage in weight-loss behaviors is significantly more likely when women they regard as having a similar weight and figure are also attempting to lose weight. Likewise, Colusso et al. (2016), found individuals perform better in video games after their video game scores are compared to someone with a similar score compared to someone with a score that is substantially higher than their own. Taken together, the perceived extent one is similar to a comparison target has an influence in how they feel about themselves and future behavior.

### **Relationship Social Comparisons**

Relationship social comparisons have implications for how an individual views themselves and their relationship. Comparisons to other romantic relationships can influence affective, behavioral, and cognitive aspects of one's relationship (Buunk, 2001; Buunk et al., 2001). Provided people may view their relationship/partner as part of their identity (Aron et al., 1991), how an individual interprets a comparison to another couple might be viewed as a

personal success or failure to some individuals (Thai et al., 2015). As such, research has studied how relationship social comparisons influence how satisfied an individual is with their relationship. This includes research by Buunk et al. (2001; Experiments 1 and 3), which found making a downward relationship comparison increased relationship satisfaction more than simply written down reasons one's relationship is good. On a similar note, Morry et al. (2018) found after having participants look at a manipulated Facebook profile that consisted of posts consistent with a successful relationship (e.g., photos displaying a happy couple, posts about being excited for a family dinner), reported being less happy than participants who viewed Facebook posts of a couple that was deemed worse off (e.g., forgot an anniversary, cancelling dinner plans). Though surprisingly, they did not find a significant difference in relationship satisfaction between the two groups.

Similar to the aforementioned research regarding the importance of how similar a comparison target is, research by Broemer and Diehl (2003) found participants reported the highest relationship satisfaction when they either assimilated to a comparison couple that was well-off or when they felt their relationship was better than a couple of a lower standard. That is, when an individual compares their relationship to one they view as well-off and feels their relationship is of similar quality, this comparison yields higher relationship satisfaction. Alternatively, as demonstrated in other studies mentioned above, viewing a couple that is worse off appears to make people feel better about their relationship. Downward relationship social comparisons also appear to relate to how cognitively accessible information about one's partner is. For example, participants in Buunk et al. (2001; Experiments 2 and 3) who made a downward relationship comparison had quicker response times when asked questions regarding their

relationship, which may suggest the process of making a downward social comparison made attitudes towards their relationship more cognitively available.

Moreover, Buunk et al. (1990) found that upward comparisons to couples with “better” relationships can evoke relationship satisfaction as the comparison of what they can become promotes growth beliefs. Alternatively making an upward social comparison to a friend’s relationship viewed as superior can also cause some to form negative interpretations of one’s relationship, which in turn, may influence them to be less satisfied with their relationship as a result (Morry et al., 2019). It also has been suggested in the literature that downward relationship social comparisons relate to the present moment whereas upward relationship social comparisons are oriented towards people’s view of the future and if they feel they can have a relationship of that quality (Morry & Sucharyna, 2016). In lieu of making long-term appraisals of one’s future with their partner, downward comparisons may address a simpler question of if one is currently happy with their relationship. This has been demonstrated in the literature as Morry and Sucharyna (2016) found among their college student sample, that individuals who have more positive and less negative downward relationship social comparison interpretations tend to be more satisfied about their relationship.

Empirical work has also suggested relationship social comparisons are rather common. In particular, Morry (2011) found that during a period of 3 months, individuals in dating relationships made an average of 9.64 comparisons with an average of 3.76 comparison couples. Likewise, research has studied how the occurrence of relationship comparisons relates to how satisfied people are with their relationship. Specifically, the frequency of relationship social comparisons is inversely related with relationship satisfaction (Gürsoy et al., 2020; LeBeau & Buckingham, 2008; Quiroz, 2019). Similarly, research by LeBeau and Buckingham (2008) found

relationship insecurity is related to how frequent an individual makes a relationship comparison. Provided social comparisons can occur since an individual is uncertain (Taylor et al., 1990), it is possible people who are not satisfied with their relationship and feel less comfortable in it may be more likely to make relationship social comparisons to examine if their concerns regarding their relationship is valid. As it pertains to relationship type, White (2011) found that individuals in a dating relationship, compared to those who are married, make more relationship comparisons and are less satisfied with their relationship. Based on Morry and Sucharyna (2016) claim that dating and engaged individuals have more uncertainty in their relationship compared to married couples, it is reasonable that married individuals make less relationship comparisons.

Relationship social comparisons have also been studied in terms of how the individual interprets the comparison. In particular, Morry and Sucharyna (2016) further extended the social comparison interpretation literature by developing their measure of relationship social comparison interpretations (RSCI). This measure consists of 45 items within three factors: negative interpretations, positive upward interpretations, and positive downward interpretations. They initially proposed two negative interpretations factors (e.g., negative upward and negative downward) but found their three-factor solution with just one negative factor had a better psychometric fit. This measure is used after having participants compare their relationships to another and asked to rate the extent to which they had the following thoughts, with each idea corresponding to a specific thought. For example, “There is hope for the future” is a positive upward statement, “We aren’t as bad off as them” is a positive downward statement, and “I feel hopeless about my relationship” is a negative statement. They found that after making a relationship social comparison, participants would differ in terms of how positive or negative they felt about their relationship. For example, after comparing to a relationship that is better



than their own, some participants affirmed positive upward statements such as “They are an inspiration for us” while others backed negative statements such as “I can’t see us doing as well as them.”

Later research with the RSCI measure found in Morry et al. (2018; Study 1) that negative interpretations were indirectly related to relationship satisfaction, commitment, and how connected they felt with their partner. Moreover, they found positive upward interpretations was directly related to relationship commitment while positive downward interpretations were related with relationship satisfaction and connectedness with their partner. In their second study, Morry et al. (2018) found that negative interpretations were directly related to the extent an individual who is already in a relationship would seek out other partners, how aware an individual is of potential new partners, and negatively related to how disinterested one is in securing a new partner. Positive downward interpretations were not related to any of these dimensions, though they were negatively related to the extent an individual is aware of potential new partners and directly related to their disinterest in securing a new partner. Later research by Morry and Sucharyna (2019) partially replicated the aforementioned findings with the use of a nationwide sample of dating and married couples, as they found negative interpretations were inversely related with both relationship satisfaction and commitment while positive downward interpretations were directly related with these concepts. Though, they did not find any associations between positive upward interpretations and either relationship satisfaction or commitment. Collectively, these findings suggest that relationship social comparison interpretations have an impact on relationship satisfaction. Thus, if individuals are able to have RSCIs that are characterized as being more optimistic, it is viable people may be able to be happier about their relationship.

## **The Interaction of Attachment Styles and Relationship Social Comparisons**

Considerable attention has been made in the empirical literature in identifying individual differences, such as attachment styles, that influence social information processing (Cassidy & Shaver, 1999, 2008). It is reasonable individual differences in attachment account for differences in relationship social comparisons. In addition to making comparisons to motivate or make ourselves feel better, individuals also make social comparisons when uncertain about an element of their life (Festinger, 1954). Given individuals with preoccupied and avoidant attachment are comparatively more uncertain about their relationship than individuals with secure attachment (Collins & Read, 1990; Hingorani & Pinkus, 2019), it is understandable that they make more relationship social comparisons than securely attached individuals (Gibbons & Buunk, 1999; Gürsoy et al., 2020; Johnson, 2012; LeBeau & Buckingham, 2008).

Research by Hingorani and Pinkus (2019) found that preoccupied adults tend to make upward relationship social comparisons more frequently, in comparison to downward, which is consistent in how individuals with preoccupied attachment tend to have view themselves negatively, while holding positive views of others (Gillath et al., 2016; Mikulincer et al., 2003). While research has not studied the types of relationship comparisons avoidant adults are inclined to make, it is theoretically anticipated they would prefer downward comparisons. Provided avoidant adults have a negative view of others and positive view of themselves (Gillath et al., 2016; Mikulincer et al., 2003), it is possible they prefer comparing themselves and by extension, their relationship, to people worse off, as this allows them to arrive at conclusions that support their model of themselves and others. For example, avoidant adults in Thai et al. (2015) reported feeling closer to their partner after reflecting on a time they outperformed their partner in some domain (e.g., academics, finances, social). However, it is important to address how more work is

needed to outline which comparison direction avoidant adults typically use when comparing their relationship to others,

Though prior research has not examined relationship social comparison interpretations and the influence of attachment styles specifically, there are multiple works that provide strong support that individuals of different attachment styles would differ in these appraisals. For example, Bretherton and Munholland (1999) suggest that individuals with preoccupied and avoidant attachment process social information about attachment figures in a negatively biased manner through reflecting on negative interactions. In comparison, securely attached individuals have a positivity bias when processing social knowledge, as they have more positive interactions to draw from (Bretherton & Munholland, 1999). As such, securely attached individuals form partner attributions that are more positive than individuals with preoccupied and avoidant attachment styles (Crowell et al., 2002; Gallo & Smith, 2001; Sümer & Cozzarelli, 2004). Additionally, preoccupied individuals form negative partner attributions even after their partner provided them support (Collins & Feeney, 2004).

When individuals make relationship comparisons, they reflect on available attachment information about our partner (Johnson, 2012). Therefore, it is understandable that differences in recall of information may play a role in how positive and negative one views their relationship after making a relationship social comparison. For example, research has shown that as attachment anxiety and avoidance increase, positivity, and accuracy of memories decrease (Gentzler & Kerns, 2006; Pereg & Mikulincer, 2004). While these works focused on memory in general, research related to the recall of interactions with a partner are also related to being less positive and accurate for people with preoccupied and avoidant attachments (Simpson et al., 2010; Sutin & Gillath, 2009). It is sensible individuals with preoccupied and avoidant attachment

will be more inclined to having less positive relationship social comparison interpretations as a result of their tendencies to recall memories negatively. Contrary, securely attached individuals are more adapted to access happier memories which in turn may result in making positive interpretations regardless of the comparison direction.

### **The Impact of Secure Attachment Priming**

Though attachment styles are regarded as stable elements of an individual (Bowlby, 1979; Hamilton, 2000) prior research has indicated attachment priming can temporarily bolster tendencies of specific attachment styles, which results in thoughts, emotions, and behaviors consistent with that attachment style (Carnelley & Rowe, 2007; Gollwitzer & Clark, 2019). Additionally, secure attachment primes have shown to increase attachment security in individuals regardless of their trait attachment style (Mikulincer & Shaver, 2007). These increases in state attachment are associated with more cognitions and behaviors congruent to secure attachment (Gillath et al., 2009). The basis behind attachment priming is rooted in the early works of Bowlby (1973) which suggested interactions with attachment figures can be stored as episodic memories. Therefore, attachment priming takes place by reflecting on episodic memories of an attachment figure that evoke attachment style congruent thoughts or behaviors.

A key distinction between attachment priming and priming belongingness, is how attachment theory specifies close interpersonal relationships while belongingness can be related to social relationships in general (Baumeister & Leary, 1995). While an individual can have a secure relationship characterized with belongingness, not all primes of belongingness may elicit the feelings of love, safety, and comfort that are elicited by priming secure attachment (Gillath et al., 2016; Gillath et al., 2015). However, it should be noted that belongingness primes that

specify reflecting on episodic memories of one's attachment figure may have outcomes similar to attachment priming, though future research would need to examine this directly.

Attachment priming may be a viable method to evoke positive relationship social comparison interpretations. For example, Mikulincer et al. (2001) demonstrated that attachment priming results in secure primed participants making appraisals of neutral stimuli that were more positive in contrast to control participants who were not primed. This would appear to make individual's more inclined to the "positivity bias" noted in Bretherton and Munholland (1999) which in turn, should result in more positive relationship social comparison interpretations. Mikulincer et al. (2001) concluded security priming appears to weaken the activation of preoccupied and avoidant cognitive processes, such as pessimistic evaluations and focusing on negative cognitions. Similarly, a systematic review of attachment priming by Gillath and Karantzas (2019) outlined how the effects of attachment security primes are especially efficacious with preoccupied individuals. They argued, while individuals with preoccupied attachment styles are prone to be highly reactive and are hypervigilant towards social stimuli (Cassidy & Kobak, 1988; Mikulincer & Shaver, 2007; Sheinbaum et al., 2015; Simpson et al., 1999), the process of attachment security priming appears to "down regulate" these hyperactive behavioral patterns. Though individuals with avoidant attachment may also have benefits from being primed for secure attachment, one limitation mentioned by Gillath and Karantzas (2019) is compared to preoccupied and secure attached individuals, people with avoidant forms of attachment may have a tougher time recalling interactions with partners that are representative of secure attachment due to their use of deactive strategies which make secure attachment related memories less cognitively available (Feeney & Karantzas, 2017).

Luke et al. (2012) and Mikulincer et al. (2011) advocated the use of security priming has beneficial implications with close relationships and how people regulate their thoughts, behaviors, and emotions. In particular, security priming has shown to increase sense of security and closeness to one's partner (Carnelley & Rowe, 2010), trust (Dykas & Cassidy, 2011), self-esteem (Carnelley & Rowe, 2007), and positive mood (Carnelley & Rowe, 2007). In addition, fMRI research conducted by Canterbury and Gillath (2013) indicated that security priming activates areas of the brain linked with love and human connection. Based on these findings, it is reasonable that in addition to feeling closer to one's partner, security priming would also help individuals make more positive relationship social comparison interpretations. This would be a significant development, as it could be an initial step in a line of research focused on improving relationship interpretations. Specifically, if a temporary change in relationship interpretations can be made through priming secure attachment, further work could examine the long-term stability of priming secure attachment and if this stability occurs with each trait attachment style.

### **Current Study**

The aims of the current project are to extend the findings of past relationship social comparison research by understanding the role of attachment on how positive and negative interpretations are after making a relationship comparison. This study is focused on individuals in a monogamous dating relationship for at least 3 months. Prior research on dating partners by Cao et al. (2019) set a criterion of relationship length to ensure each participant was in a relationship that would likely have episodic memories their partner to reflect on in a priming condition. A specific focus on individuals in monogamous dating relationships that are not cohabitating, engaged or married, is to study a sample that comparatively may be more uncertain about their relationship (Morry & Sucharyna, 2016). Though this research is focused on people

in monogamous dating relationships, for the purpose of having a sample with similar relationship structures, it is important to address how other types of relationship structures exist and future research is encouraged to examine attachment and relationship social comparison dynamics in these relationships. Similarly, while this research will not examine the perspective of each participant's partner, it is important to recognize the attachment, relationship satisfaction and relationship social comparison interpretations of each participant's partner likely has an influence on them, and future relationship social comparison research should consider the dyadic effect of these concepts.

This study is different from other relationship social comparison studies as though preoccupied and avoidant attached individuals form more relationship comparisons (Johnson, 2012); it is unknown if attachment influences how these comparisons are interpreted. Similarly, though security priming has shown to reduce attachment anxiety and avoidance (Carnelley & Rowe, 2007) and increase perceived closeness with one's partner (Carnelley & Rowe, 2010), it is not known if security priming can help individual's form more positive interpretations of their relationship after an upwards relationship social comparison. Provided relationship social comparison interpretations that are more positive and less negative predict higher relationship satisfaction (Morry & Sucharyna, 2019), it is viable that if security priming is efficacious in evoking more positive interpretations, individuals of all trait attachment styles may be more satisfied with their relationship. Additionally, evaluating how individuals of different attachment styles interpret a relationship social comparison after being primed for secure attachment may not just illustrate a more authentic depiction of how secure attachment dynamics influence the appraisal of one's relationship in comparison to others, but may be an important first step in a line of research focused on improving relationship interpretations. Thus, the first objective of the

proposed study is to examine if relationship social comparison interpretations are impacted by secure attachment priming and if this effect is demonstrated with each attachment style.

**Hypothesis 1a:** Participants primed for secure attachment will endorse positive upward relationship social comparison interpretations more than participants who were not primed with secure attachment.

**Hypothesis 1b:** Participants primed for secure attachment will endorse negative relationship social comparison interpretations less than participants who were not primed with secure attachment.

**Hypothesis 1c:** Within each trait attachment style except secure attachment, participants primed with secure attachment will report less negative relationship social comparison interpretations and this effect will be most effective among preoccupied and least impactful with dismissive participants.

**Hypothesis 1d:** Within each trait attachment style except secure attachment, participants primed with secure attachment will report more positive upward relationship social comparison interpretations and this effect will be most effective among preoccupied and least impactful with dismissive participants.

A second main objective of this project is to evaluate if relationship satisfaction is impacted by secure attachment priming after a relationship social comparison and if this effect is demonstrated with each attachment style.

**Hypothesis 2a:** Participants primed with secure attachment will have more relationship satisfaction than participants who were not primed with secure attachment.



**Hypothesis 2b:** Within each trait attachment style except secure attachment, participants primed with secure attachment will report higher relationship satisfaction and this effect will be most effective among preoccupied and least impactful with dismissive participant

## CHAPTER II

### METHOD

#### Participants

A preliminary sample of 772 adults were recruited on CloudResearch (Litman et al., 2017) and completed the study on Qualtrics. Of this initial sample, participants were removed after failing attention checks ( $n = 6$ ), not providing social comparison rationale consistent with and upwards relationship social comparison ( $n = 35$ ), suggesting there isn't a couple better than their own to compare to ( $n = 78$ ), providing a response to either the control or secure attachment priming prompt that is not consistent with what was being asked ( $n = 68$ ), reading their respective prompt to fast ( $n = 33$ ). Based on the results of preliminary analyses outlined below, experimental condition participants were removed from analyses if they did not have someone to reflect on that they considered to be a secure base ( $n = 47$ ). Thus, a final sample of 505 was retained. The final sample of which all the main analyses are based upon was primarily female (56.8%), Caucasian (70.3%), and heterosexual (82.2%). The average age was 34.74 ( $SD = 11.20$ , range 19-89) and had an average dating relationship duration of 40.29 months ( $SD = 56.85$ , range 3 – 534). As it pertains to gender identity, a majority of the participants endorses either woman (55.8%) or man (42.8%), though other identities were also represented. Most of the participants (71.8%) had at a minimum an associates degree or more college education and were from the Southeast (27.9%), Northeast (24.4%), Midwest (17.8%), West (17.0%), or the Southwest

(12.9%) of the United States of America. Descriptive statistics of the sample can be found on Table 1.

## **Measures**

### ***Prescreen***

To assess participant eligibility, each participant responded to initial questions about their age, relationship status and relationship duration (see Appendix A).

### ***Demographics***

Additional demographics included questions regarding participant's sex, race/ethnicity, education status, geographic region, gender, sexual orientation, and how long they have known their partner (see Appendix B).

### ***Attachment***

The Experiences in Close Relationships scale (ECR; Brennan et al., 1998) was used to categorize participants into one of four attachment styles: secure, preoccupied, dismissive-avoidant, and fearful-avoidant. This measure consists of 36 items and uses a Likert scale ranging from 1 (disagree strongly) to 7 (agree strongly). This scale measures individual differences in attachment anxiety and attachment avoidance. Both attachment anxiety and avoidance subscales consist of 18 items. The attachment anxiety subscale includes questions such as "I need a lot of reassurance that I am loved by my partner", "I worry a fair amount about losing my partner" and reverse coded items such as "I do not often worry about being abandoned." The attachment avoidance subscale includes items such as "I find it difficult to allow myself to depend on romantic partners", "I get uncomfortable when a romantic partner wants to be very close", and

reverse coded items such as “I am very comfortable being close to romantic partners.” This measure had good internal consistency for both attachment anxiety ( $\alpha = .93$ ) and avoidance ( $\alpha = .94$ ). In addition to providing continuous scores for these dimensions, this measure also allows for the categorization of participant’s attachment style with the application of Fisher’s linear discriminant from Brennan et al. (1998) cluster analysis of 1,082 participants. With use of this measure, participants were categorized with either a secure ( $n = 157$ ), fearful-avoidant ( $n = 133$ ), preoccupied ( $n = 148$ ), or dismissive-avoidant ( $n = 67$ ) attachment style. The 36 item ECR measure can be found in Appendix C.

Provided the ECR does not have a secure attachment subscale, the Relationship Questionnaire (Bartholomew & Horowitz, 1991) will be used as an additional measure of attachment. This measure consists of one item that asks participants to indicate which of four attachment paragraphs describes them best. Options include a paragraph for secure, preoccupied, fearful-avoidant, and dismissive-avoidant attachments. Historically this measure has shown good convergent validity among ECR scores (Brennan et al., 1998). The purpose of using this measure is to further validate attachment style classifications by testing the convergent validity of the ECR within this sample. Specifically, the use of both measures could validate if the participants in this study who endorse secure attachment in the RQ have lower attachment anxiety and avoidance, which is consistent with the prototypical securely attached individual (Brennan et al., 1998). The application of both measures is common as recent works have used both when studying attachment (Bai, et al., 2019; Ináncsi et al., 2015; Thompson et al., 2018). With the current study, the endorsement of each option was as followed: 130 secure, 102 fearful-avoidant, 57 preoccupied, and 216 dismissive-avoidant. This measure is displayed in Appendix D.

### ***Relationship Comparison Task***

For the relationship comparison task, participants were initially presented with the following instructions: “In our everyday lives, we often compare our relationships to those of other people. There is nothing particularly “good” or “bad” about this type of comparison. Take a few minutes to think of a specific friend who is currently in a dating relationship that has lasted 3 months or more and whose dating relationship you think is better than your own. Perhaps this couple communicates better or maybe they are more affectionate and supportive? After you have thought of this friend and why you think their relationship is better for a few minutes, please click the green arrow below.” Upon pressing the green arrow, each participant advanced to a page with the following prompt: “Below, please write why you think your friend's relationship is better than yours. Take as much time as you need.” This prompt was adapted from Morry and Sucharyna (2016; Appendix E). As indicated above, if participants were unable to think of a couple that is better than their own, they were removed from statistical analyses. Rationale for why other couples were better is depicted in Table 2.

### ***Attachment Priming Task***

Participants received either a prime for secure attachment-related thoughts or a control condition (Appendix F). The prime for secure attachment was created by Bartz and Lydon (2004) and has shown to be efficacious in increasing state secure attachment (Luke et al., 2012, Cohen’s  $D = .93$ ). For Pilot Study 1, 271 participants recruited from CloudResearch (Litman et al., 2017) to analyze if the prime was efficacious in promoting higher state attachment security within each attachment style. As such, a one-way between-subjects ANOVA was conducted with priming (control vs. attachment), attachment style (secure vs. preoccupied vs. dismissive-avoidant vs. fearful-avoidant), and the interaction term of priming X attachment style as independent variables was conducted.

A significant main effect for attachment style ( $F(3, 271) = 54.85, p < .001, \eta_p^2 = .39$ ), priming condition ( $F(1, 271) = 28.03, p < .001, \eta_p^2 = .10$ ) and the interaction term of priming condition X attachment style ( $F(3, 271) = 3.08, p = .028, \eta_p^2 = .03$ ) was found. In this ANOVA, the both the main effect of priming and the interaction term were underpowered ( $\sim .59$  and  $.37$  respectively). The significant interaction effect was followed up by conducting individual t-tests within each of the attachment styles and comparing participants based on priming condition. For dismissive-avoidant participants, there was a significant difference in state attachment scores for control ( $M = 4.72, SD = 1.19$ ) and attachment priming ( $M = 5.45, SD = .83$ ) conditions;  $t(45) = -2.45, p = .018$ , Cohen's  $d = .71$ . Similarly, for preoccupied participants, there was a significant difference in state attachment scores for control ( $M = 5.16, SD = 1.11$ ) and attachment priming ( $M = 6.08, SD = .63$ ) conditions;  $t(72) = -4.40, p < .001$ , Cohen's  $d = 1.02$ . Similar effects were found for fearful participants as there was a significant difference in state attachment scores for control ( $M = 4.37, SD = 1.27$ ) and attachment priming ( $M = 4.95, SD = .64$ ) conditions;  $t(48.53) = -2.39, p = .02$ , Cohen's  $d = .58$ . However, there was not a significant difference among participants with secure attachment as those in the control condition ( $M = 6.39, SD = .69$ ) did not have significantly different state attachment scores compared to those in the attachment priming condition ( $M = 6.48, SD = .59$ ;  $t(79) = -.65, p = .52$ , Cohen's  $d = .14$ ). Aside for the findings for securely attached individuals, it is reasonable this attachment prime would be effective in fostering more secure state attachment scores and would satisfy its purpose in the current study.

### ***Relationship Social Comparison Interpretations***

After completing the experimental condition component of the study, each participant completed post measures including the Relationship Social Comparison Interpretation Scale (Morry & Sucharyna, 2016, Appendix G). In total, this scale has three subscales: positive upward

comparison interpretations, positive downward comparison interpretations, and negative interpretations. Provided participants only made an upward social comparison, only the positive upward comparison and negative interpretation subscales were used. In this scale, participants are asked “In our everyday lives, we often compare our relationships to those of other people. These comparisons can trigger a variety of different thoughts; some of these thoughts could be negative, some could be positive. Please rate the extent to which the information you wrote about your friend’s relationship elicited each of the following thoughts about your relationship.” Participants use a Likert scale ranging from 0 (*I am not thinking about it at all*) to 3 (*Thinking about it a lot*). The positive upward interpretation subscale consists of 14 items including “I am inspired to do better” and “With work, we too can trust each other like they do.” While the negative interpretation subscale consists of 17 items including “I can’t see us doing as well as them” and “My relationship is not so good after all.” Higher scores indicate higher severity of each factor. In this study, excellent internal consistency was found for both the negative ( $\alpha = .92$ ) and positive upward interpretations ( $\alpha = .93$ ) factors.

### ***Relationship Satisfaction***

The 4-item Relationship Satisfaction Scale (Murray et al., 2002) was used to measure how satisfied participants were about their relationship. This measure uses a 9-point Likert scale ranging from 1 (*not at all true*) to 9 (*completely true*) and includes items such as “I am extremely happy with my current romantic relationship” and “My relationship with my partner is very rewarding, i.e., gratifying, fulfilling.” In this study, this measure had good internal reliability ( $\alpha = .92$ ). This measure is display in Appendix H.

### ***State Secure Attachment***

The State Adult Attachment Measure (SAAM; Gillath et al., 2009) was used to examine if the attachment priming condition was efficacious in provoking secure attachment congruent feelings, thoughts, and behaviors. In total, this measure consists of 21 items with 7 items for each of the following subscales: secure, avoidant, and preoccupied. A Likert scale ranging from 1 (*Disagree Strongly*) to 7 (*Agree Strongly*) is used to discern the extent each item reflects their current state. For the purpose of this study, only the secure attachment subscale was used. Example items for this subscale include “I feel like others care about me” and “I feel like I have someone to rely on.” In the current study, the SAAM had excellent internal reliability ( $\alpha = .95$ ) and is displayed in Appendix I.

## **Pilot Study 2**

In addition to conducting Pilot Study 1, for the purpose of evaluating how effective the attachment prime is, Pilot Study 2 was conducted to evaluate if dispositional attachment had an impact on both positive upward and negative RSCI. a new sample of 332 participants were recruited on CloudResearch to detect if individuals with a secure attachment score higher in positive upward and lower in negative interpretations. Participants reported their relationship status with 72 being in an exclusive dating relationship, 12 cohabitating, 6 engaged, and 194 married. Each participant completed baseline measures of attachment and completed an upward relationship social comparison. After completing the upward relationship social comparison, each participant completed our measures of Relationship Social Comparison Interpretations. Participants who were unable to think of a friend with a relationship they envy were dropped from statistical analyses.

Two analyses of variance (ANOVA) were conducted, one with each of our RSCI factors as a DV. Attachment style and relationship status were between subjects' factors. In the ANOVA



for negative interpretations, attachment style was a significant predictor ( $F(3, 282) = 26.50, p < .001, \eta_p^2 = .22$ ) while relationship status was not ( $F(3, 282) = .39, p = .758, \eta_p^2 = .004$ ). Post hoc comparisons using the Bonferroni test indicated the mean score of negative interpretations for securely attached participants ( $M = 8.05, SD = 7.99$ ) was significantly lower than the mean scores for preoccupied ( $M = 14.74, SD = 11.77, p < .001$ ), dismissive ( $M = 18.68, SD = 10.40, p < .001$ ) and fearful ( $M = 21.30, SD = 11.72, p < .001$ ) attached individuals. For the ANOVA on positive upward interpretations, attachment style was a significant predictor ( $F(3, 282) = 26.50, p = .03, \eta_p^2 = .03$ ) while relationship status was not ( $F(3, 282) = .39, p = .28, \eta_p^2 = .01$ ). Post hoc comparisons using the Bonferroni test indicated the mean score for securely attached ( $M = 18.81, SD = 11.28$ ) was not significantly different from the mean scores of preoccupied ( $M = 22.97, SD = 10.62, p = .06$ ), dismissive ( $M = 18.00, SD = 10.92, p = 1.00$ ) and fearful ( $M = 22.44, SD = 9.13, p = .16$ ) attached individuals.

There are multiple reasons for why individuals with secure attachment did not have a stronger endorsement of positive upward relationship social comparisons. Similar to how there may have been a ceiling effect in Pilot 1 for secure participants primed for secure attachment, it is possible the extent to which the individuals thought the other relationship to be better may have been lower for individuals with insecure attachments. In other words, they may be less inclined to endorse items such as “I am inspired to do better” or “Things can get better for us” if they feel good about their relationship. Comparatively, individuals with insecure attachment styles may feel the discrepancy between how good their relationship is compared to the comparison relationship to be larger and thus view them as an inspiration. Another possibility is the rationale for why they envy the other couple may influence results. For example, participants who envy the other relationship because of financial success the couple shares likely would not view the

other couple as an inspiration on how to behave with one's partner when the reason for envy is not directly related to the behavior of how the partner's treat each other. The findings related to positive upward RSCI aside, Pilot Study 2 provided initial support that individuals with secure attachment score lower in negative RSCI. Taking the results of Pilot Studies 1 and 2 together, it is viable priming individuals to have cognitions consistent with secure attachment may result in lower negative RSCI scores.

## **Procedure**

All research procedures and protocol were approved by the Institutional Review Board (IRB) at the University of North Dakota prior to data collection. Recruitment took place on CloudResearch (Litman et al., 2017) between September 20<sup>th</sup> to October 30<sup>th</sup> of 2021. Individuals with initial interest in participating in the research clicked a link which redirected them to Qualtrics where the study was hosted. Before participating in the project, each participant was presented with a consent form (Appendix G) that outlined the studied and any risks involved. Those who consented to participate indicate such, by clicking the "I consent" option at the bottom of the page, which redirected to the 3 items prescreen consisting of questions regarding their age, relationship status, and relationship duration. Only participants who endorsed they are 18 years of age or older and in an exclusive dating relationship for 3 months or more were allowed to participate. Participants who typed an age below 18 years of age or endorse another relationship type such as single, in a non-monogamous relationship, cohabitating, engaged, married or divorce or indicate they are in an exclusive dating relationship for less than 3 months were excluded from participating in the research. Furthermore, individuals who participated in either the first or second pilot study will be blocked from being able to see the listing of the proposed research study. Participants who meet the requirements to participate

will complete a series of questionnaires in counterbalanced order, including demographics and attachment (Bartholomew & Horowitz, 1991; Brennan et al., 1998).

Next, participants were randomly assigned to complete either an upwards relationship social comparison to a couple that has a relationship better than their own or to one of two priming conditions. In the control priming condition, participants were to write about their route to school or work, while the attachment security priming condition entailed responding to questions about a romantic relationship in which they felt their partner was a secure base for them. After completing this sequence of the study, participants who originally made a comparison to another couple's relationship was randomly assigned to either the control or attachment security priming condition, while participants who initially completed the priming condition completed the relationship social comparison task. The order of these tasks was counterbalanced to prevent the impact of order effects. After completing their respective sequence, each participant completed the State Adult Attachment Measure (Gillath et al., 2009), a measure of relationship satisfaction (Murray et al., 2002), and the positive upward and negative interpretation subscales of the RSCI scale (Morry & Sucharyna, 2016). The presentation of these measures was counterbalanced. After completing these measures, participants were asked to write what they thought the study was about. Lastly, participants were provided a text box to enter in their choice of a nine-digit code to enter into the survey and CloudResearch to be paid \$0.75

## CHAPTER III

### RESULTS

#### Preliminary Analyses

All data was analyzed with the use of the Statistical Package for the Social Sciences (SPSS) software created by IBM. Missing data among the effective sample was limited with frequencies varying from 0 to .2%. Little's Missing Completely at Random was conducted and revealed data was missing at random (Chi Square = 228.830,  $df = 234$ ,  $p = .58$ ) and thus data imputation was appropriate for this dataset. Expectation maximization (Dempster et al., 1997) was used to impute missing item-level data. An initial analysis was conducted to determine if participants who had to imagine what it would be like to have a partner that is a secure base were statistically different from the participants who had a partner what represented a secure base and they were able to reflect on. An Independent Samples t-test revealed that participants who had a secure relationship to reflect on scored significantly higher in state attachment security ( $M = 5.70$ ,  $SD = 1.11$ ) than participants who did not ( $M = 4.97$ ,  $SD = 1.32$ ,  $t(261) = 3.94$ ,  $p < .001$ ,  $d = .60$ ). Thus, participants who did not have this type of relationship were removed from further statistical analyses. Statistical outliers were identified with the use of box and whisker plots and corrected by replacing scores outside the highest acceptable value of each fence (IE: upper or lower) and replaced them with the value of the fence closest to them. Bivariate Correlations among the study measures is shown on Table 3 and Table 4 depicts the means and standard deviations of each of the three outcome variables for the main analyses by attachment style and

priming condition. had acceptable levels of skewness and kurtosis, with skewness values ranging from -.93 to .93 and kurtosis values extending from -.86 to .12.

### ***Attachment Validation***

Provided the ECR does not have a secure attachment subscale, two one-way ANOVAs were conducted with the Relationship Questionnaire (RQ) options as independence variables and attachment anxiety and attachment avoidance as dependent variables. There was a statistically significant difference between the group means of attachment anxiety as determined by a one-way ANOVA ( $F(3, 504) = 44.35, p < .001, \eta^2 = .21$ ). Post hoc analyses with the Bonferroni indicated participants who endorsed the secure attachment in the RQ scored significantly less in attachment anxiety ( $M = 3.13, SD = 1.22$ ) than individuals who endorsed preoccupied ( $M = 4.93, SD = 0.89, p < .001$ ) and fearful-avoidant attachment ( $M = 4.21, SD = 1.07, p < .001$ ), though they did not differ from participants who endorsed dismissive attachment ( $M = 3.41, SD = 1.18, p = .15$ ). Similarly, there was a statistically significant difference between the group means of attachment avoidance based on the findings of a one-way ANOVA ( $F(3, 504) = 50.67, p < .001, \eta^2 = .23$ ). Post hoc analyses with the use of Bonferroni found that participants who endorsed secure attachment in the RQ scored significantly less in attachment avoidance ( $M = 2.11, SD = 0.76$ ) than participants who endorse preoccupied ( $M = 2.66, SD = 0.92, p = .003$ ), fearful-avoidant ( $M = 3.51, SD = 1.04, p < .001$ ), and dismissive-avoidant ( $M = 3.26, SD = 1.10, p < .001$ ) attachment styles. There was a violation of homogeneity of variance in the ANOVA for both attachment anxiety ( $p = .002$ ) and avoidance ( $p < .001$ ), which may be a product of having a disproportional number of participants in each attachment style.

### ***Influence of Order Effects on Dependent Variables***

To evaluate if the order of the experimental conditions influenced the results of the study, a one-way ANOVA was conducted to compare the mean scores in relationship satisfaction, RSCI, and State Attachment Security across the four groups. There was a statistically significant difference in the ANOVA for negative RSCI ( $F(3, 504) = 7.41, p = .001, \eta^2 = .04$ ) and relationship satisfaction ( $F(3, 504) = 5.27, p = .001, \eta^2 = .03$ ). There was not a significant difference in terms of order for either positive upward RSCI ( $F(3, 504) = 0.66, p = .58, \eta^2 = .004$ ) nor State Attachment Security ( $F(3, 504) = 2.59, p = .05, \eta^2 = .02$ ). There was a violation of homogeneity of variance for negative RSCI ( $p < .001$ ) and relationship satisfaction ( $p = .03$ ), which may have been implicated by unequal sample sizes.

Bonferroni Post Hoc Comparisons found that while participants who made a comparison first and then did the control condition scored significantly higher in negative RSCI ( $M = 13.78, SD = 11.13$ ) compared to both participants who did the secure priming task then made a comparison ( $M = 9.14, SD = 8.55, p = .001$ ) and participants who made a comparison first and then primed for secure attachment ( $M = 8.57, SD = 8.52, p < .001$ ). However, there was no difference when comparing to participants who did the control condition first and then compared ( $M = 11.46, SD = 10.46, p = .28$ ) and there was no difference in comparing the participants who did the attachment priming condition before or after the comparison condition ( $p = 1.00$ ). Similarly, there was no difference when comparing the participants who did the control condition first then the comparison task in comparison to those who did either the secure priming first ( $p = .38$ ) or after the comparison task ( $p = .16$ ).

As it pertains to relationship satisfaction, Bonferroni post hoc comparisons found that participants who did the comparison condition first then control condition scored significantly

lower on relationship satisfaction ( $M = 20.58, SD = 5.73$ ) compared to participants who did the comparison condition first then security priming ( $M = 22.83, SD = 4.54, p = .005$ ) and participants who did the security priming first and then the comparison condition ( $M = 22.68, SD = 4.93, p = .01$ ). However, there was no difference when comparing participants who did the comparison condition first then the control condition in contrast to those who did the control condition first and then the comparison task ( $M = 21.68, SD = 5.13, p = .42$ ). Similarly, the participants who did the control condition first did not differ significantly from the participants who did the secure condition either first ( $p = 1.00$ ) or after the comparison condition ( $p = .54$ ). There was no difference between participants who did the security priming condition before or after the comparison task ( $p = 1.00$ ). Provided there were no statistical differences in the outcome measures of this study within each experimental condition group (IE: control or security priming), participants were merged into either a group consisting of those who did the control condition or those who did the security priming condition for the rest of the analyses.

### ***Efficacy of State Attachment Security Prime***

To evaluate if the attachment prime was efficacious in evoking a higher state attachment security, a one-way ANOVA was conducted with attachment style, condition (IE: control or security priming), and the interaction of attachment style and condition as predictor variables, and State Attachment Security as a dependent variable. A significant main effect for attachment style [ $F(3, 497) = 52.70, p < .001, \eta_p^2 = .24$ ] and condition [ $F(3, 497) = 4.76, p = .03, \eta_p^2 = .01$ ] were found. Though a significant interaction effect was not identified [ $F(3, 497) = 1.40, p = .24, \eta_p^2 = .01$ ]. Post hoc comparisons with the Bonferroni comparison revealed individuals with a secure attachment style scored significantly higher in State Secure Attachment ( $M = 6.32, SD = .60$ ) than individuals with fearful-avoidant ( $M = 4.81, SD = 1.26$ ), preoccupied ( $M = 5.55, SD =$

1.11), and dismissive-avoidant ( $M = 5.23$ ,  $SD = 1.05$ ) attachment styles. Moreover, individuals with fearful attachment scored significantly lower in State Attachment Security than people with preoccupied ( $p < .001$ ) and dismissive-avoidant ( $p = .31$ ) attachment styles. There was no statistically significant difference between people with dismissive-avoidant or preoccupied attachment styles ( $p = .21$ ).

## **Main Analyses**

### ***Efficacy of Attachment Security Priming on Relationship Social Comparison Interpretations***

To evaluate the first objective of if relationship social comparison interpretations are impacted by secure attachment priming, two separate analyses of variance (ANOVA) were conducted with attachment style (secure vs. preoccupied vs. dismissive-avoidant vs. fearful-avoidant) and priming condition (control vs. attachment security) were between subjects' factors with positive upward RSCI and negative RSCI as outcome variables. It was hypothesized individuals primed for secure attachment would endorse positive upward RSCI more than participants who were primed with the control prime. In addition, it was expected within each trait attachment style, participants primed with secure attachment, with the exception of secure attachment, would report more positive RSCI, with the effect being most salient among individuals with preoccupied attachment.

A significant main effect was found for attachment style [ $F(3, 497) = 13.58$ ,  $p < .001$ ,  $\eta_p^2 = .08$ ]. In addition, there was not a main effect for priming condition [ $F(1, 497) = 0.03$ ,  $p = .87$ ,  $\eta_p^2 = .00$ ] or a significant interaction between priming condition and attachment style [ $F(3, 497) = 2.16$ ,  $p = .08$ ,  $\eta_p^2 = .01$ ]. Though, it should be noted both priming condition and the interaction term of priming condition and attachment style had a low observed power (e.g., .05 and .55



respectively) which may have influenced the ability for statistical differences to be identified. Bonferroni Post Hoc comparisons revealed preoccupied participants scored significantly higher in Positive RSCI ( $M = 25.62$ ,  $SD = 10.32$ ) than participants with a secure ( $M = 20.98$ ,  $SD = 10.25$ ,  $p < .001$ ), fearful-avoidant ( $M = 21.62$ ,  $SD = 8.43$ ,  $p = .004$ ), or dismissive-avoidant ( $M = 16.57$ ,  $SD = 9.40$ ,  $p < .001$ ) attachment style. In addition, dismissive-avoidant participants scored significantly lower in Positive Upward RSCI than both participants with fearful-avoidant ( $p = .003$ ) and secure ( $p = .01$ ) attachment. Lastly, participants with secure and fearful-avoidant attachment did not differ in Positive Upward RSCI ( $p = 1.00$ ).

It was hypothesized individuals primed for secure attachment would endorse negative RSCI less than participants who were primed with the control prime. In addition, it was expected within each trait attachment style, participants primed with secure attachment, with the exception of secure attachment, would report less negative RSCI, with the effect being most salient among individuals with preoccupied attachment. To test these hypotheses, a 4 (Attachment Style) X 2 (Priming Condition) was conducted on negative RSCI scores. A significant main effect was found for both attachment style [ $F(3, 497) = 33.91$ ,  $p < .001$ ,  $\eta_p^2 = .17$ ] and priming condition [ $F(1, 497) = 14.24$ ,  $p < .001$ ,  $\eta_p^2 = .03$ ]. In addition, there was a significant interaction between attachment style and priming condition [ $F(3, 497) = 4.45$ ,  $p = .004$ ,  $\eta_p^2 = .03$ ]. Bonferroni Post hoc comparisons indicated that individuals with secure attachment reported lower negative RSCI ( $M = 5.27$ ,  $SD = 5.25$ ) in comparison to participants with fearful-avoidant ( $M = 16.49$ ,  $SD = 11.10$ ,  $p < .001$ ), preoccupied ( $M = 12.67$ ,  $SD = 10.27$ ,  $p < .001$ ), and dismissive-avoidant ( $M = 10.18$ ,  $SD = 9.22$ ,  $p = .001$ ) attachment styles. In addition, fearful-avoidant participants scored significantly higher in negative RSCI compared to both preoccupied ( $p = .002$ ) and dismissive-

avoidant ( $p < .001$ ) participants. There was no statistically significant difference between dismissive-avoidant and preoccupied participants ( $p = .35$ ).

To examine the influence of attachment priming within each group, four separate t-tests were conducted among each of the four attachment styles. No significant differences were found when comparing participants with secure attachment that were primed for secure attachment ( $M = 5.69$ ,  $SD = 5.66$ ) to those who received the control prime ( $M = 4.91$ ,  $SD = 4.87$ ,  $t(155) = -0.94$ ,  $p = .35$ ,  $d = 0.15$ ). Similarly, there was not a significant difference when comparing participants with dismissive-avoidant that were primed for secure attachment ( $M = 8.97$ ,  $SD = 7.74$ ) to those who were primed with the control condition ( $M = 11.35$ ,  $SD = 10.45$ ,  $t(65) = 1.06$ ,  $p = .29$ ,  $d = 0.26$ ). However, there was a significant difference in negative RSCI when comparing preoccupied participants primed with secure attachment ( $M = 9.11$ ,  $SD = 8.61$ ) to those with the control condition ( $M = 15.31$ ,  $SD = 10.64$ ,  $t(146) = 3.79$ ,  $p < .001$ ,  $d = 0.64$ ). In addition, participants with fearful-avoidant attachment, who were primed for secure attachment ( $M = 13.27$ ,  $SD = 10.48$ ) had less negative RSCI compared to participants with fearful-avoidant attachment that received the control prime ( $M = 18.31$ ,  $SD = 11.10$ ,  $t(131) = 2.56$ ,  $p = .012$ ,  $d = 0.47$ ).

### ***Efficacy of Attachment Security Priming on Relationship Satisfaction***

To evaluate the second objective of if relationship satisfaction is impacted by secure attachment priming, one analyses of variance (ANOVA) was conducted with attachment style (secure vs. preoccupied vs. dismissive-avoidant vs. fearful-avoidant) and priming condition (control vs. attachment security) were between subjects' factors with relationship satisfaction as outcome variables. It was hypothesized that participants primed with secure attachment will have more relationship satisfaction than participants who were not primed with secure attachment. In addition, it was hypothesized that within each trait attachment style except secure attachment,

participants primed with secure attachment would report higher relationship satisfaction, with this effect being most effective among preoccupied and least impactful with dismissive-avoidant participants.

A significant main effect was found for both attachment style [ $F(3, 497) = 43.18, p < .001, \eta_p^2 = .21$ ] and priming condition [ $F(1, 497) = 10.13, p = .002, \eta_p^2 = .02$ ]. However, there was not a significant interaction between priming condition and attachment style [ $F(3, 497) = 1.88, p = .133, \eta_p^2 = .01$ ]. Similar to the findings of Positive Upward RSCI, the interaction term of priming condition and attachment style lacked adequate power ( $\sim .49$ ). Bonferroni post hoc comparisons indicated participants with secure attachment scored significantly higher in relationship satisfaction ( $M = 24.89, SD = 2.73$ ) than participants with fearful-avoidant ( $M = 18.77, SD = 5.06$ ), preoccupied ( $M = 22.07, SD = 5.37$ ), and dismissive-avoidant ( $M = 20.07, SD = 5.60$ ). In addition, participants with preoccupied attachment scored significantly higher in relationship satisfaction in comparison to participants with fearful-avoidant ( $p < .001$ ) and dismissive-avoidant ( $p < .001$ ). There was no significant difference in relationship satisfaction between fearful-avoidant and dismissive-avoidant participants ( $p = .35$ ).

## CHAPTER IV

### DISCUSSION

It is common to compare one's romantic relationship with another (Buunk & Ybema, 2003; LeBeau & Buckingham, 2008; Morry, 2011). How an individual interprets relationship social comparisons can influence how satisfied an individual is with their own relationship (Morry et al., 2018; Morry & Sucharyna 2016, 2019). Based on an established finding that individuals with secure attachment style have more relationship satisfaction than individuals with insecure attachment styles (Diamond et al., 2018; Demircioğlu & Köse, 2021; Egeci & Gencoz, 2011; Trachtenberg-Ray & Modesto, 2021) and how priming individuals for secure attachment has shown to cause individuals to form evaluations of stimuli that is more positive (Mikulincer et al., 2001) and feel closer to one's partner (Canterberry & Gillath, 2013; Carnelley & Rowe, 2010), it is viable that priming individuals for secure attachment may result in relationship social comparison interpretations which are more optimistic. In the current study, the efficacy of priming individuals for secure attachment to promote RSCI which are more advantageous for relationship stability (e.g., more positive, less negative) and for relationship satisfaction was examined. Moreover, the influence of dispositional attachment style was considered to evaluate if this method is particularly beneficial for specific attachment styles.

#### **Relationship Social Comparison Interpretations and Attachment Priming**

Mixed support was found for Hypothesis 1. Specifically, while priming participants for secure attachment did not result in higher positive upward RSCI in general (Hypothesis 1a) or at

the group level (Hypothesis 1c), this prime was efficacious at promoting lower negative RSCI scores (Hypothesis 1b). Moreover, as expected, the magnitude of the effect of priming on negative RSCI was strongest among preoccupied participants and was least effective with dismissive participants (Hypothesis 1d). Though, it should be noted, there was no statistical difference between the dismissive-avoidant participants primed for secure attachment and those who were not. Preoccupied participants also demonstrated a stronger effect for the priming method than fearful-avoidant participants, whom also had statistically lower negative RSCI scores in comparison to fearful-avoidant participants who had the control prime. The results found for both positive and negative RSCI are generally consistent with the findings of Pilot Study 1 and 2. Specifically, Pilot Study 2 validated that securely attached individuals score lower in negative RSCI and do not differ on the basis of positive upward RSCI. Thus, based on the findings of Pilot Study 1, which validated the priming method was effective at promoting cognitions and behaviors consistent with secure attachment, the findings pertaining to this hypothesis are reasonable.

There are many reasons why attachment priming was not effective at promoting higher positive upward RSCI scores. As mentioned earlier with Pilot Study 2, the context of why the upward comparison target relationship is better than one's own may be influential in determining the extent to which an individual is able to develop the self-improvement gains attributed from upward social comparisons (Gabriel et al. 2005; Taylor et al., 1996; Wood, 1989). For example, a comparison couple that either has better finances and/or spends more time together, may not be as much of an inspiration as a couple that more affectionate, committed or has better communication skills with each other. In the former, the examples are more based on the situations of the individual couple, while in the later, most couples would be able to strive for

improvements in these domains. Alternatively, it is possible a prime that asks participants to reflect on a time in which they grew closer to their partner or resolved an issue with them, may be more salient at promoting growth belief before or after an upwards social comparison than the prime used in the current study. By providing them a mental image of their past in which they had growth in their relationship, perhaps individuals may have more positive upward RSCIs? Future research is encouraged to examine the efficacy of other attachment primes in promoting higher positive upward RSCIs.

The attachment prime used in the current study, however, was effective at promoting less negative RSCI. It would appear, by reflecting on a secure base, individuals form appraisals of their relationships that are less negative. Provided negative RSCI severity is inversely related with relationship satisfaction (Morry et al., 2018; Morry & Sucharyna, 2019), establishing the benefit of attachment security priming on negative RSCI may be an important first step for future works in developing techniques to foster improved relationship satisfaction. This priming method was especially effective among preoccupied and fearful-avoidant participants. It seems the attachment security prime may have weakened the negativity bias these two insecure forms of attachment are known to have (Bretherton and Munholland, 1999). From an attachment perspective, it is reasonable reflecting on someone conceptualized as a secure base may attenuate the ambiguity preoccupied individuals have regarding the availability of their partner. That is, while individuals with preoccupied attachment are unsure if they can rely on others (Campbell et al., 2005; Collins & Read, 1990; Marshall et al., 2013), prompting them to think of someone they *can* rely on may allow them to interpret a relationship social comparison in a more positive light. One reason the prime was not effective for dismissive-avoidant participants may be due to the defense mechanisms they use to prevent from getting hurt (Gillath & Karantzas, 2019;

Mikulincer & Shaver, 2003; Rowe et al., 2020). Many scholars describe dismissive-avoidant individuals as people who use a deactive attachment style, which prevents them from getting emotional close to others and potential harm due to dissolution of relationships (Fraley & Shaver, 1997, Study 1; Mikulincer & Shaver, 2003, 2007). A depiction of attachment primes which may be effective among this population is presented below. Lastly, the insignificant effects of the prime on secure participants, likely could be attributed to a ceiling effect and how securely attached individuals tend to hold positive views of their partner (Crowell et al., 2002; Gallo & Smith, 2001; Sümer & Cozzarelli, 2004). While securely attached individuals may benefit from a reduction in negative RSCI, the practical value of such changes in RSCI is less impactful for this population in comparison to those with insecure attachment styles, whom interventions of this variety would have more utility towards.

### **Relationship Satisfaction and Attachment Priming**

Similar to Hypothesis 1, mixed support was found for Hypothesis 2. As expected, participants primed for secure attachment scored higher in relationship satisfaction than participants who received the control prime (Hypothesis 2a). However, due to an insignificant interaction effect of attachment style and priming condition, the current study was unable to suggest that the attachment security prime works better for a specific attachment style (Hypothesis 2b). Though, as noted in the results section, the low observed power for the interaction term ( $\sim .49$ ) may have prevented statistically significant results to be identified. Identifying that attachment security priming results in higher relationship satisfaction is reasonable given individuals with secure attachment tend to report being more satisfied with their relationships in comparison to their insecurely attached peers (Diamond et al., 2018; Demircioğlu & Köse, 2021; Egeci & Gencoz, 2011; Trachtenberg-Ray & Modesto, 2021).

Similarly, provided negative RSCI severity is inversely related to relationship satisfaction (Morry et al., 2018; Morry & Sucharyna, 2019) and Hypothesis 1b, that attachment priming would result in lower negative RSCI, was supported, it is reasonable that individuals who were primed for secure attachment reported higher relationship satisfaction.

### **Limitations and Future Research**

Although this study had numerous strengths including having a nationwide sample that was fairly representative of the United States population, there are limitations that need to be addressed. First, it is important to acknowledge how individuals who complete research studies online for \$0.75 may not reflect the characteristics of individuals who do not elect to participate in these online studies. For example, research by Arditte et al. (2016) found that individuals who complete online research studies on platforms similar to CloudResearch, tend to score higher in anxiety and depression severity compared to individuals of the general population. Though these variables were not examined in the current study, it is possible our sample may have differed in other variables in comparison to the population they were meant to represent. Moreover, our sample only consisted of individuals in a dating relationship. Although this was by design to control for potential differences between individuals in an exclusive dating relationship to those in married or other relationship structures, future research is encouraged to evaluate the findings among non-dating relationship samples. It is important to understand the efficacy of attachment priming on RSCI and relationship satisfaction, as if it is not efficacious among non-dating samples, the usability of it in more applied contexts may be limited.

Another key limitation of the study was a low observed power which may have influenced the ability for the results to be statistically significant. Specifically, the observed power of the interaction term of priming condition and attachment style for both the relationship



satisfaction and positive upward RSCI analysis, as well as the priming condition for upward RSCI, were below the recommend threshold of .80 outlined by Cohen (1988). In order to detect if these variables are significant predictors, a larger sample size would be needed. Though, it is important to address how the ANOVA for negative RSCI had adequate power for both main effects and the interactions term, all of which had the same number of participants in each group as the analyses which were underpowered. Thus, it is probable even after obtaining a large enough sample to detect an effect for these underpowered analyses, the magnitude of these effects would likely be small. On potential rationale for why the interaction term of attachment style and priming condition had insufficient power for two of the analysis could be related to the unequal distribution of each attachment style.

Though attachment was a quasi-variable that could not be manipulated, only 13% of the total distribution had a dismissive-avoidant attachment style. Having more dismissive-avoidant participants may have allowed for a stronger observed power in some of the underpowered analyses. Some researchers may avoid this issue by combining individuals with the two avoidant styles into one avoidant group. Though both forms of avoidant attachment share the commonality of being uncomfortable getting close to others (Birnie et al., 2009; Brennan et al., 1998; Dandurand & Lafontaine, 2013), a fundamental difference of how fearful-avoidant individuals desire close relationships while dismissive-avoidants do not (Bartholomew & Horowitz, 1991) warrants separate typologies. It's worth noting that other works that used the ECR developed by Brennan et al. (1998) have also found low number of participants with the dismissive-avoidant typology. For example, the works of Berman et al. (2005; 17.1%), Conradi and de Jonge (2009; 19.24%) and Krajewski (2004; 7.9%) all had lower quantities of dismissive-avoidant attachment. Thus, future research which uses attachment typologies as a grouping

variable, should prepare for collecting data from a very large sample to accommodate the lack of dismissive-avoidant participants they will need to recruit.

Another limitation that needs to be discussed is the attachment priming method used in the research. Namely, the attachment prime of reflecting on a relationship conceptualized as a secure attachment figure is limited to individuals who have that type of a relationship to reflect on. Nearly 9% of the individuals who initially participated in the study had to be excluded as they indicated they couldn't think of such a relationship. Thus, the usability of this type of method to help individuals form RSCI which are less negative may not be possible for such individuals. This is especially true for individuals with avoidant attachment styles. Prior work outlined by Waters and Roisman (2019) suggested individuals with high levels of attachment avoidance have difficulties reflecting on narratives consistent with a secure base. One reasoning behind this may be how avoidant-attached individuals use defense mechanisms in a manner to suppress attachment information to prevent themselves from getting hurt (Gillath & Karantzas, 2019; Mikulincer & Shaver, 2003; Rowe et al., 2020). However, recent work by Ma et al. (2019) used subliminal priming methods and was able to bypass the defense mechanisms of avoidant individuals and increase state attachment security. While there currently is a lack of research that has attempted to validate the efficacy of subliminal attachment security primes on avoidant individual's state attachment security, this initial work may provide preliminary support of the utility of subliminal attachment security primes on avoidant adults. Future work is encouraged to replicate the current study, with the addition of a subliminal prime, which will allow to compare the efficacy of both supraliminal and subliminal primes on RSCI and relationship satisfaction.

Moreover, though a significant main effect of attachment style and prime (e.g., control or attachment security) was found for state attachment security, there was not a significant

interaction of attachment and prime. It was surprising to not have this finding replicated from Pilot Study 1. Part of this could be attributed to the underpowered analysis for the interaction term which was influenced by the lower sample size of dismissive-avoidant participants as outlined above. Though the current study was unable to validate the influence of the attachment security prime within each attachment style, the significant interaction term of attachment style and prime with negative RSCI and the main effect of priming condition on relationship satisfaction provides preliminary support that the priming method used in the current study was effective at promoting change in these variables.

One last shortcoming of the current study is how although it was discovered that attachment security priming can promote relationship satisfaction and reduce negative RSCI, it is unresolved if this priming method has long-term effects. Notably, do individuals eventually habituate to the primes, resulting in them being less efficacious over time? Similarly, we were unable to examine the long-term stability of the priming method after the priming session ended. Regarding the first point, Carnelley et al. (2018) found that repeated attachment security priming was effective at maintaining a higher level of state attachment security than participants who received a neutral prime over each of the five days of the study. This may suggest that their participants did not habituate to the prime, though a longer time period may be required to fully validate this claim. Regarding the longevity of attachment security primes after priming sessions have ended, research by Carnelley and Rowe (2007) found that attachment security priming resulted in lower trait attachment anxiety, and better relationship expectations (e.g., belief of relying on others) and positive self-views two days after the last priming session. Though it is important to note how they did not have changes in dispositional attachment avoidance and how two days is a rather short time period. Though not directly related to the current study, the

research of Sohlberg and Biregard (2003) found that priming individuals with 5 *ms* exposures of subliminal primes pertaining to their mother, resulted in stronger self and mother similarity, compared to participants who received a control prime. Notably, these effects were detected four months after the priming sessions were complete. Though, the effects were not as strong as they were after 10 days, it would appear priming techniques can be effective over a long period of time. Future research is encouraged to build upon the findings of the current study by examining the influence of repeated attachment security priming to detect if participants habituate to the prime over time and to invite participants to complete measures of RSCI and relationship satisfaction days, weeks, or months after they have received a control or secure attachment prime, to evaluate the stability of the prime after the priming sessions have concluded.

## **Conclusion**

The current study evaluated the influence of secure attachment priming, dispositional attachment style, and the interaction of attachment priming and attachment style on relationship social comparison interpretations and relationship satisfaction. Individuals primed with secure attachment scored significantly lower in negative RSCI and higher in relationship satisfaction in comparison to participants who received a neutral prime. In addition, participants of both fearful-avoidant and preoccupied attachment styles scored significantly lower in negative RSCI in comparison to participants of the same attachment style who were not primed for secure attachment. No significant differences were found as it pertains to positive upward RSCI. Future research should build upon these findings by evaluating the longevity of the benefits of attachment security priming as well as if the effects worsen over repeated priming sessions. If individuals continue to have fewer negative RSCI and high levels of relationship satisfaction after multiple attachment security priming session and/or if these effects are maintained over a

long period of time, practical considerations such as therapeutic techniques could over time be developed to help individuals having relationships that are more satisfying and have fewer negative thoughts about. By incorporating and applying principles of attachment theory and the use of priming techniques, it may be possible for individuals process social comparisons in a manner that is less negative and brings about more relationship satisfaction.

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Appendix A

Prescreen Questionnaire

Please answer the questions below

**Age:** \_\_\_\_\_

**What is your relationship status?**

Single

In an Exclusive Relationship

In a Non-Monogamous Relationship

Cohabiting

Engaged

Married

Divorced

Other – Please enter below

\_\_\_\_\_

**How long (in months) have you had this relationship status?**

\_\_\_\_\_

Appendix B

Demographics

Sex

Male  Female  Prefer to Not Respond

Race/Ethnicity (Select all that apply)

White  Hispanic or Latino  Black or African American

Native American or American Indian  Asian or Pacific Islander

Other please list \_\_\_\_\_

Highest degree or level of school you have completed

High School / GED  Associate's  Bachelor's  Master's  Doctorate

Which region of the country do you live in?

Midwest  Northeast  Southeast  Southwest  West

Please select Option 4

Option 1  Option 2  Option 3  Option 4

What is your gender identity?

Agender  Genderqueer or genderfluid  Man  Non-binary  Questioning or unsure

Two-Spirit  Woman  Prefer to not disclose

Additional gender category/identity not listed (Please specify) \_\_\_\_\_

What is your sexual orientation?

Bisexual  Gay  Lesbian  Pansexual  Queer  Straight (heterosexual)

Prefer to not disclose  Additional category/orientation not listed (Please specify) \_\_\_\_\_

In general, how long (in months) have you known your current partner? This includes time you have been together and time you have not \_\_\_\_\_

## Appendix C

### Experiences in Close Relationships (Brennan et al., 1998)

#### Response Options for the Following Scale

1	2	3	4	5
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree

1. I prefer not to show a partner how I feel deep down.
2. I worry about being abandoned.
3. I am very comfortable being close to romantic partners. (RC)
4. I worry a lot about my relationships.
5. Just when my partner starts to get close to me I find myself pulling away.
6. I worry that romantic partners won't care about me as much as I care about them.
7. I get uncomfortable when a romantic partner wants to be very close.
8. I worry a fair amount about losing my partner.
9. I don't feel comfortable opening up to romantic partners.
10. I often wish that my partner's feelings for me were as strong as my feelings for him/her.
11. I want to get close to my partner, but I keep pulling back.
12. I often want to merge completely with romantic partners, and this sometimes scares them away.
13. I am nervous when partners get too close to me.
14. I worry about being alone.
15. I feel comfortable sharing my private thoughts and feelings with my partner. (RC)
16. My desire to be very close sometimes scares people away.
17. I try to avoid getting too close to my partner.
18. I need a lot of reassurance that I am loved by my partner.
19. I find it relatively easy to get close to my partner. (RC)
20. Sometimes I feel that I force my partners to show more feeling, more commitment.
21. I find it difficult to allow myself to depend on romantic partners.

22. I do not often worry about being abandoned. (RC)
  23. I prefer not to be too close to romantic partners.
  24. If I can't get my partner to show interest in me, I get upset or angry.
  25. I tell my partner just about everything. (RC)
  26. I find that my partner(s) don't want to get as close as I would like.
  27. I usually discuss my problems and concerns with my partner. (RC)
  28. When I'm not involved in a relationship, I feel somewhat anxious and insecure.
  29. I feel comfortable depending on romantic partners. (RC)
  30. I get frustrated when my partner is not around as much as I would like.
  31. I don't mind asking romantic partners for comfort, advice, or help. (RC)
  32. I get frustrated if romantic partners are not available when I need them.
  33. It helps to turn to my romantic partner in times of need. (RC)
  34. When romantic partners disapprove of me, I feel really bad about myself.
  35. I turn to my partner for many things, including comfort and reassurance.
  36. I resent it when my partner spends time away from me.
- Odd number questions reflect attachment avoidance while even reflect attachment anxiety  
RC = Reverse Coded

## Appendix D

### Relationship Questionnaire (Bartholomew & Horowitz, 1991)

Below are four general relationship styles that people often report. Please select the option that corresponds to the style that best describes you or is closest to the way you are

	It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me.
	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 close to others.
	I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don't value me as much as I value them.
	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.

Scoring: Option 1 – Secure, Option 2 – Fearful, Option 3 – Preoccupied, Option 4 – Dismissive

## Appendix E

### Relationship Comparison Task

#### **Comparison Prompt**

“In our everyday lives, we often compare our relationships to those of other people. There is nothing particularly “good” or “bad” about this type of comparison. Take a few minutes to think of a specific friend who is currently in a dating relationship that has lasted 3 months or more and whose dating relationship you think is better than your own. Perhaps this couple communicates better or maybe they are more affectionate and supportive? After you have thought of this friend and why you think their relationship is better for a few minutes, please click the green arrow below.”

#### **Response Prompt**

Below, please write why you think your friend's relationship is better than yours. Take as much time as you need.

## Appendix F

### Priming Conditions

#### **Control Prime Prompt**

Please describe a detailed account of your route to school or work.

#### **Secure Attachment Prompt**

Please think about a dating relationship past or present you have had in which you have found that it was relatively easy to get close to the other person and you felt comfortable depending on the other person. In this relationship, you didn't often worry about being abandoned by the other person and you didn't worry about the other person getting too close to you. Now, take a moment and try to get a visual image in your mind of this person. What does this person look like? What is it like being with this person? You may want to remember a time when you were actually with this person. What would they say to you? What would you say in return? What does this person mean to you? How do you feel when you are with this person? How would you feel if this person was here with you now?

After you have thought about this for a few moments, please click the green arrow below

Were you able to think of a dating relationship from your own experience that described the characteristics depicted in the prompt?

Yes

No

If they said "yes" they received the following questions with space to type their responses.



Please write your responses to the following questions related to the prompt.

What does this person look like?

What is it like being with this person?

What does this person mean to you?

How do you feel when you are with this person?

How would you feel if you were with this person right now?

If they said “no” to the question “Were you able to think of a dating relationship from your own experience that described the characteristics depicted in the prompt?” they received the prompt below and a space to enter their response.

“If you personally have not had a relationship that matched the description, please take a few moments to imagine and write what it would be like to be in a relationship you found was relatively easy to get close to the other person and you felt comfortable depending on the other person. In this relationship, you didn’t often worry about being abandoned by the other person and you didn’t worry about the other person getting too close to you.”

## Appendix G

### Relationship Social Comparison Interpretation Scale (Morry & Sucharyna, 2016)

#### Positive Upward (PU) and Negative (N) Interpretations Subscales

#### Response Options for the Following Scale

0	1	2	3
I am not thinking about it at all	Thinking about it a little	Thinking about it somewhat	Thinking about it a lot

- 1) There is hope for the future (PU)
- 2) I am encouraged to do better (PU)
- 3) I am inspired to do better (PU)
- 4) Things can get better for us (PU)
- 5) If we work at it, we can be like that (PU)
- 6) They are an inspiration for us (PU)
- 7) I can see us doing as well as them (PU)
- 8) They can show us how to do better (PU)
- 9) If we work hard enough, we can make it work (PU)
- 10) They may be busy, but they make time for their relationship, and we can too (PU)
- 11) If they can survive their fights, we can get through ours as well (PU)
- 12) With work, we too can trust each other like they do (PU)
- 13) We should plan our time together, make it a priority (PU)
- 14) My relationship is not so good after all (N)
- 15) I feel hopeless about my relationship (N)
- 16) Discouraged about my relationship (N)
- 17) My relationship is not good enough (N)
- 18) My relationship feels inferior (N)

- 19) We must not love each other as much as they do (N)
- 20) I can't see us doing as well as them (N)
- 21) We seem really boring compared to them (N)
- 22) They are so much more interesting than we are (N)
- 23) They have a lot more excitement in their relationship than we do (N)
- 24) Compared to them, we don't enjoy our relationship as much (N)
- 25) We have to make things better together (PU)
- 26) Things can get worse (N)
- 27) I can see us doing as badly as them (N)
- 28) No hope for the future (N)
- 29) We're just as bad as they are (N)
- 30) Our communication is just as inappropriate as theirs (N)
- 31) We don't express our feelings any better than they do (N)

## Appendix H

### Relationship Satisfaction Measure (Murray et al., 2002)

#### Response Options for the Following Scale

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Somewhat Disagree	Neither agree nor disagree	Somewhat Agree	Agree	Strongly Agree

1. I am extremely happy with my current romantic relationship.
2. I have a very strong relationship with my partner.
3. I do not feel that my current relationship is successful (RC)
4. My relationship with my partner is very rewarding.

Appendix I

State Adult Attachment Measure (Gillath et al., 2009)

State Secure Attachment Subscale

The following statements concern how you feel **right now**. Please respond to each statement by indicating how much you agree or disagree with it as it reflects your **current feelings**. Please indicate the option on the scale below that best indicates how you feel at the moment:

Response Options for the Following Scale:

1	2	3	4	5	6	7
Disagree Strongly	Disagree	Somewhat Disagree	Neither agree nor disagree	Somewhat Agree	Agree	Agree Strongly

1. I feel loved.
2. If something went wrong right now I feel like I could depend on someone.
3. I feel like others care about me.
4. I feel relaxed knowing that close others are there for me right now.
5. I feel like I have someone to rely on.
6. I feel secure and close to other people.
7. I feel I can trust the people who are close to me.

## Appendix J

### Consent Form Page

#### **INFORMED CONSENT**

**TITLE:** Study of Romantic Relationships

**PROJECT DIRECTOR:** F. Richard Ferraro

**DEPARTMENT:** Psychology

A person who is to participate in the research must give his or her informed consent to such participation. This consent must be based on an understanding of the nature and risks of the research. This document provides information that is important for this understanding. Research projects include only subjects who choose to take part. Please take your time in making your decision as to whether to participate. If you have questions at any time, please ask.

You are invited to be in a research study with the purpose of exploring associations among relationships. The researchers conducting this study are Dr. F. Richard Ferraro, a Professor in the Psychology Department and Alex J. Holte, a PhD Candidate in the Experimental Psychology program.

Approximately 900 people will take part in this online survey. This study will be completed entirely online and will take approximately 10 - 15 minutes to complete. Please set aside 10 - 15 minutes of uninterrupted time in a quiet area to take this survey. We recommend you using your personal computer if possible.

Although there is minimal risk in this study, some participants may feel somewhat uncomfortable answering questions about themselves. Such risks are not beyond those experienced in everyday life. This will be minimized due to the fact that all questions will be answered anonymously online. Should you become upset at any point in the study, you may stop at any time or choose not to answer any questions. If you'd like to talk to someone about your mental health, you can contact the National Alliance on Mental Illness (NAMI) Helpline at 1-800-950-6264.

You will be paid for participation in this study. You will receive \$0.75 for completion of this study. Additionally, by participating in this study, you may benefit personally in terms of reflecting on your relationship experiences. Ultimately, we hope that the knowledge gained through your participation will assist other individuals in being more knowledgeable about the associations of interpersonal relationships.

The University of North Dakota and the research team are receiving no payments from other agencies, organizations, or companies to conduct this research study. The records of this study will be kept private to the extent permitted by law. In any report about this study that might be published, you will not be identified. Your study record may be reviewed by Government agencies and the University of North Dakota Institutional Review Board. Any information that is obtained in this study and that can be identified with you will remain anonymous and will be

disclosed only with your permission or as required by law. Your name will not be used in data analysis or any final reports. Only the researchers will have access to the data. Data will be kept by the principal investigator for at least 3 years in, after which time it will be destroyed.

Your participation is voluntary. You may choose not to participate, or you may discontinue your participation at any time without penalty or loss of benefits to which you are otherwise entitled. Your decision whether to participate will not affect your current or future relations with the University of North Dakota.

If you have any other questions, concerns, or complaints about the research please contact Alex J. Holte at [Alex.J.Holte@und.edu](mailto:Alex.J.Holte@und.edu) or Dr. F. Richard Ferraro at (701) 777-2414 or [F.Richard.Ferraro@email.und.edu](mailto:F.Richard.Ferraro@email.und.edu). If you have questions regarding your rights as a research subject, or if you have any concerns or complaints about the research, you may contact the University of North Dakota Institutional Review Board at (701) 777-4279. Please call this number if you cannot reach research staff, or you wish to talk with someone else.

Clicking “I consent” below indicates that this research study has been explained to you, that your questions have been answered, and that you agree to take part in this study.

**Table 1.***Demographics and descriptive statistics*


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Sex		
	Male	215
	Female	287
	Prefer to Not Respond	3
Race/Ethnicity		
	White	355
	Hispanic or Latino	41
	Black or African American	70
	Native American or American Indian	3
	Asian or Pacific Islander	57
	Other – Not Specified	7
Sexual Orientation		
	Bisexual	56
	Gay	5
	Lesbian	13
	Pansexual	11
	Queer	2
	Straight (Heterosexual)	415
	Prefer to Not Disclose	2
	Asexual	1
Highest Education Level		
	High School / GED	142
	Associate's	73
	Bachelor's	193
	Master's	82
	Doctorate	14
	Did not Respond	1

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Note: Race/Ethnicity frequency counts exceed total sample size, as individuals with multiple race/ethnicities were counted for each race/ethnicity they identified with.



**Table 2.***Frequency of Upward Relationship Social Comparison Rationale*

Rationale	<i>n</i>
Better Communication	121 (23.8%)
More Committed	114 (22.6%)
More Affectionate	73 (14.5%)
More Compatible	68 (13.5%)
Spend More Time Together	62 (12.3%)
Have More Fun	32 (6.3%)
Better Financial Situation	30 (5.9%)
More Attractive Partner	5 (1.0%)

**Table 3***Correlations Among Dependent Variables and Attachment Dimensions*

	RSCI – Negative	RSCI - PU	Relationship Satisfaction	Attachment Anxiety	Attachment Avoidance
RSCI – Negative	1	.24 ***	-.70 ***	.50 ***	.41 ***
RSCI – PU	.20 **	1	.05	.30 ***	-.11
Relationship Satisfaction	-.56 ***	.16 **	1	-.35 ***	-.53 ***
Attachment Anxiety	.33 ***	.14 *	-.25 ***	1	.28 ***
Attachment Avoidance	.35 ***	-.15 *	-.55 ***	.14 *	1

*Note:* Values above the diagonal reflect the sample in the control condition while those below reflect the sample in the experimental condition. RSCI – Relationship Social Comparison Interpretation, PU – Positive Upward, \* =  $p < .05$ ; \*\* =  $p < .01$ ; \*\*\* =  $p < 0.001$

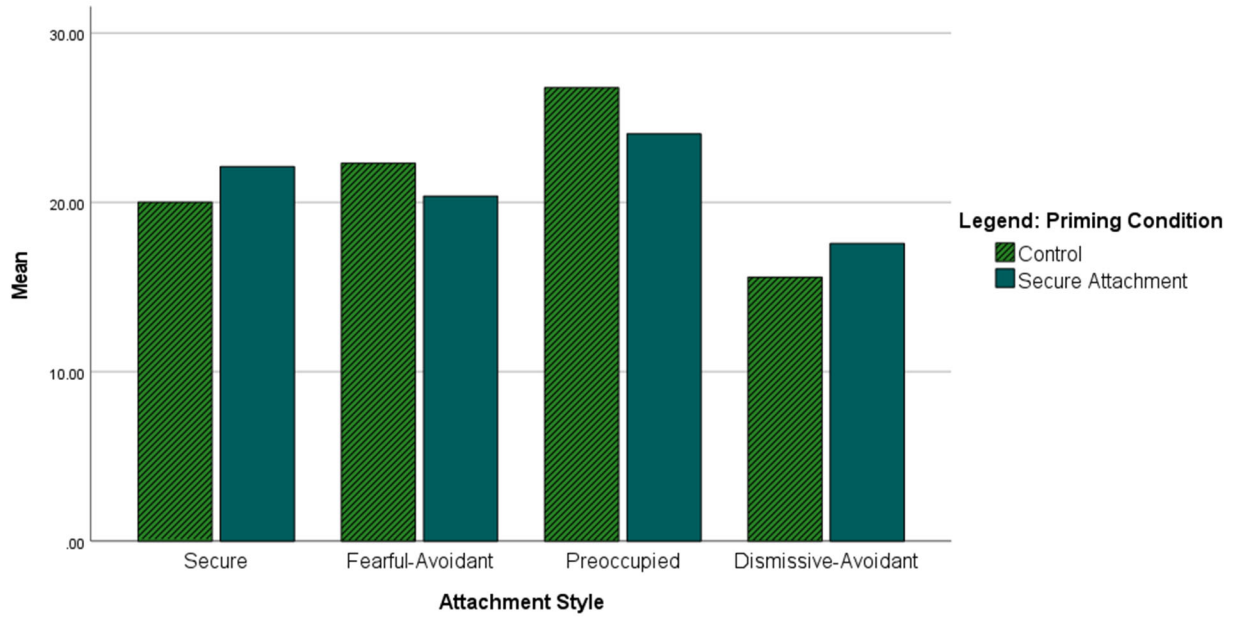
**Table 4***Descriptive statistics for Relationship Social Comparison Interpretations and Satisfaction by Attachment and Priming Condition*

Variables	Control Prime				Secure Attachment Prime			
	Secure <i>n</i> = 85	Fearful <i>n</i> = 85	Preoccupied <i>n</i> = 85	Dismissive <i>n</i> = 34	Secure <i>n</i> = 72	Fearful <i>n</i> = 48	Preoccupied <i>n</i> = 63	Dismissive <i>n</i> = 33
PU-RSCI	20.01 (10.32)	22.32 (7.64)	26.78 (10.17)	15.59 (8.33)	22.11 (10.12)	20.38 (9.62)	24.05 (10.39)	17.58 (10.43)
N-RSCI	4.91 (4.87)	18.31 (11.10)	15.31 (10.65)	11.35 (10.45)	5.69 (5.67)	13.27 (10.48)	9.11 (8.61)	8.97 (7.74)
Rel. Sat.	24.77 (2.84)	18.38 (5.06)	20.89 (5.81)	19.35 (5.68)	25.04 (2.60)	19.46 (5.03)	23.65 (4.26)	20.82 (5.50)

*Notes:* PU-RSCI – Positive Upward – Relationship Social Comparison Interpretation; N-RSCI – Negative Relationship Social Comparison Interpretation; Rel. Sat. – Relationship Satisfaction

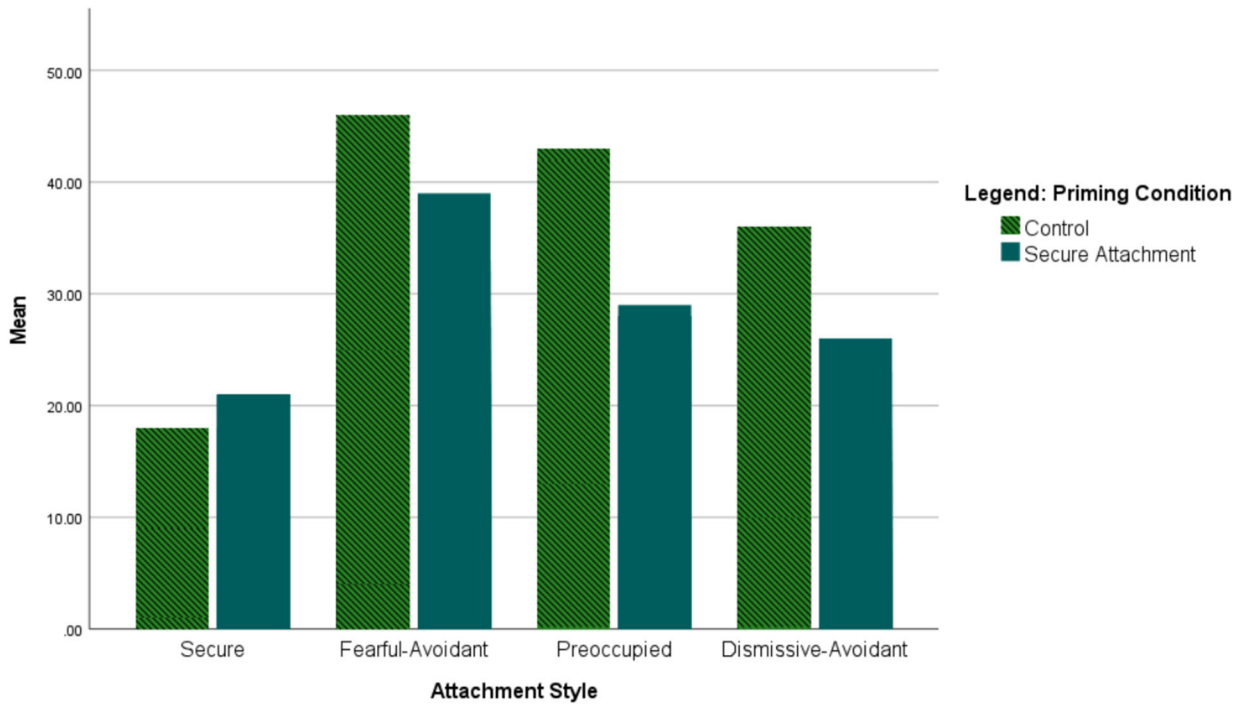
**Figure 1**

*Positive Upward Relationship Social Comparison Interpretations by Attachment Style and Priming Condition*



**Figure 2**

*Negative Relationship Social Comparison Interpretations by Attachment Style and Priming Condition*



**Figure 3**

*Relationship Satisfaction by Attachment Style and Priming Condition*

