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Do Adult Romantic Attachment Empathy and Social Skills Influence Mate Poaching Infidelity?.

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Do Adult Romantic Attachment, Empathy, and Social Skills Influence Mate Poaching Infidelity?

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by

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ABSTRACT

Do Adult Romantic Attachment, Empathy, and Social Skills Influence Mate Poaching Infidelity?

by

James Gorniewicz

The present study examined the possibility that adult romantic attachment orientation, empathy, and social skills could either individually or jointly influence the expression of mate poaching behaviors. Participants (N = 404) were recruited from a Southern Appalachian university and ranged in age from 18-60 years, with a mean of 21. Data were collected using a web-based survey system. Results of this study lend support to the growing literature demonstrating a link between adult romantic attachment and mate poaching. Additionally, the present study also added to the literature by showing for the first time 1) a relationship between empathy and mate poaching and 2) a relationship between social skills and mate poaching. Contrary to one of the hypothesized structural models, adult attachment was not found to mediate the relationships between 1) empathy and mate poaching and 2) social skills and mate poaching.

DEDICATION

In Memory of My Father

Edward Andrew Gorniewicz (1948 – 2010)

ACKNOWLEDGEMENTS

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CHAPTER 1

INTRODUCTION

Mate poaching is defined by Schmitt and Buss (2001) as, "behavior intended to attract someone who is already in a romantic relationship" (p. 894). In many instances, mate poachers seek to establish a short-term romantic liaison with an already-mated partner. In other instances, mate poachers may attempt to create a permanent relationship defection and establish a long-term romantic partnership with the poaching target. Correlates of mate poaching include personality variables such as extraversion, disagreeableness, and unconscientiousness (Schmitt & Buss, 2001; Schmitt & International Sexuality Description Project, 2004).

Mate poaching has the potential to present intrapersonal, interpersonal, and societal problems. Having a romantic partner poached away could serve as a catalyst for a depressive episode or even suicidal thoughts and actions. Along with the dissolution of friendships and romantic relationships, mate poaching may also lead to social ostracism. Additionally, poaching another person's mate could lead to sexual encounters that result in unwanted pregnancies or sexually transmitted diseases.

Each year nearly 8 million individuals are victims of intimate partner violence (IPV). Annually, costs related to IPV stemming from emergency room visits, mental health care, court costs, incarceration, and lost workplace productivity approach 5.8 billion dollars. On average 1830 homicides result from IPV per year (Tjaden & Thoennes, 2000). Many of these violent encounters could result, at least in part, from relationship infidelity. While no statistics are currently available, it is reasonable to assume that a sizeable proportion of the overall infidelity rate is comprised of mate poaching infidelity. Therefore, some instances of intimate partner

violence likely result from the discovery by one relationship partner that the other partner has actively engaged in mate poaching or has been enticed away through mate poaching by a third party. Gaining further insight into the factors that exacerbate or inhibit mate poaching could result in more effective and problem-specific treatment goals or interventions in individual, marital, and couples therapy. Further research could also result in the formulation and implementation of more effective batterer intervention programs.

From the first few moments of infancy, all the way through to the last few moments of one's sentient existence, attachment relationships are believed to greatly influence the ways in which people perceive, interpret, and interact with those around them (Bowlby, 1979/1994). A secure attachment to a significant other is typified by feelings of closeness, comfort, and trust within the relationship (Bartholomew & Horowitz, 1991). An insecure attachment can often include a mixture of anxiety, distrust, and discomfort with closeness regarding a significant other (Brennan, Clark, & Shaver, 1998). Many of the individual differences in adult romantic attachment style have been associated with various aspects of interpersonal functioning. As a result, diverse fields of research have evolved to explore the nature, development, and influence of adult attachment orientation.

Although previous research has suggested adult romantic attachment to be the single most effective predictor of mate poaching (Schachner & Shaver, 2002), it is possible that other variables, when examined either alone or in conjunction with romantic attachment, could better predict the frequency and success of mate poaching behaviors. Therefore, three models are examined to explore alternative pathways of influence. Although researchers have separately explored the relationships between adult romantic attachment and mate poaching, empathy, and

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social skills (see Table 1), no research has examined whether empathy and social skills might influence the relationship between adult romantic attachment and mate poaching behaviors.

Table 1

Previously Documented Associations Among Variables

Demonstrated Associations	Authors
Mate poaching and adult romantic attachment	Schachner & Shaver, 2002
Adult romantic attachment and empathy	Britton & Fuendeling, 2005
	Joireman et al., 2001
	Levy & Davis, 1988
	Searle & Meara, 1999
	Trusty et al., 2005
Adult romantic attachment and social skills	Deniz et al., 2005
	DiTommaso et al., 2003
Adult romantic attachment and romantic preferences	Feeney, 1994
	Fraley, Davis, & Shaver, 1998
Empathy and social skills	Riggio, Tucker, & Coffaro, 1989

Theoretically, attachment orientation might be affected by empathy and social skills that in turn could influence the frequency, success, and type of mate poaching behaviors demonstrated. For example, if an individual is highly empathic and very socially skillful, he or she would seemingly possess an increased likelihood of having a large social network containing meaningful and rewarding interpersonal relationships, resulting in a greater likelihood of having a secure attachment (low avoidance, low anxiety) that may inhibit mate poaching behaviors. Conversely, if an individual scores low on empathy and is socially awkward, he or she would seemingly be more likely to have a much smaller social circle and fewer emotionally close

relationships that could result in a greater likelihood for an insecure romantic attachment (high avoidance and or high anxiety), that in turn may lead to the increased expression of mate poaching behaviors. A theoretical model representing the hypothesized pathways in which these variables jointly influence mate poaching is shown in Figure 1.

Additionally, a mutual contribution model is also examined. Theoretically, romantic attachment orientation, empathy, and social skills may each independently influence the frequency, success, and type of mate poaching behaviors demonstrated. A model demonstrating these possible routes of influence is shown in Figure 2. It is possible that empathy and social skills have little, if any, influence on romantic attachment security. A fundamental assumption of attachment theory is that attachment orientation is developed and reshaped by 1) attachment related *events* that occur in one's environment and 2) the *evaluations* individuals make regarding those events. Although possessing high levels of empathy and greater social skills may set in motion ideal social conditions (*events*) for emotional closeness and low relationship anxiety (adult attachment security) to develop, these abilities by themselves may not be sufficient to influence an individual's *evaluations* and any subsequent reshaping of attachment orientation. Empathy may act to inhibit mate poaching. If an individual is able to cognitively understand and emotionally experience another person's subjective experience of reality (empathize), perhaps he or she would be less likely to steal another's romantic partner. Social skills may also act to inhibit mate poaching. If an individual is socially skillful, he or she is more likely to have sizeable social networks that could include many potential single mates, resulting in a decreased likelihood of engaging in mate poaching. Presently, no published research has examined the relationship between empathy and mate poaching or the association between social skills and mate poaching. A third model, shown in Figure 3, examines the hypothesized pathways of

influence between empathy, social skills, and mate poaching, with adult romantic attachment excluded from the analysis. If empathy and social skills do influence adult attachment and any resulting relationship with mate poaching, excluding adult attachment from the pathway analysis will allow for comparison between this model and Model 1.

Theoretical Model 1
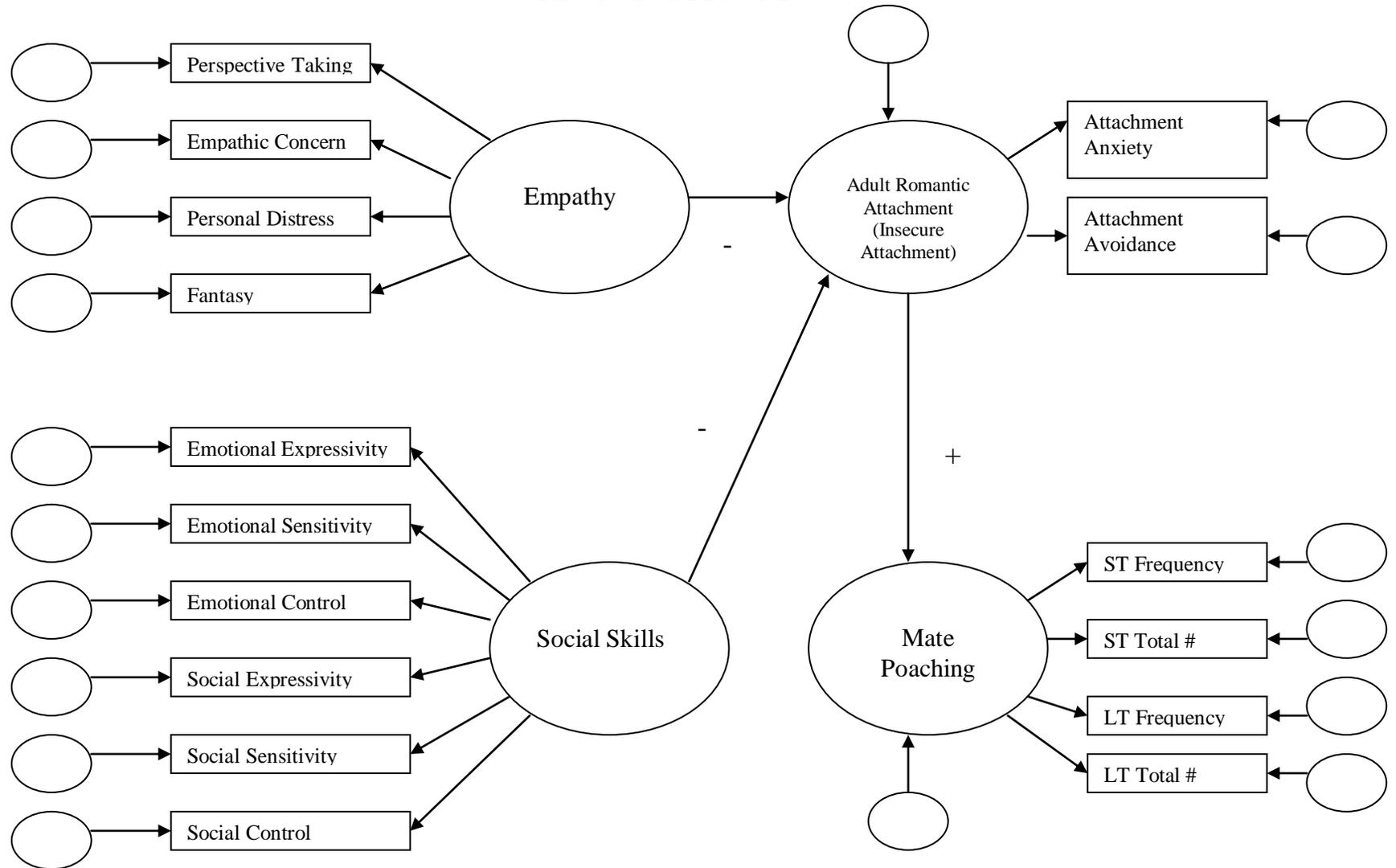
Figure 1. Theoretical Model 1: Influence of Empathy and Social Skills on Mate Poaching as Mediated by Adult Romantic Attachment.

Theoretical Model 2
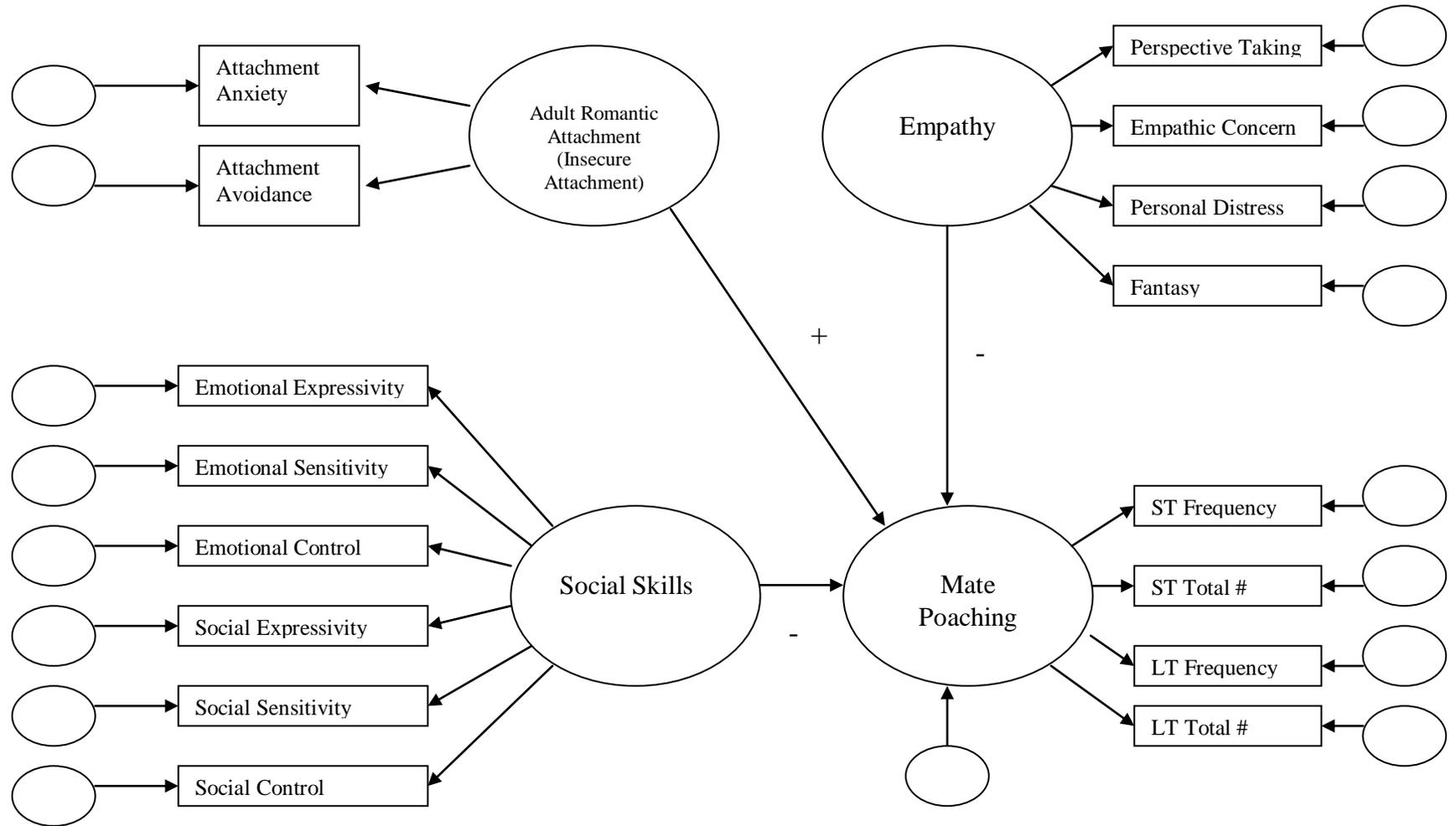
Figure 2. Theoretical Model 2: Mutual Contribution of Romantic Attachment, Social Skills, and Empathy on Mate Poaching.

Theoretical Model 3
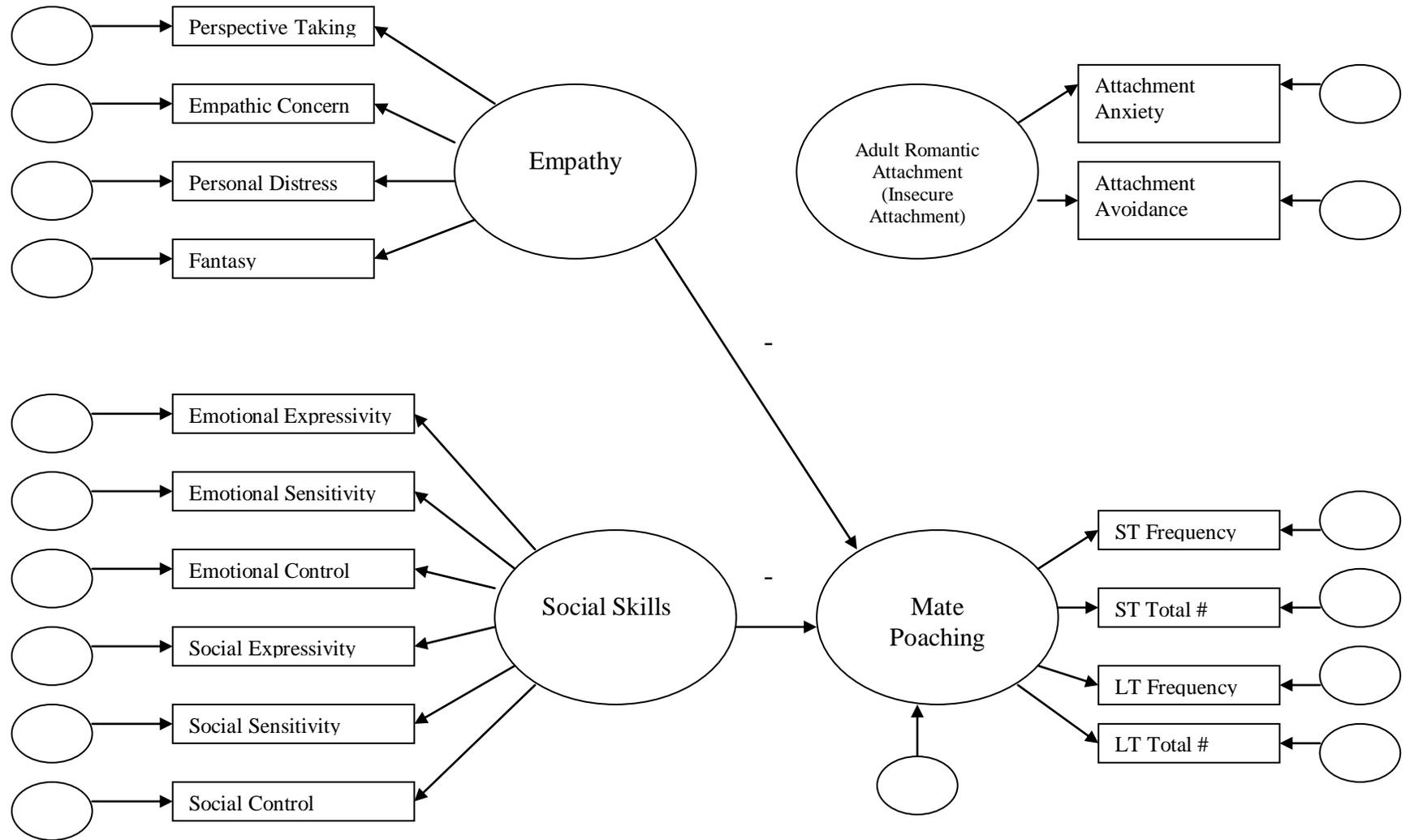
Figure 3. Theoretical Model 3: Null Model - The Influence of Empathy and Social Skills on Mate Poaching.

A closer investigation of the underlying mechanisms sustaining these associations may provide useful information regarding the areas individually. The discussion that follows begins with a review of mate poaching, followed by an overview of adult romantic attachment research, followed by descriptions of empathy and social skills before concluding with an integration of these individual areas of research.

Mate Poaching

While many studies have explored general romantic attraction (Moore, 1995; Schmitt & Buss, 1996; Tennov, 1999) and infidelity (Bringle & Buunk, 1991; Buss, 2000; Wiggins & Lederer, 1984), only a handful have examined the unique form of romantic attraction known as mate poaching (Rowatt & Schmitt, 2003; Schachner & Shaver, 2002; Schmitt & Buss, 2001; Schmitt & International Sexuality Description Project, 2004; Schmitt & Shackelford, 2003). Mate poaching is defined by Schmitt and Buss (2001) as, "behavior intended to attract someone who is already in a romantic relationship" (p. 894). In many instances, mate poachers seek to establish a short-term romantic liaison with an already-mated partner. In other instances, mate poachers may attempt to create a permanent relationship defection and establish a long-term romantic partnership with the poaching target.

Mate poaching is hypothesized to be evolutionarily adaptive. At any one time, in any one place, there are likely to be numerous physical and social restrictions placed on the availability of desirable mates. Because many sought-after mates are already mated and therefore not easily available, Schmitt and Buss (2001) assert that individuals in the past who developed mate poaching techniques as an adaptive strategy had a distinct reproductive advantage over those

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who failed to develop and effectively engage in these techniques. By this line of thinking, modern humans have descended from romantically skilled predecessors, some of whom were successful mate poachers. Further support for the evolutionary heritage of mate poaching can be seen in the presence of modern day techniques such as mate guarding and mate retention that are employed to actively fend off potential suitors of already mated partners (Buss & Shackelford, 1997).

Attempts at mate poaching are often clandestine in their nature, as being found out could potentially lead to negative consequences such as ostracism or the violent wrath of a poachee's current partner. Clandestine poaching tactics include the use of suggestive glances, infiltrating a poachee's existing social circle with the intent to poach at an opportune moment, and subtly exacerbating dissatisfaction within an existing relationship in the hopes of sparking a relationship dissolution. More overt poaching tactics, such as asking someone out on a date or making a sexual proposition, are comparable to those found in general romantic attraction (Schmitt & Buss, 2001).

Associations have been demonstrated between mate poaching and several personality traits. People who more frequently attempt mate poaching tend to score higher on several personality traits than those who either do not engage in mate poaching or rarely do so. Using a measure of the Big Five personality dimensions (Goldberg, 1992) and a measure of sexuality called the Sexy Seven (Schmitt & Buss, 2000), mate poachers have consistently described themselves as being particularly disagreeable, unconscientious, extraverted, erotophilic (e.g., lustful, obscene), and unfaithful (Schmitt & Buss, 2001; Schmitt & International Sexuality Description Project, 2004). Individuals who report being successful mate poachers tend to describe themselves as open to experience, sexually attractive, sexually unrestrained, and

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unfaithful (Schmitt & Buss, 2001; Schmitt & International Sexuality Description Project, 2004).

People who tend to be the targets of mate poaching attempts often describe themselves in

comparison to others as more extraverted, open to experience, attractive, unfaithful, and loving

(Schmitt & Buss, 2001). The finding that attractive and loving partners are common poaching

targets is to be expected considering these factors are universally desired in prospective mates

(Buss, 1989). Individuals who succumb to mate poaching attempts tend to describe themselves

as disagreeable, unconscientious, neurotic, unfaithful, erotophilic, and unloving. Mate poachers

and these successfully poached individuals demonstrate commonalities in measured levels of

unfaithfulness, disagreeableness, and comfort with discussing sexual matters (erotophilia)

(Schmitt & Buss, 2001).

In a study by Schmitt and Buss (2001) involving an American sample of undergraduates

and older adults, a majority of participants reported having had personal experiences with mate

poaching either as a recipient or an instigator. Approximately 60% of men and 40% of women

reported making at least one short-term mate poaching attempt during some point in their lives.

About 55% of men and women reported having made at least one attempt at long-term mate

poaching. Around 50% of participants reported having made both short and long-term attempts.

Older women (30 years +) were significantly more likely to make frequent long-term poaching

attempts than undergraduate women (24% vs. 3%). Roughly 85% of men and women reported

that in the past someone had tried to entice them away from a romantic partner for either a short-

term affair or a long-term romantic partnership and of these 85 %, more than 50% of men and

35% of women reported succumbing to a short term poaching attempt. About 40% of men and

30% of women acknowledged they were successfully attracted away from their partner for either

a short-term sexual encounter or a long-term romantic affiliation. More than 70% recounted

having had someone attempt to attract a romantic partner away from them in the past, with roughly 30% of those individuals claiming that the poaching was a success. In the undergraduate sample, about 10% of men and 24% of women reported that their current relationship was a result of having attracted their current partner away from another person. Additionally, 20% of undergraduate men and 28% of women reported currently being in a relationship that resulted from having been attracted away from their previous partner. When examining the mature participants (30 years +) more than 25% of men and women stated their current relationship was the result of poaching their current partner. Additionally, 41% of men and 30% of women disclosed that their current relationship was the result of having been poached away from a previous partner. The percentages for the mature sample are higher than in the undergraduate sample, which suggests that mate poaching experiences and tendencies may increase throughout the lifespan (Schmitt & Buss, 2001).

Mate poaching is a cultural universal. In a study by Schmitt and the International Sexuality Description Project (2004) conducted across 53 nations with nearly 17,000 participants, many of the findings originally reported using American participants (Schmitt & Buss, 2001) were duplicated throughout diverse world regions such as the Middle East, South America, Southeast Asia, Eastern Europe, and Africa. Mate poachers and their targets possess the same basic personality traits across all measured regions, with disagreeableness, unconscientiousness, openness to experience, extraversion, and erotophilia once again presenting themselves as the main correlates of mate poaching. Men universally admitted to attempting and succumbing to significantly more short-term poaching attempts than women. Accordingly, women consistently reported significantly more success at short-term poaching than men – especially in North America, Western Europe, Eastern Europe, and Oceana. Similar overall

success rates were found for long term poaching, but in this context sex differences were attenuated. Around 60% of men and 45% of women worldwide report succumbing to a short-term mate poach at least once in their past. For long-term poaching, more than 60% of men and 50% of women admit to succumbing to a poach at least once during their lives. Approximately 15% of the respondents reported currently being in a relationship that was a direct result of mate poaching - either as a mate poacher or the target of poaching. While there were many similarities among world regions, there were also several interesting differences. Some regions had significantly lower poaching rates than others: For example, East Asia had the lowest base rate for frequency of short-term poaching and the lowest percentage (men = 29.5%; women = 14.9%) of individuals to attempt a short-term poach. When in environments of abundant resources (high GDP), men and women both tend to engage in more short-term mate poaching, with gender differences in poaching rates tending to lessen. When the number of women is greater than the number of men in a region, both men and women tend to engage in higher rates of short-term and long-term poaching (Schmitt & International Sexuality Description Project, 2004). While these finding are correlational, they would seem to suggest that in addition to individual differences having an affect on poaching behaviors, cultural and societal factors such as mate abundance, collectivism, religiosity, education level, and wealth may also influence the success and frequency of mate poaching.

<div style="text-align:center;">*Adult Romantic Attachment and its Origins*</div>

Attachment theory was originally conceived to explain the emotional bonds between infants and their caregivers. Bowlby (1969/1982) observed numerous children's reactions to separation and reunion with a caregiver. These observations served as a catalyst for his theory of

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an evolutionarily based attachment system, one that developed through history to maximize an individual's chance of survival and eventual reproduction. According to Bowlby (1969/1982), the attachment system's function is to protect a person from danger by ensuring that he or she maintains proximity to caring and supportive individuals (attachment figures) who can provide security, support, and comfort during times of need. The attachment system is most apparent during infancy and early childhood, but it continues to play a vital role in relationships throughout the lifespan. The system monitors for the physical proximity and psychological availability of an attachment figure and then activates and regulates attachment behaviors directed toward that individual. Activation of the system occurs automatically during times of physical or psychological distress caused by a real or perceived threat (Ainsworth, 1991; Bowlby, 1969; Shaver & Mikulincer, 2002). Bowlby (1969/1982) proposed there are three types of threats that activate the attachment system in early childhood: a) internal discomfort resulting from emotional distress, physical distress, or hunger, b) external threats to safety, and c) threats to an attachment figure's availability.

The early interactions of an infant with his or her primary caregiver are hypothesized to coordinate and attune the infant's attachment related behaviors of proximity seeking and proximity avoidance. Bowlby (1969/1982) reasoned that if a caregiver consistently provided the level of care necessary to alleviate a child's attachment distress, the child would come to feel safe and secure within that relationship. These feelings within the child would then foster autonomy and exploration of the surrounding environment, eventually resulting in the successful mastery of developmental tasks. If, on the other hand, a caregiver failed to provide the level of care necessary to assuage a child's attachment distress, the child would come to feel insecure within the relationship and would adapt to that situation by resorting to alternative strategies,

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ones better suited for eliciting care or for internally regulating his or her reactions to attachment threats (Main, 1990b). These alternative strategies can be thought of as a chronic hyperactivation of the attachment system (e.g. excessive preoccupation with closeness) or a chronic deactivation of the attachment system (e.g. insistence on avoidance of closeness) (Main, 1990b).

Caregiver responsiveness and sensitivity to an infant's distress consistently predict reasonably distinct patterns of child behaviors following separation and reunion with the caregiver (Ainsworth, Blehar, Waters, & Wall, 1978). These patterns of behavior in infancy and childhood are conceptualized as attachment styles, commonly referred to as: secure, anxious-ambivalent, avoidant, and disorganized. Children with a *secure* attachment to their caretaker use them as a "safe haven" – a source of comfort and safety to modulate discomfort during times of distress. These children also use their attachment figures as a "secure base" from which to autonomously explore the surrounding environment. They generally have attachment figures that are consistently sensitive, adaptive, and responsive to their needs. Children with an *anxious-ambivalent* attachment style attempt to gain emotional support from their caregivers when distressed but do so inconsistently and with conflicted behaviors such as angry protest upon reunion or anger combined with clinginess. They generally have parents who provide inconsistent and insensitive care that tends to manifest itself in awkward, intrusive, or self-centered caregiving. These children can be thought of as using a hyperactivating strategy to elicit support from the attachment figure during times of distress. Children classified with an *avoidant* attachment style generally do not use their caretakers as a means of support, instead choosing isolation and a reliance on their own strategies to attenuate negative emotions. Avoidant children can be thought of as using a deactivating strategy to modulate the emotions

associated with attachment distress. Although their behavior when stressed may seem calm and detached, research has shown significant heart rate elevations during instances of seemingly apparent composure (Sroufe & Waters, 1977). These children generally have parents who provide consistent care, but the quality of this care is often insensitive and typified by emotional distance, anger, or outright rejection of the child. Caregivers of avoidant children often discourage the expression of negative emotions (Main, 1990a; Main & Weston, 1982) and withdraw when their children display negative (but not positive) emotions (Grossman, Grossman, & Schwan, 1986). Avoidant children are also less likely to communicate with their mothers when upset (Grossman et al., 1986). Children with a *disorganized* attachment style demonstrate unusual and often contradictory attachment behaviors when distressed (Main & Hesse, 1990). These unusual behaviors include: contact seeking quickly followed by avoidance and/or anger, contact seeking with simultaneous avoidance, stereotyped behaviors, freezing in place, fear upon seeing a parent, or refusal to go near a parent even though distressed (Main & Soloman, 1990). These children can be thought of as using a combination of hyperactivating and deactivating strategies to modulate the emotions associated with attachment distress. These children most commonly have parents who behave in frightening or unpredictable ways towards them (Schuengel, van Ijzendoorn, Bakersmans-Kranenburg, & Bloom, 1997).

As individuals develop, it is believed that their attachment relations become additionally influenced by the mental representations (cognitive schemas) they have constructed based on previous patterns of interactions with attachment figures (Bowlby, 1979/1994; Bretherton & Munholland, 1999). These mental representations are commonly referred to as *internal working models* and are conceived as having two unique but mutually influenced components known as the *internal working model of self* and the *internal working model of other*. Attachment

relationships are then governed by the expectations, beliefs, and interpretations derived from these internal working models. These models regulate, interpret, and predict attachment related thoughts, feelings, and behaviors regarding one's self and an attachment figure. The internal working model of self deals with ideas relating to one's self as being worthy of love and care. These notions are theorized to originate from early interactions with an attachment figure. If an attachment figure is sensitive and responsive to a child's needs, that child will come to view himself or herself as lovable and worthy of care. If the attachment figure is insensitive, unavailable, or fear provoking, the child will likely come to view himself or herself as unworthy of love and care. The internal working model of others deals with expectations regarding the availability and trustworthiness of attachment figures. If an attachment figure is warm, sensitive, and responsive to a child's attachment needs, that child will likely come to view the attachment figure (and more generally others in the social realm) as able to meet his or her attachment needs during times of distress. If the attachment figure fails to meet a child's attachment needs, the child will likely come to view the attachment figure (and more generally others in the social realm) as unable to meet his or her needs for safety, support, and comfort. While these working models are initially very simple, they develop into highly sophisticated structures with the ability to grow and adapt throughout the lifespan. As the complexity, variety, and depth of one's human relationships and life experiences grow, so too do a person's working models. (Bowlby, 1979/1994; Bretherton & Munholland, 1999).

Most researchers now agree that working models of attachment are complex and multifaceted (Baldwin, Keelan, Fehr, Enns, & Koh-Rangarajoo, 1996; Collins & Read, 1994; George & Soloman, 1999; Pierce & Lydon, 2001). Collins and Read (1994) conceptualize representational models of attachment as forming a vast hierarchy of interconnected multiple

working models, each of which is related to specific types of relationships. At the top of this

hierarchy is a global model relating to generalized attachment beliefs based on one's history with

attachment figures (e.g. model of self, model of other), at an intermediate level are models for

certain classes of relationships (e.g., peers, mother-child, father-child), at the bottom level lie

models of specific relationships (e.g. mother, spouse, best friend). In general, models at the top

of this hierarchy apply to a wider range of others but show less precision in predicting behavior

in a specific situation or relationship. Concordantly, models lower in the hierarchy are more

predictive for particular relationships but less predictive for more general relationships. A

number of studies provide support for the idea of attachment hierarchies (Bartholomew &

Horowitz, 1991; Cook, 2000; La Guardia, Ryan, Couchman, & Deci, 2000; Shaver, Belsky, &

Brennan, 2000; Simpson, Rholes, Orina, & Gritch, 2002).

It is also hypothesized that working models include four interrelated parts: (1) memories

of attachment-related experiences (especially those involving the primary attachment figure); (2)

beliefs, attitudes, and expectations of self and others in relation to attachment; (3) attachment-

related goals and needs; and (4) strategies and plans for achieving attachment related goals.

Collins and Read (1994) also propose that these models guide individuals' cognitive, emotional,

and behavioral responses to others. Working models are thought to influence cognitive

responses by guiding individuals to attend to certain features of stimuli that confront them

(especially stimuli related to attachment goals), by forming biases in the encoding and retrieval

of memories and by influencing explanation processes. Working models are believed to

influence emotional responses to others by affecting primary and secondary appraisals. "Primary

appraisals" are defined as an individual's immediate emotional response to a specific situation.

"Secondary appraisals" refer to the cognitive processes involving the interpretation of the

primary appraisal; these appraisals can maintain, exacerbate, or lessen the emotional response depending on how the situation is interpreted. For example, someone who spends a delightful evening out with a romantic partner can maintain that feeling of delight by reflecting on the evening's events, they may increase the delightful feelings by imagining other future romantic encounters, or they may diminish their feelings by pessimistically predicting that they will never have another romantic encounter. Finally, working models are thought to affect behavioral responses by activating stored plans and strategies and by fostering the development of new plans and strategies (Feeney, 1999).

The purpose of attachment theory is to explain personality formation, development, and functioning within the context of an individual's emotionally close relationships. Bowlby (1979/1994) stated that attachment relationships play a central role in human functioning and affect individuals "from the cradle to the grave" (p. 129). In adulthood there are few, if any, interpersonal relationships closer than those experienced by individuals in love. In recent years researchers have attempted to conceptualize romantic love as an attachment process (Bartholomew & Horowitz, 1991; Brennan et al., 1998; Griffin & Bartholomew, 1994; Hazan & Shaver, 1987; Shaver & Hazan, 1988; Shaver, Hazan, & Bradshaw, 1988). In Hazan and Shaver's (1987) seminal study on the topic, the three major styles of attachment most commonly found in infancy (secure, avoidant, and anxious-ambivalent) were translated into analogous terms relevant to the affectional bonds demonstrated in romantic relationships. Participants were given the option of choosing from one of three short paragraphs that most closely described their attachment related thoughts, feelings, and behaviors associated with romantic relationships. Each short paragraph typified either secure, avoidant, or anxious-ambivalent attachment styles. In Hazan and Shaver's conceptualization, adults with a secure attachment style find it relatively

easy to trust others, openly share their emotions, and commit to long-term relationships. Individuals with an anxious style are unsure if they are loved or worthy of love, and often demonstrate emotional guardedness with a romantic partner. Avoidant adults rely heavily on themselves in order to promote a feeling of security and often will not openly seek help from a relationship partner. More than half of the individuals (56%) identified with the secure response option, while the other half were classified as avoidant (25%) or anxious-ambivalent (19%). These statistics are comparable to figures found in studies of infant-mother attachment of 62% secure, 23% avoidant, and 15% anxious-ambivalent (Campos et al., 1983).

Using a retrospective measure of childhood attachment, participants were also asked about their earliest attachment related memories (Hazan & Shaver, 1987). A high rate of attachment style continuity was demonstrated between this retrospective childhood attachment measure and the measure of adult romantic attachment. However, Hazan and Shaver's (1987) methodology has been criticized due to limitations such as the categorical forced choice format provided to study participants and the limited ability of individuals to recall attachment related memories from infancy and early childhood (Bartholomew & Horowitz, 1991). While largely popular among early romantic attachment researchers, Hazan and Shaver's forced choice measure was unable to account for the level of complexity shown by individuals who demonstrated characteristics of one attachment style (secure, for example) but also some thoughts, feeling, or behaviors from one or both of the other two attachment styles (avoidant and anxious-ambivalent). Given this limitation, their study served as an important catalyst for future research and the development of new, more refined measures of adult romantic attachment.

Although the attachment system is thought to be an essential part of romantic love, it is likely not the only component. Romantic love has been conceptualized as involving the

integration of three unique behavioral systems: the attachment system, the caregiving system, and the sexual system (Fraley & Shaver, 2000; Shaver, Hazan, & Bradshaw, 1988). The caregiving system is hypothesized to be an innate behavioral system that responds to the needs of dependent others and is thought to have evolved to compliment the attachment system. It is logical to assume that in infancy attachment behaviors can only be adaptive if there is a caregiver available to ensure safety and support. During infancy an adult almost always takes care of a child. In adulthood, however, the caregiving role may frequently interchange between partners. The dynamics of romantic attachment relationships often involve a more complex process of reciprocal caregiving where each partner plays the role of caregiver or care-recipient depending on current levels of stress or threat. The sexual system is an innate behavioral system comprising all behaviors related to sexual activity.

While these three systems are mainly independent, functioning in one system may influence functioning in another system (Bowlby, 1969/1982). For example, a man who is appreciative of his partner's sensitive and supportive response to his attachment attempts may respond by increasing the quantity and quality of his caregiving or sexual behaviors. Bowlby (1969/1982) stated that a vital feature of a behavioral system is for it to be able to increase an individual's chances for reproductive success. Throughout the lifespan attachment behaviors keep individuals close to those who can provide security and comfort, thereby increasing the odds of survival. Caregiving behaviors in adulthood can increase survival by helping to ensure that a relationship partner will survive so that reciprocal caregiving can be provided and so that greater safety and care can be provided to offspring. The activation of the sexual behavior system promotes reproductive success by serving as the catalyst for mating and sexual reproduction (Cassidy, 2000). Because the development of the attachment system begins early

in life and contributes to the formation of working models (attachment styles), it is believed to also influence the later development and expression of caregiving and sexuality (Hazan & Shaver, 1994). Although there is currently no published empirical work integrating these three behavioral systems, such work would seemingly provide a complete and overarching developmental theory of romantic love (Feeney, 1999).

Even though the conceptualization and measurement of adult attachment have varied across researchers and subdisciplines (see Crowell, Fraley, & Shaver, 1999, for a review), most researchers who employ self-report and interview measures of adult romantic attachment agree that two underlying dimensions are involved. These two dimensions have been referred to as *Self Model* and *Other Model* by Bartholomew and Horowitz (1991) and attachment-related Anxiety and attachment-related Avoidance by Brennan et al. (1998). The first dimension (*Self Model*-Anxiety) deals with fear of rejection and abandonment by romantic partners; the second dimension (*Other Model*-Avoidance) concerns how comfortable one feels being dependent on and close to others (emotionally or physically intimate). Bartholomew and Horowitz (1991) partitioned four categories based on these two dimensions (attachment anxiety and attachment avoidance): *secure* (low anxiety, low avoidance), *preoccupied* (high anxiety, low avoidance), *fearful* (high anxiety, high avoidance), and *dismissing* (low anxiety, high avoidance). Brennan et al. (1998) and Fraley and Shaver (1998) concluded there was no psychometric reason for conceptualizing these two dimensions of attachment patterns as actual categories; they are best thought of as a person's position on the dimensions of attachment related anxiety and avoidance. However, the four category names continue to appear throughout the research literature and can be useful when conceptualizing both continuums in a two-dimensional space (see Figure 4).

Positive
Model of Other
(low avoidance)

SECURE

Comfortable with
intimacy and autonomy in
close relationships

PREOCCUPIED
(ambivalent)

Preoccupied with close relationships
Overly dependent on others for
self-esteem and support

Positive
Model of
Self (low anxiety)

Negative
Model of
Self (high anxiety)

DISMISSING
(avoidant)

Down-plays importance
of close relationships
Compulsive self-reliance

FEARFUL
(avoidant)

Fearful of intimacy due to
fear of rejection.
Socially avoidant

Negative Model of
Other
(high avoidance)

Figure 4. Two-Dimensional, Four-Category Model of Adult Romantic Attachment.

Individual differences on the dimensions of attachment related anxiety and avoidance have consistently predicted differences in the ways people experience and behave in sexual and romantic relationships. People with a secure attachment style (low anxiety, low avoidance) tend to have longer, more stable, and more satisfying relationships than those with an insecure attachment style (Feeney, 1994). Securely attached adults are also more likely to have relationships typified by trust, friendship, and emotional investment (Collins & Read, 1990; Simpson, 1990). Hazan, Zeifman, and Middleton (1994) reported that secure adults described their style of love as selfless, devoid of manipulation, affectionate, and open to sexual exploration with a long-term partner. Secure adults also reported much less involvement in one-night stands and romantic infidelity. Attachment security has also been associated with higher self-efficacy and global self-worth (Collins & Read, 1990; Mikulincer, 1995).

Individuals who are insecurely attached demonstrate different patterns of preferences and behaviors in romantic relationships. Preoccupied individuals (high anxiety, low avoidance) tend to experience low relationship satisfaction, high rates of relationship failure (Carnelley, Pietromonaco, & Jaffe, 1996; Collins, 1996; Collins & Read, 1990), and a style of love typified by obsession with their romantic partners (Hazan & Shaver, 1987). They are also more likely than secure or avoidant individuals to easily fall in love (Hatfield, Briton, & Cornelius, 1989) and often show a maladaptive dependence on their intimate partners (Collins & Read, 1990; Feeney & Noller, 1990; Shaver & Hazan, 1988). In general, people scoring high on attachment anxiety tend to prefer the affectionate, cuddly aspects of romance over the more overtly sexual, genital aspects of romantic intimacy (Hazan et al., 1994).

Insecurely attached individuals who demonstrate high avoidance (dismissing attachment and fearful attachment) also show different patterns of romantic preferences and behaviors.

When compared to secure and preoccupied individuals, people with a dismissing or fearful style tend to show much less interest in romantic relationships, especially ones in which a long-term commitment is required (Shaver & Brennan, 1992). They tend to report low levels of relationship satisfaction with a high frequency of break-ups (Hazan & Shaver, 1987; Kirkpatrick & Davis, 1994) along with low levels of emotional intimacy (Levy & Davis, 1988). These individuals are also less likely to fall in love (Hatfield et al., 1989) and tend to most often describe their style of love as involving manipulation and game playing (Shaver & Hazan, 1988). While dismissing and fearful individuals tend to express dislike for the affectionate and cuddly aspects of romantic relationships (Hazan et al., 1994), they demonstrate more open minded views regarding casual sex and frequently report having more one-night stands than either secure or preoccupied individuals (Brennan & Shaver, 1995; Feeney, Noller, & Patty, 1993; Fraley, Davis, & Shaver, 1998).

In a study of mate poaching (Schachner & Shaver, 2002), adult romantic attachment was demonstrated to predict poaching behaviors above and beyond all other examined personality traits. Participants rating high on attachment related avoidance were much more likely to attempt to steal another person's romantic partner for a short-term sexual encounter but not for a long-term romantic relationship. They also tended to respond favorably to short-term poaching attempts made by others on themselves but responded unfavorably to long-term poaching attempts. This is in keeping with previous research on mate poaching (Schmitt & Buss, 2001; Schmitt & International Sexuality Description Project, 2004; Schmitt & Shackelford, 2003) and the romantic behaviors of avoidant individuals in general (Fraley et al., 1998; Levy & Davis, 1988; Shaver & Brennan, 1992). These highly avoidant individuals also tended to have partners who become the targets of short-term mate poaching attempts. Participants scoring high on

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attachment related anxiety were more likely to fear losing their partners to long-term poaching and to have actually lost partners to short-term mate poaching in the past. Secure adults were much less likely than insecure adults to attempt mate poaching and to succumb to mate poaching attempts from others. Corresponding to previous research (Schmitt & Buss, 2001; Schmitt & International Sexuality Description Project, 2004), men were found to engage in more short-term poaching behaviors than women. Unlike previous research on mate poaching (Schmitt & Buss, 2001; Schmitt & International Sexuality Description Project, 2004), most of the Big Five personality traits (Benet-Martinez & John, 1998) examined such as agreeableness, conscientiousness, and openness to experience did not show significant correlations to mate poaching. This failure in generalization may be due to cultural or regional differences in this sample or the fact that different measures of the Big Five were used to assess the same construct. In general, there is far more support for the relationship between mate poaching and specific personality traits (Schmitt & Buss, 2001; Schmitt & International Sexuality Description Project, 2004) than there is against it (Schachner & Shaver, 2002).

Over the past few decades of adult attachment research, several major conclusions have emerged. One of these conclusions is that adult romantic attachment is relatively stable over time with moderate correlations found in studies ranging from 1 week to 20 years (Crowell, Treboux, & Waters, 2002; Davila & Cobb, 2003; Feeney, Noller, & Callan, 1994; Hammond & Fletcher, 1991; Keelan, Dion, & Dion, 1994; Levey & Davis, 1988; Shaver & Brennan, 1992; Waters et al., 2000). In keeping with these findings, several other studies have demonstrated that roughly 30% of individuals will migrate to a different attachment style entirely and many others show fluctuations in their level of attachment security over multiple assessments (Baldwin & Fehr, 1995; Baldwin et al., 1996; Davila, Burge, & Hammen, 1997; Davila, Karney, & Bradbury,

1999). These findings are not contrary to attachment theory that posits an individual's working models of self and other have the ability to change over time due to significant relationship experiences, major life events, or newfound insights that disconfirm existing attachment related expectations. These updates to one's working models would thus influence the organization of attachment related avoidance and/or anxiety (attachment styles). A longitudinal study by Hammond and Fletcher (1991) demonstrated that being involved in a satisfying romantic relationship at the beginning of the study was associated with an increase in attachment security at a later date. Conversely, in a 4-year prospective study, relationship breakups were associated with a movement from secure to insecure attachment; in the same study avoidant participants who were able to form satisfying romantic relationships were less likely to remain avoidant than those who had not formed romantic relationships (Kirkpatrick & Hazan, 1994).

Another general finding from the past decade of adult attachment research is that attachment relationships can be present with multiple significant others and that the patterns of attachment may vary across specific relationships (e.g., family members, friends) and romantic partners (Baldwin et al., 1996; Cook, 2000; La Guardia et al., 2000; Shaver et al., 2000; Simpson et al., 2002). For example, if an individual demonstrates a secure attachment with a romantic partner, it is possible for that individual to have a different style attachment relationship with a close friend (either more or less secure). In a study by LaGuardia et al. (2000) participants were asked to rate how well different attachment styles corresponded to their relationships with several others including current romantic partner, mother, father, and best friend. The results demonstrated that a significant amount of within-person attachment security variability was present depending on which target relationship was examined. These findings

lend support to the conceptualization by Collins and Read (1994) that attachment representations contain multiple interconnected working models within a relationship hierarchy.

Another important finding has been that romantic attachment style is systematically associated with unique patterns of caregiving. When assessed using self-report measures, individuals with a secure attachment style report high levels of sensitive physical caregiving along with low levels of overinvolved and controlling caregiving. Preoccupied participants, on the other hand, report low levels of sensitivity and cooperation but demonstrated high levels of physical closeness and compulsive caregiving. Dismissing individuals report low levels of physical proximity along with lowest levels of physical closeness and compulsive caregiving. Fearful individuals report fairly low levels of sensitivity and proximity along with high levels of compulsive caregiving (Carnelley et al., 1996; Feeney, 1996; Kunce & Shaver, 1994). In an experimental setting, similar results have been demonstrated. Collins and Feeney (2000) reported that individuals high in attachment related anxiety (preoccupied and fearful) showed poorer caregiving skills as evidenced by being less responsive to partner distress, providing less positive support (e.g. emotional and instrumental support) and more negative support (e.g. blaming their partner or dismissing problem severity). Avoidant individuals were associated with low levels of support seeking.

Along these lines Simpson, Rholes, and Nelligan (1992) observed caregiving behavior among men when their romantic partner was exposed to an anxiety provoking experimental condition. Secure men provided more comfort and reassurance, whereas avoidant men displayed more anger and were less likely to show support as their romantic partner displayed more anxiety – in effect these avoidant men withdrew from their partners just as they were most needed to assuage attachment related anxiety. Fraley and Shaver (1998) found similar results in a

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naturalistic study involving separating couples at an airport departure area. In general, secure caregivers are warm, sensitive, helpful, and responsive to their romantic partners' attachment needs. On the other end of the spectrum, insecurely attached adults tend to be relatively poor caregivers, but the ways in which their caregiving inadequacies manifest themselves are systematically related to their particular type of attachment insecurity.

Empathy in Adulthood

Empathy has had a variety of definitions relating to the understanding and experiencing of another person's cognitions, emotions, or both. Carl Rogers (1959) described empathy as the process of feeling "as if one were the other person" (p. 210). Dymond (1950) defined it as "transposing oneself into the thinking, feeling, and acting of another." (p. 344). Others have characterized empathy as a state of emotional arousal and congruence that occurs from understanding another person's emotional state (Eisenberg & Fabes, 1998). Mehrabian (1997) described the cognitive aspects of empathy as an intellectual process involving social skills and social perceptions. Most researchers generally agree that empathy involves the combined ability to understand and experience another human being's cognitive and emotional point of view.

There are varying opinions about the construct of empathy. Some view empathy as being a relatively stable personality trait or ability (Book, 1988; Davis, 1983; Hoffman, 1982). These researchers come from the fields of psychoanalysis (Buie, 1981; Sawyer, 1975), psychotherapy (Dymond, 1950; Hogan, 1969; Rogers, 1957), and social and developmental psychology (Davis, 1983; Eisenberg et al., 1991; Kestenbaum, Farber, & Sroufe, 1989). In general, they envision empathy as an ability that develops largely through the interpretation of social experiences.

Other researchers conceptualize empathy as a situation dependent quality that fluctuates depending on context and interpersonal dynamics (Barrett-Lennard, 1962; Hoffman, 1984; Rogers, 1959). They contend that one's empathic experience varies by situation. These researchers hold the view that regardless of one's overall level of empathic functioning empathy is an ability that varies from life experience to life experience depending on numerous factors. For example, an individual who is normally highly empathic and caring may demonstrate a profound inability to empathize with a depressed romantic partner who has just revealed having participated in an affair. In essence, context could greatly influence empathic functioning.

There has been much debate about what comprises empathy. Some researchers have viewed empathy as largely an affective process, focusing on a person's ability to experience the emotions of another (Allport, 1961; Mehrabian & Epstein, 1972). Others take the viewpoint that it is mainly a cognitive process that involves taking the intellectual perspective of another (Kalliopuska, 1986; Kohut, 1971; Rogers, 1986). A third group of researchers have conceptualized empathy as a combination of both these affective and cognitive abilities (Brems, 1989; Davis, 1983; Eisenberg et al., 1991; Strayer, 1987) or that one of these abilities can override another depending on situational factors (Gladstein, 1983). It is now widely viewed that empathy is a multi-dimensional construct comprised of both cognitive perspective taking and affective experiencing abilities (Duan & Hill, 1996).

According to Davis' (1983) comprehensive model, empathy is a personality trait consisting of both affective experiencing and cognitive perspective taking components. These components are referred to as: perspective taking, empathic concern, personal distress, and fantasy. Perspective taking is the ability to take another person's psychological point of view. Empathic concern is the tendency to feel sympathy and concern for others. Personal distress

refers to feelings of distress caused by experiencing the negative emotions of another. The fantasy component comprises the ability to become emotionally involved in the feelings and actions of characters in books, movies, and plays. These components correspond to the four dimensions of the Interpersonal Reactivity Index (IRI; Davis, 1980), a widely used self-report measure of empathy.

Dimensions of adult romantic attachment have been associated with specific components of empathy (Britton & Fuendeling, 2005; Trusty, Ng, & Watts, 2005). In a study by Joireman, Needham, and Cummings (2001) incorporating the IRI, attachment related anxiety was negatively correlated with the empathy dimension of perspective taking but positively associated with personal distress and empathic concern. Attachment related avoidance was negatively associated with perspective taking and empathic concern. Secure individuals (low anxiety, low avoidance) exhibited higher levels of perspective taking and empathic concern. Individuals with low attachment avoidance and low to moderate attachment anxiety tended to demonstrate the highest levels of empathy. However, there is some evidence (Searle & Meara, 1999) that individuals with low attachment avoidance and high attachment anxiety (preoccupied attachment style) demonstrate greater empathic concern than those with less anxiety. Trusty et al. (2005) have suggested that these preoccupied individuals have of a greater fixation on emotions, both within themselves and others, thus a higher attunement to the affective/feeling component of empathy.

In keeping with previous research, Britton and Fuendeling (2005) demonstrated that attachment anxiety predicted personal distress and empathic concern. Attachment avoidance was found to be negatively associated with the fantasy dimension of the IRI—a measure of emotional involvement in fantasy. Interestingly, individuals with high attachment avoidance also tend to

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express difficulty establishing and maintaining emotional involvement within their intimate relationships (Levy & Davis, 1988). In general, individuals with low attachment avoidance and low to moderate attachment anxiety tend to score highest on socially beneficial aspects of empathy such as perspective taking and empathic concern.

Gender differences consistently appear in the empathy literature. Previous research has demonstrated that women tend to score higher than men on measures of empathy (Davis & Oathout, 1987; Mehrabian, Young, & Sato 1988; Riggio, Tucker, Coffaro, 1989; Trusty et al., 2005). This is an effect seen across multiple measures and conceptualizations of empathy. In a study conducted by Davis (1980) using the IRI, women had significantly higher mean scores than men on each of the four empathy dimensions examined. Research by Britton and Fuendeling (2005) revealed similar results.

There is ample evidence supporting the notion that both cognitive perspective taking and affective experiencing abilities affect interpersonal behaviors. An empathic emotional state has been demonstrated to mediate helping behaviors in both children and adults (Baston, Fultz, & Schoenrade, 1987; Eisenberg & Miller, 1987). Cognitive perspective taking and affective experiencing abilities have been consistently associated with prosocial behaviors and a prosocial orientation in general (Eisenberg & Fabes, 1998; Eisenberg, Zhou, & Koller, 2001; Underwood & Moore, 1982). Mueller and Wass (2002) reported that highly empathic individuals had an increased likelihood of providing aid to a suicidal peer and were better able to perceive and accurately interpret behavioral and affective signals from a suicidal peer than individuals who possessed lower levels of empathy. In a longitudinal study by Eisenberg et al. (2002), empathy and prosocial behaviors in childhood were positively correlated with similar orientations and behaviors in early adulthood. Empathy has also been consistently linked to greater overall

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competency in various social situations (Eisenberg et al., 1996; Murphy, Shepard, Eisenberg, Fabes, & Guthrie, 1999; Zhou et al., 2002; Saarni, 1990). In a meta-analysis of the literature relating to empathy and aggressive behavior, Miller and Eisenberg (1988) reported that males and females who were low in empathy were more likely to demonstrate aggressive, antisocial behaviors in relation to others. Parents who abuse their children regularly show diminished levels of empathy and their abused children tend to have similar empathic deficits (Miller & Eisenberg, 1988). In another study, 4-5 year olds who demonstrated greater empathic concern for others were shown to have decreased externalizing behaviors (aggression, hostility, violence) when they were 6-7 years old (Hastings, Zhan-Waxler, Robinson, Usher, & Bridges, 2000). In a recent meta-analysis of empathy and criminal offenders (Jolliffe & Farrington, 2004), low levels of cognitive empathy were strongly predictive of violent offending, whereas affective empathy was only weakly correlated. In other words, individuals with the ability to comprehend another's cognitive point of view and perceive another's affective experience were less likely to engage in behaviors that would cause distress to others.

Social Skills

The ability to interact competently and successfully with other human beings is regarded by many as a hallmark of mental health. One of the ways in which relationships are fostered is through the use of social skills. In childhood and adolescence social skills have been defined as the specific abilities and behaviors used by an individual to perform competently on particular social tasks. Social competence is an evaluative term used to describe one's ability to use social skills to establish and maintain beneficial social interaction (Gresham, Sugai, & Horner, 2001).

The ability to establish and maintain satisfying friendships and other interpersonal relationships predicts long-term psychosocial adjustment (Kumpersmidt, Coie, & Dodge, 1990; Parker & Asher, 1987). Throughout the lifespan social skills aid in the development and maintenance of these interpersonal relationships. Without the ability to correctly interpret and respond to another's communication, relationships can be difficult if not impossible to form. In fact, noticing social skill deficiencies or delays is often one of the key ways in which parents, teachers, and clinicians first come to recognize developmental and behavioral difficulties such as attention deficit hyperactivity disorder, mental retardation, and learning disabilities (Forness & Knitzer, 1992; Gresham, MacMillian, & Siperstein, 1995).

Social skills training (SST) programs have been used in the attempt to increase overall levels of interpersonal functioning in children diagnosed with ADHD, learning disabilities, internalizing and externalizing disorders, and mental retardation (Gresham et al., 2001). Social skill deficiencies can often be mitigated through the implementation of specific training and intervention programs based in the school, home, or a combination of the two. However, the effectiveness of such programs has been mixed, with some studies showing significant improvement in functioning (Beelman, Pfingstein, & Losel, 1994; Schneider, 1992), while other studies show little to no improvement (Kavale & Forness, 1999; Marthur, Kavale, Quinn, Forness, & Rutherford, 1998).

In adulthood social skills are conceptualized as a group of abilities that aid in the initiation, development, and maintenance of beneficial interpersonal relationships (Riggio, Throckmorton, & DePaola, 1990). While many systems exist for examining social skills or, more generally, social competency in childhood and adolescence (Caldarella & Merrell, 1997; Gresham, 1983, 1998), the lack of different theoretical frameworks for defining and examining

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social skills in later life has led to a paucity of research on functioning in adulthood. However, one measure that has been consistently used in the study of adulthood social skills is the Social Skills Inventory (SSI) (Riggio, 1989; Riggio & Carney, 2003). Riggio (1986, 1989) conceptualizes social skills as comprising three types of essential communication skills containing both verbal and nonverbal components: sending ability, receiving ability, and control ability.

The nonverbal domain is comprised of emotional expressivity (EE), emotional sensitivity (ES), and emotional control (EC). Emotional expressivity involves the ability to send nonverbal and emotional messages, but also includes the nonverbal expression of attitudes, dominance, and interpersonal orientation. It can be thought of as the ability to accurately express an emotional state. Emotional sensitivity comprises skill in decoding nonverbal messages and attentiveness to interpersonal cues. Emotional control involves the ability to regulate and control emotions and nonverbal displays. It also includes the ability to hide certain emotions and to intentionally portray specific emotions when needed. The verbal domain incorporates social expressivity (SE), social sensitivity (SS), and social control (SC). Social expressivity relates to skillful verbal expression and the capacity to engage others in social interaction (e.g. skill in initiating, directing, and fostering conversations). Social sensitivity involves the talent of decoding and interpreting verbal communications and possessing knowledge relating to the norms of social behavior. It can be thought of as a social self-consciousness that aids in the monitoring of one's behavior and how it influences other individuals. Social control involves skill in social role-playing and in social self-presentation. It also helps in guiding the direction and content of communication in social situations. These six communication skill dimensions have been turned

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into a commonly used measure of social skills known as the Social Skills Inventory (SSI) (Riggio, 1989; Riggio & Carney, 2003).

Although the literature regarding social skills during adulthood is sparse, several substantial findings have been demonstrated. Riggio, Tucker, and Coffaro (1989) reported positive correlations between several measures of empathy and various social skill dimensions. The perspective taking, empathic concern, and fantasy dimensions of Davis' (1980) Interpersonal Reactivity Index were all significantly and positively correlated with a combined SSI score and the individual SSI scales of EE, ES, SS, SE, and SC. On two other empathy measures, the Hogan Empathy Scale (1969) and the Questionnaire Measure of Emotional Empathy (Mehrabian & Epstein, 1972), the same participants demonstrated a similar pattern of results. In general, individuals who scored higher on empathy tended to score higher on multiple social skill dimensions. These associations tie in with findings from the literature on empathy in childhood that reports that empathic functioning has been frequently linked to greater overall competency in various social situations (Eisenberg et al., 1996; Murphy et al., 1999; Saarni, 1990; Zhou et al., 2002).

Social skills have also been consistently associated with the dimensions of adult romantic attachment. In a study involving American college students, DiTommaso et al. (2003) found that a secure attachment (low anxiety, low avoidance) was related to significantly higher scores on the SSI scales of emotional expressivity, emotional sensitivity, social expressivity, and social control. Having a dismissing attachment style (low anxiety, high avoidance) was significantly correlated with lower scores on emotional expressivity, social expressivity, and social control. Individuals with a preoccupied style (high anxiety, low avoidance) tended to score high on social sensitivity, but low on social control. Having a fearful attachment style (high anxiety, high

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avoidance) was significantly related to lower emotional expressivity, emotional sensitivity, social expressivity, and social control. In another study (Deniz et al., 2005), this time involving a sample of Turkish college students, many similar significant associations were reported. However, several differences did emerge in the Turkish sample relative to the American sample. In the Turkish sample no significant correlations were demonstrated between: (1) secure attachment and emotional sensitivity; (2) dismissing attachment and both social expressivity and social control; and (3) preoccupied attachment and emotional expressivity. Additionally, fearful attachment was positively correlated to social sensitivity, whereas in the American sample it had not been. While nearly identical measures were used in each study to assess both attachment orientation and social skills, it would seems plausible that cultural differences, or perhaps even imprecise questionnaire translation, may have played a role in the slight incongruity of results between the American and Turkish samples.

Gender differences consistently appear in the social skills literature, with women frequently scoring significantly higher than men in a number of respects. (Deniz et al., 2005; DiTommaso et al., 2003; Riggio, Throckmorton, & DePaola, 1990). Women tend to perform better in the encoding and decoding of nonverbal emotional information, whereas men tend to outperform women on the regulatory aspects of emotional displays (Hall, 1979). It has been proposed that these differences are due in large part to aspects of gender socialization and other cultural norms wherein women are encouraged to develop skills relating to the expression and reception of emotional communications, while men are reinforced to develop the ability of controlling displays of emotion (Riggio, 1989). In a study by Riggio, Tucker, and Coffer (1989) women had significantly higher total scores on the SSI and higher scores on the individual scales of emotional sensitivity, emotional expressivity, social sensitivity, social expressivity, and social

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control. Similar results have appeared in studies by Riggio (1986) and Deniz et al. (2005). In general, women tend to be more expressive and sensitive than men, while men tend to score higher on the control and regulatory aspects of emotional displays.

Social skills have also been linked to loneliness, self-esteem, and social support (DiTommaso et al., 2003; Riggio, Watring, & Throckmorton, 1993; Riggio & Zimmerman, 1991). Individuals who are more socially skillful consistently report being less lonely than people who are not as adept (Deniz et al., 2005; Riggio et al., 1990). In a study examining the relationship between adult attachment and loneliness, social skills were found to partially mediate the relationship between these two constructs (DiTommaso et al., 2003). Using multiple measures of self-esteem, one's level of social skill functioning has been positively correlated to self-esteem (Riggio et al., 1990; Riggio et al., 1993). Social support has also been demonstrated to be positively associated with an individual's level of social skills (Riggio et al., 1993; Riggio & Zimmerman, 1991).

Present Study

Research has demonstrated that secure romantic attachments (low avoidance, low anxiety) are positively associated with empathic functioning and social skills, and negatively associated with mate poaching. Research has also established that greater empathic functioning is associated with prosocial behaviors, increased relationship satisfaction, and increased social skills. Individuals with better social skills tend to have larger social networks and an easier time initiating and fostering romantic relationships than individuals with poor social skills. Therefore it is likely that those with better social skills will not need to engage in mate poaching in order to

find a romantic partner because within the preexisting pool of eligible—and presumably single—mates an attractive and equally interested partner is likely to be found.

Although much is known about the associations among these variables, much less is known about the routes of influence between them. For example, although it is understood that higher levels of empathy, increased social skills, and a secure attachment (low avoidance, low anxiety) are all correlated, it is not known if social skills influence the development of attachment security. Similarly, although it is understood that empathy and attachment security are correlated, it is not known if greater empathy facilitates attachment security (low avoidance, low anxiety). Therefore, the present study uses three models to test and examine multiple routes of influence among the measured variables to gain a further understanding of the underlying processes.

Although many researchers have separately examined the relationships between adult romantic attachment and mate poaching, empathy, and social skills, no single study has examined whether empathy and social skills might influence the relationship between adult romantic attachment and mate poaching behaviors. Insecure romantic attachments (high avoidance and/or high anxiety) have been associated with increased levels of mate poaching. It is possible that empathy and social skills may affect an individual's attachment quality, which in turn could influence the frequency and total number of mate poaching behaviors. A model demonstrating these hypothesized pathways is shown in Figure 1. Another model, shown in Figure 2, examines the hypothesized routes of mutual influence between empathy, social skills, attachment, and mate poaching.

The present study examines the possibility that adult romantic attachment orientation, empathy, and social skills, either individually or jointly, influence the expression of mate

poaching behaviors. Additional research regarding the variables associated with mate poaching and the routes of influence these variables have on mate poaching would likely lead to a greater understanding of this behavior which has potentially harmful intrapersonal and interpersonal effects.

While multiple theoretical viewpoints exist (social learning, psychodynamic, humanistic, etc.), evolutionary theory offers the best position from which to view mate poaching because it accounts for much of the complexity inherent to the construct. Mate poaching is hypothesized to be evolutionarily adaptive. At any one time, in any one place, there are likely to be numerous physical and social restrictions placed on the availability of desirable mates. Because many sought-after mates are already mated and therefore not easily available, Schmitt and Buss (2001) assert that individuals in the past who developed mate poaching techniques as an adaptive strategy had a distinct reproductive advantage over those who failed to develop and effectively engage in these techniques. By this line of thinking, modern humans have descended from romantically skilled predecessors, some of whom were successful mate poachers. Further support for the evolutionary heritage of mate poaching can be seen in the presence of modern day techniques such as mate guarding and mate retention that are employed to actively fend off potential suitors of already mated partners (Buss & Shackelford, 1997). An alternative theoretical explanation for mate poaching could be presented by social learning theory. For instance, social learning theory would explain mate poaching as being the result of behavior learned through observation of another individual's mate poaching attempt – either successful or unsuccessful. If the mate poaching attempt was successful, then a possible successful approach would be learned; if the attempt was unsuccessful, then a possible unsuccessful approach would be noticed and could then be avoided or improved upon. However, social learning theory fails to

account for how that initial mate poacher learned that particular mate poaching tactic, whereas evolutionary theory does account for this by positing that mate poaching arose out of adaptive environmental demands. While it is certainly possible that social learning contributes to the continued existence of mate poaching, it seems unlikely that it accounts for some, if any, of mate poaching's origin. Social learning theory also fails to account for techniques such as mate guarding and mate retention which have been demonstrated to occur in response to mate poaching.

Hypotheses

Hypothesis 1: To the extent that the relationships between 1) empathy and mate poaching and 2) social skills and mate poaching are mediated by romantic attachment quality, Model 1 should provide a good fit to the data. In this case, the link between empathy and insecure romantic attachment should be significant and negative. The link between social skills and insecure romantic attachment should be significant and negative. And the link between insecure romantic attachment and mate poaching should be significant and positive.

Hypothesis 2: In contrast, to the extent that romantic attachment quality fails to mediate the relationships between empathy, social skills, and mate poaching, 1) the link between empathy and mate poaching should be significant and negative, and 2) the link between social skills and mate poaching should be significant and negative. Here, the link between empathy and insecure attachment quality should be zero; the link between social skills and insecure attachment quality

should be zero; and the link between insecure attachment quality and mate poaching should be

significant and positive. In this case, Model 2 should provide a better fit to the data.

CHAPTER 2

METHOD

Participants

For this study, 404 participants were recruited using the web-based survey system SONA. Participation was open to students currently enrolled in a public regional university in south central Appalachia. Web-based access was granted through a link on the psychology department research home page. Participants ranged in age from 18-60 years, with a mean of 21. A majority of participants were female (69%), Caucasian (90%), and currently in a romantic relationship (59%). Participants who completed the surveys in less than 15 minutes were excluded from the analysis. Demographics are presented in Table 2.

Table 2

Demographic Information

Demographic	n	%
Female	280	69
Male	124	31
In a Relationship	240	59
Single	158	39
Caucasian	362	90
African American	9	2
Asian / Pacific Islander	8	2
Hispanic	4	1
Mixed Ethnicity	21	5

	M	*SD*
Age	21	6.01

Design and Procedure

Participants completed the requested surveys online using the survey system SONA. Participants were presented with an informed consent statement, which they read and acknowledged before beginning their questionnaires. Participants were then presented with a demographic survey, the Anonymous Romantic Attraction Survey (ARAS; Schmitt & Buss, 2001), the Experiences in Close Relationships scale (ECR; Brennan, Clark, & Shaver, 1998), the Interpersonal Reactivity Index (IRI; Davis, 1980) and the Social Skills Inventory (SSI; Riggio, 1989). The order of survey presentation was counter-balanced by the software. Structural equation modeling (SEM) was used during data analysis to compare the previously mentioned models (see Figures 1, 2, and 3) comprised of measured variables and their latent constructs. SEM analysis was carried out using EQS 6 software (Bentler, 2005). Using maximum likelihood estimation, the analysis followed a two-step process: a confirmatory factor analysis (CFA) was run to determine the adequacy of the measurement model followed by testing of the theoretically specified structural models as hypothesized in Figures 1, 2, and 3.

Measures

Mate Poaching

The Anonymous Romantic Attraction Survey (ARAS; Schmitt & Buss, 2001) is a 20 item self-report inventory that measures a participant's experiences involving mate poaching. It includes questions referring to actions relating to being a "poacher" (attempts at, perceived effectiveness of, and success of poaching); questions referring to poaching attempts on the participant's partner (attempts at, perceived effectiveness of, and success of poaching efforts directed at the participant's partner); questions referring to instances in which the participant was

the target of poaching attempts (attempts at, perceived effectiveness of, and success of poaching by others toward oneself). All questions are responded to on a rating scale ranging from 1 (never/not at all successful) to 7 (always/very successful). When scored, scales are generally not grouped together and totaled to produce an overall score, therefore each scale score is generally looked at individually based on the research question. An example from this measure illustrates the form of most questions: "Have you ever attempted to attract someone who was already in a romantic relationship with someone else for a short-term sexual relationship with you?" Validity and reliability coefficients for this measure do not appear anywhere in the published literature. However, the measure does appear to possess a high degree of face validity.

Adult Romantic Attachment

The short form version of the Experiences in Close Relationships scale (ECR; Brennan et al., 1998) is a 36-item self-report measure containing two subscales which assess the two underlying dimensions (avoidance and anxiety) associated with the organization of adult attachment. Using a 7-point scale (1 = disagree strongly; 7 = agree strongly), participants share how well each item describes their typical feelings about being in romantic relationships. The Avoidance scale (18 items) assesses discomfort with interpersonal closeness, dependence, and intimate self-disclosure (e.g., "I don't feel comfortable opening up to romantic partners."). The Anxiety scale assesses fears related to abandonment and the desire for intimate physical contact (e.g., "I need a lot of reassurance that I am loved by my partner."). Brennan et al. (1998) reported internal reliability (Cronbach alpha) of .94 and .91 for the Avoidance and Anxiety scales, respectively. Feeney and Collins (2001) reported that the ECR has strong convergent validity due to correlations of .67 (Avoidance) and .64 (Anxiety) with another measure of adult

attachment, Bartholomew and Horowitz's four category model (Bartholomew & Horowitz, 1991). Elevated scores are associated with increased levels of attachment-related avoidance and attachment-related anxiety. Elevated scores on avoidance and/or anxiety will be referred to as an "insecure attachment."

Empathy

The Interpersonal Reactivity Index (IRI; Davis, 1980) is a 28-item self-report measure containing four subscales, each assessing a specific aspect of global empathy. Each scale contains seven items rated on a 5-point scale (1 = never describes me; 5 = always describes me). When scoring this measure, each of the four subscales is examined independently. Higher scores represent a greater presence of the empathic aspect being measured. There is no overall total score for global empathy. The Perspective-Taking (PT) scale assesses an individual's tendency to spontaneously take the psychological point of view of others in everyday life. A sample item from the PT scale is, "I sometimes try to understand my friends better by imagining how things look from their perspective." The Empathic Concern (EC) scale measures the tendency for an individual to experience feelings of compassion, warmth, and concern for other people. A sample item from this scale is, "I often have tender, concerned feelings for people less fortunate than me." The Personal Distress (PD) scale measures feelings associated with personal discomfort and unease in reaction to experiencing the emotions of others. A sample item is, "Being in a tense emotional situation scares me." The Fantasy (FS) scale measures the tendency of an individual to mentally transport themselves into the feelings and actions of fictitious characters in books, movies, or plays. A sample item is, "I really get involved with the feelings of the characters in a novel." Davis (1980) reported internal reliability (Cronbach alpha) ranging

between .71 and .77 and test-retest reliabilities between .62 and .71. Davis (1983) reported that

the IRI scales appear to have strong construct validity due to their significant correlations with

other analogous measures of empathy such as the Hogan Empathy Scale (HES; Hogan, 1969)

and the Mehrabian and Epstein Questionnaire Measure of Emotional Empathy (QMEE;

Mehrabian & Epstein, 1972).

Social Skills

The Social Skills Inventory (SSI; Riggio, 1989) is a 90-item measure consisting of six

scales that assess various aspects of social skills. All responses are measured on a 5-point scale

ranging from 1 (not at all true of me) to 5 (very true of me). When scoring this measure, each

scale can be examined independently or an overall total score can be computed. The emotional

expressivity (EE) scale consists of items gauging one's ability to accurately communicate

feelings nonverbally. A sample item is, "People can always tell when I am embarrassed by the

expression on my face." The emotional sensitivity (ES) scale measures emotional reactivity and

the ability to attend to and interpret the emotions of others. A sample item is, "I sometimes cry

at sad movies." The emotional control (EC) scale consists of questions regarding the ability to

control and regulate displays of emotion at will. A sample item is, "I am easily able to make

myself look happy one minute and sad the next." The social expressivity (SE) scale assesses the

use of body language and verbal expression to communicate with others. A sample item is,

"When telling a story, I usually use a lot of gestures to help get the point across." The social

sensitivity (SS) scale taps into the ability to accurately interpret the verbal communication and

body language of others. It also assesses knowledge regarding the norms of certain social

situations. A sample item is, "Sometimes I think that I take things other people say to me too

personally." The social control (SC) scale measures the talent of controlling one's own behavior in a variety of social settings. A sample item is, "I am usually very good at leading group discussion." Riggio (1989) reported internal reliability (Cronbach alphas) for the six scales ranging from .64 to .89. Convergent validity for the SSI is indicated through a strong correlation of .64 with the Affective Communication Test (ACT; Freidman, Prince, Riggio, & DiMatteo, 1980).

CHAPTER 3

RESULTS

Preliminary analysis revealed numerous significant correlations among variables. Means and standard deviations for mate poaching, adult attachment, empathy, and social skills are reported in Table 3. Correlations among variables and structural equation analyses are reported subsequently. The sample data were compared to normative data for the ARAS, IRI, ECR, and SSI. Participants in the present study scored slightly above the mean for all empathy scales, either at the mean or slightly above the mean for several social skills scales, at the mean for all mate poaching scales, and at the mean for attachment. For all other variables in the present sample, no significant differences were observed. There were significant differences in mean scores by gender among participants on empathy, social skills, and mate poaching, with no gender differences found on attachment. Gender differences are reported in Table 4. Women scored significantly higher than men on three empathy scales (empathic concern, personal distress, and fantasy) and three social skills scales (emotional expressivity, emotional sensitivity, and social sensitivity). Men scored significantly higher than women on one social skills scale (emotional control) and on all four of the mate poaching scales. These gender differences are similar to those consistently reported in previous studies.

Table 3

Means and Standard Deviations of Variables

	M	SD
Mate Poaching		
Short-term frequency	2.03	1.36
Short-term targets	.89	1.61
Long-term frequency	1.93	1.36
Long-term targets	.63	1.15
Adult Romantic Attachment		
Anxiety	3.88	1.11
Avoidance	2.81	1.14
Empathy		
Perspective taking	24.38	4.78
Empathic concern	27.26	4.48
Personal distress	18.05	4.97
Fantasy	24.46	6.14
Social Skills		
Emotional expressivity	47.90	7.54
Emotional sensitivity	49.19	8.49
Emotional control	44.50	7.91
Social expressivity	44.40	11.36
Social sensitivity	46.88	10.43
Social control	52.12	8.58

N = 404

Table 4

Gender Differences on Variables

	t	p	Cohen's d	ES r
Mate Poaching				
Short-term frequency	**4.21**	**.000**	**.468**	**.228**
Short-term targets	**4.31**	**.000**	**.498**	**.242**
Long-term frequency	**2.05**	**.041**	**.218**	**.109**
Long-term targets	**3.46**	**.001**	**.402**	**.197**
Adult Romantic Attachment				
Anxiety	-.68	.498	-.071	-.036
Avoidance	1.02	.309	.106	.053
Empathy				
Perspective taking	-.66	.512	-.071	-.035
Empathic concern	**-8.77**	**.000**	**-.930**	**-.422**
Personal distress	**-7.59**	**.000**	**-.832**	**-.384**
Fantasy	**-2.78**	**.000**	**-.305**	**-.151**
Social Skills				
Emotional expressivity	**-5.41**	**.000**	**-.592**	**-.284**
Emotional sensitivity	**-3.43**	**.001**	**-.371**	**-.182**
Emotional control	**9.61**	**.000**	**1.010**	**.451**
Social expressivity	-1.43	.154	-.151	-.075
Social sensitivity	**-5.01**	**.000**	**-.556**	**-.268**
Social control	1.41	.158	.153	.076

Note: Significant positive t, Cohen's D, and r values reflect significantly higher scores for men.

Correlations among Variables

Numerous correlations were found among mate poaching, empathy, attachment and

social skills. Correlations between mate poaching and aspects of attachment, empathy, and

social skills are presented in Table 5.

Table 5

Correlations Between Mate Poaching and Attachment, Empathy, and Social Skills

	Mate Poaching			
	Short-term freq	Short-term targets	Long-term freq	Long-term targets
Adult Romantic Attachment				
Anxiety	.144** .004		.145** .003	
Avoidance	.122* .014		.127* .011	.098 .050
Empathy				
Perspective Taking	-.200*** .000	-.086 .083	-.161** .001	-.143** .004
Empathic Concern	-.238*** .000	-.171** .001	-.149** .003	-.141** .005
Personal Distress		-.157** .002		
Fantasy	-.152** .002	-.117* .018		
Social Skills				
Emotional Expressivity	.088 .077		.099* .046	.105* .035
Emotional Sensitivity				
Emotional Control	.101* .043	.151** .002		.085 .089
Social Expressivity	.109* .028	.096 .055	.119* .017	.117* .018
Social Sensitivity	-.102* .040	-.112* .025		
Social Control		.088 .076		

* Correlation is significant at the 0.05 level; ** Correlation is significant at the 0.01 level; *** Correlation is significant at the 0.001 level. All other reported correlations are significant at the $p < .10$ level.

Aspects of Adult Romantic Attachment and Mate Poaching

The two dimensions of romantic attachment scores were moderately associated with some aspects of mate poaching. They predicted both short-term and long-term mate poaching frequency but not the number of unique mate poaching targets. However, attachment avoidance did marginally correlate with the number of long-term poaching targets ($r = .098$, $p = .050$). At the scale level, attachment anxiety demonstrated a slightly stronger relationship to both short-term and long-term mate poaching frequency ($r = .144$, $p = .004$; $r = .145$, $p = .003$) than did attachment avoidance ($r = .122$, $p = .014$; $r = .127$, $p = .001$). Overall, individuals scoring higher on attachment avoidance and anxiety engaged in significantly more short-term and long-term mate poaching attempts.

Aspects of Empathy and Mate Poaching

Empathy demonstrated a mild to moderate association with mate poaching. The empathy scales of perspective taking and empathic concern were predictive of lower levels of both short-term and long-term poaching (ranging from $r = -.143$, $p = .004$, to $r = -.200$, $p = .000$, for perspective taking and $r = -.141$, $p = .005$, to $r = -.238$, $p = .000$, for empathic concern). The fantasy scale was associated with lower levels of short-term poaching ($r = -.152$, $p = .002$, and $r = -.117$, $p = .008$), but not long-term poaching. The personal distress scale was associated only with the total number of short-term poaching targets ($r = -.157$, $p = .002$). Overall, individuals scoring higher on aspects of empathy reported significantly lower levels of mate poaching frequency and total number of mate poaching targets.

Aspects of Social Skills and Mate Poaching

Several aspects of social skills demonstrated mild associations with mate poaching. The emotional expressivity scale was associated with higher levels of long-term poaching ($r =$ .099, $p =$ .046, and $r =$ .105, $p =$ .035) but not with short-term poaching. Emotional control predicted short-term poaching only ($r =$ .101, $p =$ .043, and $r =$ .151, $p =$ .002). The social expressivity scale was significantly related to both short-term ($r =$ .109, $p =$ .028, and $r =$ .096, $p =$ .055) and long-term poaching ($r =$ .119, $p =$ .017, and $r =$ .117, $p =$ .018). Social sensitivity was predictive of less short-term poaching ($r = -$.102, $p =$ .040, and $r = -$.112, $p =$ .025) but not long-term poaching. Two scales (emotional sensitivity and social control) were not significantly related to mate poaching. However, social control was marginally related ($r =$ .088, $p =$ .076) to the number short-term targets. Overall, individuals who scored higher on one or more aspect of social skills engaged in greater levels of both short-term and long-term mate poaching. However, social sensitivity was associated with lower levels of short-term mate poaching. Only two scales (emotional expressivity and social expressivity) predicted long-term poaching.

Numerous correlations were found between attachment, empathy, and social skills. Correlations between adult attachment and aspects of empathy and social skills are presented in Table 6.

Table 6

Correlations Between Dimensions of Romantic Attachment, Empathy, and Social Skills

	Dimensions of Romantic Attachment	
	Anxiety	Avoidance
Empathy		
Perspective Taking	-.145** .004	-.132** .008
Empathic Concern		-.226*** .000
Personal Distress	.295*** .000	
Fantasy	.137** .006	
Social Skills		
Emotional Expressivity		-.097 .051
Emotional Sensitivity		-.176*** .000
Emotional Control	-.096 .055	.139** .005
Social Expressivity	-.134** .007	
Social Sensitivity	.395*** .000	
Social Control	-.338*** .000	-.120* .016

* Correlation is significant at the 0.05 level; ** Correlation is significant at the 0.01 level; *** Correlation is significant at the 0.001 level. All other reported correlations are significant at the p < .10 level.

Aspects of Adult Romantic Attachment and Empathy

Aspects of empathy were moderately correlated with dimensions of adult romantic attachment. The empathy scale of perspective taking was predictive of lower levels of both attachment anxiety ($r = -.145$, $p = .004$) and attachment avoidance ($r = -.132$, $p = .008$). Empathic concern was associated with significantly lower levels of attachment avoidance ($r = -.226$, $p = .000$) but not attachment anxiety. The scales of personal distress and fantasy were both related to higher levels of attachment anxiety ($r = .295$, $p = .000$ and $r = .137$, $p = .006$) but not attachment avoidance. Overall, individuals scoring higher on the empathy scales of perspective taking and empathic concern demonstrated significantly lower levels of attachment anxiety and avoidance. Personal distress and fantasy both predicted higher attachment anxiety, but not avoidance.

Aspects of Adult Romantic Attachment and Social Skills

Aspects of social skills demonstrated a mild to moderate relationship with dimensions of romantic attachment. All three scales of verbal social skills (social expressivity, sensitivity, and control) were significantly related to attachment anxiety (ranging from $r = -.338$, $p = .000$, to $r = .395$, $p = .000$). Most nonverbal social skills (emotional expressivity, sensitivity, and control) were significantly related to attachment avoidance (ranging from $r = -.176$, $p = .000$, to $r = .139$, $p = .005$). Emotional expressivity correlated marginally ($r = -.097$, $p = .051$) with attachment anxiety. Emotional sensitivity was related to decreased levels of attachment avoidance ($r = -.176$, $p = .000$). Emotional control was related to both attachment anxiety ($r = -.096$, $p = .055$) and avoidance ($r = .139$, $p = .005$). Social expressivity was associated with decreased attachment anxiety ($r = -.134$, $p = .007$). Social sensitivity was associated with increased

attachment anxiety ($r = .395$, $p = .000$). Social control was related to lower levels of both attachment anxiety ($r = -.338$, $p = .000$) and avoidance ($r = -.120$, $p = .016$). Both emotional control and social control were significant predictors (or nearly so) of attachment anxiety ($r = -.096$, $p = .055$, and $r = -.388$, $p = .000$) and avoidance ($r = .139$, $p = .005$, and $r = -.120$, $p = .016$). Overall, the social (i.e. verbal) aspects of social skills were associated with attachment anxiety, whereas the emotional (i.e. nonverbal) aspects were related to attachment avoidance. Higher scores on social skills variables tended to be associated with significantly lower levels of attachment anxiety and/or avoidance with the exceptions being social sensitivity and emotional control that were associated with higher attachment anxiety and avoidance, respectively.

Aspects of Empathy and Social Skills

Correlations between empathy and social skills are presented in Table 7. Aspects of social skills demonstrated a mild to moderately strong relationship to empathy. A majority of the social skills scales correlated with a majority of the dimensions of empathy (ranging from $r = -.109$, $p = .029$, to $r = .453$, $p = .000$). Emotional sensitivity was related to all aspects of empathy (ranging from $r = -.109$, $p = .029$, to $r = .395$, $p = .000$). All social skills scales were associated with at least two of the four empathy scales.

Table 7

Correlations Between Empathy and Social Skills

	Empathy			
	Perspective Taking	Empathic Concern	Personal Distress	Fantasy
Social Skills				
Emotional Expressivity		.170** .001		.176** .000
Emotional Sensitivity	.325*** .000	.395*** .000	-.109* .029	.384** .000
Emotional Control	.149** .003	-.208*** .000	-.397*** .000	
Social Expressivity		.149** .003	-.135** .006	.085 .090
Social Sensitivity		.346*** .000	.453*** .000	.249*** .000
Social Control	.189*** .000		-.443*** .000	

* Correlation is significant at the 0.05 level; ** Correlation is significant at the 0.01 level;
*** Correlation is significant at the 0.001 level. All other reported correlations are significant at
the p < .10 level.

Measurement Model

A confirmatory factor analysis (CFA) was conducted to derive a measurement model comprising each of the four latent constructs (empathy, social skills, mate poaching, and adult romantic attachment). Latent variables were formed for empathy, social skills, mate poaching, and adult romantic attachment (see Table 8). Several manifest variables (personal distress, emotional control, social sensitivity, and long-term targets) were dropped due to their failure to reach statistical significance within the measurement model. One manifest variable (emotional sensitivity) was added to the latent variable of empathy after modification indices demonstrated an improvement in model fit.

A latent variable was formed for empathy, using perspective taking, empathic concern, fantasy, and emotional sensitivity. A latent variable for social skills was formed using emotional expressivity, emotional sensitivity, social expressiveness, and social control. A latent variable for mate poaching was formed using short-term mate poaching frequency, long-term mate poaching frequency, and total number of short-term poaching attempts. A latent variable was formed for adult romantic attachment using a single attachment factor score (Eigenvalue = 1.158; 58% of variance) computed after both attachment anxiety and attachment avoidance failed to adequately load onto the latent variable.

The measurement model demonstrated acceptable fit, χ^2 (34) = 145.75, p < .01, CFI = .895, RMSEA = .090. Factor loadings for the indicators of each latent variable were > .50.

Table 8

Listing of Latent and Manifest Variables

Latent Constructs (F) and Manifest (V) Variables
Empathy (F1)
Perspective Taking (V1)
Empathic Concern (V2)
Personal Distress (V3)
Fantasy (V4)
Emotional Sensitivity (V8)
Adult Romantic Attachment (F2)
Attachment Anxiety (V5)
Attachment Avoidance (V6)
Attachment Factor Score (V17)
Social Skills (F3)
Emotional Expressivity (V7)
Emotional Sensitivity (V8)
Emotional Control (V9)
Social Expressivity (V10)
Social Sensitivity (V11)
Social Control (V12)
Mate Poaching (F4)
Short term frequency (V13)
Short term targets (V14)
Long term frequency (V15)
Long term targets (V16)

Note: Italicized variables were deleted from measurement and structural models due to lack of statistical significance.

Model Testing

Structural equation modeling (SEM) was used to test three hypothesized models. Models and their parameter estimates can be seen in Figures 4, 5, and 6.

Model 1 examined the indirect effects of empathy and social skills on mate poaching through the mediator adult romantic attachment. Note here that romantic attachment quality is indexed negatively such that high scores indicate insecure romantic attachments. The hypothesized structural Model 1, shown in Figure 4, fit the data marginally well. The structural model demonstrated marginal fit, χ^2 (41) = 182.26, p < .01, CFI = .875, RMSEA = .092. Factor loading for the indicators of each variable were > .50. Inspection of the modification indices revealed no areas of misfit. In Model 1 the path between empathy and (insecure) romantic attachment was significant and negative (-.11). The path between social skills and (insecure) romantic attachment was significant and negative (-.14). Finally, the path between (insecure) romantic attachment and mate poaching was significant and positive (.19).

Model 2 examined the direct effects of empathy, social skills, and romantic attachment quality on mate poaching. The hypothesized structural Model 2, shown in Figure 5, fits the data adequately. The structural model demonstrated acceptable fit, χ^2 (41) = 160.66, p < .01, CFI = .894, RMSEA = .085. Factor loading for the indicators of each variable were > .50. Inspection of the modification indices revealed no areas of misfit. In Model 2 the path between empathy and mate poaching was significant and negative (-.32). The path between (insecure) romantic attachment and mate poaching was significant and positive (.19). And the path between social skills and mate poaching was significant and positive (.20).

Model 3 examined the direct effects of empathy and social skills on mate poaching with the mediating effect of attachment quality excluded. The hypothesized structural Model 3,

shown in Figure 6, fits the data marginally well. The structural model demonstrated marginal fit, $\chi^2 (42) = 175.41$, p < .01, CFI = .882, RMSEA = .089. Factor loading for the indicators of each variable were > .50. Inspection of the modification indices revealed no areas of misfit. In Model 3 the path between empathy and mate poaching was significant and negative (-.34). The path between social skills and mate poaching was significant and positive (.17). No path was estimated between adult attachment and mate poaching.

Chi-square difference testing revealed that Model 3 was not significantly different from Model 1, $\Delta\chi^2 (1) = 5.78$, p = ns, but was significantly different from Model 2, $\Delta\chi^2 (1) = 14.75$, p < .001. As Model 2 was found to be a better fit to the data than Model 3 and as Model 2 demonstrated a higher CFI and lower RMSEA than did Model 3, Model 2 was determined to provide the best overall fit to the data. Results are shown in Table 9.

Theoretical Model 1 with Parameter Estimates
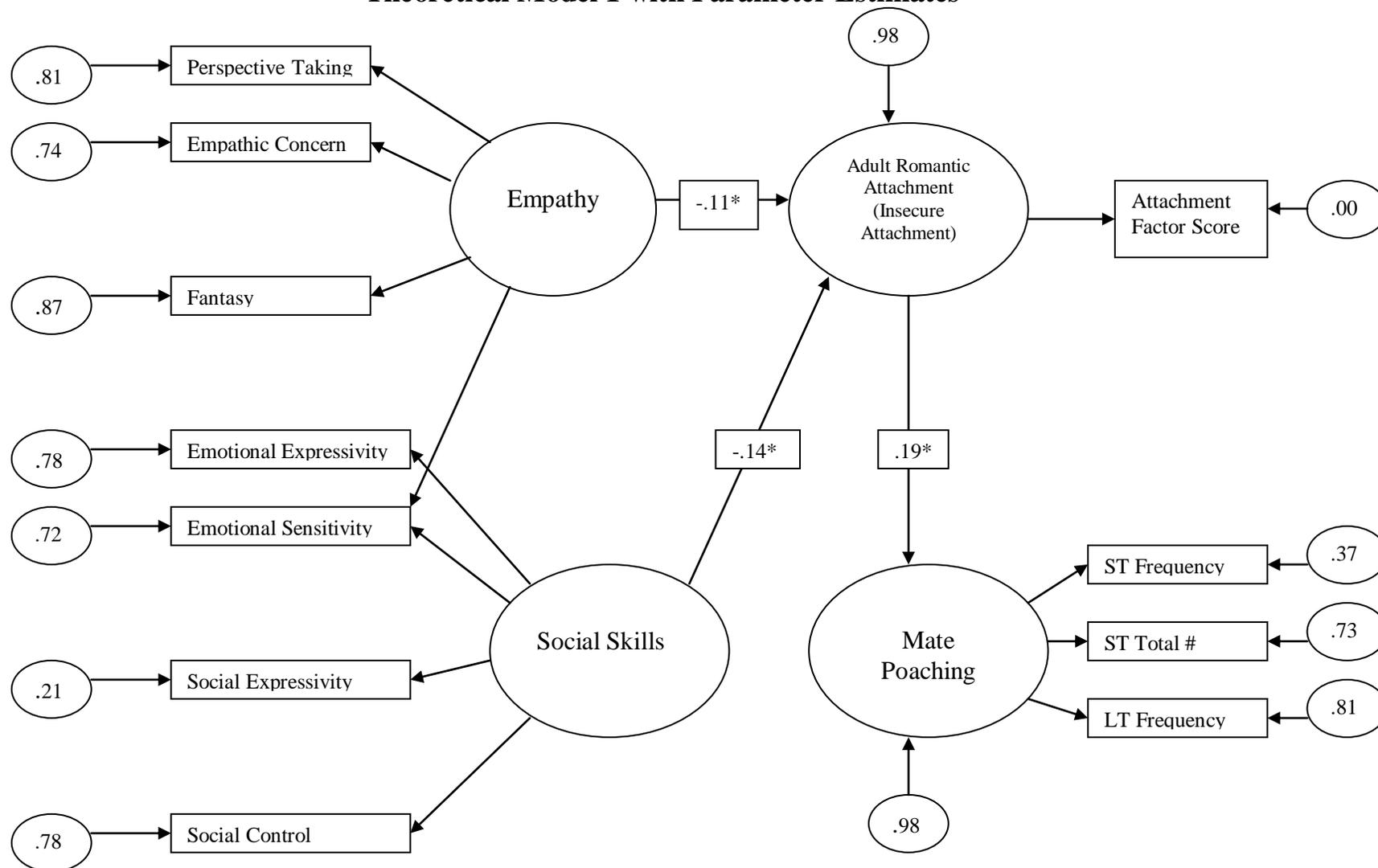
Figure 5. Theoretical Model 1 with Parameter Estimates: Influence of Empathy and Social Skills on Mate Poaching as Mediated by Adult Romantic Attachment. This structural model demonstrated marginal fit, χ^2 (41) = 182.26, p < .01, CFI = .875, RMSEA = .092.

Theoretical Model 2 with Parameter Estimates

Figure 6. Theoretical Model 2 with Parameter Estimates: Mutual Contribution of Romantic Attachment, Social Skills, and Empathy on Mate Poaching. This structural model demonstrated acceptable fit, χ^2 (41) = 160.66, p < .01, CFI = .894, RMSEA = .085.

Theoretical Model 3 with Parameter Estimates
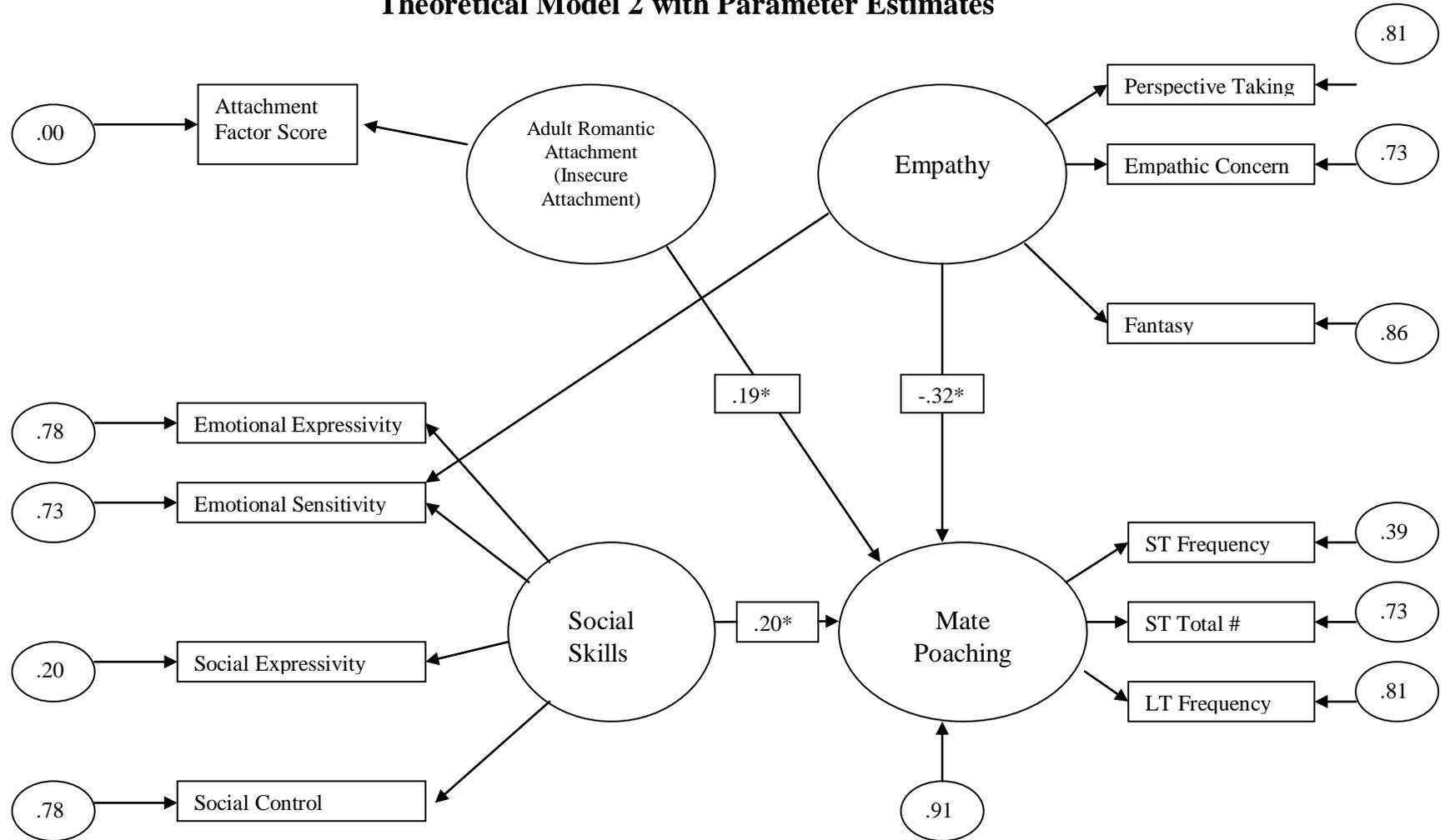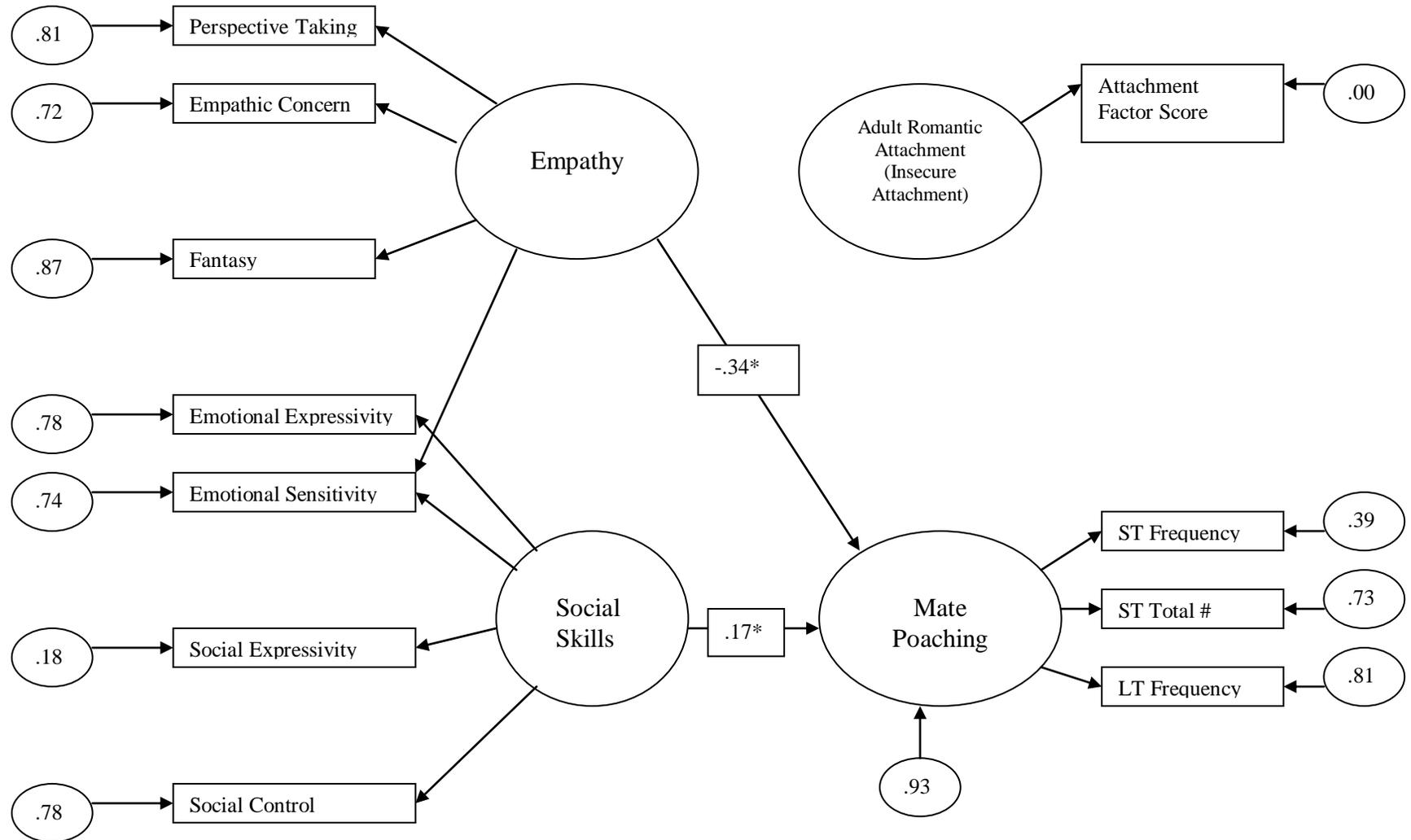

Figure 7. Theoretical Model 3 with Parameter Estimates: Null Model - The Influence of Empathy and Social Skills on Mate Poaching. This structural model demonstrated marginal fit, $\chi^2 (42) = 175.41$, p < .01, CFI = .882, RMSEA = .089.

Table 9

Model Comparison Table

Model	χ^2	df	χ^2diff	CFI	RMSEA
Model 1 Mediation Difference between Model 3 & 1	182.26	41	 6.85 (ns)	.875	.092
Model 2 Independent contribution Difference between Model 3 & 2	160.66	41	 14.75*	.894	.085
Model 3 Attachment Excluded	175.41	42		.882	.089

Note. CFI= comparative fit index; RMSEA = root mean square error of approximation

*p < .001

CHAPTER 4

DISCUSSION

The results of this study lend support to the growing literature demonstrating a link between adult romantic attachment and mate poaching. Additionally, the present study adds to the literature by showing for the first time 1) a relationship between empathy and mate poaching and 2) a relationship between social skills and mate poaching. These findings are discussed in further detail within the respective hypotheses below.

Hypothesis 1: Adult Romantic Attachment as a Mediator of Empathy
and Social Skills on Mate Poaching Behaviors

In replication of previous research (Schachner & Shaver, 2002), romantic attachment was found to be associated with mate poaching. As predicted, the link between insecure attachment and mate poaching was statistically significant and positive. That is, high levels of attachment-related avoidance and anxiety were associated with high levels of mate poaching.

In replication of previous research (Britton & Fuendeling, 2005; Joireman et al., 2001; Levy & Davis, 1988; Searle & Meara, 1999; Trusty et al., 2005), empathy was also found to be associated with romantic attachment. As predicted, the link between empathy and insecure attachment was statistically significant and negative. Higher levels of empathy were associated with lower scores on attachment-related avoidance and anxiety.

In replication of previous research (Deniz et al., 2005; DiTommaso et al., 2003) social skills were found to be associated with romantic attachment. In particular, the link between

social skills and insecure attachment was statistically significant and negative. Higher scores on measures of social skills predicted lower levels of attachment-related avoidance and anxiety.

As mentioned previously, Model 1 did not represent the best overall fit to the data. Additionally, attachment was not found to act as a mediator between empathy, social skills, and mate poaching – evidenced by the fact that Model 1 (mediation) did not provide a statistically superior fit to the data over Model 3 (attachment excluded). It could be that the error associated with measuring attachment quality in the present study led to an inability to identify attachment quality as a mediator. Recall that a factor score was computed to measure attachment quality *after* the original measurement scales for attachment failed to adequately load onto the latent variable. Although the factor score was statistically adequate (Eigenvaule = 1.156; 58% of variance), it was somewhat less than ideal and may have failed to capture some important aspect(s) of attachment.

An alternative explanation for the lack of mediation is that perhaps the hypothesized paths – in which empathy and social skills influence mate poaching as mediated by adult attachment – were ill-conceived. A fundamental assumption of attachment theory is that attachment orientation is developed and reshaped by 1) attachment related *events* that occur in one's environment and 2) the *evaluations* individuals make regarding those events. Although possessing high levels of empathy and greater social skills may set in motion ideal social conditions (*events*) for emotional closeness and low relationship anxiety (secure attachment) to develop and influence mate poaching behaviors, these abilities by themselves are perhaps not enough to influence an individual's attachment related *evaluations* and any subsequent reshaping of attachment orientation and expression of mate poaching. A further understanding of this relationship and the nature of any attachment-related cognitive evaluations related to mate

poaching are beyond the scope of this study, but present interesting areas for possible future research.

Hypothesis 2: Independent Contribution of Adult Romantic Attachment, Empathy, and

Social Skills on Mate Poaching Behaviors

As mentioned in the Results section, the model associated with Hypothesis 2 provided the best fit to the data. In replication of previous research (Schachner & Shaver, 2002), insecure romantic attachment was found to be associated with mate poaching. As predicted, the link between insecure attachment and mate poaching was statistically significant and positive. High levels of attachment-related avoidance and anxiety were associated with high levels of mate poaching. This is not surprising as previous research (Hazan, Zeifman, & Middleton, 1994) has demonstrated that securely attached individuals reported much less involvement in romantic infidelity than those scoring high on attachment avoidance and/or anxiety. As mate poaching is a subtype of general romantic infidelity, the present finding is in keeping with expectations.

Empathy was found to be associated with mate poaching. This is the first reported examination and finding regarding this relationship. As predicted, the link between empathy and mate poaching was statistically significant and negative. As levels of empathy increased, mate poaching decreased. If an individual was able to cognitively understand and emotionally experience another person's subjective experience of reality (empathize), it seems that he or she was less likely to attempt to steal another person's romantic partner. Along these lines, in a recent meta-analysis of empathy and criminal offenders (Jolliffe & Farrington, 2004), low levels of empathy were strongly predictive of violent offending. In other words, individuals with the ability to comprehend another's cognitive point of view and perceive another's affective

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experience were less likely to engage in behaviors that would cause distress to others. Multiple lines of previous evidence (Eisenberg & Fabes, 1998; Eisenberg et al., 2001; Underwood & Moore, 1982) have consistently demonstrated that empathic functioning is positively associated with prosocial behaviors. As it is safe to say that most instances of infidelity would generally fall outside the rubric of prosocial behaviors, empathy was hypothesized and demonstrated to be associated with mate poaching infidelity.

Social skills were found to be associated with mate poaching. This is the first reported examination and finding regarding this relationship. As predicted, the link between social skills and mate poaching was significant, but contrary to what was hypothesized, the direction of that relationship was *positive*. As social skills increased, so too did levels of mate poaching. It was expected that those who scored high on social skills would demonstrate low levels of mate poaching. There are several reasons why this may be. The rationale behind the original hypothesis was that if an individual was more socially skillful he or she would be more likely to have larger social networks that could then include many potential single mates, resulting in a decreased likelihood for the need to engage in mate poaching as a means of finding a romantic partner. Previous research (Schmitt & International Sexuality Description Project, 2004) has shown that as the number of available single mates in a population increases, the number of mate poaching attempts tends to decrease. As the current study did not incorporate a measure of social network size or type, it is impossible to tell what influence social network characteristics played in the current study's findings. An alternative explanation for the findings is that individuals who were more socially skillful were better at managing social situations and therefore better able to identify and attempt mate poaches than those who scored lower on social skills. Previous research has shown that mate poaching attempts are often clandestine in nature,

and as such, many attempts would likely involve the tactful selection and use of social skills (Schmitt & Buss, 2001).

Limitations and Directions for Future Research

Limitations of this study included a sample that was relatively young (M = 21 years), nondiverse (90% Caucasian), and homogenous (university students). Future studies could examine a more ethnically diverse sample including the middle-aged and elderly. There is some evidence to suggest that as age increases, so too does mate poaching, especially among women looking for long-term partners. An additional limitation of this study was that all data were collected using a web-based survey system. It is possible that some participants may not have given the survey questions their undivided attention while answering. If this is the case, then this could have introduced some level of error into the measurement of some or all variables.

The present study sought to examine the roles that attachment orientation and specific interpersonal abilities play in the expression of mate poaching behaviors. The results suggested several possible avenues for future research. It would be useful to examine other possible predictors of mate poaching. These may include constructs such as narcissism, altruism, reciprocity, exchange orientation, and religiosity.

Romantic relationships are complicated creatures. As such, future research could investigate the specific relationship dynamics of the poachee's most recent romantic relationship prior to being poached, in order to determine what effect, if any, relationship satisfaction or conflict (physical violence, emotional violence, etc.) may have on poaching effectiveness. Along these lines, it would be useful to investigate which aspects of empathy correspond to different types of mate poaching context. For instance, mate poaching, as it is currently measured by the

Anonymous Romantic Attraction Survey (ARAS), does not address the specific relational context in which the mate poaching occurs (i.e., is the poacher acting in a predatory manner or in a helpful fashion?). It is certainly possible that many instances of mate poaching occur because the poacher realizes that the target of the poach is in an unhealthy relationship (physically abusive, emotionally abusive, codependent, etc.) and then decides to poach out of empathic concern and romantic attraction. The current mate poaching measure (ARAS) does not make this relational distinction – it asks only for frequency of mate poaching attempts and total number of attempts. It would stand to reason that for this "helpful poaching" an even larger and opposite effect would be seen for empathy but not for predatory poaching.

It would also be useful to investigate intimate partner violence (IPV) as it relates to mate poaching. General romantic infidelity had been shown to precipitate acts of intimate partner violence. While it is known that mate poaching infidelity makes up some proportion of the overall infidelity rate, that specific percentage is currently unknown. If the rate of IPV precipitated by mate poaching is sizeable, then therapeutic interventions aimed at increasing levels of empathy, attachment, and social skills, could perhaps lead to less mate poaching and, in turn, fewer instances of partner violence.

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