

**ATTENTION TO AN ATTRACTIVE ALTERNATIVE AND
ROMANTIC RELATIONSHIP TRAJECTORIES IN
ADULTS**

by

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ABSTRACT

High quality romantic relationships tend to be psychologically and physically beneficial to those involved. Although most couples in romantic relationships expect monogamy, infidelity is common and often linked to relationship discord and dissolution. A tendency of attending to attractive potential alternative partners has been linked to poorer relationship quality in one's primary relationship and infidelity. However, it is unclear under which conditions reports of attraction to potential alternatives are associated with impaired relationship quality to one's primary relationship as some individuals successfully maintain monogamy over time despite occasional exposure and attraction to alternative potential partners. The current research used a longitudinal design to help clarify how attraction to an alternative is linked to relationship quality and termination of a relationship. A secondary goal was to examine how occasions of attraction to a potential alternative are linked to infidelity. In the presence of an attractive alternative, intensity of attraction to and opportunity to connect with this alternative are contextual factors that enhance the ability of the Investment Model to predict relationship commitment and longevity and these were examined here. Participants were 735 adults (22-35) in romantic relationships of at least three months' duration who reported an attraction toward a potential alternative. They were recruited online from crowdsourcing websites and social media to complete two surveys, four months apart. Path analyses indicated that greater subjective opportunity to connect with an alternative and greater attraction toward an alternative were linked to lower relationship quality in one's primary relationship, particularly for those who had a propensity toward noticing attractive alternatives. In addition, lower relationship quality

was linked to relationship dissolution four months later and reported desire to engage in infidelity. Very few participants in the current study became romantically or sexually involved with the person that they indicated was their attractive alternative so the links between attraction intensity, subjective opportunity, relationship quality, and infidelity could not be examined in full. The findings of this research are discussed in terms of their implications for other researchers examining maintenance of intimate relationships, educators who teach about attraction processes, as well as counsellors supporting couples in distress.

DEDICATION

This dissertation is dedicated to my family and friends on the East and West coast, in particular my wonderful nieces and nephews. This work would not have been possible without all of your love and support.

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CHAPTER 1: INTRODUCTION

Research Overview

Romantic relationships contribute profoundly to well-being and happiness (Haller & Hadler, 2006), and most believe that monogamy is a central feature – expected by almost everyone in a romantic relationship (Cherlin, 2009; Conley et al., 2013a; Lee & O'Sullivan, 2019; Treas & Giesen, 2000; Watkins & Boone, 2015). Monogamy refers to the expectation to remain sexually and romantically exclusive (Lee & O'Sullivan, 2018). Involvement with more than one partner is one of the most important factors in understanding relationship quality and the maintenance of healthy relationships (longevity) in the long-term (Gibson et al., 2015; Kelley & Thibaut, 1978; Lee & O'Sullivan, 2018, 2019; Ritter et al., 2010). Over the course of a relationship, individuals will encounter occasions where they interact with potential alternative partners. Although rates of infidelity are quite high (e.g., 1.2%-37.5% of married/cohabiting individuals; Hall & Fincham, 2009; Luo et al., 2010; Mark et al., 2011 and 20%-72% of those in dating relationships; Luo et al., 2010), it is unclear whether attention to attractive alternatives alone is problematic. This is an important question because infidelity can be highly distressing to both partners and is one of the most common causes for couple's therapy and relationship dissolution (Amato & Previti, 2003; Cano & O'leary, 2000; Mark et al., 2011; Thompson & O'Sullivan, 2016).

Attention to attractive alternatives (i.e., noticing or being distracted by attractive individuals other than one's partner) can pose a threat to one's relationship if a viable relationship alternative is perceived to be superior, available, and attainable. Although attraction to an alternative is a necessary but not sufficient criterion for infidelity (Belu

& O'Sullivan, 2019), it is not clear from existing research when attention to an alternative becomes a threat to one's commitment to a romantic relationship. Some individuals successfully maintain monogamy over time despite exposure and attraction to potential alternatives. The current research aims to identify how attraction to an alternative is linked to relationship quality over time, with a specific focus on commitment as an index of relationship quality as commitment predicts relationship longevity. A secondary goal is to examine how infidelity is predicted by occasions of attraction to a potential alternative.

The current research will test a model that predicts relationship commitment, relationship dissolution and infidelity when someone reports attraction toward a potential alternative. This research is guided by the Investment Model (Rusbult, 1980, 1983), which delineates relationship satisfaction, investment, and quality of alternatives as important facets of relationship quality that predict commitment. Commitment is a particularly important measure of relationship quality as it constitutes the best predictor of whether a relationship endures over time (i.e., longevity) as well as whether someone is likely to engage in infidelity (Drigotas et al., 1999; Le et al., 2010). In addition to the factors captured by the Investment Model, sexual satisfaction, subjective opportunity to connect, and intensity of attraction to an attractive alternative are important factors to consider in predicting commitment in the context of attraction to a potential alternative. Sexual satisfaction is an as important predictor of relationship quality because of its strong association with relationship satisfaction but also its unique contribution to relationship quality (Lawrance & Byers, 1995; Sprecher & Cate, 2004). In addition, an individual's actual objective opportunity to connect is likely positively associated with subjective opportunity (i.e., perception that there is an available attractive alternative

who would reciprocate interest) to connect with an attractive alternative, both of which may be contextual factors that predict commitment. Finally, intensity of attraction to an attractive alternative might also be another contextual factor that predicts commitment. Capturing these factors in an exploration of the role of attractive alternatives is needed to determine when such attraction is problematic to relationship longevity.

In the following sections, attraction and its components will be examined first. Next, research on attention to attractive alternatives and attraction toward an alternative for those in committed relationships will be reviewed. Measures of relationship quality as delineated by the Investment Model will be discussed, followed by a discussion of sexual satisfaction, another relevant relationship quality facet. Then, the importance of attraction intensity to a potential attractive alternative and objective as well as subjective opportunity to connect with the attractive alternative will be highlighted with respect to their predictive utility for relationship commitment and infidelity outcomes. Next, I will review literature on and define infidelity, and discuss its prevalence and interpersonal outcomes, as infidelity leads to relationship dissolution for many. The introduction will conclude with a section summarizing the research objectives, questions, and hypotheses for the manuscripts that will emerge from this dissertation.

Attraction

Although human characteristics that are perceived to be attractive can vary from one person to another, there are some characteristics that are universally and consistently perceived as attractive in potential partners among those who identify as heterosexual (Buss & Schmitt, 1993, 2019). These characteristics vary based on whether one is considering potential partners for short-term versus long-term relationships. When

considering a partner for a short-term relationship, physical attractiveness is most salient (Maner et al., 2007), possibly because of its association with health and genetic quality (Li & Kenrick, 2006). When considering a partner for a long-term relationship, men continue to value a partner's physical attractiveness (more than do women; Buss, 1989; Buss et al., 2001; Shackelford et al., 2005; Sugiyama, 2005). However, women also place high value on indices of men's social status as well a potential partner's ability and willingness to provide resources for a long-term relationship (e.g., financial support, time, effort; Buss, 1989; Buss et al., 2001; Fales et al., 2016; Maner et al., 2008; Shackelford et al., 2005).

There also are more proximal social psychological mechanisms at play in determining who we find attractive. One key attraction process has to do with how familiar someone is. The mere-exposure effect is the tendency for someone to develop a preference for a stimulus (or person) of repeated exposure to that stimulus (Montoya et al., 2017; Reis et al., 2011; Zajonc, 1968). Another important factor in determining interpersonal attraction is reciprocity: people tend to like those who like them (also known as reciprocal attraction), and dislike those who dislike them (Luo & Zhang, 2009; Montoya & Horton, 2014; Montoya & Insko, 2008; Ossorio & Davis, 1966).

In summary, both men and women tend to value physical attractiveness in partners for short-term relationships. When considering long-term relationships, men still value physical attractiveness highly, while women shift their focus to a partner's social status (Buss, 1989; Fales et al., 2016; Maner et al., 2007; Maner et al., 2008). In addition, attraction tends to develop when someone is familiar (e.g., repeated exposure to someone or contact in some form) and when liking is reciprocated.

Attention to Attractive Alternatives

Attention to attractive alternatives occurs when someone in a romantic relationship notices, or is distracted by, or drawn to an attractive potential alternative to their romantic partner (Miller, 1997). The term "attention to attractive alternatives" is synonymous with attention to alternatives (although not to be confused with quality of alternatives which refers to any alternative situations to the relationship perceived to be superior including spending time alone). In general, attractive individuals are often more quickly noticed (Hoss et al., 2005) and are attended to for longer (Aharon et al., 2001) than their average or unattractive peers. Attention toward attractive alternatives is a beneficial mechanism for identifying a partner with whom to start a romantic relationship (Koranyi & Rothermund, 2012; Thornhill & Gangestad, 1999). Attentional bias toward attractive faces in general helps individuals to direct their focus to those who are healthier, younger, or higher in genetic quality (Maner et al., 2003; Sui & Lui, 2009). This attentional bias toward attractive faces is a relatively automatic process for people of all ages and one that is difficult to suppress (Sui & Lui, 2009), even for those already in an exclusive relationship (Miller, 1997, 2008).

Researchers have argued that there are stable individual differences in attention to attractive alternatives suggesting that it is trait-like in nature (Belu & O'Sullivan, 2019; Miller, 2008; Neal & Lemay, 2019). Those with a greater disposition to attend to attractive alternatives may chronically experience greater attraction to others regardless of their committed relationship status (Miller, 2008; Neal & Lemay, 2019). Attention to alternatives is relatively stable over time as demonstrated by strong test-retest reliability ($r = .68$ after 12 weeks; Miller, 2008). It is also associated positively with agreeableness, and associated negatively with conscientiousness, both of which are stable individual

traits. Furthermore, attention to alternatives is strongly associated with one's sociosexuality: the greater one's attention to alternatives, the greater one's interest in and experience with sex without commitment (Miller, 2008). All of these findings support the argument that attention to alternatives is trait-like in nature.

Recent work has emphasized that the propensity to attend to alternatives in general is distinct from an experience of a current attraction toward an alternative (Belu & O'Sullivan, 2019; O'Sullivan et al., 2021). We use the phrase “attraction toward an alternative” to refer to an individual’s experience of being drawn toward a particular extradyadic other (e.g., a “crush”) . Although related to attention toward alternatives in general, which can happen indefinitely from afar, attraction toward an alternative goes further as it involves both noticing an attractive alternative but also includes reports of feeling drawn toward them. Attraction toward an alternative may vary for someone across time or different contexts (Belu & O'Sullivan, 2019; Neal & Lemay, 2019). Of note, the extent to which one has a propensity to attend to alternatives predicts whether one reports a current attraction toward an alternative (Belu & O'Sullivan, 2019), although the two do not always overlap. That is, not all individuals who report feeling attracted to a particular alternative also report generally high (trait) levels of attention to alternatives (Belu & O'Sullivan, 2019), and likewise, not all who have a fairly strong tendency to notice the attractive people in their life will report at any given moment that they have a currently active attraction to someone in particular. For example, someone may not typically notice attractive alternative partners during the course of their average day, but might have developed a strong attraction to someone with whom they are having to work closely over the last few months. The distinction between the propensity to notice attractive individuals in general and an attraction toward a particular individual

is key here, as they are differentially associated with reports of relationship quality, as will be demonstrated with the research below.

Attention to Alternatives

In the early phases of romantic relationship development, chronic attention to attractive alternatives may reduce the amount of attention one can pay to the new relationship and limit development of mutual attraction (Koranyi & Rothermund, 2012). Attention to alternatives can also be problematic in a long-standing committed relationship where exclusivity is expected and chronic attentional bias for potential attractive alternatives can interfere with successful pursuit of romantic goals in one's primary relationship (Brady et al., 2020; Koranyi & Rothermund, 2012; Miller, 1997). Attention to alternatives has a complex association with relationship quality, as will be discussed below.

According to Interdependence Theory, individuals will remain in their respective romantic relationships if they believe that their current romantic relationship provides a more favourable reward to cost ratio than what would be obtained in other alternative situations (e.g., being alone, having another romantic partner; Drigotas & Rusbult, 1992; Thibaut & Kelley, 1959). Thus, attention to attractive alternatives can threaten relationship longevity if this attention leads an individual to notice an attractive alternative and judge that individual as a wanted and viable alternative partner. In other words, if this attractive alternative is perceived to be of superior quality than one's current romantic partner (a downward social comparison), as well as available and attainable, the attractive alternative becomes increasingly salient and the attraction leads to approach (Buss & Greiling, 1999; Cole et al., 2016; Kelley, 1983; Miller, 2008; Rusbult, 1983; Thibaut & Kelley, 1959). A particularly salient attractive alternative is

likely to alter the perceived quality of one's relationship (Thibaut & Kelley, 1959). In short, perceived quality of alternatives is negatively associated with one's relationship commitment (Rusbult, 1983). Furthermore, attention to alternatives has been linked to infidelity (i.e., extradyadic romantic and/or sexual involvement with someone other than one's partner; McNulty et al., 2018). Infidelity is a primary reason for distress, discord, or dissolution among couples seeking therapy (Cano & O'Leary, 2000; Selterman et al., 2020) or divorce (Betzig, 1989; Fincham & May, 2017). Miller (1997) found that attention to attractive alternatives was a strong negative predictor of relationship longevity at two months follow-up. Neither commitment nor investment had greater predictive power of relationship longevity two months later than did the power of attention to attractive alternatives (Miller, 1997).

Despite its significance in understanding why some romantic relationships persist and others do not, the association between relationship quality and attention to alternatives is not well understood. It may be that poorer relationship quality leads one to look for potential attractive alternatives, but for others it may be the case that chronic attention to attractive alternatives leads to poorer relationship quality. Miller (2008) examined the association between relationship quality variables (i.e., commitment, satisfaction, investment) and attention to attractive alternatives over time among those in romantic relationships. He found a bidirectional relationship: lower initial satisfaction in a relationship led to higher levels of attentiveness to alternatives later, and higher initial attention to alternatives led to lower levels of satisfaction over time. Dyadic data reinforced these conclusions (Miller, 2008). Furthermore, men and women were less satisfied when their partners were more attentive to alternatives, and each individual was more attentive to alternatives when their partner also was more attentive to alternatives.

Across two studies, Miller (1997, 2008) demonstrated that attention to alternatives is negatively associated with commitment and investment. He also found that attention to alternatives was positively associated with perceived quality of the best alternative ($r = .56$), the perceived ease with which the alternative could be obtained (subjective opportunity; $r = .61$), the number of perceived available alternatives (objective opportunity; $r = .23$), as well as the number of recent dating relationships ($r = .25$). Attention to alternatives was negatively associated with self-reported love for one's partner, which has been replicated by other researchers (Gonzaga et al., 2008).

Much of the research on attention to alternatives has used self-report data using a scale developed by Miller (1997) or the dot probe task (Maner et al., 2007). The dot probe task was developed by researchers to assess attentional bias toward attractive alternatives by examining how quickly participants can shift their attention from one stimulus location to another (Maner et al., 2007). Using data from that work, Miller's conceptualization of attention to attractive alternatives has evolved, resulting in a three-factor, 23-item scale (Miller et al., 2010). In this scale, three facets of attention to alternatives emerged: active prowling, passive awareness, and willful disinterest. Active prowling refers to deliberate attempts to engage with attractive alternatives. Passive awareness refers to noticing the attraction of others but not engaging with them. Willful disinterest represents attempts to disengage actively from attractive alternatives. All three facets are correlated with one another (Miller et al., 2010). There has been limited use of this measure in the recent literature, although it is clear that each of the above factors is differentially associated with relationship quality facets.

Active prowling has been found to be negatively associated with commitment and satisfaction (Miller et al., 2010; Tsapelas, 2011). Those who endorse a style of

attentiveness that is more active also report less closeness with their partners and shorter relationships (Tsapelas, 2011). The results regarding the link between passive awareness and relationship quality are somewhat mixed. Passive awareness has been positively associated with relationship satisfaction and commitment (Miller et al., 2010), while in another study negatively associated with closeness to one's partner and commitment to one's partner (Tsapelas, 2011). Passive awareness also has been associated with infidelity among newlyweds with poorer self-regulation ability (Brady et al., 2020). Finally, willful disinterest seems to be the aspect of attention to attractive alternatives that is most consistently associated with relationship quality across studies (Miller et al., 2010). This facet of attentiveness has been positively associated with satisfaction, commitment, closeness to one's partner, and relationship length (Tsapelas, 2011).

Attention to alternatives also is associated with infidelity in one's romantic relationship. Across two studies, McNulty and colleagues (2018) assessed whether inattention to alternatives and derogation of alternatives minimized relationship breakup via reductions in infidelity. Participants were recruited into a longitudinal study of young newlywed couples. Attention to alternatives and inability to disengage one's attention from attractive alternatives were associated with infidelity and relationship breakup over time.

In summary, attention to alternatives is multifaceted in nature (i.e., involving active prowling, passive awareness, and willful disinterest) and differentially associated with relationship quality variables, such as commitment and satisfaction. Not only do associations with relationship quality differ depending on the facet of attention to alternatives considered, but they also differ when considering a current attraction toward a particular alternative. Research on crushes (i.e., attraction toward an alternative) has

not found any association between attraction to an alternative and relationship quality (Belu & O'Sullivan, 2019). However, research on crushes reveals that there is a subset of individuals whose crush experience may be associated with wanting to leave their current relationship for their crush if the opportunity arose, suggesting that for some having a crush is more deleterious or indicates poorer relationship quality from which the participant might be wanting to escape. Longitudinal work is needed to understand more clearly for whom this targeted attraction to an alternative is problematic and the mechanisms underlying the onset of attraction as well as causal directions to provide some initial insights into possible links between attraction toward an alternative and relationship quality.

Attraction toward an Attractive Alternative

Researchers have begun to explore attraction toward an attractive alternative, known colloquially as "crushes," in adulthood (Belu & O'Sullivan, 2019; Mullinax et al., 2016). Early crush definitions suggest that a crush is a unilateral romantic and/or sexual attraction toward another (Mullinax et al., 2016; Oettingen & Mayer, 2002). This definition has since evolved. In recent research, a crush incorporates a sexual and/or romantic attraction to someone with whom the individual is not yet (or may never be) romantically or sexually involved (Belu & O'Sullivan, 2019). Belu and O'Sullivan (2019) also argued that crushes can be reciprocal in nature, but importantly, do not involve movement toward establishing a relationship (attraction from a distance). The intensity of attraction toward an individual also likely varies over time.

One study of crushes among 160 adult women indicated that crushes are common across the lifespan (Mullinax et al., 2016). A majority (70%) of the women (52% of whom had been in a relationship for 5-10 years) reported having had a crush

(not defined by researchers) on someone other than their partner at some point during their established relationship. Targets of crushes were often rated as physically attractive and sometimes rated as emotionally or intellectually attractive. Women reported managing their feelings for their crush in a wide variety of ways ranging from talking and thinking about their crushes to attempts to suppress thoughts about their crushes. The women who talked about their crush reported discussing their crush with their partner directly or indirectly (e.g., joking about it). The participants reported that they often fantasized about and masturbated to thoughts of the crush. They also managed their crush by reminding themselves of the qualities that they appreciated in their partners. Some women responded in a way that indicated that having a crush did not affect their desire for their partner, others reported increases in desire for their partner, and the remainder reported decreases. Most women (80%) stated that they had not disclosed their crush to their partner and provided reasons such as not wanting to hurt or upset their partner given that there was no intention of acting upon these feelings.

Belu and O'Sullivan (2019) expanded on the study of crushes (i.e., current attraction toward an attractive alternative) by assessing how common crushes were for individuals in established relationships. A total of 176 adults ($M_{\text{age}} = 23.1$) in romantic relationships were recruited via introductory psychology classes at a Canadian university and online via social media (e.g., Facebook). Participants were provided the following definition of a crush: "A crush is an attraction to someone with whom you are not romantically or sexually involved. You may have a crush on someone well known to you or someone you have never even talked to. This person may know you find him or her attractive or he or she may have no idea that you do. When you have a crush on someone, you have feelings for, may have flirted with, but have not yet (and may never)

attempt to connect with that person romantically or sexually” (pp. 3, Belu & O'Sullivan, 2019). Over a quarter (28.1%) of participants reported having a crush at the time of the study and nearly half (47.3%) reported ever having had a crush while in their current romantic relationships. There were no gender differences in rates of reported crushes.

A second study examined the association between crush status (i.e., whether one reported having a crush), romantic relationship quality, and infidelity (Belu & O'Sullivan, 2019). Participants were US adults ($n = 247$; $M_{age} = 32.8$; $SD = 5.22$; $Range = 25-45$; 43.3% female) in romantic relationships recruited using the crowdsourcing site, Mechanical Turk®. More than half of crushes were reported to be acquaintances (31.1%) or casual friends (30.4%), a minority were close friends (10.1%), strangers (7.4%), or online friends (6.8%), and a few were ex-partners (4%), best friends (0.7%), or other (9.5%). Participants most often met their crushes through work (40.3%) or a friend (28.2%). About half lived in the same city as their crush (56.5%), suggesting there were opportunities to connect in-person with one's crush. Overall, the targets of these crushes were reported to be highly emotionally and physically attractive, and they were often the object of sexual fantasy. One third of participants (34%) reported wishing they could have sex with their crush and a small minority (17%) indicated that they would leave their partner for their crush if they could. However, when individuals who indicated they would take the opportunity if they could were asked how likely this opportunity was to arise, on average, participants reported this to be an unlikely situation, often stating practical barriers such as distance, marriage, children, etc.

The propensity to attend to attractive alternatives significantly predicted whether participants reported having a current crush at the time of the study, but sociosexual orientation, avoidant attachment, and relationship quality (satisfaction, commitment,

intimacy) did not predict these attractions. Crush status was not associated with reports of romantic infidelity, but it was associated with reports of sexual infidelity. That is, those who reported having a crush (28%) were more likely to have engaged in sexual infidelity in their current relationship than were those who did not report a crush (15%). This finding suggests that there may be a common factor associated with a propensity toward having a crush and a propensity toward engaging in sexual infidelity. Increased levels of sexual fantasy involving one's crush were associated with higher instances of romantic infidelity.

Another avenue of research that has examined attraction toward alternatives is research on "back burners." A back burner has been defined as an individual with whom one maintains communication to keep or establish the possibility of a romantic or sexual relationship in the future (Dibble et al., 2015). Unlike crushes, back burners require communication of attraction by the individual with the intention of maintaining someone as a relationship option. As would be expected, the number of back burners an individual maintains is positively associated with the perceived quality of alternatives (Dibble & Drouin, 2014). However, number of back burners is not associated with relationship investment nor commitment. One study of undergraduate students ($n = 374$; $M_{age} = 20.5$; $SD = 3.11$; 61% female) found that 66% of participants had at least one back burner in a contact list on their most frequently used communication channel (e.g., text message, Facebook®; Dibble et al., 2015). These students also reported having an average of 5.56 ($SD = 15.73$) back burners out of an average of 353.21 ($SD = 311.35$) contacts. Men tended to have twice as many back burners as women. Those who were single were more likely to have a back burner than were those who were in romantic relationships (Dibble et al., 2015). Participants reported communicating the most with

back burners who they described as casual or close friends. Nearly half (48.5%) of participants communicated with at least one back burner weekly or more frequently, with 7.3% of participants reporting daily contact.

The dispositional characteristics of those with back burners were recently examined among 174 adults recruited online ($M_{age} = 20.5$; $SD = 5.99$; $Range = 18-63$; 33% female, 30% male, 27% non-reported gender; Borzea & Dillow, 2017). It is not clear how this online convenience sample was recruited. Participants reported having an average of two current back burners, and most communicated with their back burners several times per day to once a week (70.1%).

It is clear that some individuals interact regularly with potential alternative partners (Borzea & Dillow, 2017; Dibble & Drouin, 2014; Dibble & Drouin, 2015). Having back burners has been associated with higher perceived quality of alternatives, but not relationship investment nor commitment (Dibble & Drouin, 2014). Other relationship quality variables have yet to be studied. This research on back burner forms of attraction to alternatives has parallels to some of the findings emerging from the research on crushes (Belu & O'Sullivan, 2019), which found that having a crush while in a romantic relationship was not associated with relationship quality. However, research on back burners to date is limited, and thus, it is unclear whether the samples included in the above back burner studies are representative of adults more generally. Furthermore, there is a limited understanding of the association between back burners and other relationship quality facets.

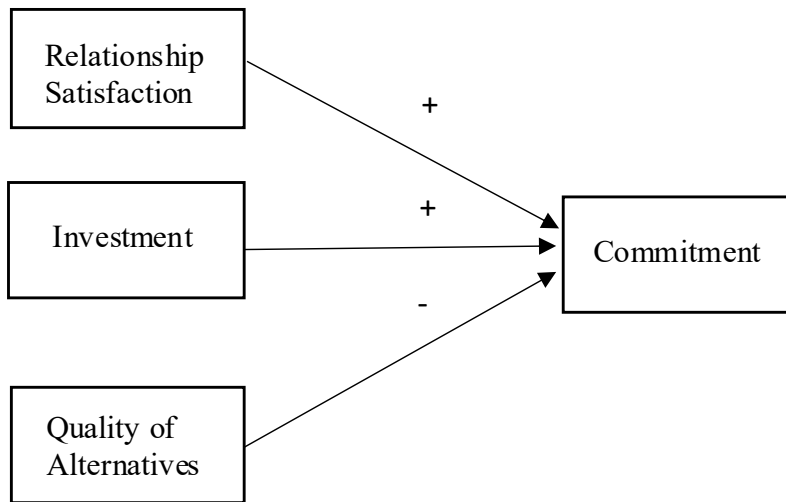
In summary, attention to alternatives is multifaceted in nature (i.e., involving active prowling, passive awareness, and willful disinterest) and differentially associated with relationship quality variables, such as commitment and satisfaction. Not only do

associations with relationship quality differ depending on the facet of attention to alternatives considered, but they also differ when considering a current attraction toward a particular alternative. Research on crushes (i.e., attraction toward an alternative) has not found any association between attention to an alternative and relationship quality (Belu & O'Sullivan, 2019). However, research on crushes reveals that there is a subset of individuals whose crush experience may be associated with wanting to leave their current relationship for the target of their crush if the opportunity arose, suggesting that for some having a crush is more deleterious or indicates poorer relationship quality from which the participant might be wanting to escape. Longitudinal work is needed to understand more clearly for whom this targeted attraction to an alternative is problematic and the mechanisms underlying the onset of attraction as well as causal directions to provide some initial insights into possible links between attraction toward an alternative and relationship quality.

Theoretical Framework

The current dissertation uses constructs from the Investment Model (Rusbult, 1980) as the primary measures of relationship quality. The four central relationship quality variables in the model position relationship satisfaction, investment, and perceived quality of alternatives as predictors of relationship commitment, the ultimate predictor of relationship longevity.

Figure 1: Dimensions of relationship quality as outlined by the Investment Model.



However, this dissertation will expand upon existing research that has used the Investment Model to include other variables important for predicting relationship commitment, longevity, and infidelity in the presence of an attractive alternative. Specifically, sexual satisfaction will be examined as a predictor of commitment as we know that relationship satisfaction and sexual satisfaction are associated with each other but contribute uniquely to relationship quality (Byers, 2005; McNulty et al., 2016; Sprecher, 2002; Quinn-Nilas, 2020; Vowels & Mark, 2020). With regards to the presence of an attractive alternative, intensity of attraction, and objective as well as subjective opportunity to connect with an attractive alternative will be added to the model to examine their importance in determining when attraction to an alternative poses a potential threat to one's commitment to the current relationship. The influence of these variables on relationship dissolution and infidelity will also be examined in the model.

The Investment Model

The Investment Model (Rusbult, 1980) is a predictive model assessing relationship commitment, the relationship quality variable that ultimately predicts the tendency to persist in a relationship (i.e., relationship longevity; Le et al., 2010; Rusbult et al., 1998). It is based on the social exchange approach (Foa & Foa, 2012), and is an extension of Interdependence Theory (Kelley & Thibaut, 1978; Thibaut & Kelley, 1959). Interdependence Theory asserts that relationship longevity is a result of feelings of satisfaction and being dependent on the relationship. Satisfaction is a function, in part, of the balance of rewards and costs of being involved in a romantic relationship. Rewards are the benefits a person experiences as a result of interaction with their partner (e.g., feeling joy, receiving a gift, receiving emotional support) and costs are the challenges of a relationship that result in negative attitudes, experiences, or emotions (e.g., feeling frustrated, not receiving help cleaning the house; Impett et al., 2001; Reeder & Hart, 2019). Romantic partners are a key to providing the rewards of the relationship for each other. As these rewards are being provided to one another, interdependence, or mutual dependence develops. Those who are satisfied report a greater ratio of rewards to costs (i.e., outcomes), and these positive outcomes are higher than their minimum expected outcome level for a relationship (Kelley & Thibaut, 1978). Dependence refers to how much an individual relies on a relationship to meet his or her relationship needs (Le & Agnew, 2001; Rusbult et al., 1998; Rusbult & Van Lange, 1996). The extent to which partners' lives are interconnected reflects the degree to which partners think of each other as interdependent and acknowledge the relationship as being important (Agnew et al., 1998; Aron & Aron, 1997). Dependence also arises when people's current outcomes are better than their perception of what they could receive elsewhere (Thibaut & Kelley, 1959). Interdependence theory posits one's intention to

continue in a relationship with a given partner is predicted by positive outcomes that are greater than the minimum expected (i.e., high satisfaction), and the extent to which one has no other choice (i.e., alternatives are poor; Rusbult et al., 1998).

The Investment Model extends Interdependence Theory in two ways. First, the Investment Model posits that investment in one's relationship must be factored in to understand dependence on one's relationship and to enhance the understanding of which mechanisms contribute to relationship dependence (Rusbult et al., 1998). Second, the Investment Model suggests that feelings of commitment are a consequence of increasing dependence within a romantic relationship (Rusbult et al., 1998).

Commitment is one's orientation to, desire and willingness to maintain a relationship over time and as such, is a strong predictor of whether a relationship will endure over time (Impett et al., 2001; Rusbult, 1980; Rusbult et al., 1998; Tran et al., 2019). Commitment is important to relationship longevity as it influences relationship behaviours, encouraging people to act in ways that help maintain their relationships and act in the best interest of their partner rather than their own short-term self-interests (Agnew et al., 1998; Stanley et al., 2010)—making commitment an important index of relationship quality. There are three key components that contribute to commitment, which can be categorized into rewards and costs of the current relationship. These components are satisfaction, perceived quality of alternatives to the relationship, and investment in the relationship (Rusbult, 1980). Ultimately, it is commitment that predicts relationship longevity. The Investment Model and its constructs have been demonstrated to predict relationship commitment and outcomes of romantic relationships such as relationship dissolution or infidelity (Drigotas et al., 1999; Johnson & Rusbult, 1989; Miller, 1997; Rusbult, 1980; Rusbult, 1983; Rusbult et al., 1998).

Satisfaction is how positively or negatively one experiences the romantic relationship to be and is influenced by the extent to which one's partner fulfills one's most important needs (Rusbult et al., 1998; Thibaut & Kelley, 1959). It is the relationship quality component that refers to whether an individual is receiving benefits from the relationship at a level that at minimum meets his or her expectations for the relationship (Rusbult, 1980; 1983). It has been hypothesized that relationship satisfaction is an internal variable that calibrates relationship behaviours in response to rewards and costs of the relationship (Conroy-Beam et al., 2016). People in relationships are generally satisfied when the benefits (e.g., social support, financial support, positive partner attributes) of the relationship are greater than the costs (e.g., frequent conflict, financial burdens) of the relationship (Impett et al., 2001). Satisfaction is highly associated with commitment to one's relationship (Le & Agnew, 2003; Rusbult, 1980; Lee & O'Sullivan, 2019).

The perceived quality of alternatives component of relationship quality pertains to the perceived desirability of the best available relationship alternative (e.g., spending time alone, spending more time with family, or starting a relationship with an attractive alternative) and the associated costs and benefits of pursuing that alternative (Rusbult, 1980; Rusbult et al., 1998). The perceived desirability of the alternative is based on the extent to which one's key needs could be fulfilled outside of the current relationship (Rusbult et al., 1998). Research has demonstrated that individuals continuously monitor for potential attractive alternative partners regardless of relationship status (Miller, 1997; 2008). If someone perceives there to be better alternatives available than the current relationship, he or she will be drawn toward the alternatives and be less inclined to persist within the relationship (Le & Agnew, 2003). It is important to note that quality of

alternatives and attention to alternatives are related but distinct constructs. Whereas quality of alternatives refers to any form of alternative to the current romantic relationship (e.g., being single, spending more time with friends, dating someone else), attention to alternatives specifically focuses on potential alternative partners. Furthermore, perceived quality of alternatives is considered a facet of relationship quality, whereas attention to alternatives has been argued to be an individual characteristic (Belu & O'Sullivan, 2019; Miller, 2008).

Investment is another component of romantic relationships that is important for relationship commitment (Rusbult, 1980). Investments are resources that are put into the relationship, which are tangible (e.g., money, children, home) or intangible (e.g., personal information, identity, effort, time, emotion), and that would be lost or negatively affected if the relationship were to dissolve (Impett et al., 2001; Le & Agnew, 2003; Rusbult, 1980). Thus, increased investments are associated with an increased likelihood of staying in a relationship for the long-term, also making them an important component of relationship quality.

Overall, commitment can be viewed as being predicted by satisfaction within the current relationship, perceived quality of alternatives to the relationship, and the degree of investment in the relationship. It is important to note that not all three of the factors must be present or lacking for commitment to be affected (Le & Agnew, 2003). For example, someone may be satisfied and invested in their relationship, but experience a reduction in commitment to their romantic relationship if a contextual factor (e.g., presence of an attractive alternative) increases their perceived quality of alternatives to the relationship. Taken together, the Investment Model (Rusbult, 1980) predicts commitment, and ultimately relationship longevity among daters and those who are in

more committed relationships (Bui et al., 1996; Impett et al., 2001; Le & Agnew, 2003; Rusbult, 1983; Rusbult et al., 1998). Longevity is a goal and an indicator of high quality relationships for many (although this is not always the case). In addition, the model predicts commitment via the same pathways regardless of gender, ethnicity, relationship exclusivity, or relationship duration (Le & Agnew, 2003).

Across two studies, Drigotas and colleagues (1999) tested whether the Investment Model was able to predict infidelity among undergraduate students in dating relationships after two months. The Investment Model links were confirmed by positive associations between relationship satisfaction, investment, and commitment, and a negative association between perceived quality of alternatives and commitment. All of the components of relationship quality as delineated by the Investment Model were associated with infidelity measures (physical, emotional, composite of both) at Time Two. However, path analyses were not conducted so conclusions about direct versus indirect effects cannot be made. When comparing the relationships of participants who were broken up at Time Two versus still together, those whose relationships were maintained (greater longevity) reported greater commitment, satisfaction, and investment and lower perceived quality of alternatives than did those whose relationships ended. However, the participants were undergraduate students. As such, these data may not generalize to other populations given that the most common relationship pattern for emerging adults is to delay pursuit of a long-term relationship well into their mid-twenties, if not later for some (Rauer et al., 2013). This delayed focus on relationship commitment is reflected in more frequent relationship turnover and less relationship stability within these younger ages (Allen et al., 2020; Furman & Collibee, 2014; Rauer et al., 2013).

In a more recent study, researchers examined relationship quality variables identified by the Investment Model and their association with infidelity in 783 Portuguese adults ($M_{\text{age}} = 23.41$, $SD = 3.76$) in romantic relationships (Martins et al., 2016). In a model that incorporated the Investment Model variables as well as other variables related to sexuality and infidelity, patterns emerged based on gender and infidelity type. When considering Investment Model variables, face-to-face sexual infidelity was predicted only by higher quality of alternatives among men, and by lower commitment among women. Face-to-face emotional infidelity was predicted by lower satisfaction in men; it was predicted by lower satisfaction and greater perceived quality of alternatives in women. Online sexual infidelity was only predicted by lower satisfaction in men. None of the Investment Model variables predicted online sexual infidelity in women. Online emotional infidelity was predicted by lower satisfaction among both men and women, and for women, online emotional infidelity was also predicted by higher quality of alternatives. Although research has more strongly linked lower relationship satisfaction to infidelity among women (as opposed to men; Glass & Wright, 1985; Mark et al., 2011), this study found that satisfaction was a strong predictor of infidelity for men too. It was especially important in predicting emotional infidelity. This research also indicated that higher perceived quality of alternatives was predictive of emotional infidelity (face-to-face or online) only for women (Maddox Shaw et al., 2013). Although this study expanded on the previous study (Drigotas et al., 1999) by examining multiple types of infidelity, it did not do so using a longitudinal design. Furthermore, it is unclear how the researchers determined that participants were in an exclusive relationship, and the sample was primarily Catholic, and mostly university students, limiting generalizability of the findings.

Sexual Satisfaction

Another key facet of relationship quality that has had implications for relationship commitment and infidelity is sexual satisfaction. Sexual satisfaction refers to how positively or negatively one perceives one's sexual relationship to be (Lawrance & Byers, 1995) and represents a positive balance of rewards to costs in the sexual relationship (Lawrance & Byers, 1995; Sprecher, 2002). Sexual satisfaction is also higher when one's current sexual rewards and costs are more favourable than one's expected rewards and costs, and when one perceives one's partner's levels of rewards and costs to be relatively equal to one's own (Byers, 1999). There is a strong association between sexual satisfaction and relationship satisfaction (Belu & Sullivan, 2020; Byers, 1999; 2005; Haavio-Mannila & Kontula, 1997; McNulty et al., 2016; Purnine & Carey, 1997; Quinn-Nilas, 2020; Rausch & Rettenberger, 2021; Sprecher, 2002; Vowels & Mark, 2020) as a rewarding sexual relationship can lead to feeling of greater rewards overall in the relationship, which is important for relationship satisfaction (Impett et al., 2002; Sprecher, 2002). Higher levels of sexual satisfaction are positively related to relationship satisfaction and relationship longevity (via commitment; Sprecher & Cate, 2004), and factor analytic studies affirm that sexuality is a core component of relationship quality (Hassebrauck & Fehr, 2002). Sexual satisfaction is also linked to other relationship quality variables in the literature, such as love, trust, as well as jealousy (Belu & O'Sullivan, 2020; Sprecher, 2002) and is likely associated with investment and perceived quality of alternatives as well. Married individuals who are sexually dissatisfied report a greater desire to engage in sexual infidelity (Prins et al., 1993), and reports of sexual infidelity may be linked retrospectively to sexual dissatisfaction in one's relationship (Liu, 2000; Waite & Joyner, 2001). Relationship

characteristics such as relationship and sexual satisfaction are some of the best predictors of infidelity (Haseli et al., 2019; Vowels et al., 2021).

A recent longitudinal study examined the associations between relationship adjustment (i.e., general assessment of one's relationship quality, including commitment, satisfaction, and communication), sexual satisfaction, and sexual infidelity (Scott et al., 2017). Participants were recruited from a larger study of those in unmarried romantic relationships (Rhoades et al., 2010). Participants were 786 US adults ($M_{\text{age}} = 26.68$, $SD = 4.79$; $Range = 18-34$; 65% women) at Time One. This group consisted of people who had not engaged in sexual infidelity prior to the start of the study, but did so at some point later while participating in the study. Data were collected every six months, over eight waves of collection. Although sexual satisfaction declined for all individuals over time, it declined more steeply for those who eventually engaged in sexual infidelity. These results were not moderated by gender, despite previous findings that sexual dissatisfaction is more strongly associated with sexual infidelity among men (Allen et al., 2008; Atkins et al., 2004; Mark et al., 2011). Prior to infidelity, men and women also reported lower relationship adjustment. However, for men, this did not represent a significant decline in relationship adjustment over time: they had lower levels of relationship adjustment overall.

A notable limitation is that sexual infidelity was measured by asking whether participants had engaged in sexual relations with someone other than their partner while in the current relationship. There was no reported assessment of whether participants had exclusivity agreements, and whether they perceived the behaviours they reported to be sexual infidelity. This study also failed to consider other forms of infidelity, such as romantic/emotional, online, or solo-type activities.

Opportunity

An important contextual factor for understanding relationship commitment is the opportunity to connect romantically or sexually with an attractive alternative. Although many definitions of opportunity exist, it often is referred to as the availability and willingness of alternative partners to become sexually and/or romantically involved, in addition to factors that would allow for this involvement to be hidden from a partner (Allen et al., 2005). In their review of the literature, Blow and Hartnett (2005b) distinguish between subjective opportunity and actual opportunity without further elaboration of these concepts. Since that time, one study has distinguished and elaborated upon subjective opportunity and objective opportunity (Hergert, 2016). Subjective opportunity is the perception that someone could be involved with an attractive other if they desire to be involved with them and that this attraction is reciprocal, whereas objective opportunity refers to distal infidelity opportunities that increase the ability of the individual to engage in infidelity (Hergert, 2016). Infidelity with an attractive other cannot occur without objective opportunity. For example, if one has an attraction to a celebrity without ever having met them offline or online and no means of contact, objectively, there is no opportunity to engage in infidelity. However, also important is whether one perceives that there is an opportunity to connect with someone.

Objective opportunity has been measured indirectly in a variety of ways. Treas and Giesen (2000) defined opportunity as the ability for someone to have sex with an extradyadic partner without their own partner finding out. These researchers measured opportunity indirectly by examining the social contexts of participants. They measured whether participants had jobs that required touching, talking, or being alone with other

people, and whether participants reported a history of attracting sexual partners (i.e., number of sexual partners prior to start of first cohabitation or marriage). In this study, objective opportunity as measured by job requirements was positively associated with sexual infidelity reported in the previous 12 months, and greater number of sexual partners was associated with sexual infidelity history at any point in time. The greater the opportunity in the workplace and the greater the individual's ability to attract partners, the more likely someone reported having engaged in sexual infidelity, suggesting that increased opportunity is positively associated with infidelity.

Other research has operationalized objective opportunity based on employment status and income and has found connections to infidelity. There was a positive association between income and engaging in infidelity when only one partner worked and the other was in the home (Atkins et al., 2001). Workplace sex composition also has been examined as an indirect measure of opportunity and has indicated that for heterosexual men (not women), as the proportion of opposite-sex coworkers increases, so do reports of infidelity (Kuroki, 2013). A more recent study focused on this effect across time and found a similar pattern as above for White men, but non-White men were less likely to report infidelity as the ratio of opposite-sex coworkers increased (Munsch & Yorks, 2018). Research examining infidelity motives indicated situational explanations for infidelity consisted of occurrences such as being intoxicated, in a long-distance relationship, on vacation, or just unable to say no once someone had initiated an interaction (Selterman et al., 2017). Much of the literature has attempted to measure objective opportunity indirectly and very rarely do researchers directly ask participants about objective opportunities.

Subjective (i.e., perceived) opportunities for infidelity have received less research attention but are important as an attractive other must be perceived as available or attainable and reciprocate attraction to be considered a realistic option for connection. Interestingly, attention to alternatives is positively associated with the perceived ease with which an attractive alternative could be obtained (Miller, 2008), suggesting that those with greater attention to alternatives are more likely to think that they would be able to connect with an attractive alternative. Two studies have examined the importance of subjective opportunity and found that it is directly predictive of sexual infidelity in a couple's relationship (Hergert, 2016; Peterman, 2008). Subjective opportunity is also predicted by greater objective opportunity to engage in infidelity (Hergert, 2016).

Objective opportunity is necessary for infidelity but not sufficient, because one has to be willing to engage in infidelity, and have an attainable partner. Opportunity is important within the context of relationship quality, as one's perception of the quality of alternatives may be affected by the perception that there is a chance to connect with that person romantically or sexually. Most of the research on opportunity has focused on indirect measures of objective opportunity, but operational definitions vary quite widely. Less is known about subjective opportunity.

Attraction Intensity

When considering the effect of an attractive alternative on relationship commitment, degree or intensity of attraction toward that individual is important. It is likely that individuals who report higher levels of attraction to someone other than their romantic partner are at greater risk of romantic relationship compromise. Degree of attraction is positively related to familiarity and the extent that someone is exposed to an attractive other. In a classic study addressing this issue, Moreland and Beach (1992)

demonstrated that increased familiarity is associated with perceived attraction. College-aged female confederates attended classes either five, 10, or 15 times throughout the semester. These confederates never interacted with anyone in any class, they just sat there. At the end of the semester, students were asked to rate the attractiveness of these women. Greater exposure to the women was associated with greater perceived attractiveness.

This effect was demonstrated recently in a naturalistic setting where participants were encouraged to interact with another participant (Reis et al., 2011). Undergraduate students ($n = 242$; $M_{\text{age}} = 19.46$) were told they would interact with another same-sex student whom they did not know via instant messaging. They were provided with an anonymous screen name and password and were asked to chat online with their partner for a minimum number of times per day over a period of days. At the end of their assigned chat sessions, participants completed measures regarding attraction, perceived responsiveness, and whether participants wanted to contact their partner after the study was over. Participants reported greater attraction to their chat partners as the number of conversations increased. The percentage of dyads where at least one person indicated interest in contacting their chat partner significantly increased across conditions: 17.6% (one chat), 41.2% (two chats), 52.4% (four chats), 51.6% (six chats), and 62.5% (eight chats). The researchers concluded that the mere exposure effect was supported: more participation interaction was associated with greater perceived attraction.

Reciprocity of liking is also an important component for the intensification of attraction. This effect was investigated within the context of speed dating among 108 single heterosexual college students ($M_{\text{age}} = 19.5$; $SD = 1.79$; Luo & Zhang, 2009). Participants who signed up for a speed-dating study arrived at a lab ahead of time to

complete a set of background questionnaires. Participants were informed that they would have a 5-minute speed date with 10 people, and after each date, they would complete a questionnaire regarding attraction to the date. After the event, participants provided their attraction response scores to each date, and they were provided their dates' reported attraction responses to them. They were then asked to reassess their attraction towards the dates they had met. There was a positive relationship between receiving the dates' feedback and their final attraction assessment. Receiving positive feedback from partners was linked to a stronger tendency toward reciprocal liking.

In summary, the Investment Model (Rusbult, 1980, 1983) indicates that commitment is a key index of relationship quality, and is predicted by relationship satisfaction, investment, and perceived quality of alternatives. Because of the strong association between relationship satisfaction and sexual satisfaction, I propose that sexual satisfaction is an important predictor of commitment as well. Commitment is a strong predictor of relationship longevity (i.e., a relationship lasting over time) and lower commitment is a strong predictor of infidelity (Drigotas et al., 1999; Le et al., 2010; Rusbult, 1980; 1983; Rusbult et al., 1998). However, when faced with an attractive alternative, perceived subjective opportunities to connect with that alternative (because of their influence on perceived quality of alternatives) and objective opportunities to connect (required for infidelity to occur) are hypothesized to be important predictors of commitment. Furthermore, when someone reports attention toward an attractive alternative, the degree of attraction toward this individual is another important predictor of commitment to one's relationship via its effect on perceived quality of alternatives and relationship satisfaction.

Infidelity

A key index of relationship quality is whether one or both partners has engaged in infidelity. Most couples in romantic relationships expect monogamy and maintain an exclusivity agreement, at least implicitly (Conley et al., 2013a; Treas & Giesen, 2000), which requires couples to refrain from engaging in sexually or romantically intimate behaviours with others outside of their exclusive relationship (Boekhout et al., 2003; O'Sullivan & Ronis, 2013). This norm is endorsed across cultures and relationship types (de Roda et al., 1999; Treas & Giesen, 2000). Even so, infidelity is common and often devastating to relationship longevity (Blow & Harnett, 2005b; Gibson et al., 2016; Luo et al., 2010; Thompson & O'Sullivan, 2016; Wiederman & Hurd, 1999).

Defining Infidelity

Infidelity has been defined as any form of extradyadic behaviour that violates an exclusivity agreement between romantic partners (Luo et al., 2010; Mark & Haus, 2019). No consistent definition or measurement of infidelity is used in the literature (Blow & Harnett, 2005a; Luo et al., 2010), accounting for the wide range in prevalence rates. It has typically been characterized as either sexual (physical involvement) or romantic (emotional connection, deep feelings for another, a bond with another; Blow & Harnett, 2005a). In studies where either sexual or romantic infidelity is considered, there do not tend to be clear operational definitions of infidelity provided to participants. Rather, participants typically are provided vague terms, such as emotional and sexual cheating/unfaithfulness, emotional and physical intimacy, and romantic and sexual behaviour (Luo et al., 2010). In some cases, infidelity has been measured using specific language such as having multiple sexual partners, having sex, sexual interactions, or sexual relationships (Luo et al., 2010). This inconsistency across studies makes it

difficult to compare the findings across studies. Furthermore, most studies have focused exclusively on sexual extradyadic behaviours and neglect to consider other forms of infidelity (Luo et al., 2010).

In recent years, researchers have acknowledged that infidelity is multifaceted and can include forms beyond just sexual and romantic infidelity, such as online infidelity (emotional or sexual connections via the internet; Henline et al., 2007; Luo et al., 2010; Thompson & O'Sullivan, 2016; Whitty, 2003). As such, they have sought to develop operational definitions of romantic and sexual infidelity to facilitate the use of consistent definitions across studies (Guitar et al., 2017). Using a crowdsourcing sample, Thompson and O'Sullivan (2016) examined judgments of which behaviours constitute infidelity among 601 adults ($M_{\text{age}} = 33.6$, $SD = 10.8$, $Range = 18-73$; 46% female). Items were drawn from related measures and from sexuality and relationship researchers, and then piloted on 15 adults in an Eastern Canadian university. For scale development, online crowdsourced participants were provided instructions to imagine a "partner" engaging in the listed behaviours with someone other than the participant. This could be their current partner (for those in a relationship), ex-partner (for those who were single with relationship experience), or potential partner (for those who were single and never in a relationship). They were asked to rate to what degree they perceived their partner was being unfaithful if they engaged in the behaviours listed. However, researchers failed to specify explicitly to participants that they were to imagine themselves in an exclusive/monogamous relationship with this "partner." Four categories of infidelity behaviours emerged from 32 items: sexual/explicit behaviours (i.e., explicit physical contact with someone other than one's partner), emotional/affectionate behaviours (i.e., intimate activities and/or romantic interest), technology/online behaviours (i.e.,

communication via technology), and solitary behaviours (i.e., behaviours engaged in alone).

In a second study (Thompson & O'Sullivan, 2016), 541 adults ($M_{\text{age}} = 34.5$, $SD = 11.7$, $\text{Range} = 18-71$; 61% female) were used to confirm the four categories of behaviours mentioned above. Researchers found that sexual and/or romantic infidelity were the predominant forms of infidelity that individuals most consistently agreed to be infidelity. However, men tended to judge fewer sexual/explicit, romantic/affectionate, and technological behaviours as indicative of infidelity than did women. Importantly, the researchers also discovered that for many, online/technology behaviours (e.g., sending sexually explicit pictures or messages via text or email, sending affectionate/flirtatious texts or emails) and solitary behaviours (e.g., viewing pornographic content alone, finding a celebrity attractive) were considered infidelity. Overall, they concluded that people judge a wide range of behaviours as constituting infidelity, much wider than was previously thought. Furthermore, every one of 32 behaviours were considered to be infidelity to some degree by at least a quarter of the sample. There was a great deal of consistency regarding judgment of sexual behaviours (e.g., oral sex, touching genitals) as constituting infidelity, and there was much more variability in judgments of infidelity regarding emotional/affectionate, online/technology, and solitary behaviours (Thompson & O'Sullivan, 2016). This variability suggests that what is considered infidelity is relatively subjective and will differ from one relationship to another.

Prevalence of Infidelity

The reported prevalence rates of infidelity range fairly widely across studies as a result of variations in operational definitions of infidelity used, representativeness of the sample, relationship status (e.g., dating vs. marriage), timeframe during which infidelity

is being considered (e.g., 12 months, current relationship, lifetime), and method of data collection (face-to-face versus online; Blow & Hartnett, 2005a; Luo et al., 2010; Randall & Byers, 2003). Much of the literature has tended to focus on extradyadic sexual behaviour specifically among those who are married as compared to dating (Martins et al., 2016). One review found that across the lifetime, 20% of married individuals had engaged in infidelity (Blow & Hartnett, 2005b). A more recent review reported that sexual infidelity prevalence rates ranged from 1.2%-37.5% in nationally representative samples in the US (Luo et al., 2010). Rates among men ranged from 19%-52% in their current relationship and from 4%-24% among women. Rates ranged from 16.5%-85.5% among community and college convenience samples. This dramatic range in rates reflects in large part the scope of infidelity behaviours assessed. Community and college convenience samples are more likely to contain both daters and committed couples (e.g., marriage) as compared to national samples that primarily examine married/cohabiting couples. This difference in sample composition may partially explain higher rates of infidelity among community and college samples. However, these convenience samples also tend to include a broader definition of infidelity (Luo et al., 2010).

More recent work examining the multifaceted nature of infidelity among a crowdsourced sample of US adults ($n = 295$; $M_{\text{age}} = 23.24$, $SD = 2.22$) has found that approximately 16% of men and 17% of women report some form of infidelity (despite reporting an exclusivity agreement) in their current romantic relationships (Gibson et al., 2016). When broken down by infidelity type, 13.2% reported sexual infidelity whereas 8.5% reported romantic infidelity (Gibson et al., 2016). Closer examination of specific behaviours indicated higher rates (38.5% - 54.1%) of more ambiguous behaviours such as viewing pornography and masturbating, or flirting (Gibson et al., 2016). However,

there is less consistency in judging these types of behaviour as infidelity (Thompson & O'Sullivan, 2016). Behaviours that are typically consistently agreed upon as constituting infidelity (e.g., receiving oral sex, receiving sexually explicit messages by text or email) were less prevalent (11.1% to 21.6%). Another study examining a wide array of behaviours judged by some to be infidelity found that 84% of participants engaged in at least one such behaviour (Rodrigues et al., 2017). Again, behaviours consistently judged to be infidelity (e.g., sexual interactions) were less frequent, whereas more behaviours that are less consistently rated as being considered infidelity (e.g., fantasy, confiding in someone other than your partner) were more frequent. In summary, infidelity occurs in dating and married relationships despite monogamy norms (Treas & Giesen, 2000), and prevalence rates differ based on the type of infidelity assessed.

Interpersonal Outcomes of Infidelity

Infidelity is generally perceived to involve a direct violation of established (explicit or implicit) rules within a romantic relationship (Glass, 2002). It often involves secrecy, betrayal, and violations of trust (Glass, 2002; Weiser et al., 2014). As a result, infidelity can be highly distressing for many (Cano & O'Leary, 2000). Infidelity is one of the strongest predictors of relationship dissolution (Amato & Rogers, 1997; Hall & Fincham, 2006; Selterman et al., 2021) and one of the most common causes of divorce (Allen & Atkins, 2012; Amato & Previti, 2003; Scott et al., 2013). Twenty-one percent of divorce cases in the US result from infidelity (Amato & Previti, 2003). Not only is infidelity potentially damaging or devastating to relationships, it is also psychologically very distressing to both individuals involved (Allen et al., 2005; Buunk, 1995; Cano & O'Leary, 2000; Fincham & May, 2017). Partners of those who are unfaithful have reported a wide array of emotional experiences, such as anger, jealousy, sadness, and

disappointment (Vaughn Becker et al., 2004). For some, the distress of this loss can result in depressive symptoms (Cano & O'Leary, 2000; Shrout & Weigel, 2018). Those who betrayed their partner and engaged in infidelity report psychological distress characterized by shame, guilt, depressive symptoms, and overall lower well-being (Hall & Fincham, 2009). Those who engaged in infidelity also report greater distress and efforts of trying to avoid thinking about the infidelity as well as greater levels of intrusive thoughts relating to the betrayal than their partners (Hall & Fincham, 2009).

The Current Study

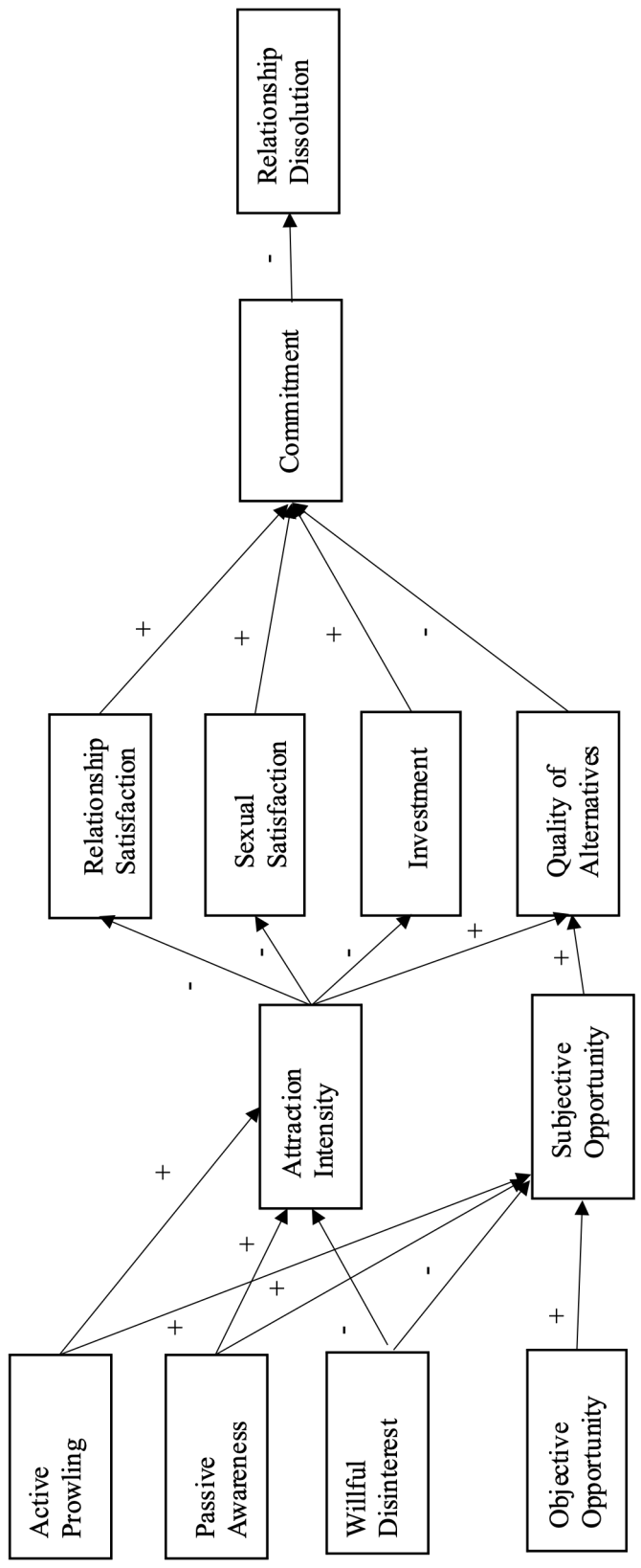
Attraction toward potential alternatives is a common experience for most adults in established relationships: 48%-70% of people report having had an attraction to someone other than their partner at some point during their romantic relationship (Belu & O'Sullivan, 2019; Mullinax et al., 2016). Research has demonstrated that greater trait-level attention to alternatives is linked to poorer relationship quality, infidelity, and relationship dissolution (Foster et al., 2014; Miller, 1997, 2008; McNulty et al., 2018). However, research on current attraction toward an attractive alternative reveals no associations between attraction to potential alternatives and relationship quality (as measured by Investment Model facets of relationship quality), and some report even positive associations between attraction to others and relationship quality (Belu & O'Sullivan, 2019; Mullinax et al., 2016). It is unclear whether these mixed results reflect the propensity to attend to alternatives (Miller et al., 2010), current attraction toward a particular alternative (Belu & O'Sullivan, 2019), or both.

The primary goal of this dissertation was to examine in greater detail than has been done to date how attraction toward an attractive alternative is associated with

relationship commitment, a key facet of relationship quality as determined by the Investment Model. Commitment is central to this investigation as it the best predictor of relationship longevity (Rusbult, 1980). A secondary goal was to track how attraction toward an attractive alternative is linked to reports of infidelity over time, as infidelity ends in relationship dissolution for many. Overall, this research was designed to help answer when attraction to someone who is not one's partner becomes problematic and can undermine relationship well-being.

This dissertation consisted of a measure development component to establish the psychometric properties of an attraction intensity scale and subjective opportunity scale, and a longitudinal study where participants completed relationship assessments at Time One and four months later. I first outline the development of a scale of attraction intensity toward an attractive alternative and a scale of subjective opportunity. Then I present findings addressing the first goal to assess when attraction to another is problematic in terms of undermining relationship commitment, and ultimately how it is linked to relationship dissolution. In addition, I present findings with regards to the second goal regarding when attention to an attractive alternative is linked with infidelity. The models that were tested to address these goals are presented below. To address these goals, a single online sample of those in romantic relationships was recruited via crowdsourcing and social media. Participants (22-35) were required to be in exclusive romantic relationships of at least 3 months duration and report an attraction toward someone other than their romantic partner. All eligible participants were invited to participate at Time One and Time Two. Participants were compensated for their contributions.

Figure 2: The proposed associations between dimensions of relationship quality (as outlined by the Investment Model) and sexual satisfaction, attention to alternatives, attraction intensity, opportunity, infidelity outcomes, and relationship dissolution at time two.



The first goal of the longitudinal study was addressed by answering the following research question and testing the following hypotheses:

RQ1: Is attention toward an attractive alternative linked to relationship commitment and ultimately relationship dissolution?

H1: Those with greater attention to alternatives (greater active prowling, greater passive awareness, and lower willful disinterest) are likely to report greater intensity of attraction to an attractive alternative.

H2: Those with greater attention to alternatives are likely to report greater subjective (perceived) opportunity to connect with an attractive alternative.

H3: Greater intensity of attraction to an alternative will be negatively associated with relationship satisfaction, sexual satisfaction, and investment, and positively associated with perceived quality of alternatives.

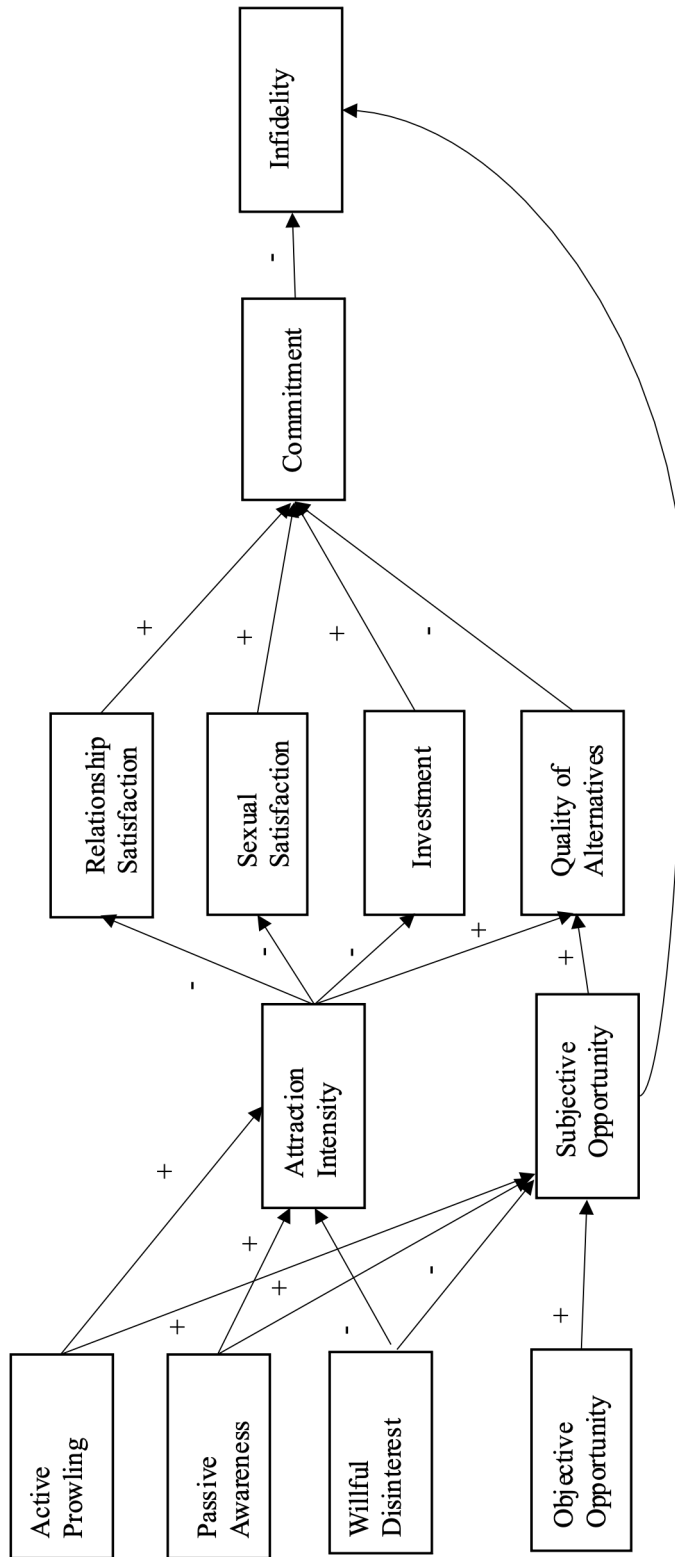
H4: More objective opportunities to connect with an attractive alternative will be positively associated with subjective opportunity to connect.

H5: Greater subjective opportunity to connect with an attractive alternative will be positively associated with perceived quality of alternatives.

H6: Relationship satisfaction, sexual satisfaction, and investment will be positively associated with commitment, and perceived quality of alternatives will be negatively associated with commitment.

H7: Greater commitment to one's relationship will be negatively associated with relationship dissolution.

Figure 3: The proposed associations between dimensions of relationship quality (as outlined by the Investment Model) and sexual satisfaction, attention to alternatives, attraction intensity, opportunity, and infidelity.



The second goal was be addressed by answering the following research questions and testing the following hypotheses:

RQ2: Is attention toward an attractive alternative linked to infidelity?

The same relationships as specified in H1-H6 are expected in this model.

H8 Lower commitment to one's romantic relationship will predict romantic and/or sexual infidelity.

H9: Greater subjective opportunity to connect will predict romantic and/or sexual infidelity.

CHAPTER 2: METHOD

Participants

Data collection for this study occurred as a part of a larger study of attraction and monogamy maintenance. Inclusion criteria were the same for both studies and noted below. Participants (22-35 years) in romantic relationships living in the United States or Canada who reported an attraction toward an alternative were recruited from online sources including social media (e.g., Facebook®) and well known and widely adopted crowd sourcing websites (e.g., Mechanical Turk®, Prolific Academic®) where participants complete surveys for pay. Crowdsourcing has become a common method of data collection in the social sciences because it provides efficient access to a large, diverse sample of individuals at a relatively low cost (Mason & Suri, 2012). Mechanical Turk® (MTurk®) samples tend to be more representative than college samples or community samples recruited from college towns (Berinsky et al., 2012). Crowdsourced worker samples pass attention checks at similar or higher rates than participants in other samples and provide reliable data: internal consistencies for a variety of measures are identical or superior to reliability from other samples and they are similar to internet samples (Behrend et al., 2011; Hauser & Schwarz, 2015; Jahnke et al., 2015). In studies where MTurk® workers provided demographic details across two time-points, 95% of respondents report age, race, gender, or location consistently (Mason & Suri, 2012; Rand, 2012; Shapiro et al., 2013). Although Mturk® samples tend to be more ethnically and socioeconomically diverse than social media samples, both groups perform comparably on a behavioural task (Casler et al., 2013).

In MTurk®, participants are assigned unique worker identifier numbers (IDs; i.e., an alpha-numeric string) and complete surveys for compensation. Longitudinal data collection is feasible on MTurk® and Prolific Academic® because of the ability to link responses using these IDs. Given that participants recruited on social media are not crowdsourced workers, they were asked to generate a unique ID to link their responses across time. Those who were recruited via social media provided consent to be emailed for follow-up studies.

Individuals eligible to participate in the study were between the ages of 22-35, reported an attraction toward an alternative, and involved in a monogamous romantic relationship, lasting three months or longer. We examined romantic relationships of at least three months' duration in those aged 22-35, ages corresponding to entering young adulthood and in pursuit of more serious relationships (Allen et al., 2020; Furman & Collibee, 2014). Participants were required to report an attraction toward someone who was not their primary romantic partner, but this was an individual with whom they were not currently romantically or sexually involved. Participants were informed that this was a study of attraction and romantic relationships. The recruitment advertisements (see Appendix A) provided a short description of the study.

Sample size estimates for structural equation modeling were based on recommendations that a cases-to-independent variable ratio of 40:1 is reasonable for multiple regression analyses (Tabachnick & Fidell, 2013). The structural equation model has 11 independent variables; thus, a sample size of 440 participants was estimated. However, attrition estimates for crowdsourcing samples suggest that up to 46% of participants may not complete the second survey (Daly, & Nataraajan, 2015). To obtain a sufficient sample after attrition and data cleaning, 900 participants were recruited.

After data cleaning (more detail provided in results), 735 participants remained eligible for inclusion in the study.

Participants at Time One ($N = 735$) were Canadian and U.S. young adults between the ages of 22-35 who reported an attraction toward someone who was not their primary partner ("an alternative"). Participants' mean age was 28.67 years of age ($SD = 3.80$) and approximately half were female (53.8%). As described later, participants were randomly assigned to be included in an exploratory factor analysis (EFA) or confirmatory factor analysis (CFA) as one step in the data analytic plan. Participants in the EFA comprised 363 (57.7% female) young adults (M age = 28.53, $SD = 3.91$). Participants in the CFA comprised 372 (49.9% female) young adults (M age = 28.81, $SD = 3.69$). There were no significant differences between groups. Most participants identified as White (71.9%), heterosexual (72.0%), and were fairly well educated (i.e., at least some college or university; 92%). Most participants were in a committed relationship with one person exclusively (65.6%) or dating one person exclusively (29.9%). A minority of the sample were in a new/casual relationship with one person exclusively (1.1%), dating, more than one person (1.0%), in a committed relationship but also in a relationship with someone else (1.9%), or other (0.5%).

Measures

Given that data collection for this study occurred as a part of a larger study, Time One data collection was split into two separate surveys (Time One A, T1A; and Time One B, T1B) to reduce the time required for a given assessment. Participants who completed the T1A survey were provided the option to complete T1B the following day. Data collection at T1A consisted of background information, relationship history,

attention to alternatives, attraction to an alternative, attraction intensity, and opportunity to connect. Data collection at T1B consisted of relationship quality variables. Specifically, at Time One (i.e., T1A and T1B), participants completed measures assessing background information (Appendix E), relationship history (Appendix F), infidelity (Appendix G), attention to alternatives (Appendix H), attraction to an alternative (Appendix I), attraction intensity (Appendix J), opportunity to connect (Appendices K-L) and relationship quality (relationship and sexual satisfaction, quality of alternatives, investment, commitment; Appendices M-Q). Although participants completed measures beyond what is noted above, these are not mentioned here as they are not relevant to the current dissertation.

At Time Two (four months later), those participants still in a romantic relationship completed the same measures as those administered at Time One. Those who had experienced a breakup and were no longer in a romantic relationship did not complete relationship quality measures at Time Two. Those who had since broken up completed a questionnaire regarding their breakup experience (Appendix R).

Background Questionnaire

A standard questionnaire was used to obtain demographic information, including age, sex and gender (i.e., male, female, transgender male, transgender female, non-binary, other), race/ethnicity (i.e., Indigenous, Black, Chinese, Filipino, Hispanic, South Asian, Southwest Asian, White, other), and sexual orientation (i.e., heterosexual, lesbian, gay, bisexual, asexual, questioning, don't know, no labels preferred, other). Respondents were asked to report the highest level of education they had obtained (i.e., some high school, high school, some college/technical school, college/technical school, some university, university, some graduate school, graduate school) and in which

country they live currently (i.e., US, Canada, other). Participants who were recruited from a crowdsourcing site were asked to provide their worker ID number. Those recruited from social media were asked to provide their day of birth, the first letter of their first name, the last letter of their last name, and the last four digits of their phone number to link their responses across time points.

Characteristics of the Romantic Relationship

A measure used in previous studies (Belu & O'Sullivan, 2018, 2019) was used here to assess relationship characteristics. Participants provided information pertaining to their current relationship, including relationship status [i.e., casually dating, not exclusively; in a new/casual relationship with one person exclusively; dating one person exclusively, dating more than one person, in a committed relationship with one person exclusively (i.e., living together, engaged, married), in a committed relationship but also in a relationship with someone else, open relationship], duration of relationship (in months), and primary partner gender (i.e., male, female, transgender male, transgender female, non-binary, other). Participants also were provided the following question: "In your current primary relationship, do you and your primary partner have an understanding (even if you have never talked about it openly) that neither of you will be romantically or sexually involved with others during your relationship?" Possible response options included no, yes, and unsure. Only those who indicated 'yes' were considered to have an exclusivity agreement and were included in the present study.

Infidelity

Those who reported having an exclusivity agreement were provided the following statement: "Despite having some type of agreement or understanding about exclusivity with their partner, many people develop some kind of sexual or romantic

involvement at some level (ranging from a brief one-time encounter to a long-term relationship) with another person.” This was followed by definitions of sexual infidelity and romantic infidelity adapted from Guitar and colleagues (2017): "Sexual involvement means any kind of physically arousing contact (e.g., kissing, sexual touching, oral sex, intercourse). Romantic involvement means any kind of close affection or intimate connection (e.g., sharing of intense or private thoughts and feelings, "falling in love") with another which may create an emotional distance between you and your partner because you spend a lot of time with or thinking about this other person." Infidelity was assessed by asking the following two questions: “I have been romantically/sexually involved with at least one other person (other than my romantic partner) during my relationship with my current primary partner” (no, because I did not want to; no, because there was no opportunity; yes, only one time; yes, more than once with the same person; yes, with multiple people). These items have been adapted from those used successfully in past studies to assess infidelity (Thompson & O'Sullivan, 2016). We have also adapted this measure further so that participants who endorsed a "yes" to any of the above items were then asked the following: "Based on your understanding with your partner to be exclusive, do you consider this romantic/sexual involvement with someone else to be breaking this agreement?" (no, yes, unsure) and "Based on your understanding with your partner to be exclusive, do you think your partner would consider this romantic/sexual involvement with someone else to be breaking this agreement?" (no, yes, unsure). These questions served as an additional validity check to confirm that the acts reported would be considered infidelity. Those who responded yes or unsure were considered to have engaged in infidelity. The same questions were asked at both Time One and Time Two. In addition, participants at Time Two who could recall who their

primary attractive alternative was four months prior were asked whether they had been romantically or sexually involved with that individual.

Attention to Alternatives

The Attention to Alternatives scale (Miller et. al, 2010) measured the degree to which individuals noticed, and paid attention to, attractive alternative relationship partners. This scale consists of three relevant factors: active prowling, passive awareness, and willful disinterest as measured by 23 items rated on 9-point likert scale. Examples of items include “I like to be aware of who I could date other than my current partner” and “I see no harm in appreciating good looks in members of the sex(es) you're attracted to.” Responses ranged from 1 (*never*) to 9 (*always*), and are averaged, with higher scores indicating greater attention to alternative relationship partners. All factors have previously demonstrated good-excellent internal consistency: active prowling ($\alpha = .95$), passive awareness ($\alpha = .96$) and willful disinterest ($\alpha = .92$; Unrau & Morry, 2019). The three facets are correlated with each other as would be expected ($r_s = -.3$ to $-.44$; Unrau & Morry, 2019). In development work establishing the psychometric properties, the three facets were associated with relationship satisfaction ($r = -.49$, $r = .23$, and $r = .65$, respectively) and commitment ($r = -.55$, $r = .27$, and $r = .72$, respectively) demonstrating good criterion validity (Miller et al., 2010). In the current study, all three factors demonstrated good-excellent internal consistency: active prowling ($\alpha = .90$), passive awareness ($\alpha = .94$) and willful disinterest ($\alpha = .84$).

Characteristics of Attraction toward an Attractive Alternative

An experimenter-derived measure (adapted from Belu & O'Sullivan, 2019) was used to assess attention toward a particular attractive alternative and characteristics of this attraction. Participants were provided with the following prompt: "It's common for

people who are in long-term relationships to be attracted to people outside of their relationship. We are interested in attractions to people other than one's romantic partner – it may be someone well known to you or someone you've never even talked to. They may know you find them attractive or have no idea that you do. This person may even find you attractive. This individual is someone you may have feelings for, and may have flirted with, but you have not attempted to connect with romantically or sexually at the present time or while in your current relationship.” Participants were then asked whether they had ever had attraction to someone other than their partner while in their romantic relationship (*no/yes*), as well as whether they currently had an attraction to an attractive alternative(s), and the number of alternatives to whom they had been attracted.

Participants who reported multiple attractions were asked to respond to questions regarding the individual to whom they felt most attracted to at that time of survey completion.

Participants also were asked to provide the initials of this individual; these initials were inserted into future questions to ensure that they kept this particular individual in mind. Participants reported whether they perceived there to be an agreement with their primary partner that neither should experience attraction toward an alternative and whether their partner was aware of the participants' attraction to an alternative. Participants indicated whether this attraction began while in the current relationship. Those with a current attraction provided some background information pertaining to their primary attractive alternative including the duration of knowing this individual, the duration of their attraction (in months), how they met (i.e., work, school, friend of a friend, partner's sibling, partner's family member, ex-partner, online, other), and their relationship with their alternative (i.e., strangers, acquaintances, casual friends,

online friends, close friends, best friends, friends with benefits, past romantic partner, other). They also reported whether their attractive alternative lived in the same city. To assess attraction reciprocity, participants were asked whether they had communicated their interest to the alternative, as well as whether they perceived this attraction to be mutual.

To assess perceptions of potential implications for a participant's primary relationship, they reported to what degree they perceived their attraction to be problematic. Participants also indicated what they would like to happen with their attraction (i.e., I want things to intensify between us so we can connect romantically and/or sexually, I want my attraction to cool off so I do not connect with them, no need for this attraction to change at all, I can leave it as it is). Participants noted whether they would leave their partner for their attractive alternative if they could. Participants reported whether they had been sexually involved with their alternative previously and whether they desired to engage sexually with this person. Those who indicated that they were currently involved sexually with their alternative were considered ineligible as per the definition of attraction to alternative used above and excluded from further analyses. To assess behavioural interaction with one's attractive alternative, participants responded to questions assessing how often they went out of their way to talk to or spend time with their attractive alternative. This information was primarily provided as descriptive information about the attractive alternative to whom the participant was most attracted.

Attraction Toward an Attractive Alternative (ATAA)

Intensity of attraction to one's primary alternative was assessed using a scale developed for this dissertation. Items were derived from the relevant attraction literature (Luo & Zhang, 2009; Moreland & Beach, 1992; Reis et al., 2011) and in consultation

with other researchers in the relationship field. The modified scale consisted of 17 items. Example items include "How physically attractive do you find this person?" and "How much flirting occurs between the two of you?" All responses fell on a 9-point Likert scale. Final items formed a composite scale with a higher average representing greater attraction intensity. The resulting scale was first examined by relationship and sexuality researchers and modified in line with their suggestions. The scale was then subjected to exploratory and confirmatory factor analyses which established a one factor solution. The final scale comprised five items with good reliability in the current study ($\alpha = .84$).

Subjective Opportunity for Connection

Subjective opportunity for connection with an attractive alternative was assessed using an adapted version of the original 5-item Extradynamic Opportunity scale (Peterman, 2008). This scale measured one's perception of the availability of an alternative partner, perceptions of the willingness of the potential alternative partner to connect physically, as well as the possibility to keep any involvement secret. This scale was adapted to include opportunities to connect emotionally as well, as we know that emotional connection is a component in romantic infidelity (Thompson & O'Sullivan, 2016). This adaptation resulted in 12 items. Examples of items include "An attractive other is interested in me romantically" and "An attractive person other than my partner is willing to be physically intimate with me." Responses fell on a 5-point Likert scale, ranging from 1 (*not at all*) to 5 (*very much*). Items were reviewed by sex and relationship researchers to ensure that they captured the intended construct and modified accordingly. The scale was then subjected to exploratory and confirmatory factor analyses which established a one-factor solution. The final scale comprised six items and demonstrated good reliability in the current study ($\alpha = .85$).

Objective Opportunity for Connection

Objective opportunity for connection with an attractive alternative was measured using an experimenter-derived scale as this construct has been measured inconsistently in the literature by indirect variables (e.g., sex-ratio at workplace, whether one travels for business, income) and typically only for sexual infidelity. Items were reviewed by sex and relationship researchers to ensure that they captured the intended construct. We asked participants directly about whether it had been possible for them to engage romantically and/or sexually with the attractive alternative. Participants were provided with definitions of sexual and romantic involvement and then asked whether they had had the opportunity to engage in these types of behaviours with an attractive other. For example, one item asked, "Have you had the opportunity to engage in romantic behaviours with an attractive alternative?" Response options fell on a 9-point likert scale ranging from 1 (*never*) to 9 (*at least once a day*). Responses from the two items were averaged so that higher scores indicate higher opportunity to engage romantically or sexually with an attractive alternative. Participants who reported having the opportunity to connect were asked whether the opportunity was taken (*no/yes*).

Relationship Satisfaction

Relationship satisfaction (i.e., how positively or negatively one feels about one's relationship) was assessed using the 16-item version of the Couples Satisfaction Index (CSI; Funk & Rogge, 2007). Examples of items include "Our relationship is strong" and "To what extent has your relationship met your original expectations?" Responses fell on a 6-point Likert scale, however, the response options varied depending on the question. For example, some responses ranged from 0 (*not at all true*) to 5 (*completely true*) and others ranged from 0 (*not at all*) to 5 (*completely*). Higher averaged scores indicate

greater satisfaction with one's romantic relationship. The CSI has excellent internal consistency ($\alpha = .98$) as well as strong convergent validity with existing relationship satisfaction measures (Funk & Rogge, 2007). In addition, this measure assesses the same satisfaction constructs measured by other commonly used scales in the literature (e.g., Marital Adjustment Test, Dyadic Adjustment scale) with enhanced precision to assess differences in satisfaction across participants (Funk & Rogge, 2007). This measure demonstrated excellent internal consistency in the current study ($\alpha = .97$).

Perceived Quality of Alternatives

The perceived quality of alternatives to one's romantic relationship was assessed in terms of the extent to which participants believe that a range of needs may be met by an alternative to the current relationship. Participants were presented with facet items, which measure concrete examples of the construct, and global items which represent general measures of the construct. Five facet items were presented first to prime participants to conceptually understand the global items to follow. Facet items were not scored. Quality of alternatives was assessed by the five global items of the Investment Model scale (Rusbult et al., 1998). Global items consisted of questions such as "My alternatives are attractive to me (dating another, spending time with friends or on my own, etc.)." Respondents indicated agreement on a 9-point Likert scale ranging from 0 (*do not agree at all*) to 8 (*agree completely*). Higher averaged scores on the global items indicated greater perceived quality of alternatives. This subscale showed good internal consistency ($\alpha = .82-.88$), convergent and discriminant validity in former work by the scale developers (Rusbult et al., 1998). This subscale also demonstrated good reliability in the current study at Time One ($\alpha = .91$) and at Time Two ($\alpha = .91$).

Investment

Investment refers to how much an individual has tangibly or intangibly put into their relationship and was measured by the five global items of the Investment Model scale (Rusbult et al., 1998). Five facet items were presented first to prime participants for the global items that followed. A sample global item is: "I have put a great deal into our relationship that I would lose if the relationship were to end." Responses fall on 9-point Likert scale ranging from 0 (*do not agree at all*) to 8 (*agree completely*). Greater investment in the romantic relationship was indicated by higher averaged scores on the global items. The Investment subscale has good internal consistency ($\alpha = .82-.84$; Rusbult et al., 1998). It also demonstrates good convergent and discriminant validity (Rusbult et al., 1998). This subscale demonstrated good reliability in the current study at Time One ($\alpha = .82$) and Time Two ($\alpha = .77$).

Commitment

The commitment subscale of the Investment Model scale (Rusbult et al., 1998) measures the long-term orientation that an individual has to his or her relationship. This scale consists of seven items such as "I want our relationship to last for a very long time" and "It is likely that I will date someone other than my partner within the next year" (reverse scored). Responses fell on a 9-point Likert scale ranging from 0 (*do not agree at all*) to 8 (*agree completely*). Scores were averaged with higher scores indicating greater commitment. This scale has demonstrated excellent internal consistency ($\alpha = .91-.95$) as well as good convergent, discriminant, and predictive validity (Bui et al., 1996; Impett et al., 2001; Rusbult et al., 1998; Tran et al., 2019). This subscale

demonstrated good reliability in the current study at Time One ($\alpha = .89$) and at Time Two ($\alpha = .87$).

Sexual Satisfaction

The Global Measure of Sexual Satisfaction (GMSEX; Lawrance et al., 2011) assesses self-reported global evaluations of the positive and negative aspects of, or satisfaction with, an individual's sexual relationship. Respondents were asked "In general, how would you describe your overall sexual relationship with your romantic partner?" Possible responses fall on five 7-point dimensions: Good-Bad, Pleasant-Unpleasant, Positive-Negative, Valuable-Worthless and Satisfying-Unsatisfying. Higher averaged scores reflect greater sexual satisfaction. The GMSEX has demonstrated high levels of internal consistency in previous research with individuals who were in long-term relationships ($\alpha = .96$), students ($\alpha = .90$), and community members ($\alpha = .96$; Byers, 2005; Lawrance & Byers, 1995). The GMSEX has good test-retest reliability at two-weeks ($r = .84$; Lawrance & Byers, 1995), three-months ($r = .78$), and 18-months ($r = .61$; Byers & MacNeil, 2006) and it has good construct validity (Lawrance et al., 2011). This subscale demonstrated good reliability in the current study at Time One ($\alpha = .94$) and Time Two ($\alpha = .96$).

Relationship Dissolution

At the four-month follow-up assessment, participants were asked whether they were still in the same relationship that they were in at the first assessment four months prior (*no/yes*).

Procedure

Ethics approval of all procedures relating to this program of research was obtained from both the Department of Psychology at the University of New Brunswick and from the Research Ethics Board at the University of New Brunswick. Crowdsourcing websites such as Mechanical Turk® and Prolific Academic ® allow researchers to collect data online quickly from workers who complete surveys online for pay (Buhrmester et al., 2011). Researchers advertise studies and participants are able to browse and choose to participate in surveys that are of interest to them. Study recruitment was also advertised online via social media (i.e., Facebook® on the research lab's webpage) and a snowball convenience sample was collected.

Those who viewed the study advertisement via crowdsourcing or social media (see Appendix A) were directed to a URL link on Checkbox®, a secure platform hosted on the University of New Brunswick server. Participants completed a brief screening questionnaire to ensure they met eligibility requirements (i.e., in a romantic relationship, between the ages of 22-35, attraction toward an alternative). Eligibility-related questions were embedded among irrelevant (filler) questions to disguise the eligibility requirements. Those who met eligibility requirements were redirected to the informed consent page (see Appendix B) and those who did not meet these requirements were redirected to a page that informs them of their non-eligible status and they were thanked for their interest (see Appendix D).

Eligible individuals directed to the informed consent were told of the purpose of the study and what participation involved (e.g., duration, requirements, benefits and risks), and provided contact information for the researchers. The informed consent emphasized the anonymity of participants' responses (see Appendix B for the informed consent page at Time One). They were informed that worker IDs and IP addresses would

be collected for data linking and cleaning purposes only. As dictated by the APA Advisory Group on the Conduct of Research with the Internet (Kraut et al., 1999), participants needed to indicate that they understood what participation involved and their rights as participants to proceed. In addition, participants were required to consent to participate, but were told that they were able to discontinue the survey at any point in time by exiting their browser.

After providing consent, participants were directed to the survey. To enhance validity of the data, several types of participant attention checks were embedded throughout the survey to capture random responding (DeSimone et al., 2015; Paas et al., 2018). Items included "Please choose strongly agree if you are paying attention" and "Please provide a brief summary of what this survey was about." These items were included in the surveys at both waves of data collection but at different points in the survey.

After completion of the survey at Time One, participants were asked if they would be interested in participating in a follow-up study (Appendix S). MTurk® workers (consisting of 55.4% of the total sample) who expressed interest were informed that they would be contacted via their email (via TurkPrime®) in four months to remind them of the study. Interested Prolific Academic® workers (31.4%) were also informed they would be contacted via their email using the Prolific Academic® portal. Social media participants (13.2%) who indicated interest in participating in follow-up studies were asked to provide their email address on a page disconnected from their survey results. Participants were informed that compensation would be provided to them at follow-up. Regardless of interest in follow-up, all participants were directed to a debriefing page (Appendix U) after completing the survey at Time One (T1A, T1B). The

Time One surveys at T1A and T1B took approximately 28 minutes and 15 minutes to complete, respectively.

At Time Two, four months later, MTurk® and Prolific Academic® workers who expressed interest in the follow-up were contacted via email (using the TurkPrime® platform or Prolific Academic® portal). Social media participants were emailed to inform them of the follow-up study. They viewed the consent form for Time Two (Appendix C) and provided consent before participating in the survey. Worker IDs were used to connect crowdsourced worker responses. The ID developed by social media participants was used to connect their responses across time.

The survey at Time Two took approximately 27 minutes to complete. After completing the survey, participants were directed to a debriefing page which informed them of the purpose of the study and provided resources for learning more about the topic (see Appendix U).

At Time One, participants were paid the equivalent of \$2.50 USD (T1A) and \$3.00 USD (T1B) which was deposited into their MTurk® user account, or Prolific Academic® user account (in GBP), in line with crowdsourcing standards for pay. Social media participants were paid via an Amazon.ca gift card at the same amount. To reduce participant attrition over time, participants were compensated with an increasing pay scheme (Galea & Tracey, 2007). Participants were paid the equivalent of \$4.00 USD to complete the survey at Time Two.

Data Screening and Conditioning

Data were screened and conditioned as per the procedures outlined by Tabachnick and Fidell (2013). There are also screening procedures relevant to the

collection of online data (DeSimone et al., 2015). Data were assessed for location and duplicate entries via IP address, attentiveness, and response patterns. IP addresses were examined to confirm that they were unique and from the US or Canada. Any data associated with duplicate IP addresses or IP addresses outside of the US or Canada were deleted ($n = 14$). Any participants who failed attention checks at Time One ($n = 109$) were not contacted for follow-up studies and their data were deleted. Anyone who was ineligible based on their responses to validity questions embedded within the survey (e.g., open relationship, having sex with the target of their attraction) were deleted ($n = 29$). However, those who failed attention checks after Time One data collection (i.e., T1A and T1B) and/or demonstrated low effort/attention response patterns were grouped and analyses were conducted to determine whether their inattentiveness and/or low effort influenced the results. The analyses were conducted with the inattentive group in the data set as well as removed from the data set. However, there were no statistical differences in the findings so the inattentive at follow-up group remained in the dataset.

A Missing Values Analysis (MVA) was conducted using SPSS to assess how much data were missing and to assess the pattern of missing data (e.g., Little's MCAR test). Missing data is considered acceptable if less than 5% of data are missing, and are missing at random (Tabachnick & Fidell, 2013). Less than 1% of the data was missing at random in each of the data sets; exploratory factor analysis data set: Little's missing completely at random test $X^2 = 30.50$, $df = 32$, $p = .54$; confirmatory factor analysis dataset: Little's missing completely at random test $X^2 = 1767.06$, $df = 1704$, $p = .14$). Given the low percentage of missing data, data were replaced via mean substitution. Participants who failed to complete more than 10% of the demographic measure, or measures assessing attention to an attractive alternative, relationship quality, and

infidelity measures were removed from the data ($n = 3$). After this, data were screened for outliers. Responses with standardized scores exceeding 3.29 ($p < .001$) that were disconnected from the dataset were considered univariate outliers (Tabachnick & Fidell, 2013). Outliers were identified for number of attractions reported toward someone other than one's romantic partner while in the current relationship, and the length of time knowing the primary attractive alternative. Twenty nine participants reported a number of attractions greater than 12. Thirty participants reported knowing their primary attractive alternative for longer than 168 months. Univariate outliers were recoded to become continuous with the other data while still maintaining their rank order (Tabachnick & Fidell, 2013). Recoding the mean number of attractive alternatives lowered the mean somewhat ($M_s = 3.65$ vs. 3.05) and standard deviation (5.99 vs. 2.83). Recoding the length of time having known one's primary attractive alternative lowered the mean slightly (40 months vs. 37.71 months) and standard deviation (53 months vs. 43.55 months). Mahalanobis distance was used to identify multivariate outliers ($n = 15$). Upon further examination of the data associated with the cases identified as multivariate outliers, it was evident that open-ended validity items (e.g., "Provide a brief summary of this study") contained nonsensical responses. As such, data from these participants were removed.

Normality was tested by examining histograms for evidence of non-normal distributions. Skew and kurtosis values for each variable were examined using significance testing. Any assumptions of normality that were violated were examined to determine if this non-normality was to be expected (e.g., negative skew for relationship quality indicating higher commitment). Variables that were negatively skewed (e.g., relationship satisfaction, commitment, investment) were expected to be skewed. As

such, these variables were not subject to transformation in line with the guidelines of Kline (2015). Multicollinearity was examined to ensure that variables are not too highly correlated. There were no concerns of multicollinearity. Linearity was assessed by examining the bivariate scatterplots for all combinations of variables. All bivariate scatterplots appeared oval in nature, suggesting linearity was not violated.

Descriptive Analyses

Descriptive analyses were used to characterize participants' backgrounds, traits, and experiences. Means and standard deviations were calculated for all variables. There were no differences between participants recruited from crowdsourcing or social media on primary variables of interest.

Research Questions and Hypothesis Testing

The alpha level was set at $p < .05$ for all analyses. An EFA and CFA were planned to establish a measure of intensity of attraction toward an attractive alternative (ATAA), and to establish an adapted measure of subjective opportunity. Given that the Attention to Alternatives scale had preliminary psychometric support, a confirmatory factor analysis was conducted to confirm factor structure. For scale adaptation and validation at Time One, approximately half of participants were randomly selected for the EFA, and the other half for the CFA (Devellis, 2016). A conservative estimate of the number needed to produce good estimates of psychometric properties was obtained by multiplying the initial number of inventory items by five (Lounsbury et al., 2006), which resulted in a recommended sample size of at least 85 participants. Scores on the ATAA were expected to be moderately positively correlated with attention to alternatives and perceived quality of alternatives. The complete list of initial items developed to assess

intensity of ATAA were included at Time One. EFA was conducted using approximately half of the Time One data to assess the potential multidimensional nature of the scales and the solution with the best fit was determined as per Tabachnick and Fidell's (2013) guidelines (i.e., examination of eigenvalues greater than one, scree plots, and parallel analysis). Factor loadings were examined to determine which items should be retained. Items with factor loadings less than .32 were considered for removal, as were items demonstrating cross-loading on multiple factors (i.e., more than .32 loading on at least two factors). Interpretability of factors was considered when making final decisions regarding item inclusion and removal. A CFA was conducted using the other half of the Time One sample to ensure that the factor structure was consistent. Using SPSS, participants who completed T1A and T1B data were randomized to belong in either the EFA or the CFA dataset. All those who completed only T1A data ($n = 113$) were included in the EFA dataset.

Using JASP® statistical software (JASP team, 2020), the factor structure determined by the EFA from one half of the sample was used to guide the models for the CFAs (Devellis, 2016). To finalize the scale, the factor loadings, the comparative fit index ($CFI > .95$), and Root Mean Square Error Approximation ($RMSEA < .05$) were examined for each measure. Reliability was examined using Cronbach alphas and validity was examined by exploring associations with related and unrelated measures.

Once these measures were validated, an extension of the Investment Model was used to explore whether attraction toward an alternative was linked to relationship commitment as well as to infidelity. The findings relating to the corresponding research questions are posted below.

RQ1: Is attention toward an attractive alternative linked to relationship commitment and ultimately relationship dissolution?

Path analyses were used to test the adequacy of model fit regarding the predictive value of attention to attractive alternatives, attraction intensity toward an attractive alternative, and objective and subjective opportunity to connect in conjunction with the Investment Model relationship quality constructs and sexual satisfaction. One model was tested to assess whether attention to an attractive alternative was linked to relationship commitment. These variables were used to predict changes in relationship commitment over four months, a key predictor of relationship longevity. Change scores (T1 minus T2) for Investment Model variables were entered into the model. An additional model using variables measured at Time One was used to predict relationship dissolution at follow-up. The hypothesized relationship patterns are outlined in Figure 2.

Path analyses based on the covariance matrix were conducted using JASP® (Rosseel, 2012). Covariances can be found above the diagonal in Table 8. Path analysis consists of model specification, model estimation, model evaluation, and model re-specification. A model is specified by identifying the structural model (i.e., associations between variables) and the measurement model (i.e., measured variables). A specified model must be over-justified, indicating that the number of parameters in the model is less than or equal to the number of observations (Norman & Streiner, 2003). The number of parameters is calculated by summing the number of exogenous variables (not predicted by other variables within the model), unconstrained paths (lines with arrows), covariances (correlations between variables), and unconstrained disturbance terms (error terms). The Results section will detail the measurement model, structural model, observations and parameters for each model.

Population parameters are estimated based on the specified model. The Diagonally Weighted Least Squares (DWLS) estimation method was used given the ordinal nature of some of the model outcome variables (i.e., breakup dissolution, infidelity). This procedure is in line with recommendations of Tabachnick and Fidell (2013). Each pathway was assigned a parameter that is similar to a beta weight in a regression. This parameter can be negative or positive, which indicates the direction of the association. Parameters also have corresponding significance values.

Model evaluation occurs by comparing the population parameters of the actual sample to the population parameters estimated using the DWLS method. As model fit improves, the hypothesized model more closely matches the patterns found in the data. Standard recommendations suggest assessing model fit using multiple indices (Kline, 2015): Chi-square (χ^2), Seiger-Lind Root Mean Square Error of Approximation (RMSEA), Bentler Comparative Fit Index (CFI) and Standardized Root Mean Square Residual (SRMR). A model has good fit if χ^2 is not significant, CFI is above 0.95, RMSEA is below .05 and SRMR is below 0.10. When a model has good fit, pathways between variables can be examined to test study hypotheses. Significance level for pathways was set at $p < .05$.

Once model fit is determined, modification indices (MI) are examined to identify pathways to add to potentially improve the model. Modification indices estimate the change in Chi-square value if proposed changes are made (i.e., pathways are added to the model), with larger MI values indicating greater improvement to model fit. Path analysis is primarily a confirmatory technique to test pre-determined theories based on the previous literature. As such, modifications should be considered carefully before implementing them in the model, as any changes need to be supported by theory. Model

re-specification can increase Type I error rate if changes are driven by empirical criteria such as statistical significance as opposed to theory. As such, only modifications supported by theory were made to the model.

RQ2: How is attention to an attractive alternative linked to infidelity?

In terms of predicting infidelity, path analyses were planned to test the adequacy of model fit regarding the predictive value of attention to attractive alternatives, attraction intensity as well as objective and subjective opportunity to connect with an attractive alternative in conjunction with the Investment Model relationship quality constructs and sexual satisfaction. The model was to be tested with (a) romantic infidelity as an outcome, (b) sexual infidelity as an outcome, and (c) romantic and/or sexual infidelity as an outcome.

CHAPTER 3: RESULTS

Sample Characteristics of Participants Randomized to the Exploratory Factor

Analysis and Confirmatory Factor Analysis

Characteristics for the samples used in the exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) are presented in Table 1. Overall, participants were on average 28.5 years of age and approximately half of participants identified as female. Similar to most online samples, they tended to be fairly well educated and most identified as White and heterosexual. There were no significant differences between the EFA and CFA samples.

Table 1

Demographic Characteristics Grouped by Sample

Sample	EFA N = 363	CFA N = 372
Age in years (Mean, SD)	28.53 (3.91)	28.81 (3.69)
Sex/Gender (%)		
Female	57.7	49.9
Male	40.6	47.2
Transgender female	0.3	0.3
Transgender male	0.3	0
Non-binary/Other	1.1	2.7
Sexual Orientation (%)		
Heterosexual	70.1	73.9
Mostly heterosexual	10.0	8.3
Lesbian	2.5	3.0
Gay	2.2	1.9
Bisexual	13.0	9.1
Other	2.2	3.9
Country		
Canada	15.8	16.8
United States	84.2	83.2
Ethnicity (%)		
Indigenous	1.1	2.4
Black	7.2	5.7
South Asian	5.0	3.5
Southwest Asian	2.8	1.6
Hispanic	7.5	5.4
Chinese	2.5	1.6
Filipino	1.9	2.2
White	68.7	74.9
Other	3.3	2.7
Education Level (%)		
Some high school	1.1	0.3
Completed high school	7.4	0.8
Some college or technical school	16.5	7.0
Completed college or technical school	13.9	16.9
Some university	3.7	4.0
Completed university	38.1	38.4
Some graduate school	6.0	5.4
Completed graduate school	13.4	14.2
Relationship Status (%)		
In a new/casual relationship with one person exclusively	0.6	1.6
Dating one person exclusively	32.1	27.8

Dating, more than one person	1.4	0.5
In a committed relationship with one person exclusively	62.6	68.5
In a committed relationship but also in a relationship with someone else	2.5	1.3
Other	0.8	0.3
Relationship duration in months (Mean, SD)	57.72 (44.26)	61.27 (44.88)

Note. EFA = exploratory factor analysis, CFA = confirmatory factor analysis. Those who reported they are dating more than one person or in a committed relationship but also in a relationship with someone else also noted having an exclusivity agreement in their primary relationship.

Attractive Alternative Sample Characteristics

The samples used for the EFA and CFA analysis were combined ($N = 735$) to provide sample characteristics of attractive alternatives as measured at Time One. Nearly half (46.9%) of participants reported that they and their partner had an understanding that they would not to be attracted to others during their relationship. Just under half (40.5%) reported that they did not have such an agreement, and 12.6% were unsure if they had this agreement in their relationship. Most participants reported having had an attraction toward one (36.5%), two (22.5%), or three (16.2%) attractive alternatives during their current relationship. A minority of participants reported attractions toward four (5.0%) to five individuals (8.2%), or six or more people (9.7%) while in their current relationship. The number of reported attractions was unrelated to whether someone reported a perceived agreement not to be attracted to others while in their relationship. As per the median, participants reported attractions toward approximately two other individuals ($M = 3.05$, $SD = 2.83$; $Range = 1-12$) while in their current relationship.

Participants also reported how many attractions they experienced toward someone other than their romantic partner at the time of the Time One assessment. A third (33.6%) of participants reported having an attraction to only one person, a fifth reported an attraction to two individuals (22.2%) and just under half (44.2%) reported an attraction to at least three individuals at the time of Time One assessment. For the following questions, participants were asked to respond while considering the individual to whom they were most attracted. Most participants reported that their partner was unaware of their attraction toward another person (66.1%). A small minority (20.5%)

indicated that their partner was aware, and 13.3% were unsure if their partner knew. Those who reported that they did not have an agreement regarding attraction to another were more likely to report that their partner was aware of their attraction (31.3%) compared to those who did have an agreement (14.4%), $X^2 = 45.90$, $df = 4$, $p < .001$.

Participants reported having known the targets of their attraction on average for 37.71 months ($SD = 43.55$, $Mdn = 24$, range = 1-168 months). They reported first meeting their attractive alternative at work (36.5%), school (17.3%), through a friend of a friend (21.5%), online (12.1%), or through other means (9.5%). Attractive alternatives were less often a member of their partner's family (2.2%) or an ex-partner (1.0%). Participants reported having an attraction toward their attractive alternative for 30.4 months on average ($SD = 46.86$, $Mdn = 12$). When asked how they would describe the nature of their relationship with their attractive alternative, participants classified them as acquaintances (27.9%), casual friends (37.1%), close friends (12.3%), online friends (7.1%), strangers (3.4%), past romantic/sexual partners (6.8%), best friends (2.0%) or other (2.7%). Most (60.5%) lived in same city as their attractive alternative. Most participants (75.3%) were already in their current relationship when their current attraction toward their attractive alternative began. Just under one-quarter (23.2%) of participants had communicated their interest to their attractive alternative. Regarding attraction reciprocity, a majority (56.4%) were unsure if their attractive alternative was also attracted to them. One-third (33.0%) believed that their attraction was mutual, and a minority (10.6%) reported that their attraction was not mutual.

Participants responded to a number of questions to understand the potential implications of this attraction for their primary relationship. The majority (65.0%) of participants felt as though this attraction was not problematic for their primary

relationship, 15.6% were unsure, and 19.4% perceived this attraction to be possibly problematic for their relationship. Accordingly, half (56.1%) of participants noted that there was no need for the attraction toward this individual to change. However, one-third (32.1%) of participants wanted their attraction to attenuate to prevent them from connecting with their attractive alternative, and a small minority (11.8%) wanted their attraction to intensify so they could connect romantically and/or sexually with their attractive alternative. On average, most participants disagreed that they would leave their romantic partner for their attractive alternative if the opportunity presented itself [$M = 1.89$, $SD = 1.42$; 1 (*strongly disagree*) to 7 (*strongly agree*)].

Most participants (88.4%) had not had sexual intercourse with their attractive alternative (those who reported they had, were not currently doing so, as per study inclusion criteria). Almost half (46.2%) of participants wished to some degree that they could engage in sexual activity with their attractive alternative. One-quarter (24.9%) agreed to some degree that they would have sex with their attractive alternative if they knew that their partner would never find out. Just under one-third of participants reported never (17.8%) or very seldomly (18.9%) having sexual fantasies involving their attractive alternative. Of those who indicated fantasizing, approximately one-third (31.7%) reported having sexual fantasies every two weeks to once every two to three months, one-quarter (24.9%) reported having had sexual fantasies involving their attractive alternative once a week to several times per week, and a small minority (6.7%) reported daily or near daily fantasy.

Regarding interactions with one's attractive alternative, less than half of participants (46.7%) never or very seldomly intentionally went out of their way to talk to their attractive alternative and two-thirds (61.8%) never or very seldomly intentionally

spent time with their attractive alternative. Approximately one-quarter intentionally talked to (26.6%) or spent time with (26.2%) their attractive alternative once every two weeks to once every two to three months. A smaller minority reported that they intentionally talked to (20.0%) or spent time with (10.4%) their attractive alternative once a week to several times a week, with the smallest percentage reporting daily, or nearly daily, conversation (6.7%) or time spent (1.6%) with their attractive alternative. See Table 2 for more detailed information.

Table 2

Frequency of Intentional Interaction with Attractive Alternative (AA)

Frequency	Intentionally Talked to AA (%)	Intentionally Spent Time with AA (%)
Never	26.7	45.1
Very seldom	20.0	16.7
About once every 2-3 months	9.3	10.8
About once a month	8.0	8.3
About once every two weeks	9.3	7.1
About once a week	9.4	5.1
Several times per week	10.6	5.3
Nearly every day	4.8	0.8
At least once a day	1.9	0.8

Note. $N_s = 723 - 725$.

Attraction Measure Development

Item Development

An initial draft of items was developed by the author after reviewing all relevant research and theory. Items were then reviewed, refined, and modified by the author to a working list of ten preliminary items to assess attraction. Next, four experts in human sexuality research were provided with the definition of an attractive alternative, namely an attraction to someone other than one's romantic partner (i.e., someone who may be well known or not, someone who may know you are attracted to them or not, someone who you may have feelings for, flirted with, but have not attempted to connect with romantically or sexually). They were informed that the measure was intended to capture the degree of attraction a respondent experienced toward someone other than their romantic partner. They rated each item on a four-point scale based in terms of item representativeness [(1 (*not representative*) to 4 (*representative*))] and clarity [(1 (*not clear*) to 4 (*clear*))]. In response to experts and to improve item representative or clarity, three items were revised and four items were removed resulting in a final scale of six items.

Exploratory Factor Analysis

To determine the factor structure of the Attraction Toward an Attractive Alternative scale, EFA was conducted using a robust maximum likelihood procedure and oblimin rotation, as recommended by Sakaluk and Short (2017). The initial unrotated factor structure was used to estimate whether items comprised a unified factor, the presence of outliers, and the absence of multicollinearity (Tabachnick & Fidell, 2013). An EFA was determined to be appropriate as per Bartlett's test of sphericity ($X^2 =$

847.07, $df = 15$, $p < .001$) and the Kaiser-Meyer-Okin measure of sampling adequacy (KMO = 0.85), which indicated that the main sample differed significantly from an identity matrix. We also examined the anti-image correlation matrix to examine the factorability of the items, which indicated that all items exceeded the recommended cut-off of 0.5 (Tabachnick & Fidell, 2013).

To establish whether items comprised a unified factor or more than one factor, Kaiser's rule (eigenvalue greater than 1), a scree plot, and output from the Monte Carlo principal components analysis for parallel analysis software were considered. A one-factor solution, which explained 56.17% of the original variance, emerged as the best solution as indicated by the eigenvalues, leveling off of the scree plot after one factor, and parallel analysis. One item was removed after: a) examination of the correlation matrix indicated low correlations with other items (below 0.3), and b) failure to meet a minimum criterion of a primary factor loading of 0.4 or above. The item (how physically attractive do you find [attractive alternative initials]) had a factor loading of 0.28, communality of 0.08, and $M = 7.48$, $SD = 1.21$. The final maximum likelihood EFA consisted of five items. This final solution explained 65.44% of the variance (see Table 3). The internal consistency of the final five items of the Attraction Toward an Attractive Alternative (ATAA) scale was examined using Cronbach's alpha and was found to be good ($\alpha = .86$).

Table 3

Factor Loadings from Exploratory Factor Analysis and Descriptive Statistics for Attraction Toward an Alternative Scale

Items	Factor Loadings	Communalities	Mean(SD)
1. How much time do you spend thinking about [attractive alternative initials]?	0.82	0.67	4.35(2.00)
2. How much excitement or happiness does [attractive alternative initials] make you feel?	0.75	0.57	5.98(1.91)
3. How much flirting occurs between you and [attractive alternative initials]?	0.72	0.52	4.22(2.49)
4. How much would you like to be physically intimate (e.g., kissing, touching, sexual activity) with [attractive alternative initials]?	0.69	0.48	4.85(2.85)
5. How much would you like to be emotionally intimate (e.g., share feelings or personal information, seek support) with [attractive alternative initials]?	0.78	0.62	4.72(2.65)

Note. $N = 363$.

Confirmatory Factor Analysis

A CFA using JASP® software was used to replicate and confirm the factor structure of the ATAA scale established in Study 1. JASP's CFA module is based on Laavan (Rosseel, 2012). Model fit was assessed via comparative fit index (CFI), root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR; Tabachnick & Fidell, 2013). The model fit was good based on the following fit indices: $X^2 = 13.32$, $df = 5$, $p = .021$, $CFI = .99$, and $SRMR = .02$. Fit according to $RMSEA = .07$ was poor. The original model was retained as examination of the modification indices did not reveal significant changes. Standardized factor loadings were as follows: How much time do you spend thinking about [your attractive alternative]? (0.74); How much flirting occurs between you and [your attractive alternative]? (0.63); How much would you like to be emotionally intimate (e.g., share feelings or personal information, seek support) with [your attractive alternative]? (0.75); How much would you like to be physically intimate (e.g., kissing, touching, sexual activity) with [your attractive alternative]? (0.64); How much excitement or happiness does [your attractive alternative] make you feel? (0.71). The internal consistency of items was good ($\alpha = 0.82$). Thus, this measure appears to have successfully captured attraction toward an attractive alternative and was subsequently incorporated into this research.

Adaptation of the Subjective Opportunity Measure

A previously developed scale of subjective opportunity (Peterman, 2008) was adapted for use in this study. A EFA and CFA were conducted to confirm the factor structure of the modified measure.

Item Development

The original Extradyadic Opportunity scale (Peterman, 2008) consists of five items assessing perceived opportunity to connect with an "attractive acquaintance." Most items refer to opportunities for physical intimacy and additional items were added to capture opportunities to connect romantically/emotionally, given that emotional connection is a component of romantic infidelity (two items were removed as they were too broad for use with respect to a specific attractive alternative). An additional emotional intimacy item was added ("I could be emotionally intimate with [attractive alternative initials] without my partner ever finding out") and two items were added that captured perceived attractive alternative advances toward the participant, resulting in six items discussed below. Items were rated as representative and clear by experts in relationship research and retained for EFA and CFA.

Exploratory Factor Analysis

To determine the factor structure of the Subjective Opportunity scale, EFA was conducted using procedures noted earlier for the ATAA. An EFA was deemed appropriate as per Bartlett's test of sphericity ($X^2 = 1033.81$, $df = 15$, $p < .001$) and the Kaiser-Meyer-Olkin measure of sampling adequacy ($KMO = 0.76$). The anti-image correlation matrix was examined and all items exceeded the recommended cut-off of 0.5 (Tabachnick & Fidell, 2013).

A one-factor solution, which explained 58.39% of the original variance, emerged as the best solution as indicated by the eigenvalues, leveling off of the scree plot after one factor, and parallel analysis. All items were retained. The final maximum likelihood

EFA consisted of six items (see Table 4) and the internal consistency was found to be good ($\alpha = .84$).

Table 4

Factor Loadings from Exploratory Factor Analysis and Descriptive Statistics for Subjective Opportunity Scale

Items	Factor Loadings	Communalities	Mean(SD)
1. I think [attractive alternative initials] wants to be physically intimate with me	0.76	0.58	2.98(1.41)
2. I think [attractive alternative initials] wants to be emotionally intimate with me	0.74	0.49	3.01(1.33)
3. If I wanted, I could easily be emotionally intimate with [attractive alternative initials]	0.72	0.49	2.84(1.49)
4. If I wanted, I could easily be physically intimate with [attractive alternative initials]	0.70	0.52	3.27(1.42)
5. [Attractive alternative initials] regularly makes romantic advances (e.g., asks me on a date, gives me detailed compliments) toward me	0.70	0.55	1.93(1.19)
6. [Attractive alternative initials] regularly makes sexual advances (e.g., tries to kiss me, touches me, stares into my eyes) toward me	0.62	0.39	1.72(1.11)

Note. $N = 363$.

Confirmatory Factor Analysis

A CFA using JASP® software confirmed the one-factor structure of the modified Subjective Opportunity scale. Similar items were allowed to correlate due to a similar themes in question type (i.e., emotional intimacy). The model fit was excellent as per all fit indices, $X^2 = 1.73$, $df = 2$, $p = .42$, $CFI = 1.00$, $SRMR = .01$, and $RMSEA < .001$. Standardized factor loadings were as follows: I think [attractive alternative initials] wants to be physically intimate with me (0.92); I think [attractive alternative initials] wants to be emotionally intimate with me (0.48); If I wanted, I could easily be emotionally intimate with [attractive alternative initials] (0.70); If I wanted, I could easily be physically intimate with [attractive alternative initials] (0.46); [Attractive alternative initials] regularly makes romantic advances (e.g., asks me on a date, gives me detailed compliments) toward me (0.66); [Attractive alternative initials] regularly makes sexual advances (e.g., tries to kiss me, touches me, stares into my eyes) toward me (0.54). The internal consistency of items was good ($\alpha = 0.86$). Therefore, this measure was retained, and these analyses constitute additional psychometric support for this measure of subjective opportunity.

Attention to Alternatives Measure Validation

A previously developed scale of attention to alternatives was used in this study (Miller et al., 2010). A CFA was used to confirm the three-factor structure of the Attention to Alternatives Measure (Miller et al., 2010) given the novelty of this measure.

Confirmatory Factor Analysis

A CFA using JASP® software confirmed the factor structure of the Attention to Alternatives scale (Miller et al., 2010). A three-factor model was tested (active prowling,

passive awareness, wilful disinterest) and items on each factor were allowed to correlate with one another. The model fit was poor, $X^2 = 539.64$, $df = 202$, $p < .001$, $CFI = .93$, $SRMR = .09$, and $RMSEA = .07$. Modification indices highlighted that one item from the wilful disinterest subscale ("When I'm dating someone, I do not check out other people") cross-loaded onto Passive Awareness ($MI = 47.12$). As a result, this item was deleted. This modification resulted in adequate model fit, $X^2 = 423.79$, $df = 183$, $p < .001$, $CFI = .95$, $SRMR = .08$, and $RMSEA = .06$. However, modification indices suggested that an additional item ["I think about my partner too much to notice other members of the sex(es) I am attracted to"] cross-loaded onto both Passive Awareness ($MI = 31.56$) and Active Prowling ($MI = 28.55$). As such, this item also was removed from the CFA. This modification resulted in a model with good fit, $X^2 = 334.35$, $df = 166$, $p < .001$, $CFI = .956$, $SRMR = .07$, and $RMSEA = .05$. See Table 5 for standardized factor loadings. The internal consistency of the items was adequate to excellent for each subscale: Active Prowling ($\alpha = 0.88$), Passive Awareness ($\alpha = 0.94$), and Willful Disinterest ($\alpha = 0.79$). In sum, this measure appears to successfully capture three distinct facets of attention to alternatives.

Table 5

Maximum Likelihood Estimates for a Three-Factor Model of the Attention to Alternatives Scale

Items	<i>B</i>	<i>SE</i>	β	Mean(<i>SD</i>)
Active Prowling				1.60(0.68)
1. When I go out without my partner, I usually pretend that I am single.	0.48	0.052	0.64	1.37(0.74)
2. I like to be aware of whom I could date other than my current partner.	0.78	0.056	0.74	1.89(1.06)
3. I'd like to be asked to dinner by someone new.	0.69	0.061	0.65	1.81(1.08)
4. I never pass up a chance to meet attractive new partners.	0.61	0.059	0.61	1.82(1.00)
5. I'm always on the prowl for an exciting new relationship.	0.51	0.056	0.66	1.41(0.79)
6. If my relationship were to end, I know who my next partner would be.	0.51	0.065	0.54	1.58(0.96)
7. I sometimes pretend to be single when I'm already dating someone.	0.58	0.058	0.70	1.45(0.84)
8. I'm always looking for new romantic partners even when I'm already in a relationship.	0.66	0.058	0.76	1.42(0.86)
Passive Awareness				3.69(0.95)
9. Good-looking people of the sex(es) I am attracted to always catch my attention.	0.88	0.048	0.78	3.51(1.13)
10. There is no harm in looking at hot people of the sex(es) I'm attracted to when they walk by.	0.78	0.052	0.72	3.83(1.09)
11. I believe it's okay to look as long as I don't touch.	0.79	0.056	0.73	3.85(1.09)
12. I see no harm in appreciating good looks in members of the sex(es) I'm attracted to.	0.74	0.055	0.71	4.05(1.05)
13. I always notice attractive people of the sex(es) I'm attracted to at social gatherings.	1.01	0.045	0.89	3.65(1.32)
14. When attractive people of the sex(es) I'm attracted to walk by, they grab my attention.	1.06	0.042	0.91	3.46(1.16)
15. I can't help but notice when attractive members of the sex(es) I'm attracted to are around.	1.06	0.041	0.89	3.51(1.19)
Willful Disinterest				3.50(0.81)
16. When I'm in a relationship, other possible partners do not interest me.	0.70	0.067	0.54	3.41(1.29)
17. There's no point in looking around because I will never find someone better than my current partner.	0.71	0.059	0.59	3.52(1.20)
18. I try not to think of anyone but my romantic partner in a romantic way.	0.80	0.060	0.68	3.70(1.18)

19. I cannot imagine myself with anyone other than my current partner.	0.94	0.057	0.74	3.49(1.28)
20. My partner has my undivided attention.	0.77	0.047	0.72	3.57(1.06)
21. I'm always aware that there are a lot of other romantic partners who are available to me.	0.43	0.066	0.39	3.35(1.11)
<i>(Reversed)</i>				

Note. $N = 372$. Two items have been removed from the original scale and are not presented in this table.

Validity of Attraction Toward an Attractive Alternative Scale

To establish validity of the Attraction Toward an Attractive Alternative scale (ATAA), participants' scores on this measure were compared to participants' scores on the measures of alternatives and perceived quality of alternatives. The literature suggests that attraction intensity should be positively correlated with active prowling, passive awareness, and negative correlated with willful disinterest (Miller, 2008; 2010). Attraction intensity was also expected to be positively correlated with perceived quality of alternatives as Miller (2008) has found that attention to alternatives was correlated with perceived quality of alternatives. The literature also indicates that attraction is often associated with increased interaction with the target of one's attraction (Montoya & Horton, 2014). As such, I examined whether attraction intensity predicted such interactions (called behavioural affiliation below). Attraction intensity was correlated with attention to alternatives, perceived quality of alternatives, and behavioural affiliation in the expected directions. See Table 6 for correlations among variables. Thus, this measure appears to successfully capture attraction toward an attractive alternative and demonstrates good reliability and validity.

Table 6

Descriptive Statistics and Correlations between Variables

Variables	M(SD)	α	1	2	3	4	5	6	7
1. ATAA	4.58(1.79)	.83	-						
2. AP	1.60(.68)	.88	.41**	-					
3. PA	3.69(2.47)	.94	.13*	.20**	-				
4. WD	3.33(.80)	.83	-.34**	-.50**	-.44**	-			
5. QAlt	4.26(1.92)	.88	.41**	.55**	.31**	-.60**	-		
6. Talk	3.60(2.47)	-	.53**	.24**	-.04	-.11*	.19**	-	
7. Time	2.57(2.04)	-	.43**	.25**	-.12*	-.10	.18**	.62**	-

Note. $N = 372$. * $p < .05$. ** $p < .01$. ATAA=Attraction Toward an Attractive Alternative, AP = Active Prowling, PA = Passive Awareness, WD = Willful Disinterest, QAlt = Quality of Alternatives, Talk = Frequency of Intentional Talking to Attractive Alternative, Time = Frequency of Intentional Spending Time with Attractive Alternative.

Sample Characteristics of Longitudinal Study

Sample characteristics for the sample used to test the model are presented in Table 6. A total of 386 participants (62.1% response rate) who completed Time One (T1A and T1B) also completed the follow-up survey four months later (Time Two). Of note, the responders and non-responders did not significantly differ on demographic variables, such as gender, sexual orientation, age, relationship status, and relationship length.

Table 7

Sample Characteristics of Sample Used for Longitudinal Study

Sample	%
Age in years (Mean, SD)	28.79 (3.72)
Sex/Gender	
Female	56.4
Male	42.6
Transgender female	0.0
Transgender male	0.0
Non-binary/Other	1.0
Sexual Orientation	
Heterosexual	72.8
Mostly heterosexual	9.8
Lesbian	2.3
Gay	1.6
Bisexual	11.7
Other	0.6
Ethnicity	
Indigenous	0.3
Black	4.9
South Asian	3.6
Southwest Asian	2.1
Hispanic	6.7
Chinese	3.4
Filipino	1.0
White	74.9
Other	3.1
Education Level	
Some high school	0.3
Completed high school	8.0
Some college or technical school	17.4
Completed college or technical school	13.5
Some university	2.6
Completed university	38.3
Some graduate school	6.0
Completed graduate school	14.0
Relationship Status	
In a new/casual relationship with one person exclusively	1.0
Dating one person exclusively	28.2
Dating, more than one person	0.0
In a committed relationship with one person exclusively	69.9
In a committed relationship but in a relationship with someone else	0.8
Relationship duration in months (Mean, SD)	60.49 (42.99)

Note. $N = 386$.

Relationship and Attractive Alternative Sample Characteristics Across Time

Of those who completed Time Two four months later, most (87.8%) were still in the same primary relationship as at the Time One. Just over one-third of participants (38.6%) reported that they were still most attracted to the same attractive alternative to whom they were most attracted four months prior. Less than half (42.2%) were no longer most attracted to this individual, and a minority (19.2%) could not recall who they reported was the target of their attraction at the Time One assessment four months prior.

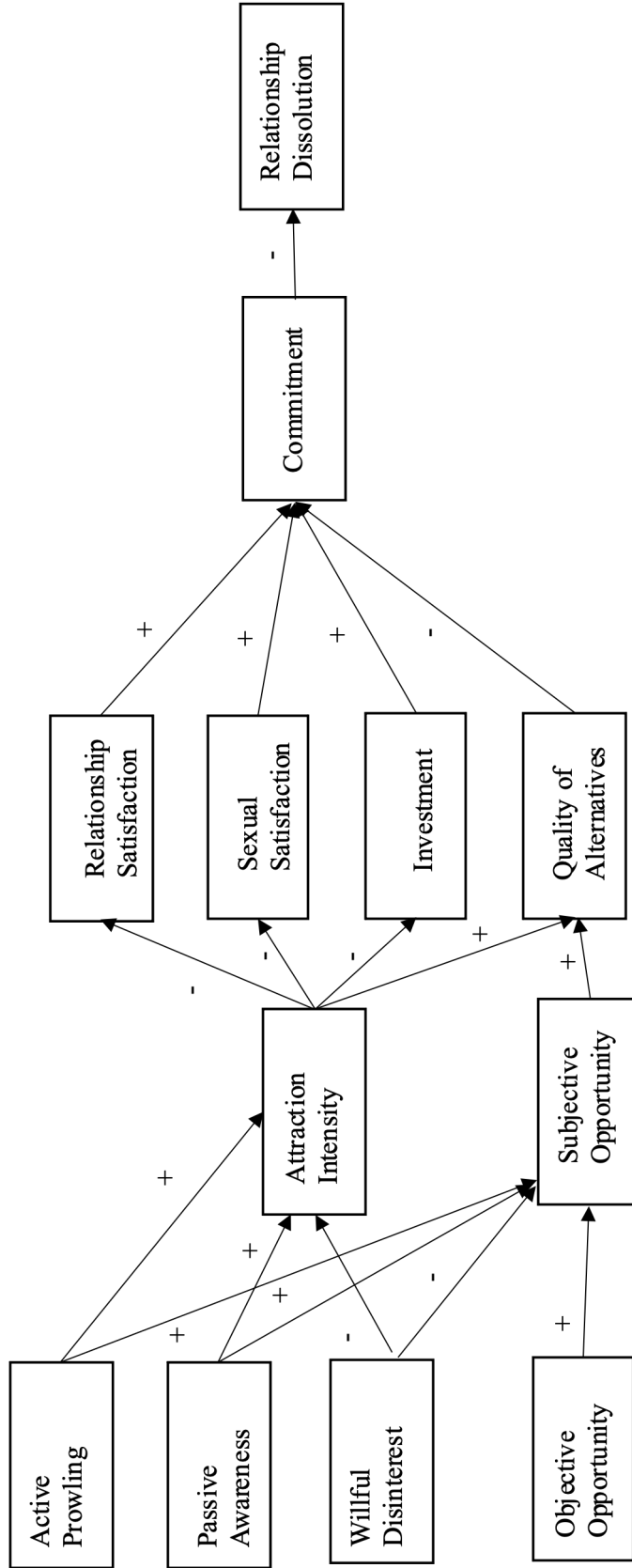
Of those who could recall to whom they were attracted four months prior, very few (4.7%) participants reported engaging romantically and/or sexually with the target of their attraction within the four-month period between Time One and follow-up at Time Two. However, when asked, many (47.7%) expressed a desire to engage sexually and/or romantically but there was no opportunity to do so.

RQ1: Is attention toward an attractive alternative linked to relationship commitment and ultimately relationship dissolution?

A path analysis was used to address Research Question One. The measurement model included 14 variables: attention to alternatives (active prowling, passive awareness, willful disinterest), attraction intensity, opportunity (objective and subjective), the Investment Model variables (relationship satisfaction, perceived quality of alternatives, investment, commitment), sexual satisfaction, and relationship dissolution. This model can be found in Figure 4. Based on previous research, it was expected that relationship satisfaction, quality of alternatives, and investment would be correlated. Accordingly, covariance between these error terms was specified in the

model. Sexual satisfaction was also expected to be correlated with the investment model variables and covariance between these error terms was also specified in the model.

Figure 4: The proposed associations between dimensions of relationship quality (as specified by the Investment Model) and sexual satisfaction, attention to alternatives, attraction intensity, opportunity, and relationship dissolution at time two.



Bivariate correlations among all variables were examined prior to path analysis (see Table 8). Bivariate correlations provided initial support for the proposed model. Active prowling and passive awareness were positively correlated with attraction intensity as expected. Greater willful disinterest was negatively correlated with attraction intensity as anticipated. Objective opportunity was positively correlated with subjective opportunity as predicted. Subjective opportunity was positively correlated with attraction intensity. Subjective opportunity was positively correlated with perceived quality of alternatives. Attraction intensity was most strongly positively associated with perceived quality of alternatives, consistent with expectation. Attraction intensity was also positively correlated with perceived quality of alternatives and negatively correlated with sexual satisfaction, relationship satisfaction, and investment. Although not anticipated, attraction intensity was strongly positively correlated with subjective opportunity. Sexual satisfaction, relationship satisfaction and investment were positively correlated with commitment, and perceived quality of alternatives was negatively correlated with commitment. Commitment was negatively correlated with relationship dissolution four months later as predicted. A small minority (12.2%) of participants reported relationship dissolution four months later.

Table 8

Correlations and Covariances between Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1. AP	-	.14	-.31	.17	.20	.50	-5.56	-.31	-.31	.67	-.53	.05	.06
2. PA	.22**	-	-.24	.03	.05	.31	-1.18	-.08	-.03	.55	-.12	-.01	.07
3. WD	-.58**	-.31**	-	-.12	-.17	-.60	7.38	.46	.53	-.90	-.12	-.03	.07
4. OO	.16**	.02	-.09	-	.90	.99	-1.25	-.09	-.04	.47	-.21	.02	-.04
5. SO	.31**	.05	-.21**	.56**	-	1.04	-1.86	-.10	-.26	.56	-.30	.04	.02
6. ATAA	.42**	.18**	-.40**	.33**	.57**	-	-6.97	-.43	-.40	1.55	-.79	.08	.16
7. RSAT	-.43**	-.08	.56**	-.05	-.12*	-.23**	-	14.73	12.48	-12.57	15.11	-.85	-.90
8. SSAT	-.40**	-.07	.46**	-.05	-.08	-.19**	.74**	-	.62	-.82	.83	.04	-.06
9. INV	-.32**	-.02	.44**	-.02	-.15**	-.15**	.52**	.34**	-	-.90	1.05	-.12	.01
10. QALT	.54**	.31**	-.57**	.15**	.30**	.45**	-.41**	-.36**	-.32**	-	-1.23	.10	.05
11. COMM	-.60**	-.10	.58**	-.10	-.32**	-.32**	.69**	.51**	.52**	-.48**	-	-.15	-.07
12. RD	.22**	-.02	-.01	.04	.11*	.13**	-.16**	-.10	-.24**	.16**	-.33**	-	.04
13. DES	.27**	.18*	.15*	-.07	.06	-.24**	-.15*	-.14	.01	.07	-.13	.28*	-

Note. $N = 186-386$. $*p < .05$. $**p < .01$. Correlations are presented below the diagonal. Covariances are presented above the diagonal. AP = Active Prowling, PA = Passive Awareness, WD = Willful Disinterest, OO = Objective Opportunity, SO = Subjective Opportunity, ATAA=Attraction Toward an Attractive Alternative, RSAT = Relationship Satisfaction, SSAT = Sexual Satisfaction, INV = Investment, QALT = Quality of Alternatives, COMM = Commitment, RD = Relationship Dissolution, DES = Desire to Engage in Infidelity

Overall, the Model to address RQ1 (see Figure 4) , which tested the associations between attention to alternatives (active prowling, passive awareness, willful disinterest), opportunity (objective and subjective), attraction intensity, as well as relationship quality at Time One, and relationship dissolution at Time Two, had poor fit, $\chi^2(40) = 253.98, p < .001, CFI = .90, RMSEA = .12, SRMR = 0.10$. Due to poor model fit, modification indices were examined to determine whether the addition of any pathways would improve model fit. Examination of significant modification indices suggested several additional pathways: relationship satisfaction \rightarrow attraction intensity (MI = 67.11), commitment \rightarrow attraction intensity (MI = 66.56), sexual satisfaction \rightarrow attraction intensity (MI = 48.91), investment to attraction intensity (MI = 45.25), subjective opportunity \rightarrow attraction intensity (MI = 39.29), and objective opportunity \rightarrow attraction intensity (MI = 35.26). Careful consideration was given to the possibility of including these pathways. Path analysis primarily tests theory and the risk of committing Type I error increases with post-hoc changes to the model, particularly if these changes are only empirically justified. As such, modifications typically only occur when supported by previous research and existing theory (Kline 2015; Ullman 2007). Although there is no previous research to suggest that commitment and satisfaction predict attraction intensity specifically, previous research by Miller (2008) suggests an association between attention to alternatives and commitment and satisfaction. However, adding these pathways would be inconsistent with our working hypothesis that attraction intensity drives changes in relationship quality factors (as compared to the opposite). As such, these modifications from relationship quality variables to attraction intensity were not made.

However, after consideration of the attraction literature, a pathway was included from subjective opportunity → attraction intensity. Subjective opportunity captures perceptions that one's attractive alternative reciprocates the attraction (which would be necessary for these attractions to progress further to actual romantic and/or sexual involvement). Research has demonstrated that people tend to like those who like them (reciprocal attraction; Luo & Zhang, 2009; Ossorio & Davis, 1966). Although subjective opportunity does not capture whether the attraction is truly reciprocated, it captures the perception by participants that the attraction is reciprocated. Although this addition improved model fit, model fit remained poor, $X^2(39) = 212.75, p < .001, CFI = .92, RMSEA = .11, SRMR = 0.09$. The same modification indices were suggested as before as a result of this analysis; these changes were not made as they were not consistent with theory.

Given that the specified model did not fit, the original model was reconsidered as recommended (Kline, 2015) after revisiting and updating the literature. To that end, the model was simplified to include only passive awareness of the attention to alternative facets. Those with traits of passive awareness notice attractive alternatives but not actively pursue nor actively avoid, and perceive this behaviour to be acceptable as long as there is no involvement with the attractive alternative. This facet aligns most closely with the guiding conceptualization of attraction toward an alternative: someone to whom you are attracted but you have not yet connected with romantically or sexually (and may never). Active prowlers, however, are constantly aware of and seeking out connection with attractive alternatives. Those who are wilfully disinterested actively resist paying attention or noticing attractive alternatives. Thus, this model conceptually fits best with those who are passively aware of attractive alternatives.

The model was run again including attention to alternatives (in the form of passive awareness), attraction intensity, opportunity (objective and subjective), the Investment Model variables (relationship satisfaction, investment, perceived quality of alternatives, commitment), sexual satisfaction, and relationship dissolution. The pathway from subjective opportunity → attraction intensity was also included. This model had good fit across all fit indices, $X^2(24) = 31.28$, $p = .15$, CFI = .99, RMSEA = .03, SRMR = 0.04. Examination of significant modification indices suggested several additional pathways: passive awareness → quality of alternatives (MI = 16.98) and quality of alternatives ← → attraction intensity (MI = 16.98). After consideration of the literature, a pathway was included from passive awareness to perceived quality of alternatives. Although I had conceptualized that passive awareness would be linked to quality of alternatives via attraction intensity, it is also likely that passive awareness in general increases one's perception of the quality of alternatives to one's relationship. Attending to a greater number of alternatives likely is directly linked to perceived quality of alternatives as there is greater opportunity to come across a "superior" alternative that is perceived to be available or attainable. This revised model (including passive awareness, attraction intensity, opportunity, the Investment Model variables, sexual satisfaction, and relationship dissolution as well as pathways between subjective opportunity → attraction intensity, passive awareness → perceived quality of alternatives) demonstrated excellent fit based on all fit indices, $X^2(23) = 14.19$, $p = .92$, CFI = 1.00, RMSEA < .001, SRMR = 0.03. Examination of modification indices did not suggest further addition of pathways. All path coefficients were significant ($p < .001$) and in the expected directions except for sexual satisfaction → commitment ($p = .17$), passive awareness → subjective opportunity ($p = .29$), and subjective opportunity → perceived quality of alternatives (p

= .32). Ultimately, Hypotheses 1, 3, 4, 6, and 7 were supported. Diagonally weighted least squares estimates for all pathways are presented in Table 9. Overall, this model demonstrates that greater passive awareness of attention to alternatives is linked to greater attraction toward an alternative. Although it was conceptualized that passive awareness would be linked to perceived quality of alternatives through attraction intensity, this model suggests that passive awareness is also directly associated with perceived quality of alternatives. Objective opportunity to connect with an alternative is associated with increased subjective opportunity, which also is positively associated with greater attraction toward an alternative. Greater attraction is associated with poorer relationship quality, and ultimately poorer commitment and relationship breakup, highlighting the importance of attraction intensity in particular in relationship longevity. Supplementary analyses examined fit for gender; there were no significant differences. Supplementary analyses examined alternate pathways containing either only active prowling or willful disinterest and these models did not fit.

Figure 5: Path analysis examining the association between passive awareness, attraction intensity, attraction intensity, and the Investment Model at time one, and relationship dissolution at time two.

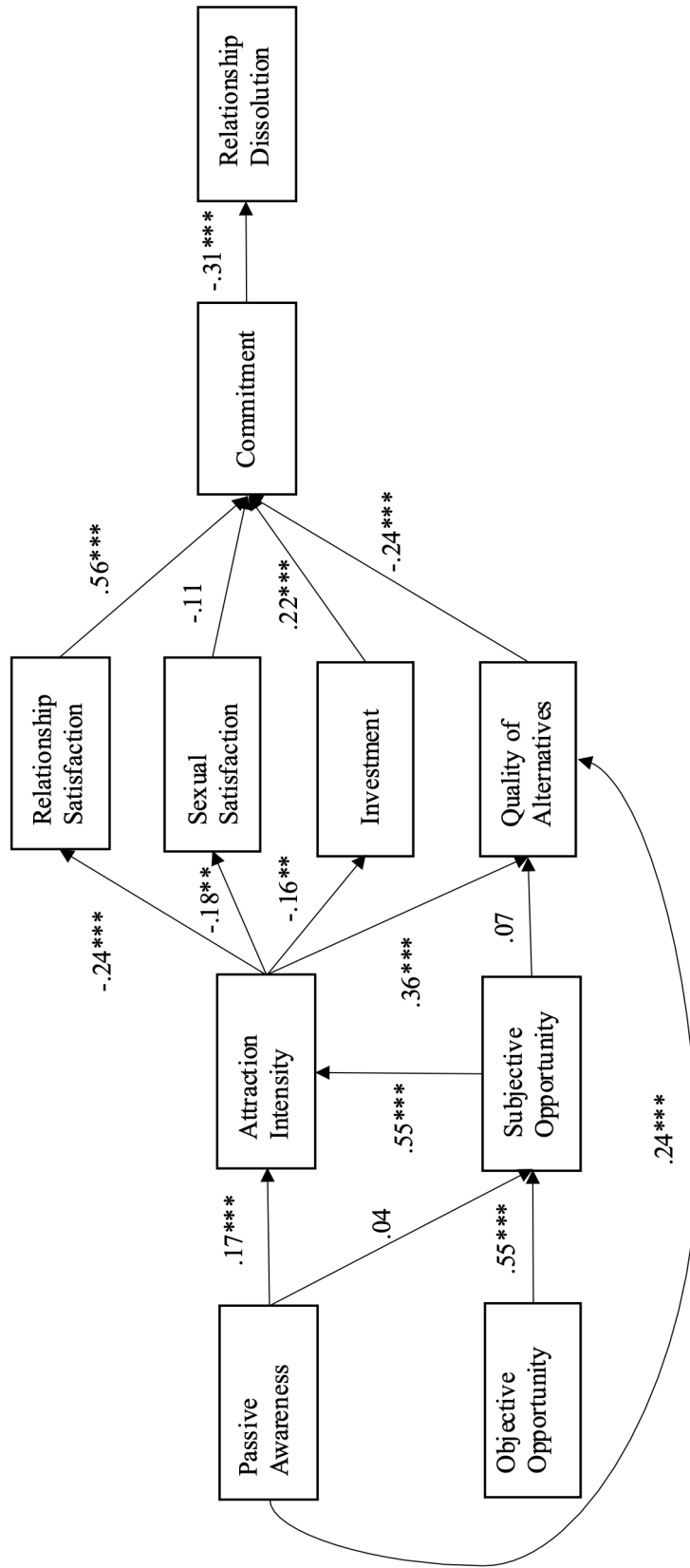


Table 9

*Diagonally Least Weighted Squares Estimates for a Path Model of Relationship**Dissolution*

Parameter	<i>B</i>	<i>SE</i>	β
Direct Effects			
Passive Awareness → Attraction	0.32***	0.90	0.17
Passive Awareness → Subjective Opportunity	0.05	0.04	0.04
Passive Awareness → Quality of Alternatives	0.47***	0.09	0.24
Subjective Opportunity → Attraction	1.03***	0.09	0.55
Objective Opportunity → Subjective Opportunity	0.33***	0.03	0.55
Subjective Opportunity → Quality of Alternatives	0.12	0.12	0.07
Attraction → Satisfaction	-2.11***	0.54	-0.24
Attraction → Sexual Satisfaction	-0.12**	0.04	-0.18
Attraction → Investment	-0.13**	0.04	-0.16
Attraction → Quality of Alternatives	0.37***	0.06	0.36
Satisfaction → Commitment	0.05***	0.01	0.56
Sexual Satisfaction → Commitment	-0.12	.09	-0.11
Investment → Commitment	0.20***	0.06	0.22
Quality of Alternatives → Commitment	-0.17***	0.04	-0.24
Commitment → Relationship Dissolution	-0.07***	0.02	-0.31
Covaried Effects			
Satisfaction ↔ Investment	11.58***	1.70	0.51
Satisfaction ↔ Quality of Alternatives	-8.76***	1.61	-0.35
Investment ↔ Quality of Alternatives	-0.69***	0.15	-0.29
Satisfaction ↔ Sexual Satisfaction	13.98***	1.36	0.74
Investment ↔ Sexual Satisfaction	0.56***	0.11	0.32
Quality of Alternatives ↔ Sexual Satisfaction	-0.65***	0.12	-0.34
Error variances			
Attraction	2.20***	0.18	0.67
Subjective Opportunity	0.67***	0.05	0.70
Satisfaction	246.52***	20.50	0.94
Sexual Satisfaction	1.44***	0.11	0.97
Investment	2.11***	0.20	0.97
Quality of Alternatives	2.60***	0.18	0.74
Commitment	0.76***	0.09	0.42
Relationship Dissolution	0.09***	0.01	0.90

Note. N = 386. Standard estimates for error variances represent proportions of variance unexplained by the model. * $p < .05$ ** $p < .01$ *** $p < .001$

Given the emerging importance of attraction intensity in understanding relationship longevity, an additional model was tested to assess whether attraction intensity at Time One predicted changes in Investment Model variables (relationship satisfaction, investment, quality of alternatives and commitment) from Time One to Time Two among those who were in the same relationship at both time points ($N=339$). Change scores were calculated by subtracting Time Two scores from Time One scores. Positive change scores indicate increases in relationship quality over time and negative change scores indicate decreases over time. On average, those who were in the same relationships at both time points reported increases in relationship satisfaction ($M = 1.94$, $SD = 10.03$) and decreases in perceived quality of alternatives ($M = -2.05$, $SD = 1.85$). These participants also reported relatively stable levels of investment ($M = 0.07$, $SD = 1.12$), commitment ($M = 0.15$, $SD = 1.06$), and sexual satisfaction ($M = 0.30$, $SD = 1.05$) on average. Overall, this model had excellent fit as per all fit indices, $\chi^2(1) = 0.11$, $p = .74$, CFI = 1.00, RMSEA < 0.001, SRMR = 0.003. Attraction intensity at Time One did not predict any changes in Investment Model variables or sexual satisfaction. However, changes in relationship satisfaction were positively associated with changes in commitment, and changes in quality of alternatives was negatively associated with changes in commitment (see Table 10).

Figure 6: Path analysis examining the association between attraction intensity at time one, and changes in the Investment Model over time.

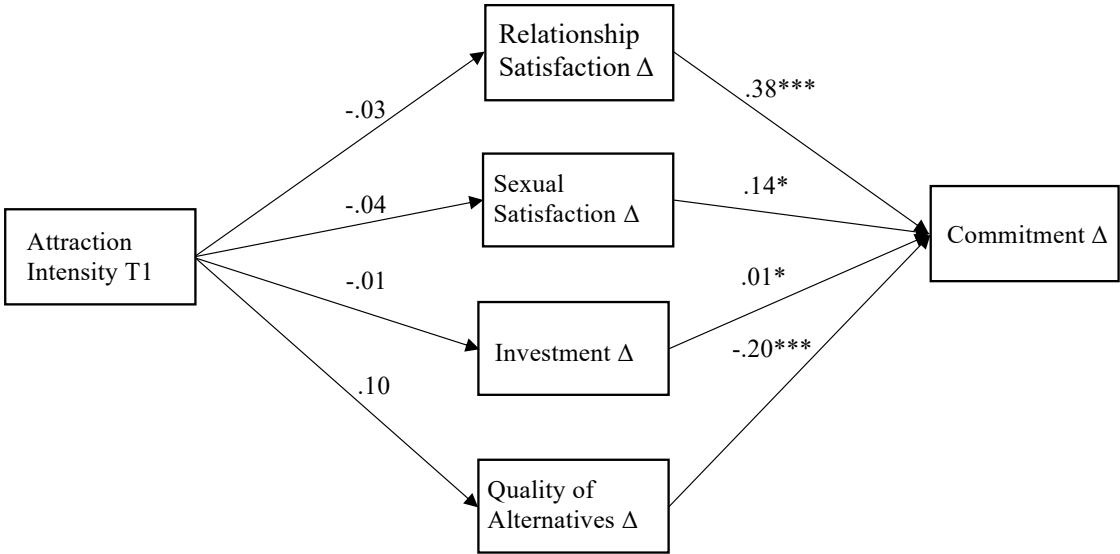


Table 10

*Maximum Likelihood Estimates for a Path Model of Attraction Intensity Linked to
Change in Relationship Quality Indicators*

Parameter	<i>B</i>	<i>SE</i>	β
Direct Effects			
Attraction \rightarrow Satisfaction Δ	-0.17	0.29	-0.03
Attraction \rightarrow Sexual Satisfaction Δ	-0.02	0.03	-.04
Attraction \rightarrow Investment Δ	-0.004	0.03	-0.008
Attraction \rightarrow Quality of Alternatives Δ	0.11	0.06	0.10
Satisfaction $\Delta \rightarrow$ Commitment Δ	0.04***	0.01	0.38
Sexual Satisfaction $\Delta \rightarrow$ Commitment Δ	0.14*	0.06	.14
Investment $\Delta \rightarrow$ Commitment Δ	0.01	0.05	0.01
Quality of Alternatives $\Delta \rightarrow$ Commitment Δ	-0.11***	0.03	-0.20
Covaried Effects			
Satisfaction $\Delta \leftrightarrow$ Investment Δ	2.33*	0.76	0.22
Satisfaction $\Delta \leftrightarrow$ Quality of Alternatives Δ	-5.27***	1.16	-0.29
Investment $\Delta \leftrightarrow$ Quality of Alternatives Δ	-0.12	0.12	-0.06
Sexual Satisfaction $\Delta \leftrightarrow$ Satisfaction Δ	5.50***	0.96	0.53
Sexual Satisfaction $\Delta \leftrightarrow$ Investment Δ	0.20**	0.07	0.18
Sexual Satisfaction $\Delta \leftrightarrow$ Quality of Alternatives Δ	-0.26**	0.12	-0.19
Error variances			
Satisfaction Δ	95.86***	11.16	0.99
Sexual Satisfaction Δ	1.11***	0.14	0.99
Investment Δ	1.18***	0.12	1.00
Quality of Alternatives Δ	3.38***	0.32	0.99
Commitment Δ	0.77***	0.07	0.69

Note. N = 386. Standard estimates for error variances represent proportions of variance unexplained by the model. * $p < .05$ ** $p < .01$ *** $p < .001$. Δ = change.

An additional model was tested among those who reported attraction to the same attractive alternative at Time One and Time Two to assess whether changes in attraction intensity predicted changes in Investment model variables. There was minimal change in attraction intensity on average from Time One to Time Two among those in the same relationship who reported attraction toward the same attractive alternative ($M = 0.14$, $SD = 1.73$). Overall, this model had good fit as per all fit indices, $X^2(1) = 1.36$, $p = .24$, CFI = 0.99, RMSEA = 0.04, SRMR = 0.02. Changes in attraction intensity over time were negatively associated with changes in relationship satisfaction. Changes in relationship satisfaction were negatively associated with changes in relationship commitment. See Table 11 for parameter estimates. These results reveal that the level of attraction at Time One was not associated with changes in relationship quality variables over time. However, increases in attraction intensity over time were linked with decreases in relationship satisfaction, which was linked to decreases in commitment. Accordingly, changes in attraction intensity over time may be a particularly important metric for changes in relationship quality.

Figure 7: Path analysis examining the association between changes in attraction intensity over time and changes in the Investment Model over time.

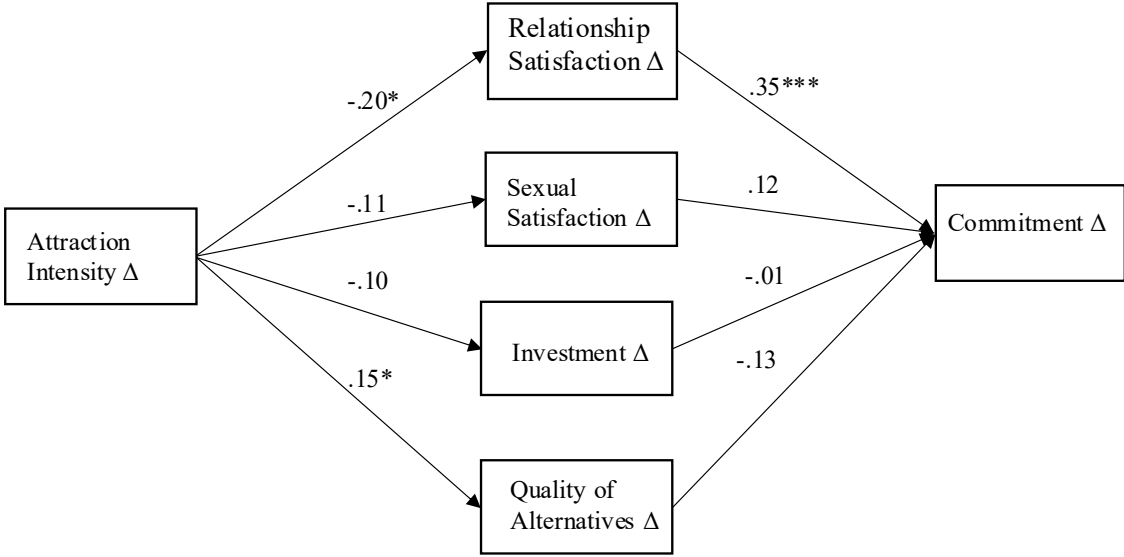


Table 11

Maximum Likelihood Estimates for a Path Model of Attraction Intensity Change Linked to Change in Relationship Quality Indicators

Parameter	<i>B</i>	<i>SE</i>	β
Direct Effects			
Attraction $\Delta \rightarrow$ Satisfaction Δ	-1.10*	0.47	-0.20
Attraction $\Delta \rightarrow$ Sexual Satisfaction Δ	-.07	0.07	-.11
Attraction $\Delta \rightarrow$ Investment Δ	-0.06	0.05	-0.10
Attraction $\Delta \rightarrow$ Quality of Alternatives Δ	0.16*	0.08	0.15
Satisfaction $\Delta \rightarrow$ Commitment Δ	0.04***	0.01	0.35
Sexual Satisfaction $\Delta \rightarrow$ Commitment Δ	0.11	0.08	0.12
Investment $\Delta \rightarrow$ Commitment Δ	-0.01	0.06	-0.01
Quality of Alternatives $\Delta \rightarrow$ Commitment Δ	-0.07	0.04	-0.13
Covaried Effects			
Satisfaction $\Delta \leftrightarrow$ Investment Δ	1.89*	0.80	0.21
Satisfaction $\Delta \leftrightarrow$ Quality of Alternatives Δ	-3.59**	1.20	-0.23
Investment $\Delta \leftrightarrow$ Quality of Alternatives Δ	-0.17	0.16	-0.10
Sexual Satisfaction $\Delta \leftrightarrow$ Satisfaction Δ	4.55***	0.85	0.50
Sexual Satisfaction $\Delta \leftrightarrow$ Investment Δ	0.20**	0.07	0.20
Sexual Satisfaction $\Delta \leftrightarrow$ Quality of Alternatives Δ	-0.26	.15	-.15
Alternatives Δ			
Error variances			
Satisfaction Δ	81.36***	10.86	0.96
Sexual Satisfaction Δ	1.02***	0.17	0.99
Investment Δ	1.03***	0.14	0.99
Quality of Alternatives Δ	3.12***	0.38	0.98
Commitment Δ	0.78***	0.10	0.79

Note. N = 386. Standard estimates for error variances represent proportions of variance unexplained by the model.

* $p < .05$ ** $p < .01$ *** $p < .001$. Δ = change.

RQ2: How is attention to an attractive alternative linked to infidelity?

To address whether attention to an alternative is linked to infidelity and to answer Research Question Two, among the half ($n = 190$) of participants who could recall who their attractive alternative was four months prior, only 3.7% of these individuals reported engaging in any romantic and/or sexual infidelity with their attractive alternatives. Overall, seven participants reported that they had engaged in infidelity with their primary attractive alternative, four months prior. Five women engaged in romantic infidelity, one man engaged in both sexual and romantic infidelity, and another man engaged in sexual infidelity. Most of these seven participants identified as heterosexual (85.7%) and one individual identified as mostly heterosexual (14.3%). Most participants were in exclusive committed relationships (71.4%) and two were in exclusive dating relationships (28.6%). Two participants had broken up at Time Two four months later.

Because fewer than 10% of participants reported infidelity with their attractive alternative, this structural equation model could not be tested. However, a minority ($n = 35$; 18.4%) of participants who could recall who their attractive alternative was four months ago indicated that they would have engaged sexually and/or romantically with their attractive alternative had an opportunity arisen. Thus, desire to engage with an attractive alternative romantically and/or sexually was assessed in the model instead of infidelity.

Several modifications were made to the hypothesized model based on preliminary analyses. Subjective and objective opportunity were removed from this model given that opportunity was captured in the response option (e.g., No, I did not

connect romantically/sexually because there was no opportunity to do so). Passive awareness was the only facet of attention to alternatives that was included. In addition, a pathway directly from passive awareness to perceived quality of alternatives was also included as per changes made to the previous model.

Analyses indicated that this modified model (Figure 6) had adequate to good fit, $X^2(11) = 17.72, p = .09$, CFI = 0.98 (good), RMSEA = 0.06 (adequate), SRMR = .06 (good). Examination of modification indices suggested that the addition of a direct pathway between attraction intensity and desire to engage in infidelity (MI = 9.96) would improve model fit. Although attraction toward an alternative was hypothesized to lead to greater risk of infidelity through relationship quality variables, it may be that attraction also directly affects desire to engage in infidelity. Research has linked attention to alternatives to infidelity (McNulty et al., 2019). After consideration, I elected to add a direct pathway from attraction intensity to desire to engage in infidelity (MI = 9.95). Model fit improved and was excellent as per all fit indices: $X^2(10) = 7.31, p = .70$, CFI = 1.00, RMSEA < 0.001, SRMR = .03. All path coefficients were significant except the paths attraction intensity → investment, attraction intensity → sexual satisfaction, investment → commitment, and commitment → infidelity desire. Diagonally weighted least squares estimates for all pathways are presented in Table 10. In sum, this model suggests that passive awareness increases attraction toward an alternative as well as perceived quality of alternatives, and greater attraction is linked with lower relationship satisfaction and higher perceived quality of alternatives. Relationship satisfaction, sexual satisfaction, investment, and quality of alternatives predicted the degree of commitment to the relationship, which was not associated with the desire to engage in infidelity. However, the degree of attraction toward an alternative

was associated with the desire to engage in infidelity, highlighting the importance of attraction toward an alternative.

Figure 8: Path analysis examining the association between passive awareness, attraction intensity, the Investment Model, sexual satisfaction and desire to engage in infidelity.

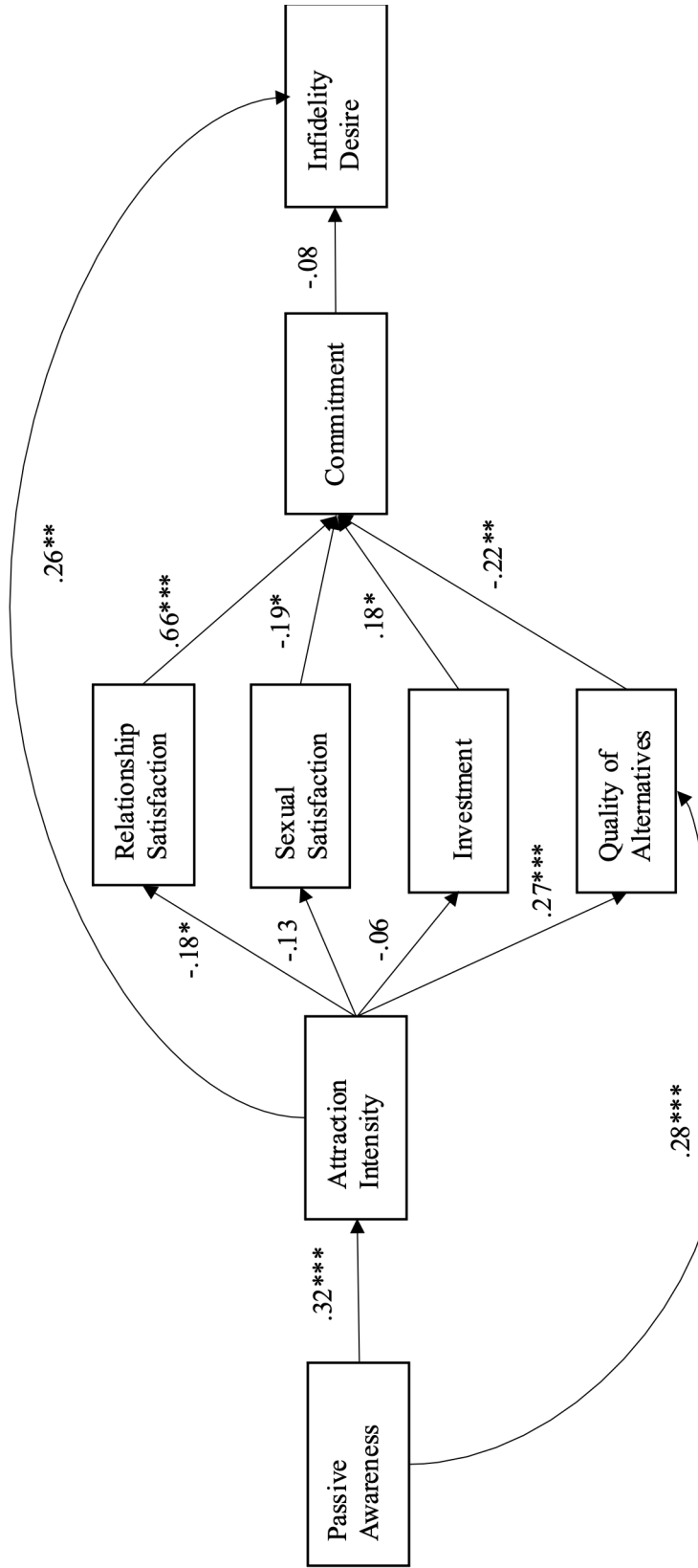


Table 12

Diagonally Least Weighted Squares Estimates for a Path Model of Desire for Infidelity

Parameter	<i>B</i>	SE	β
Direct Effects			
Passive Awareness → Attraction	0.56***	0.12	0.32
Passive Awareness → Quality of Alternatives	0.50***	0.13	0.28
Attraction → Satisfaction	-1.66*	0.69	-0.18
Attraction → Sexual Satisfaction	-0.09	0.05	-0.13
Attraction → Investment	-0.05	0.06	-0.06
Attraction → Quality of Alternatives	0.27***	0.07	0.27
Satisfaction → Commitment	0.06***	0.01	0.66
Sexual Satisfaction → Commitment	-0.22*	0.11	-0.19
Investment → Commitment	0.16*	0.07	0.18
Quality of Alternatives → Commitment	-0.17**	0.05	-0.22
Commitment → Infidelity Desire	-0.02	0.02	-0.08
Attraction → Infidelity Desire	0.06**	0.02	0.26
Covaried Effects			
Satisfaction ↔ Investment	11.67***	2.74	0.48
Satisfaction ↔ Quality of Alternatives	-9.78***	2.42	-0.39
Investment ↔ Quality of Alternatives	-0.97***	0.24	-0.40
Sexual Satisfaction ↔ Satisfaction	13.80***	2.23	0.75
Sexual Satisfaction ↔ Investment	0.60**	0.19	0.34
Sexual Satisfaction ↔ Quality of Alternatives	-0.61***	0.16	-0.33
Error variances			
Attraction	2.71***	0.24	0.90
Satisfaction	252.53***	32.61	0.97
Sexual Satisfaction	1.36***	0.17	0.98
Investment	2.36***	0.34	0.99
Quality of Alternatives	2.50**	0.24	0.80
Commitment	0.83***	0.13	0.45
Infidelity Desire	0.13***	0.02	0.92

Note. $N = 386$. Standard estimates for error variances represent proportions of variance unexplained by the model. * $p < .05$ ** $p < .01$ *** $p < .001$.

Sample Characteristics of Those who Engaged in Infidelity

The seven participants who reported engaging in infidelity at Time Two were randomly matched to participants of the same gender, sexual orientation, relationship status, age (within two years), and length of relationship (within five months) who did not report infidelity. There were no group differences in relationship quality (relationship satisfaction, sexual satisfaction, investment, perceived quality of alternatives, commitment). Moreover, there were no group differences with respect to reciprocity of attraction with attractive alternative at Time One. Thus, it appears that relationship quality did not differ between those who did versus did not engage in infidelity, nor did it matter whether the attraction was perceived to be reciprocal at Time One.

Overall, very few participants reported that they had become romantically and/or sexually involved with their attractive alternative within the past four months. However, a small minority indicated a desire to engage romantically and/or sexually with their primary attractive alternative. This desire was not predicted by relationship commitment.

Predictors of Attraction Intensity

Correlations between variables were examined in an exploratory fashion to understand better which characteristics of attractive alternatives and participants' attraction toward an alternative predicted higher attraction intensity toward an attractive alternative. Attraction intensity was positively associated with how often a participant communicated with their attractive alternative ($r = .50$) and how often they had sexual fantasies involving their attractive alternative ($r = .54$). Attraction intensity toward one's attractive alternative was positively associated with the degree to which the attraction

was perceived to be mutual ($r = .40$). Target physical attractiveness ($r = .24$) and perceived similarity to participant ($r = .22$) were positively associated with attraction intensity. Attraction length and whether participants lived in the same city as their attractive alternatives were not correlated with attraction intensity. Overall, attraction intensity was most strongly associated with sexual fantasy, communication of interest, and perceived reciprocation of interest.

CHAPTER 4: DISCUSSION

This research examined the relationship outcomes over time of those who report an attraction toward someone other than their established romantic partner. The current study is the first to my knowledge to examine whether attention toward an attractive alternative is associated with poorer relationship quality and whether this attraction toward an alternative is associated with relationship dissolution or infidelity over time. This study also explored important mechanisms by which some relationships may be negatively linked to attraction toward an alternative. Results indicated that the greater one's attraction toward an alternative and the greater the subjective opportunity to connect with that individual, the lower the associated relationship quality for one's primary relationship, as measured by relationship satisfaction, sexual satisfaction, investment, perceived quality of alternatives, and relationship commitment. This finding is particularly relevant for those who tend to notice or attend to attractive alternatives in general. Lower relationship quality was linked to relationship breakup four months later and a desire to engage in infidelity (should the possibility of connecting to another arise). However, very few people engaged romantically or sexually with their attractive alternative during the study, making it impossible to explore the links between attention to alternatives, attraction intensity, opportunity, relationship quality, commitment, and infidelity. In the current study, attraction intensity appeared to be important in understanding how awareness of an attractive person in one's life can be problematic in some scenarios.

Attraction to an alternative

Research has demonstrated that attraction toward someone other than one's romantic partner is a common experience (Belu & O'Sullivan, 2019; Mullinax et al., 2016). For the current study, I recruited participants who reported an attraction toward an alternative to better understand these attractions. Most participants reported continued attraction toward an alternative four months later (at Time Two), typically to the same individual. This continuity in attraction indicates pervasive, not fleeting attraction. Consistent with these findings, participants typically reported feeling attracted toward the alternative for a notable length of time – from two to three years. My data make clear that these attractions can be relatively enduring and can build in intensity over time. This is important in the broader framework of understanding exposure to attractive others and the meaning to one's primary relationship.

Attractive alternatives were conceptualized here as those around us with whom we have opportunities to interact on a regular basis. Consistent with previous research (Belu & O'Sullivan, 2019; O'Sullivan et al., 2021), participants reported that their primary attractive alternative was often first met at work, school, or through a friend. Typically, participants reported interacting with these individuals to some degree, although most of these relationships were characterized as acquaintances or casual friends. Interestingly, very few participants identified their attraction alternative as their best friend, and a small minority reported that their attractive alternative was a close friend (O'Sullivan et al., 2021). It may be that people keep their attractive alternatives at some distance to avoid fostering greater attraction, and possibly to protect their primary relationship.

Alternatively, it may be that distance from an attractive alternative prevents one from getting to know well an attractive person's characteristics, both positive and

negative. Researchers (Liberman et al., 2007; Trope & Liberman, 2010) have suggested that psychological distance between two people can vary, which affects one's mental representations of the other person. With greater psychological distance from a target individual, people rely on more abstract, prototypical, or essential (most characteristic) features of someone (e.g., cardinal personality traits; Eastwick et al., 2013). With greater psychological closeness, people can have more detailed, realistic representations of the individual that incorporate secondary characteristics (Eastwick et al., 2013).

Regarding relationship impact, participants were asked whether they perceived their attraction to an alternative to have any significant effect on their current primary romantic relationship. The majority of participants did not feel that their attraction was problematic for their primary relationship. Although my research suggests that this may be true when one is less strongly drawn to one's alternative, greater attraction intensity is linked with lower commitment to one's romantic relationship, which is a key predictor of relationship longevity. The view that these attractions are harmless may be a form of cognitive dissonance that allows some people to justify their attraction to an alternative as long as they do not perceive it to be undeniably detrimental. Cognitive dissonance is the psychological discomfort that occurs when someone holds a belief that is inconsistent with their behaviour (Festinger, 1957; Harmon-Jones, & Mills, 2019). Given that many participants believed that they had an agreement not to be attracted to others while in their romantic relationship, minimizing the impact of the attraction may be a way to manage this dissonance. Research has found that cognitive dissonance is linked with infidelity and judgments of infidelity (Foster & Misra, 2013; Thompson & O'Sullivan, 2016). In an experimental study, some participants were made to believe they had been unfaithful to their romantic partners. Those who believed this reported

greater psychological discomfort and poor affect (as a measure of cognitive dissonance) which was linked to greater trivialization and downplaying of the importance of these behaviours (Foster & Misra, 2013). Other research has found that experiences with a partner's infidelity predicted judgments of infidelity but one's own infidelity did not predict judgments of infidelity (Thompson & O'Sullivan, 2016). It would be important to explore cognitive dissonance within the context of attraction toward an alternative.

It may also be possible that people are unaware (rather than deny) the impact of an attractive alternative on their romantic relationship. Research has found that those highly committed to their romantic partners are more likely to downplay the perceived attraction of potential alternatives (Maner et al., 2008, Maner et al., 2009). The calibration paradigm (Lydon et al., 1999, 2003) suggests that individuals faced with an attractive alternative will only derogate those attractive alternatives who are perceived to be a threat to the relationship. When there are contextual factors that would make the involvement with an attractive alternative more difficult (e.g., they live in a different city, they are married), perhaps individuals are less likely to perceive these attractive alternatives to be threats to their primary relationship.

Although most participants did not perceive their attraction to be problematic, there were some individuals who wanted their attraction to intensify, whereas others desired these attractions to "cool off" to avoid connecting romantically or sexually with their attractive alternative, possibly because they perceived their attraction to be a potential threat to their primary relationship. This finding is consistent with research that explored the perceived impact of "crushes" on one's primary relationship (Mullinax et al., 2016). Mullinax and colleagues (2016) found that most participants did not perceive their attraction to have an impact on their primary relationship. However, some

perceived their attraction to increase their desire for their romantic partner, and a minority perceived their attraction to decrease their desire for their romantic partner. Future research should examine whether perceptions of impact on relationship quality align closely with the actual associations between attraction toward an alternative and the quality of the primary relationship as well as measures of future involvement. This may be a line of research where inclusion of all partners in the triad be included somehow to examine the potential impact from different perspectives.

In addition, most participants reported that they would not leave their partner for their attractive alternative, suggesting that only for a minority of participants, an attractive alternative serves as a potential mate switching opportunity. Mate switching occurs when individuals engage in short-term relationships to obtain a backup partner (Buss et al., 2017; Buss & Schmitt, 2019). It has been hypothesized that mate switching is helpful if things go awry in the current relationship (i.e., backburners, mate insurance) and an individual wants to move on from that relationship, or if one wishes to switch partners to obtain a higher quality partner (Buss et al., 2017; Buss & Schmitt, 2019). Finding an alternative partner can be time and energy consuming and some of these costs are reduced when evaluation is taking place while already in a romantic relationship (Buss et al., 2017). Although the potential benefits of an attractive alternative were not assessed in this dissertation, some attractive alternatives might have served as a potential backup partner.

There are likely a host of benefits associated with attraction toward an alternative, some of which may be more benign than mate switching. Recent research has explored some of the perceived positive and negative outcomes of having an attraction toward an alternative (O'Sullivan et al., 2021). Most positive outcomes found

in prior work (O'Sullivan et al., 2021) were individual in nature highlighting that attraction toward an alternative typically is considered to be fun, exciting, and provides fantasy or escape from one's day. Less often, individuals noted positive outcomes for the primary relationship. Many noted that an attraction toward an alternative also could hurt their partner or damage their primary relationship. Other negative outcomes were moral, like feeling deceitful or as though one has broken a monogamy agreement. It appears that there may be a number of positive and negative outcomes associated with attraction toward an alternative and researchers have only begun to explore these outcomes.

Attraction Intensity

In this dissertation, I developed a measure of attraction intensity toward an alternative. This measure captured feelings of being drawn toward an attractive alternative to one's partner. Results from the exploratory and confirmatory factor analyses confirmed that attraction intensity toward an attractive alternative captures, in part, the extent of one's desire to seek proximity with the target of one's attraction, whether that proximity be emotional or physical. Attraction involves being drawn toward another. This attraction toward an alternative also consists of behaviours such as increased flirting with one's attractive alternative. In addition, when one experiences attraction toward someone else, there is a positive affective experience (e.g., excitement, happiness), and an increase in time spent thinking about this individual. Attraction toward an alternative can vary in intensity. How much attention does someone pay this individual? How often are they in one's thoughts? How drawn is one to this individual? This measure of intensity of attraction was associated with how often someone intentionally went out of their way to be around their attractive alternative.

The development of this measure provides additional support that attraction toward a specific target is associated with--but distinct from--attention to alternatives, which is the propensity to notice attractive others. From its original conceptualization (Miller et al., 2010), attention to alternatives consists of three facets: active prowling (i.e., deliberate attempts to engage with attractive alternatives), passive awareness (i.e., noticing attractiveness of others without attempts to engage with them), and willful disinterest (i.e., active disengagement from others). As expected, attraction intensity was positively associated with active prowling as well as passive awareness, and negatively associated with willful disinterest. That is, those who reported deliberating attempting to engage with attractive alternatives (e.g., always on the prowl for a new relationship, like to be aware of whom could be a potential partner other than one's partner) and those who always noticed attractive others but noticed them “safely” from afar reported greater attraction for those individuals. Those who report greater willful disinterest (e.g., try not to think of anyone but partner in a romantic way, unaware of other romantic partners available to me) report lowered attraction toward a specific attractive alternative. Thus, it appears from this research that an individual can express a general tendency toward noticing, pursuing, or willfully being disinterested in attractive alternatives. However, those who report a current attraction to an alternative do not necessarily have a proclivity to attend to attractive alternatives. During a particular episode of attraction toward an alternative, the degree of the attraction is key.

These differences in attention toward alternatives may reflect differing motives or approaches to relationships. For example, one's comfort and willingness to engage in sexual relations with someone without commitment (i.e., sociosexual orientation; Penke & Asendorpf, 2008) is associated with attention toward alternatives (Belu & O'Sullivan,

2019). Those with a more unrestricted sociosexual orientation are more comfortable with short-term sexual encounters without commitment. Sociosexual desire, one facet of sociosexual orientation, is likely particularly relevant. Sociosexual desire pertains to one's subjective sexual arousal, fantasy, and sexual motivations in situations where one does not have any commitment to someone. As such, sociosexual desire is a motivational force that directs people toward long-term or short-term mating strategies (Penke & Asendorpf, 2008). Future research should consider how sociosexual orientation is associated with the proclivity to attend toward alternatives as well as the degree of attraction toward an attractive alternative.

Attraction and Relationship Dissolution

A comprehensive model was tested to determine whether attraction to an alternative is linked with romantic relationship quality, commitment, and ultimately relationship breakup. This model comprised a fundamental test of whether the attraction intensity toward an alternative was an important variable with respect to sexual and relationship satisfaction, investment, perceived quality of alternatives, commitment, and relationship breakup. This model also specifically tested whether attention to alternatives (active prowling, passive awareness, and willful disinterest) and opportunity variables were central to understanding the strength of attraction toward an alternative.

Opportunity was initially conceptualized as key insofar as sexual and/or romantic infidelity cannot occur without an opportunity. I expected that believing one had more opportunity to connect with an attractive alternative paired with greater attention to alternatives generally would lead to greater attraction toward an alternative. This attraction, because it distracted the individual away from one's primary relationship,

drawing the person toward another individual who was not their partner, would be linked to poorer relationship quality and ultimately breakup. However, this overarching pattern could not be examined. After revisiting the literature, a revised model was tested; specifically attention to alternatives was limited to passive awareness (i.e., those who always notice attractive others but intend to notice from afar). The revised model conceptually aligned more closely to what I expected originally regarding the role of attention to alternatives among those who also report an attraction toward a particular alternative.

These changes made clear that the more individuals attend to attractive alternatives, the greater their attraction toward a particular alternative. It may be that greater attention allows for opportunity to further assess the mate value of the attractive alternative. In addition, greater perceived opportunity to connect with an alternative is also linked with greater attraction toward an alternative. The perceived attainability of the attractive alternative might increase the salience of this individual. In addition, attraction intensity was linked to poorer relationship quality as measured by decreased sexual and relationship satisfaction, decreased investment, and increased perceived quality of alternatives. In line with theory, poorer satisfaction, investment, and increased quality of alternatives were associated with decreased commitment. Unsurprisingly, those who felt less committed to their relationship long-term were more likely to break up with their primary romantic partners. These associations between satisfaction, investment, perceived quality of alternatives and commitment have been found by others (Bui et al., 1996; Impett et al., 2001; Le & Agnew, 2003; Lee & O'Sullivan, 2019) and support the Investment Model (Rusbult, 1980, 1983).

This is the first study to demonstrate that passively attending to attractive alternatives in general (e.g., I can't help but notice attractive alternatives when they are around) is associated with greater intensity of attraction toward a target alternative. Individuals who are passively aware of alternatives tend to keep a distance from attractive alternatives and perceive their attention toward them to be harmless as long as they do not engage romantically or sexually. However, my research suggests that habitually noticing attractive alternatives from a distance in one's day-to-day is more likely to foster greater attraction toward an alternative, which is associated with poorer relationship quality. In addition, passive awareness is directly linked to greater perceived quality of alternatives, which is linked to lower relationship commitment. Thus, my question that attractive alternatives are a necessary but not sufficient component of relationship loss or change is confirmed in part.

Of the three facets of attractive alternatives, passive awareness may reflect a more default manner of engaging with attractive alternatives on a spectrum ranging from active prowling to willful disinterest. Attractive alternatives are unavoidable for most people as they are often a part of our workplaces, schools, and friend networks (Belu & O'Sullivan, 2019; O'Sullivan et al., 2021). Those with higher levels of passive awareness find themselves attending to their primary attractive alternative more often than their other people. It is likely that through this increased attention, individuals become more familiar with that attractive other, feeling it is safe to pursue this "harmless fun" and fostering the intensity of attraction felt toward that individual. Thus, endorsing a belief that attending to attractive alternatives is without romantic or sexual repercussions may actually indirectly and inadvertently lead to poorer relationship quality.

Consistent with my predictions, greater attraction intensity was linked to poorer relationship quality, which in turn was linked to a higher probability of relationship dissolution four months later. Greater attraction intensity was linked to lower relationship and sexual satisfaction, lower investment, and greater perceived quality of alternatives. These variables then predicted lower commitment, and relationship dissolution four months later.

This research also led to an enhanced understanding of how greater subjective opportunity is linked to greater attraction toward an alternative. Subjective opportunity is the perception that the circumstances would allow one to become intimately involved with an attractive alternative if one desired to do so. This involvement would require a reciprocity of attraction (i.e., the target also needs to want some type of intimacy to develop) and an ability to engage with this individual without the primary relationship partner becoming aware. Although not originally predicted in my model, greater subjective opportunity was associated with increased attraction intensity for the alternative. Researchers have long known that individuals tend to like those who like them, and individuals dislike those who dislike them (Luo & Zhang, 2009). Thus, those who endorse greater subjective opportunity to connect with their attractive alternative may perceive greater reciprocity in attraction which heightens their attraction to the target – the person becomes more salient and the draw toward them may become more compelling. Additional research is needed to test these associations further. However, it seems reasonable to speculate that those attractive alternatives in people's lives who are perceived to be more attainable may be particularly problematic for the quality of the primary relationship.

Interestingly, active prowling and willful disinterest were not associated with attraction intensity and relationship quality variables in the same way as passive awareness. Although these characteristic styles of attending to alternatives appeared to be associated with relationship quality, the model modification indices suggested that relationship quality actually may be linked to increased attraction intensity. That is, modification indices suggested that lower relationship satisfaction, investment, and higher perceived quality of alternatives were linked to greater increases in attraction intensity toward an alternative. Although my hypothesized model indicated that attraction to an alternative was associated with poorer relationship quality as attraction intensity increased, it is likely that for some, a bidirectional relationship might be apparent: poorer relationship quality fosters increased attraction toward an alternative.

Future research could consider whether there are different types of individuals who report attraction toward an alternative. Perhaps there are differences between those who primarily actively prowl, are passively aware, or are willfully disinterested. Trajectories might be based on whether one reports a string of crushes within the current relationship, or just one? Previous work on mate poaching has indicated that those with a greater history of mate poaching report lower relationship quality in their current relationship than those who mate poached their current partner into a relationship (Belu & O'Sullivan, 2020).

Recent research has begun to explore how relationship quality is associated with sexual desire for one's romantic partner as well as desire for an attractive alternative. Birnbaum and colleagues (2019) explored whether internal threats to the relationship resulting from a partner's behaviour is associated with people's motivation to protect their relationships from external threats, such as an attractive alternative. Using sexual

desire as a metric of a romantic partner's mate value, researchers examined whether internal relationship threats, such as recalling a romantic partner's misdeeds that resulted in feeling hurt or disappointed, would reduce sexual desire for one's primary romantic partner and increase one's desire for an attractive alternative. As expected, the researchers found that when participants were primed to reflect on past internal threats to their relationship they were in fact more likely to report desiring an attractive alternative, and reported lower desire for their romantic partners. Reflecting on relationship threats was also linked to increased likelihood of offering to help and overtly flirting with an attractive stranger (Birnbauer et al., 2019). Thus, relationship quality factors may also affect sexual desire and possibly attraction intensity toward an alternative.

In the current study, an additional model was tested to assess whether attraction intensity was associated with changes in relationship quality over time. Surprisingly, attraction intensity was unrelated to changes in relationship quality. However, I also examined whether changes in attraction intensity to an alternative partner over time were associated with changes in relationship quality over time. Increased intensity in one's attraction to an attractive alternative did predict decreased satisfaction with one's primary relationship and increased perceived quality of that alternative. These changes were also associated with changes in relationship commitment: as satisfaction decreased and perceived quality of the alternatives increased, commitment to the one's primary relationship decreased.

Commitment is often considered by intimate relationship researchers to be the best predictor of whether a relationship will endure over time (Impett et al., 2001; Rusbult, 1980; Rusbult et al., 1998). Thus, changes in attraction toward an alternative may be an important red flag that one's primary relationship requires some attention.

Increased intensity in one's attraction to another individual was linked to lowered perceptions of the quality of one's primary relationship. Although the exact mechanisms driving these changes are not yet known, one factor that might be driving these changes is social comparisons between one's romantic partner and the attractive alternative, reflecting the romantic partner or relationship in a poorer light (Morry et al., 2018, 2019). In sum, it is not the level of attraction at the outset that predicts decrements in one's primary relationship, rather, what is important here is whether attraction is actively increasing – possibly spurred by changes in the rewards from the primary relationship, altered circumstances bringing the person into greater contact with the attractive alternative, or learning an attraction to the extradyadic individual is reciprocated (an important tripwire in relationship longevity; Belu & O'Sullivan, in press).

Given that attraction toward an alternative appears to be relatively enduring over time, research is needed that could monitor experiences of attraction to determine if ebbs and flows in intensity are followed by changes in relationship quality to one's primary relationship, or vice versa. It would also be useful to interview individuals who report an attraction toward another at multiple time points while in the same romantic relationship. Doing so may provide richer insights into changes in attraction intensity or quality of the primary relationship, and participants' perceptions of how these factors are related to one another, as well as some initial hypotheses regarding the directionality of these links.

Attraction and Infidelity

Another objective guiding this research was to assess whether attention toward an attractive alternative is linked with infidelity. In this research, very few participants reported engaging in infidelity with their attractive alternative. As a result, a more

comprehensive model assessing the proposed associations between dimensions of relationship quality (as outlined by the Investment Model) and sexual satisfaction, attention to alternatives, attraction intensity, opportunity, and infidelity could not be tested. However, some participants (albeit a minority) indicated that they would have engaged romantically and/or sexually with their attractive alternative if the opportunity had presented itself. However, it is important to note that their response was to a hypothetical scenario dependent on opportunity. It is likely that even if an opportunity presented itself, not all individuals who said they would have pursued this opportunity would actually have done so. What is important here, however, is that these participants believed that they would have pursued those opportunities if given the chance.

Using desire to engage in infidelity, I was able to examine whether passive awareness, through attraction intensity, was linked to relationship quality variables such as relationship and sexual satisfaction, investment, perceived quality of alternatives, and commitment. Overall, higher levels of passive awareness of attractive others and greater intensity of one's attraction to another were associated with poorer relationship quality. Commitment did not predict desire to engage in infidelity. However, attraction intensity predicted reported desire to engage in infidelity directly, suggesting that the degree of attraction toward an alternative is important. Moreover, those who have a general propensity toward noticing attractive alternatives also tended to have stronger attractions toward an attractive alternative. Of particular note, this greater intensity of attraction was associated with decreased satisfaction in the primary relationship, and increased perception that there are superior alternatives to the relationship available to the individual. Both of these factors are associated with lower commitment to the relationship, that is, a willingness to maintain the relationship for the long-term.

Although attraction intensity was not indirectly associated with infidelity desire as a result of its association with relationship quality variables, it was directly associated with infidelity desire. In short, not only is the degree of attraction toward an alternative linked with lower relationship quality, but it also directly linked to a desire to engage in infidelity if the opportunity became available.

A number of personal factors were examined to determine which ones were most closely linked to reports of attraction toward an alternative to better understand for whom alternatives are more likely to lead to infidelity. To reiterate, only a few participants reported infidelity with their attractive other. Of the seven individuals who reported having engaged in infidelity with their attractive alternative, five women reported being involved romantically with their attractive alternative. One man reported being involved sexually with his attractive alternative, and the other man reported having been involved romantically and sexually. There were no differences in relationship quality between these individuals when compared to other individuals in the sample of similar age, relationship length, and relationship type. However, there were too few cases of individuals who reported being involved romantically or sexually with their alternative to draw any meaningful conclusions. There were also no differences with respect to reciprocity of attraction with attractive alternative as reported at the start of the study. Overall, it was very difficult to distinguish those who had engaged in infidelity from those who did not because of the small sample, but it is possible that questions of infidelity prompted socially desirable responding for some. Although I emphasized the anonymity of the survey to participants, many may have felt uncomfortable reporting having engaged in infidelity given the stigma of infidelity, or it is also possible that they had engaged in infidelity but with partners other than the

attractive alternative identified in the study. In the future, this question could be examined over a larger period of time between follow-up assessments, or with a larger sample to achieve more power to test more sophisticated models. It would also be useful to follow-up with individuals who had reported engaging in infidelity to understand better how this infidelity evolved.

Limitations

The current study extends the literature in a number of ways but there are important limitations to note. These limitations are discussed with reference to design, sample, measurement, and statistical analyses below.

Study Design

This study examined relationship quality of the primary romantic relationship from the perspective of only one individual. Reports from only one partner do not account for any discrepancy in relationship quality reporting or effects noticed by the partner but not by the individual who is attracted toward another. It would be important to consider partner perspectives in reports on relationship quality as research has demonstrated that one partner's relationship quality can affect the relationship quality of the other partner (Coy et al., 2019; Ledermann & Macho, 2009). Including only one perspective means that there is limited insight into whether attraction toward an alternative affects one's partner in ways that are not perceived by those with an attraction toward an alternative. It may be that attraction toward another person led to behavioural changes within the romantic relationship that a participant was unaware of but to which the partner was more attuned. For example, a participant with an attraction toward an alternative may have flirted with that individual and perceived it to be harmless, whereas

the romantic partner who observed this behaviour worried about the nature of the relationship between their partner and the potential threat that this attractive alternative poses to the relationship. Research has also demonstrated that a partner's commitment to the relationship is associated with one's attention toward alternatives (Park & Park, 2021). Those with partners who report lower commitment to the relationship are more likely to attend to alternatives and engage in infidelity with an alternative. Individuals who report greater attraction toward an alternative are also likely to perceive more external threats to their relationship based on their belief that their partner is attracted to alternatives (Neal & Lemay, 2019). However, this research highlighted that this perception of threat is likely just a projection of one's own attraction toward an alternative. Data collection from all partners in a relationship would provide a more comprehensive picture of how relationship quality may be affected by attraction toward an alternative. It would also be important to explore how attraction toward an alternative is associated with relationship quality in partnerships where both partners report attractions toward others or partners discuss their attractions openly with one another.

Another design limitation is the length of time between assessments. Four months between these time points may not have been sufficient to capture relationship breakups or infidelity experiences among participants given that most participants were in long-term committed relationships. A four-month follow-up was chosen to minimize participant attrition between Time One and Time Two data collection. Research on attention toward alternatives, Investment Model variables, breakup, and infidelity has used two-months as a follow-up (Drigotas et al., 1999; Miller, 1997). However, previous work has tended to focus on younger samples who report a greater degree of relationship turnover (Drigotas et al., 1999; Etcheverry et al., 2013; Negash et al., 2014). Emerging

adulthood (18-25) is a time of relationship exploration and it consists of greater relationship turnover (Paul et al., 2000; Rauer et al., 2013). Attraction toward alternatives may pose different risks for those in less established relationships or for those who are open to exploring their relationship options.

The length of the questionnaires may also have affected participant attrition. Because the Time One assessment was quite long, this assessment was split into two points of data collection, which resulted in some participant attrition. Although there were no apparent demographic differences between groups who completed both versus the first half of the Time One assessment, there may have been other distinguishing features between the groups that were not captured by demographics. Participants also may have been fatigued after one survey and less willing to complete follow-up surveys. Although participants at Time Two were encouraged to participate regardless of their current relationship status, some may have felt the assessment would be less relevant if they were no longer in a relationship.

Sample

This sample consisted of individuals who were on average very satisfied, invested, and committed to their romantic relationships, limiting the variability in relationship quality. Greater diversity in relationship quality is likely to be evident in newer dating relationships. It would be important to capture the effect of an attractive alternative at early stages of relationship development before someone has invested a lot of time and energy in their primary relationship. It may be that at lower levels of investment, individuals may be more willing to consider alternatives to their primary romantic relationship – that is, may be actively choosing among options. However, once a relationship is established, personal values and social norms endorsing serial

monogamy likely are activated. Also, duration often indicates investment in a relationship. The Investment Model has highlighted that investment is a key contributor to relationship commitment (Lee & O'Sullivan, 2019; Rusbult, 1980; Rusbult et al., 1983; Tran et al., 2019). For example, those who have children may be less willing to leave a relationship for an alternative partner than those without children.

This sample also consisted of individuals who were older and in somewhat more established romantic relationships than college age samples. Emerging adults are known to have more relationship instability and more frequent relationship turnover (Arnett, 2000; Hensel & O'Sullivan, in press; Rauer et al., 2013). Future research could examine the association between attention toward an alternative, attraction intensity, opportunity, and relationship quality variables and outcomes among couples in less established relationships.

Most participants were recruited via crowdsourcing (Mechanical Turk® and Prolific Academic®). Although crowdsourced samples are more diverse than samples obtained from college samples, crowdsourced samples are not representative of the overall population (see Chandler & Shapiro, 2016). Mechanical Turk® workers from the U.S. tend to be younger and better educated than the U.S. population overall, which is true of any online non-probability sample (Hillygus et al., 2014; Paolacci & Chandler, 2014; Chandler et al., 2019). Workers tend to be less religious, more liberal, more gender and sexual orientation diverse, and less likely to be married (Berinsky et al., 2012; Corrigan et al., 2015; Mullinax et al., 2016; Shapiro et al., 2013). Online workers also tend to report lower income and they are more likely to be unemployed (Corrigan et al., 2015; Shapiro et al., 2013).

Compared to college student samples, MTurk® workers tend to be above average in cognitive aptitude (Chandler & Shapiro, 2016). In addition, scale reliability acquired from Mechanical Turk® samples is as good as or superior to that of samples recruited via other methods (Behrend et al., 2011; Burhmester et al., 2011; Jahnke et al., 2015; Johnson & Borden, 2012). Data provided by workers also tends to have good validity (Chandler & Shapiro, 2016).

The sample also consisted of individuals who reported an attraction toward an alternative when screened into the study. This criterion likely limited the variability in attention to alternatives, possibly in terms of willful disinterest, as individuals high in willful disinterest are probably less likely to report an attraction toward an alternative. However, those with attractive alternatives also may be more likely to report greater levels of willful disinterest as a form of social desirability to counteract that they are reporting an attraction toward someone else at all. Accordingly, levels of willful disinterest reported in the current study may not reflect levels of willful disinterest reported in samples where individuals are not required to report an attraction toward an alternative. The sample may differ on other dimensions important to the study of relationship maintenance; replication is needed using more diverse samples to understand better how these dynamics might be operating.

In addition, this inclusion criteria requiring that participants report an attraction toward an alternative means that I could not explore how the propensity of attending to alternatives affects relationship quality for those in romantic relationships without a targeted attraction (i.e., a crush). These traits are likely linked to relationship quality outside of the context of a crush, but additional research is needed to assess the associations between these variables. It is also unclear how attention to alternatives may

be affected by changes in relationship quality. Replication and expansion of the aspects addressed here are needed to explore attention to alternatives in full.

Measurement

This research relied on self-report across multiple time points. Participants reported on their attraction toward an alternative, their relationship quality, and their desire to be involved romantically or sexually with an attractive alternative. In some instances, participants were reporting on infidelity they were involved in with an attractive alternative. Given that monogamy is the norm (Conley et al., 2013b; Treas & Giesen, 2000; Watkins & Boon, 2015), participants may have felt compelled to respond in a more favorable light. Social desirability is a concern with self-report data (Paulhus & Vazire, 2007), particularly when the subject matter is more sensitive in nature (Krumpal, 2011). Although language about attraction toward someone other than one's romantic partner and infidelity was tailored to minimize social desirability, participants may still have felt pressure to deny infidelity experiences, or downplay their attraction toward someone other than their partner. Society in general prohibits infidelity (Treas & Giesen, 2000) and it is likely that there are strong social norms against attraction toward someone other than one's romantic partner. Similarly, in light of their attraction to another, participants may have felt inclined to overrepresent the quality of their romantic relationship. However, it would be difficult to assess one's attraction toward someone other than one's romantic partner through methods other than self-report. In addition, online survey methodology greatly reduces socially desirable responding (Paolacci et al., 2010), which likely increased accuracy in the current dataset.

In this study, all participants reported an attraction toward an attractive alternative when screened into the study and many participants believed that this

attraction did not have any impact on their primary romantic relationship. Tracking the relationship quality from both partners' perspectives would be the only way of ascertaining whether this was true. Cognitive dissonance may be affecting this subjective perception of relationship quality, as many reported feeling that they had an agreement not to be attracted to others while in their current romantic relationship. In addition, there are also strong social norms against infidelity (Treas & Giesen, 2000).

The Attraction Toward an Alternative scale was a significant measure in the current study and a contribution to the literature. The ATAA was designed for the current study to capture intensity and "state" attraction toward an alternative. There are some limitations to be noted here. The ATAA only includes one factor and may not capture all facets of attraction intensity. Items including other possible components of attraction were considered (e.g., physical attraction, sexual desire) during scale development. However, these items did not emerge in the analyses. Research has demonstrated that targets of attraction tend to be perceived to be quite physically attractive. It may be that physical attraction and sexual desire are better conceptualized as forces that influence attraction intensity as opposed to components of attraction themselves. The ATAA demonstrated good internal reliability and validity in the current study and provided novel insights into the association between attention to alternatives and relationship quality, however, a more comprehensive investigation of intensity and its role is warranted.

The measure of infidelity, which has been used in previous research (Thompson & O'Sullivan, 2016; Belu & O'Sullivan, 2018, 2019), asked participants to indicate whether they had been involved romantically and/or sexually with an attractive alternative (yes/no). It may have been better to ask participants to indicate on a spectrum

the degree of involvement with an attractive alternative. Some participants may have had sexual involvement with their attractive alternative (i.e., a kiss), but may not have considered a one-time act of kissing to be sufficient to indicate "yes" to involvement. In fact, research has demonstrated that people have surprisingly diverse views as to what constitutes infidelity (Thompson & O'Sullivan, 2016). For example, sexual intercourse tends to be agreed upon by most as an act of infidelity, but watching porn together, sharing private information, or spending time alone together are less agreed upon acts of infidelity. We did ask participants who reported involvement whether this involvement would constitute a violation of their monogamy agreement and all indicated that it would. Future research should ask participants to indicate the nature of their romantic and sexual involvement with their attractive alternatives. It would be useful to understand how this romantic and sexual involvement unfolded and whether it resulted in short-term or more long-term involvement. It may also be that this involvement forms the foundation for a new exclusive relationship with the attractive alternative, consistent with the mate switching hypothesis (Buss et al., 2017; Buss & Schmitt, 2019). As previously noted, 10-15% of relationships are estimated to be a result of mate poaching (Schmitt & ISDP, 2004)

It would also be important to consider the role of motivation in the context of an attractive alternative. Theories regarding relationship maintenance highlight that individuals in committed relationships should have the motivation to maintain their relationship (Lydon & Karremans, 2015). This motivation would then lead to attractive alternatives being perceived as a threat to the relationship, which would then signal that monogamy maintenance strategies may be activated to reduce the relationship threat. For relationship maintenance strategies to be activated, an attractive alternative would

need to be perceived as a threat. Most participants in our study did not perceive their attractive alternative to be a threat to their primary relationship. These individuals may ultimately, then, be more susceptible to future involvement due to this inactivation of monogamy maintenance strategies. Future research should explore this in more detail to determine when an attractive alternative is perceived to be a threat to a romantic relationship and whether this matters for the activation of monogamy maintenance strategies. Research on monogamy maintenance has found that those who perceive the attraction to be reciprocal use a greater number of monogamy maintenance strategies compared to those who perceive the attraction to be unilateral (Lee & O'Sullivan, 2018, 2019). Although not explored in this study, it is likely that reciprocal attraction is perceived to be a greater threat to the stability of one's primary relationship.

In addition to motivation, self-control is an important factor in the study of attractive alternatives. Research has demonstrated that attending to alternatives is more problematic for some than for others (Karremans et al., 2015; Ritter et al., 2010). In particular, those who report attention toward alternatives and have the self-regulatory abilities to resist temptation are less likely to engage in infidelity (Brady et al., 2020; Pronk et al., 2011). One study examined passive awareness to attractive alternatives and found that those with poorer self-control (greater impulsivity) were more likely to report having engaged in infidelity at some point between time of recruitment and final follow-up two years later (Brady et al., 2020). Researchers could include a measure of self-control to determine whether attraction toward an alternative and associated outcomes are affected by self-regulatory abilities. There also may be a difference in monogamy maintenance strategies that need to be employed based on self-regulatory ability.

Statistical Analyses

The models in this dissertation were tested using path analysis. Models were adjusted based on preliminary analyses. In path analysis, modification indices are suggested and are only to be implemented if they are both statistically significant and theoretically meaningful to reduce the risk of committing Type I error. Path analysis is intended to be primarily confirmatory in nature, testing empirically supported relationships between variables. Given that changes were made to the model, the analyses must be considered exploratory in nature as opposed to confirmatory (Kline, 2015). Future research should confirm the models presented in the current study using a new sample of participants. With larger sample sizes, it would be important to explore whether differences exist based on sexual orientation.

In addition, there were too few individuals who reported that they had engaged in infidelity to reach sufficient power for path analyses. As a result, these hypotheses could not be tested. A far larger, more diverse sample could help to ensure a sufficient number of participants are recruited at the time of screening to allow for sufficient power to test models predicting infidelity outcomes.

Future Directions

Although there is an extensive literature on relationship quality variables (Blumenstock et al., 2020; Joel et al., 2020; Mark et al., 2013, 2015; Murray & Milhausen, 2012; Park & Park, 2021; Quinn-Nilas, 2020; Vowels & Mark, 2020), relationship dissolution (Belu et al., 2016; Joel et al., 2018; Le et al., 2010; O'Sullivan et al., 2019; Park et al., 2021), and infidelity (Mark et al., 2011; Vowels et al., 2021), the literature exploring how attraction toward an alternative may be associated with these key relationship maintenance outcomes is nascent. Essential to advancing science in this

area is to explore how these attractions may compromise a primary romantic relationship, if at all. Although this study began to explore contextual factors that could influence attraction toward another and relationship outcomes, there are additional factors to consider, as mentioned throughout this discussion. Continued longitudinal work in this area would help strengthen our understanding of how attraction toward an alternative is linked to relationship outcomes, and what contextual factors may foster an attraction that is more problematic for one's primary romantic relationship.

As noted previously, dyadic data collection over a longer period of time would be helpful in assessing how relationship quality may be affected by attention toward an attractive alternative. A longitudinal study consisting of multiple follow-ups would also allow for the assessment of the association between relationship quality and attraction toward an alternative. Research has demonstrated that people engage relationship maintenance strategies in the face of attractive alternatives (Lee & O'Sullivan, 2018, 2019). For example, researchers have found that individuals may engage in intentional and strategic relationship enhancement strategies when faced with an attractive alternative. These relationship enhancement efforts are self-reported to reduce the risk of connecting romantically or sexually with an attractive alternative (Lee & O'Sullivan, 2018, 2019). It may be that as relationship quality degrades, monogamy maintenance efforts may ebb and flow, potentially fostering greater attraction toward an alternative.

Another important component missing from this research is consideration of monogamy maintenance, which refers to efforts to maintain sexual and romantic monogamy within one's current relationship against the threat of attractive alternatives (Lee & O'Sullivan, 2019). As noted previously, many individuals did not perceive their attention toward an alternative to be problematic for their primary relationship. This

finding may be due to participants engaging in a number of monogamy maintenance strategies (e.g., avoiding spending time with an attractive alternative, look for unflattering characteristics of attractive alternative) to reduce the risk of engaging in infidelity. The degree to which one engages in routine monogamy maintenance strategies likely affects whether attraction toward an alternative will ultimately result in infidelity. Future research could examine whether those who actively engage in monogamy maintenance strategies reduce the risk of connecting with an attractive alternative and where in this process monogamy maintenance strategies are most effective. Is it that they help maintain or reduce the intensity of attraction toward an alternative, or do they foster enhanced relationship quality, or remind people of their motivations to maintain monogamy? In addition, if participants perceived the term "problematic" to imply infidelity, they may have denied any problems if they had no intention of (or opportunity to) becoming romantically or sexually involved with the attractive alternative.

Returning again to the importance of motivation, future research should also consider the various motivations or functions of an attractive alternative for those in romantic relationships. For some, these attractions may be harmless and benign and add some novelty to one's day and the intention is never to move this relationship forward. For others, attraction toward an alternative may pose as an opportunity to assess the prospects of a new relationship partner without having to take the risk of leaving one's relationship without knowing more about the prospective partner. Research has shown that approximately 10-15% of romantic relationships are formed from mate poaching (Schmitt & ISDP, 2004), a type of infidelity that occurs when individuals are aware that the target of their interest is in an exclusive relationship (Belu & O'Sullivan, 2018, 2019;

Buss & Schmitt, 2000). Within this context of infidelity, it would be valuable to assess whether individuals are actually moving into higher quality relationships, suggesting that this attraction toward an alternative may ultimately be adaptive for some people, or whether they are moving to similar or lower quality relationships.

Overall, more research is needed to better understand how attraction to an alternative can pose as a threat to one's primary relationship. There are likely a multitude of factors that determine whether attraction toward an alternative poses a threat, including dispositional factors (e.g., attention to alternatives, self-control), relationship factors (e.g., partner's attraction toward another), and contextual factors (e.g., opportunity). Qualitative research in this area would also provide a rich level of detail of factors that are also important to consider in the context of an attractive alternative.

Implications and Conclusions

The current study is the first to my knowledge to examine how attraction toward an alternative is associated with relationship outcomes, such as commitment, relationship dissolution, and infidelity. Attractive alternatives are usually unavoidable in our day-to-day lives as these individuals are often the people we interact with at work, school, and in our social networks. Attending to attractive alternatives is difficult to suppress, even for those in exclusive relationships (Owens et al., 2021; Sui & Lui, 2009), and attraction toward an alternative is a common experience among those in committed relationships (Belu & O'Sullivan, 2019). Our findings highlight that the degree of attraction intensity toward an alternative appears to be particularly important when it comes to relationship quality; greater attraction toward an alternative is linked with poorer relationship quality. Passively attending to alternatives in general as well as

the subjective opportunity to connect with an alternative are both linked with greater attraction intensity, highlighting these dispositional and situational factors as relevant factors for attraction intensity.

It should be underscored here that noticing an attractive alternative is not necessarily problematic for one's primary romantic relationship. However, this research indicates that an intensification of attraction toward an alternative over time is possibly problematic as I found it was associated with negative changes in relationship quality. This is particularly true for relationship satisfaction and commitment; commitment is a key predictor of whether a relationship will endure over time (Le & Agnew, 2003, Le et al., 2010; Rusbult et al., 1998). It is difficult to avoid noticing attractive alternatives and it reporting an attraction toward an alternative is not uncommon while in a romantic relationship.

In light of this, information from this study may be useful for relationship and sexuality educators. A national call for comprehensive sex education (Future of Sex Education Initiative, 2012) highlighted the need for providing students with education that extends beyond risk and safety to include health relationships, among other topics (Future of Sex Education Initiative, 2020). In adolescence, attraction to others is common (Bowker et al., 2012; Oettingen & Mayer, 2002) and is thought to be developmental experience that typically occurs prior to forming a romantic relationship (Connolly et al., 2004). These findings would also be relevant in higher level education as they advance what we know about attraction to others in the context of relationships. In particular, educators can teach about experiences of attraction, including to multiple people, which are often not discussed. This may allow individuals to acknowledge their attractions and intentionally implement strategies to enhance their primary relationship if

that is their intention (which is also dependent on whether an exclusivity agreement has been communicated in the primary relationship).

This research will also be useful for clinicians helping to support individuals or couples in distress. Individuals who endorse a belief that they must "only have eyes" for their romantic partner may find themselves distressed when they attend to attractive alternatives. Information regarding how commonplace these attractions are may be quite "normalizing" for some individuals. For others, this information could prove useful to help identify risk factors or potential "tripwires" which could result in unintentional connection with an attractive alternative. For couples who present in distress, clinicians can assess the interest of members of the couple in attractive alternatives and facilitate a couples' negotiation of acceptable boundaries within the primary relationship and facilitate discussion of exclusivity agreements. Overall, this study constitutes an early but comprehensive investigation of dynamics underlying the potential impact of attraction to individuals outside of one's committed relationship, and the possible trajectory of that attraction and its role in challenging relationship quality and ultimately longevity.

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Appendix A

Recruitment Material

Time One

Recruitment Posting for Mechanical Turk® and Prolific Academic®

Recruitment for surveys on relationships (20-30 min)

This study is based at the University of New Brunswick in Fredericton, Canada. We are currently recruiting participants for research on romantic relationships. To participate you must be currently involved in a romantic relationship. Other eligibility criteria may apply.

To find out more please click on the link provided.

[LINK]

Recruitment Posting for Social Media

In a relationship? We want to hear from you! Looking for people ages 22-35 in exclusive relationships to complete an min online survey. Complete the survey to get an e-gift card!

[LINK]

Time Two

Recruitment Email Mechanical Turk® and Prolific Academic® and Social Media

Four months ago, you completed a survey about the romantic relationship in which you were involved at that time. You indicated a willingness at that time to complete a follow-up survey. If you are still interested, you will be compensated for your time. Crowdsourced only: [If you are still an MTurk®/Prolific Academic® worker, you will receive payment via Mechanical Turk®/Prolific Academic®].

If you are still interested in learning more about the study, please click on the link provided.

[LINK]

Appendix B

Informed Consent Time One

**[Screening Items for Online Recruitment Preceding Entrance into Survey;
Additional items are used to disguise the criteria needed to enter—i.e., ages 22-35
years, romantic relationship for more than 3 months]**

Page 1: To find out if you are eligible to participate in our research, please answer the following questions:

What is your current relationship status?

- Single
- Dating, one person exclusively
- Dating, more than one person
- Living with a romantic partner (not married)
- Engaged
- Married to a romantic partner
- Divorced
- Widowed
- Separated
- Open-relationship

How long have you been in your current relationship?

- 0-3 months
- 3-6 months
- 6-12 months
- 1-3 years
- 3-5 years
- More than 5 years

What is your age?

[open ended; requires numeric value entered]

In your current primary relationship, do you and your primary partner have an understanding (even if you have never talked about it openly) that neither of you will be romantically or sexually involved with others during your relationship?

- Yes
- No
- Unsure

In what country do you currently live?

- USA
- Canada
- Other: please specify

It is common for people who are in long-term relationships to be attracted to people outside of their relationship (a crush). It may be someone well known to you or someone you've never even talked to. They may know you find them attractive or have no idea that you do. You may or may not know if they find you attractive too. This person is someone you may have feelings for, and may have flirted with, but have not connected with romantically and/or sexually. [We are asking about attraction to an individual who is not a celebrity].

Are you currently attracted to someone other than your romantic partner (a crush) , but you have not connected with them romantically or sexually while in your current relationship?

- Yes
- No
- Unsure

Informed Consent

[If they meet eligibility criteria (i.e., between the ages of 22-35, relationship duration of at least three months, report an attraction toward an alternative, report an exclusivity agreement)]:

You are invited to participate in a survey conducted by researchers at the University of New Brunswick in Fredericton, Canada. This project is on file with the Research Ethics Board, University of New Brunswick (REB #).

Why is this research being done? This survey is the [T1A:first part; T1B: second part] of a five-part study assessing people's romantic relationships. The purpose of this research is to explore how adults maintain their primary romantic relationships and factors that help to explain stability over time.

What do you want me to do? You will be asked to take part in an online survey that will take about [T1A:25 minutes; T1B: 20 minutes] to complete. You will be asked a variety of questions about your background, current relationship, relationship and sexual history, and romantic and sexual behaviours.

There are also easy questions included in the survey that let us know that you are a real person (and not a spam bot) and that you are paying attention and understand the questions. You must answer these questions correctly to be compensated for completing the study. Please complete the study in a private setting where you are unlikely to be interrupted.

You also will be asked to give us contact information so that we can email you a link to a brief additional survey that will take approximately 20 minutes to complete. We will ask you to complete those surveys in [T1A:a few days; T1B: 4 months], 6 months and 12 months from now.

Are there any risks? We do not expect that you will experience any discomfort during the study. If you do feel uncomfortable, you can stop the study or skip the questions that make you uncomfortable or stop answering them altogether. Participation in the study is completely voluntary. You can withdraw from the research and withdraw any data about yourself, at any time, without penalty. However, we ask that you do answer the questions that confirm you are human, paying attention, and understand the questions.

Are there any benefits to participating? You will receive [T1A: \$2.50; T1B: \$3.00 via your crowdsourcing account/amazon gift card. You also will receive [T1A: \$3 for completing the survey in a few days; T1B: \$4 for completing a brief follow-up four months from now], \$5 for completing the brief follow-up survey six months from now, and another \$6 for completing the brief follow-up survey 12 months from now. You also can choose to receive a summary of the findings of this research by providing your e-mail at the end of the survey. You can also choose to receive a summary of the findings of this research by providing your e-mail address at the end of the survey. This email address will be kept separate from your survey responses.

How do you keep my answers private? Only the researchers will have access to the information you give in the surveys. [Mechanical Turk(R)/ProlificAcademic® will not have access to your survey answers]. The consent forms are online and kept separate from the survey and stored on a secure database. No identifying information will be attached to your survey responses; your survey will be given a study number only. If you are asked to provide contact information, it will only be used to send you the follow-up surveys or to provide information about the results once the study is completed (if desired). Any contact information will be stored separately from your survey data.

Only a summary of the overall results will be shared in possible future presentations and/or publications of the survey data. The website that hosts the survey is on a secure server. All data will be securely stored on a password protected computer in a secure research office for seven years as per ethical process, and then be destroyed in full.

How can I get more information about this research project? If you have any questions before, during, or after the study, or if you would like to learn more about this research project, please feel free to contact Charlene Belu [c.belu@unb.ca] or Dr. Lucia O’Sullivan [osulliv@unb.ca, 1-506-458-7588]. Please remember that email is not guaranteed to be secure. Privacy is assured if you phone our research office.

If you would prefer to speak with an individual not directly involved in this research, please contact the director of the Ethics Review Committee for the Department of Psychology (Dr. Biljana Stevanovski, bstevano@unb.ca, 1-506-458-7693). This project is on file with the Research Ethics Board, University of New Brunswick (REB #).

By clicking the “I agree” button at the bottom of this page, I am agreeing to the following statement: I have read the above description and volunteer to participate in this study. I understand that I will not be compensated if I respond in a way that indicates I am not paying attention or that I do not understand the questions. I

understand that I can decide to discontinue my participation or not to provide any personal information at any time without question and without penalty.

- **I agree**

- **I disagree**

Appendix C

Informed Consent Time Two

Introduction

You are invited to participate in research being conducted at the University of New Brunswick in Fredericton, Canada. It is up to you to decide whether to be in the study. Before you decide, you need to understand what the study is for, what risks you might take, and what benefits you might receive. This consent form explains the study.

Why is this research being done? This survey is the third part of a five-part study assessing people's romantic relationships. The purpose of this research is to explore how adults maintain their primary romantic relationships and factors that help to explain stability over time.

What do you want me to do? You will be asked to take part in an online survey that will take about 15-25 minutes to complete. You will be asked a variety of questions about your background, current relationship, relationship and sexual history, and romantic and sexual behaviours.

There are also easy questions included in the survey that let us know that you are a real person (and not a spam bot) and that you are paying attention and understand the questions. You must answer these questions correctly to be compensated for completing the study. Please complete the study in a private setting where you are unlikely to be interrupted.

We will ask you to complete follow-up surveys in two months from now and eight months from now.

Are there any risks? We do not expect that you will experience any discomfort during the study. If you do feel uncomfortable, you can stop the study or skip the questions that make you uncomfortable or stop answering them altogether. Participation in the study is completely voluntary. You can withdraw from the research and withdraw any data about yourself, at any time, without penalty. However, we ask that you do answer the questions that confirm you are human, paying attention, and understand the questions.

Are there any benefits to participating?

You will receive \$4.00 via [your crowdsourcing account/amazon.ca gift card] for completing this survey.

You also will receive \$5 for completing the brief follow-up survey two months from now, and another \$6 for completing the brief follow-up survey eight months from now.

You also can choose to receive a summary of the findings of this research by providing your e-mail at the end of the survey.

Are my answers anonymous? No. However, they will be kept private. Only the researchers will be able to see your survey responses, and it will be identified only by an ID number that we assign to it. There will be no other identifying information on your survey.

Your worker ID and IP address will be connected to your survey responses to allow for compensation and response screening. We do not have access to any other identifying information (e.g., your name, address).

You can complete the survey in any location that is convenient to you. As some questions may be sensitive in nature, you may wish to complete the survey in a private location. Doing so will also help to ensure that you answer the survey questions as accurately and honestly as you can.

[crowdsourcing: We ask that you provide your e-mail address if you think you may no longer be an active crowdsourcing worker two and eight months from now so that we can email you a short follow-up survey].

How do you keep my answers private? Only the researchers will have access to the information you give in the surveys. [Mechanical Turk® /Prolific Academic® will not have access to your survey answers. The consent forms are online and kept separate from the survey and stored on a secure database. No identifying information will be attached to your survey responses; your survey will be given a study number only. If you are asked to provide contact information, it will only be used to send you the follow-up surveys or to provide information about the results, once the study is completed (if desired). Any contact information will be stored separately from your survey data.

Only a summary of the overall results will be shared in possible future presentations and/or publications of the survey data. The website that hosts the survey is on a secure server. All data will be securely stored on a password protected computer in a secure research office for seven years as per ethical process, and then be destroyed in full.

How can I get more information about this research project? If you have any questions before, during, or after the study, or if you would like to learn more about this research project, please feel free to contact Charlene Belu [c.belu@unb.ca] or Dr. Lucia O’Sullivan [osulliv@unb.ca, 1-506-458-7588]. Please remember that email is not guaranteed to be secure. Privacy is assured if you phone our research office.

If you would prefer to speak with an individual not directly involved in this research, please contact the director of the Ethics Review Committee for the Department of Psychology (Dr. Biljana Stevanovski, bstevano@unb.ca, 1-506-458-7693). This project is on file with the Research Ethics Board, University of New Brunswick (REB #).

By clicking the “I agree” button at the bottom of this page, I am agreeing to the following statement: I have read the above description and volunteer to participate in this study. I understand that I will not be compensated if I respond in a way that indicates I am not paying attention or that I do not understand the questions. I

understand that I can decide to discontinue my participation or not to provide any personal information at any time without question and without penalty.

- **I agree**
- **I disagree**

Appendix D

Non-eligibility Form

Thank you for your interest in our research. Unfortunately, you are not eligible to participate in the current study.

If you are interested in learning more about the research on relationships, the following websites are an excellent place to start:

- Science of Relationships: <http://www.scienceofrelationships.com>
- The Psychology of Human Sexuality: <http://www.lehmiller.com>
- The Kinsey Institute: <https://kinseyinstitute.org/research/index.php>

If you have any questions or comments, please feel free to contact either Charlene Belu (c.belu@unb.ca) or Dr. Lucia O'Sullivan (osulliv@unb.ca). Any concerns about this study may be addressed to Dr. Biljana Stevanovski (bstevano@unb.ca; 1-506-453-4974), Chair of the Department of Psychology Ethics Committee at the University of New Brunswick in Canada. This project is on file with the Research Ethics Board, University of New Brunswick (REB#)

Appendix E

Background Questionnaire

1. What is your gender?
 - Male
 - Female
 - Transgender male
 - Transgender female
 - Other (please specify)

2. How old are you (in years)?

3. Which of the following BEST describes your sexual orientation?
 - Gay
 - Lesbian
 - Bisexual
 - Mostly heterosexual
 - Heterosexual
 - Asexual
 - Questioning
 - Other (specify) _____
 - Don't know
 - No labels preferred

4. Which best describes your race/ethnicity?
 - Aboriginal/Metis/Inuit/Native American/American Indian
 - African-American/Black
 - Arab
 - Caucasian/White/European
 - Chinese
 - Filipino
 - Hispanic/Latino/Latina
 - Japanese
 - Korean
 - Latin American
 - Bi-racial/Multi-racial
 - South Asian (e.g. East Indian, Pakistani, Sri Lankan)
 - Southeast Asian (e.g. Vietnamese, Cambodian, Malaysian, Laotian)
 - West Asian (e.g. Iranian, Afghan)
 - Other (please specify)

5. In what country do you currently live?
 - USA
 - Canada

- Other: please specify

6. What is the highest level of education that you have completed?

- Some grade school
- Grade school
- Some high school
- High school
- Some college or technical school
- College or technical school
- Some university
- University
- Some graduate school
- Graduate school

Crowdsourcing

7. What is your worker ID?

Social Media

8. What is the day of your birth?

9. What is the first letter of your first name?

10. What is the last letter of your last name?

11. What are the last four digits of your phone number?

Appendix F

Characteristics of the Romantic Relationship

1. What is your current romantic relationship status?
 - Casually dating, not exclusive
 - In a new/casual relationship with one person exclusively
 - Dating, one person exclusively
 - Dating, more than one person
 - In a committed relationship (i.e., living together, engaged, married) with one person exclusively
 - In a committed relationship (i.e., living together, engaged, married), but also in a relationship with someone else

Other: please specify

IF YES TO MORE THAN ONE PARTNER:

In an earlier question, you mentioned that you were in a relationship with more than one person.

Is your current primary romantic partner aware of your additional romantic and/or sexual relationships?

- Yes
- No
- Unsure

Is your current primary romantic partner accepting of your outside relationships?

- Yes
- No
- Unsure

2. How long have you been in your current primary relationship (in months)?
Please count from the start of the relationship.

3. What is your current primary partner's gender?
 - Male
 - Female
 - Transgender male
 - Transgender female
 - Other (please specify):

Appendix G

Infidelity

In your current primary relationship, do you and your primary partner have an understanding (even if you have never talked about it openly) that neither of you will be romantically or sexually involved with others during your relationship?

- Yes
- No
- Unsure

Despite having some type of agreement or understanding with their partner, many people develop some kind of sexual or romantic involvement at some level (ranging from a brief one-time encounter to a long-term relationship) with another person.

Sexual involvement means any kind of physically arousing contact (e.g., kissing, sexual touching, oral sex, intercourse).

Romantic involvement means any kind of close affection or intimate connection (e.g., sharing of intense or private thoughts and feelings, "falling in love") with another which may create an emotional distance between you and your partner because you spend a lot of time with or thinking about this other person.

Remember all your responses are confidential.

Which is true for you and your current primary partner?

- a. I have been romantically involved with at least one other person during my relationship with my current partner
 - No, because I didn't want to
 - No, because there was no opportunity
 - Yes, only one time though
 - Yes, more than once with the same person
 - Yes, have done this with multiple people
- b. I have been sexually involved with at least one other person during my relationship with my current partner
 - No, because I didn't want to
 - No, because there was no opportunity
 - Yes, only one time though
 - Yes, more than once with the same person
 - Yes, have done this with multiple people
- c. My partner has been romantically involved with at least one other person during our relationship
 - No

- Yes, only one time though
 - Yes, more than once with the same person
 - Yes, they have done this with multiple people
 - I don't know
- d. My partner has been sexually involved with at least one other person during our relationship
- No
 - Yes, only one time though
 - Yes, more than once with the same person
 - Yes, they have done this with multiple people
 - I don't know
- e. I believe (but do not know for sure) that my partner has been romantically involved with at least one other person during our relationship
- No
 - Yes
 - Maybe
- f. I believe (but do not know for sure) that my partner has been sexually involved with at least one other person during our relationship
- No
 - Yes
 - Maybe
- g. Neither I nor my partner has been romantically involved with any other person during our relationship
- No
 - Yes
- h. Neither I nor my partner has been sexually involved with any other person during our relationship
- No
 - Yes

[IF PARTICIPANT CHECKS YES TO INFIDELITY]

Based on your agreement with your partner to be exclusive, do you consider this romantic and/or sexual involvement with someone else to be breaking this agreement?

- Yes
- No
- Unsure

Based on your understanding with your partner to be exclusive, do you think your partner would consider this romantic/sexual involvement with someone else to be breaking this agreement?

- Yes
- No

- Unsure

At Time Two

When you completed this survey four months ago, you reported having an attraction toward someone other than your romantic partner, following this prompt:

"It's common for people who are in long-term relationships to be attracted to people outside of their relationship. We are interested in attractions to people other than one's romantic partner— it may be someone well known to you or someone you've never even talked to. They may know you find them attractive or have no idea that you do. This person may even find you attractive. This individual is someone you have feelings for, and may have flirted with, but you have not attempted to connect with romantically or sexually at the present time or while in your current relationship."

Thinking about the individual whose initials you wrote down (i.e., the individual you reported having an attraction to four months ago), please select the most accurate statement below.

Remember, sexual involvement means any kind of physically arousing contact (e.g., kissing, sexual touching, oral sex, intercourse).

Romantic involvement means any kind of close affection or intimate connection (e.g., sharing of intense or private thoughts and feelings, "falling in love") with another which may create an emotional distance between you and your partner because you spend a lot of time with or thinking about this other person.

Which of the following is true for you?

- i. I have been romantically involved with that attractive other during my relationship with my current partner:
 - No, because I didn't want to
 - No, because there was no opportunity
 - Yes, only one time though
 - Yes, more than once with this person
 - Yes, but I have also been involved with other people too
- j. I have been sexually involved with that attractive other during my relationship with my current partner
 - No, because I didn't want to
 - No, because there was no opportunity
 - Yes, only one time though
 - Yes, more than once with this person
 - Yes, but I have also been involved with other people too

Appendix H

Attention to Alternatives

Please rate how well each of these statements describes you, using this scale:

1	2	3	4	5
Not at All	Somewhat	Moderately Well	Quite Well	Extremely Well

1. I never pass up a chance to meet attractive new partners.
2. I'm always on the prowl for an exciting new relationship.
3. If my relationship were to end, I know who my next partner would be.
4. I sometimes pretend to be single when I'm already dating someone.
5. I'm always looking for new romantic partners even when I'm already in a relationship.
6. When I go out without my partner, I usually pretend that I am single.
7. I like to be aware of whom I could date other than my current partner.
8. I'd like to be asked to dinner by someone new.
9. Good-looking people of the sex(es) I'm attracted to always catch my attention.
10. There is no harm in looking at hot people of the sex(es) I'm attracted to when they walk by.
11. I believe it's okay to look as long as I don't touch.
12. I see no harm in appreciating good looks in members of the sex(es) I'm attracted to.
13. I always notice attractive people of the sex(es) I'm attracted to at social gatherings.
14. You should not answer this question if you read it.
15. When attractive people of the sex(es) I'm attracted to walk by, they grab my attention.
16. I can't help but notice when attractive members of the sex(es) I'm attracted to are around.
17. When I'm in a relationship, other possible partners do not interest me.
18. There's no point in looking around because I will never find someone better than my current partner.
19. I try not to think of anyone but my partner in a romantic way.
20. I cannot imagine myself with anyone other than my current partner.
21. I think about my partner too much to notice other members of the sex(es) I'm attracted to.
22. When I'm dating someone, I don't check out other people.
23. My partner has my undivided attention.
24. I'm always aware that there are a lot of other romantic partners who are available to me.

Appendix I

Characteristics of Attraction Toward an Attractive Alternative

It's common for people who are in long-term relationships to be attracted to people outside of their relationship. We are interested in attractions to people other than one's romantic partner— it may be someone well known to you or someone you've never even talked to. They may know you find them attractive or have no idea that you do. This person may even find you attractive. This individual is someone you have feelings for, and may have flirted with, but you have not attempted to connect with romantically or sexually at the present time or while in your current relationship.

1. While in your current relationship, have you ever had an attraction to someone other than your romantic partner?
 - Yes
 - No

IF YES:

How many people have you had an attraction to other than your romantic partner?

[open ended numerical response]

2. Do you currently have an attraction to someone other than your romantic partner?
 - Yes
 - No

Answer the following questions about your current primary attraction, or the individual that you are most attracted to [IF more than 1]

3. What are the initials of the person who you are most attracted to?
[open ended=attractive alternative initials]
4. For how long have you known [attractive alternative initials]?
5. How long have you had this attraction for?
[months]
6. What is the gender of [attractive alternative initials]?
 - Male
 - Female
 - Transgender male
 - Transgender female
 - Other (please specify)
7. Is [attractive alternative initials] attracted to you?

- Yes
- No
- Unsure

8. Were you already in your current relationship when these feelings of attraction toward [attractive alternative initials] began??

- Yes
- No

9. Is the person you're attracted to aware that you are in an exclusive romantic relationship?

- Yes
- No
- Unsure
- N/A

10. What is the nature of the relationship with this attractive other?

- Strangers
- Acquaintances
- Casual friends (e.g., someone you see occasionally)
- Online friends (e.g., purely an online relationship)
- Close friends
- Best friends
- Friends with benefitts
- Past romantic partner
- Other

11. How did you meet this attractive other?

- At work
- At school
- Friend of a friend
- Partner's sibling
- Partner's family member (other than sibling)
- Ex-partner
- Online (e.g., Facebook®)
- Other

12. Do you live in the same city as this attractive other?

- Yes
- No

13.

14. In your current primary relationship, do you and your primary partner have an understanding (even if you have never talked about it openly) that you will not be attracted to others during your relationship?

- Yes
- No

15. Is your partner aware that you are attracted to [attractive alternative initials]?

16. Does [attractive alternative initials] know that you are attracted to them?

17. Do you think that your attraction to [attractive alternative initials] is possibly problematic for your primary relationship in some way?

Not at
all

Absolutely

1

2

3

4

5

18. What would you like to happen between you and [attractive alternative initials]?

- I want things to intensity so we can connect romantically and/or sexually
- I want my attraction to cool off so I do not connect with them
- No need for this attraction to change, I can leave it as is

19. If provided the opportunity, I would leave my partner for [attractive alternative initials].

Strongly
disagree

Strongly
agree

1

2

3

4

5

6

7

20. I have had sexual intercourse with [attractive alternative initials].

- No
- Yes, but just once and before my current relationship
- Yes, multiple times but before my current relationship
- Yes, just once during my current relationship
- Yes, multiple times during my current relationship
- Yes, it is still ongoing
- Other

21. I wish I could engage in sexual activity with @@149758.

Strongly
disagree

Strongly
agree

1

2

3

4

5

6

7

Answer the following questions about [attractive alternative initials] and how often you interact with them.

22. I intentionally go out of my way to talk to [attractive alternative initials] (e.g., in person, telephone, online).

- Never
- Very seldom
- About once every 2-3 months
- About once a month
- About once every two to three weeks
- About once every two weeks
- About once a week
- Several times per week
- Nearly every day
- At least once a day

23. I intentionally go out of my way to spend time with [attractive alternative initials] (e.g., arrange social gatherings they are invited to).

- Never
- Very seldom
- About once every 2-3 months
- About once a month
- About once every two to three weeks
- About once every two weeks
- About once a week
- Several times per week
- Nearly every day
- At least once a day

Appendix J

Attraction Toward an Attractive Alternative

There are times within romantic relationships when we are attracted to other people. Part of being human is being aware and attracted to people. Sometimes that attraction is mutual and sometimes it is not. When it is mutual it often leads to flirting behaviours. We want you to think again about the person that you are most attracted to besides your partner (the one whose initials you wrote down earlier).

Please respond to the following general questions about this person that you are most attracted to.

1. How physically attractive do you find this person?

Not at all attractive									Extremely attractive
0	1	2	3	4	5	6	7	8	

2. How much time do you spend thinking about this person?

No time									A great deal of time
0	1	2	3	4	5	6	7	8	

3. How much flirting occurs between the two of you?

No flirting									A great deal of flirting
0	1	2	3	4	5	6	7	8	

4. How tempted are you to be emotionally intimate (e.g., share feelings, emotions) with this person?

Not at all tempted Extremely Tempted

0 1 2 3 4 5 6 7 8

5. How tempted are you to be physically intimate (e.g., kissing, sexual activity) with this person?

Not at all tempted Extremely tempted

0 1 2 3 4 5 6 7 8

6. How excited does this person make you feel?

Not excited at all Very excited

0 1 2 3 4 5 6 7 8

Appendix K

Subjective Opportunity

We want you to think again about the person that you are most attracted to besides your partner (the one whose initials you wrote down earlier). Please answer the questions below with regard to this individual.

As a reminder, sexual involvement means any kind of physically arousing contact (e.g., kissing, sexual touching, oral sex, intercourse).

Romantic involvement means any kind of close affection or intimate connection (e.g., sharing of intense or private thoughts and feelings, "falling in love") with another which may create an emotional distance between you and your partner because you spend a lot of time with or thinking about this other person.

Not at
all true

Very
much
true

1

2

3

4

5

1. [attractive alternative initials] is interested in me romantically.
2. [attractive alternative initials] is interested in me sexually.
3. [attractive alternative initials] is willing to be physically intimate with me.
4. [attractive alternative initials] is willing to be emotionally intimate with me.
5. If I wanted, I could easily be physically intimate with [attractive alternative initials].
6. If I wanted, I could easily be emotionally intimate with [attractive alternative initials].
7. I have the opportunity to be physically intimate with [attractive alternative initials].
8. I have the opportunity to be emotionally intimate with [attractive alternative initials].
9. In my daily life, [attractive alternative initials] makes romantic advances toward me.
10. In my daily life, [attractive alternative initials] makes sexual advances toward me.

Appendix L

Objective Opportunity

Despite having some type of exclusivity agreement or understanding with a partner, many people have opportunities for some kind of sexual or romantic involvement from a brief one-time encounter to a long-term relationship with another person.

Opportunity refers to any kind of situation that makes it easier to have sexual or romantic involvement with someone, regardless of your own desires. For example, some people report more opportunity if they work with many attractive coworkers, if their romantic partner lives in a different city, or if they travel a lot for work. Other examples might include a job that involves more touching of others, discussing personal concerns, or being alone with others. Opportunity is anything that makes it easier to have sexual or romantic relations with someone other than one's partner.

We want you to think again about the person that you are most attracted to besides your partner (the one whose initials you wrote down earlier). Please answer the questions below with regard to this individual.

1. Have you had the opportunity to engage in romantic behaviours with an attractive other?
 - 1 – never
 - 2 – very seldom
 - 3 – about once every two or three months
 - 4 – about once a month
 - 5 – about once every two weeks
 - 6 – about once a week
 - 7 – several times per week
 - 8 – nearly every day
 - 9 – at least once a day

If yes: did you take this opportunity?

- Yes
- No

2. Have you had the opportunity to engage in sexual behaviours with an attractive other?
 - 1 – never
 - 2 – very seldom
 - 3 – about once every two or three months
 - 4 – about once a month
 - 5 – about once every two weeks
 - 6 – about once a week
 - 7 – several times per week

- 8 – nearly every day
- 9 – at least once a day

If yes: did you take this opportunity?

- Yes
- No

Appendix M

Relationship Satisfaction

Please answer the following questions regarding your current primary romantic relationship.

1. Please indicate the degree of happiness, all things considered, of your relationship.

Extremely unhappy	Fairly happy	A little Unhappy	Happy	Very Happy	Extremely Happy	Perfect
0	1	2	3	4	5	6

2. In general, how often do you think that things between you and your partner are going well?

All of the time	Most of the time	More often than not	Occasionally	Rarely	Never
5	4	3	2	1	0

3. Our relationship is strong.

Not at all true	A little true	Somewhat true	Mostly true	Almost completely true	Completely true
0	1	2	3	4	5

4. My relationship with my partner makes me happy.

Not at all true	A little true	Somewhat true	Mostly true	Almost completely true	Completely true
0	1	2	3	4	5

5. I have a warm and comfortable relationship with my partner.

Not at all true	A little true	Somewhat true	Mostly true	Almost completely true	Completely true
0	1	2	3	4	5

6. I really feel like a part of a team with my partner.

Not at all true	A little true	Somewhat true	Mostly true	Almost completely true	Completely true
0	1	2	3	4	5

7. How rewarding is your relationship with your partner?

Not at all	A little	Somewhat	Mostly	Almost completely	Completely
0	1	2	3	4	5

8. How well does your partner meet your needs?

Not at all	A little	Somewhat	Mostly	Almost completely	Completely
0	1	2	3	4	5

9. To what extent has your relationship met your original expectations?

Not at all	A little	Somewhat	Mostly	Almost completely	Completely
0	1	2	3	4	5

10. In general, how satisfied are you with your relationship?

Not at all	A little	Somewhat	Mostly	Almost completely	Completely
0	1	2	3	4	5

For each of the following items, select the answer that best describes how you feel about your relationship. Base your responses on your first impressions and immediate feelings about the items.

Interesting					Boring
5	4	3	2	1	0

Bad					Good
0	1	2	3	4	5

Full
5 4 3 2 1 Empty
0

Sturdy
5 4 3 2 1 Fragile
0

Discouraging
0 1 2 3 4 Hopeful
5

Enjoyable
5 4 3 2 1 Miserable
0

Appendix N

Perceived Quality of Alternatives

Facet Items

Please indicate the degree to which you agree with each statement regarding the fulfillment of each need in alternative relationships (e.g., by another dating partner, friends, family).

Do not agree at all	Agree Slightly	Agree Moderately	Agree Completely
0	1	2	3

1. My needs for intimacy (sharing personal thoughts, secrets, etc.) could be fulfilled in alternative relationships
2. My needs for companionship (doing things together, enjoying each other's company, etc.) could be fulfilled in alternative relationships
3. My sexual needs (holding hands, kissing, etc.) could be fulfilled in alternative relationships
4. My needs for security (feeling trusting, comfortable in a stable relationship, etc.) could be fulfilled in alternative relationships
5. My needs for emotional involvement (feeling emotionally attached, feeling good when another feels good, etc.) could be fulfilled in alternative relationships

Global Items

Please indicate the degree to which you agree with each of the following statements regarding your current relationship using the following scale:

Do not agree at all				Agree Somewhat				Agree Completely
0	1	2	3	4	5	6	7	8

1. The people other than my partner with whom I might become involved are very appealing.

2. My alternatives to our relationship are close to ideal (dating another, spending time with friends or on my own, etc.).
3. If I weren't dating my partner, I would do fine – I would find another appealing person to date.
4. My alternatives are attractive to me (dating another, spending time with friends or on my own, etc.).
5. My needs for intimacy, companionship, etc., could easily be fulfilled in an alternative relationship.

Appendix O

Relationship Investment

Facet Items

Please indicate the degree to which you agree with each of the following statements regarding your current relationship.

Do not agree at all	Agree Slightly	Agree Moderately	Agree Completely
0	1	2	3

1. I have invested a great deal of time in our relationship.
2. I have told my partner many private things about myself (I disclose secrets to him/her).
3. My partner and I have an intellectual life together that would be difficult to replace.
4. My sense of personal identity (who I am) is linked to my partner and our relationship.
5. My partner and I share many memories.

Global Items

Please indicate the degree to which you agree with each of the following statements regarding your current relationship using the following scale:

Do not agree at all					Agree Somewhat				Agree Completely
0	1	2	3	4	5	6	7	8	

1. I have put a great deal into our relationship that I would lose if the relationship were to end.

2. Many aspects of my life have become linked to my partner (recreational activities, etc.), and I would lose all of this if we were to break up.
3. I feel very involved in our relationship – like I have put a great deal into it.
4. My relationships with friends and family members would be complicated if my partner and I were to break up (e.g., partner is friends with people I care about).
5. Compared to other people I know, I have invested a great deal in my relationship with my partner.

Appendix P

Commitment

Please indicate the degree to which you agree with each of the following statements regarding your current relationship using the following scale:

Do not agree at all					Agree Somewhat					Agree Completely
0	1	2	3	4	5	6	7	8		

1. I want our relationship to last for a very long time.
2. I am committed to maintaining my relationship with my partner.
3. I would not feel very upset if our relationship were to end in the near future.
4. It is likely that I will date someone other than my partner within the next year.
5. I feel very attached to our relationship – very strongly linked to my partner.
6. I want our relationship to last forever.
7. I am oriented toward the long-term future of my relationship (for example, I imagine being with my partner several years from now).

Appendix Q

Sexual Satisfaction

1. Overall, how would you describe your sexual relationship with your partner?

Very Bad						Very Good
1	2	3	4	5	6	7
Very Unpleasant						Very Pleasant
1	2	3	4	5	6	7
Very Negative						Very Positive
1	2	3	4	5	6	7
Very Unsatisfying						Very Satisfying
1	2	3	4	5	6	7
Worthless						Very Valuable
1	2	3	4	5	6	7

Appendix R

Relationship Dissolution

Are you currently in a relationship with the same person that you were in a relationship with four months ago?

- Yes
- No

Appendix S

Contact Sheet for Follow up Assessment

We are interested in conducting a shorter follow-up survey 4 months from now regarding your current romantic relationship. Agreeing to be contacted to do this follow-up survey in 4 months in no way obligates you to complete the survey at that point in time. Your participation is completely voluntary. [Crowdsourcing: You will be compensated \$3.00 for your time].

Would you like to be contacted for the opportunity to conduct this survey?

- Yes
- No

If YES:

Please provide us with the initials of your current primary partner (e.g., CB) so we can verify that you are in the same relationship. [open ended]

Please provide us with the initials of the person you're currently primarily or most attracted to other than your partner(e.g., JW), if applicable.

You will be directed to a page that is separate from your survey responses to provide your email address so that we can contact you to participate in our follow-up study.

Submission of a survey is considered complete once you click on the “submit” button. Because this is an anonymous online survey, you cannot withdraw or delete your answers once they have been submitted. Once you submit the survey, this will be taken as an indication of your informed consent

Appendix T

Debriefing Form

Thank you for taking the time to complete the survey on your current romantic relationship. In particular, we are interested in relationship quality, and whether attraction to others will have an impact on relationship quality over time.

Research has demonstrated in the early stages of an intimate relationship, most individuals will fail to notice or be distracted by attractive others as their attention is very focused on their partner. This peaks early in an intimate relationship (approximately six months for most), and this will gradually wane over the following year.

Attractive others become more salient again after this point, and it is very common for partners to experience sexual and/or romantic feelings for multiple people throughout the course of a relationship. People who pay more attention to potential alternative partners tend to have lower satisfaction with their current relationship. However, many people are able to ensure that they are not distracted by attractive others, or can have a crush or attraction to another person that has no impact on their primary relationship. Our study was designed to explore in which situations having a crush impacts the primary relationship.

The survey you just completed is helping us to understand differences in relationship quality that may happen over time, and differences that are linked to attraction to people other than one's romantic partner.

If you are interested in learning more about sexuality or relationships, the following websites are a good place to start:

- Science of Relationships – <http://www.scienceofrelationships.com/>
- Sexuality and U – <http://www.sexualityandu.ca/>
- The Kinsey Institute – <http://www.kinseyinstitute.org/>

Thank you again for taking the time to complete this survey. If you have any questions or comments, please feel free to contact Charlene Belu (c.belu@unb.ca) or Dr. Lucia O'Sullivan (osulliv@unb.ca). Any concerns about this study may be addressed to the Director of the Psychology Ethics Committee at the University of New Brunswick in Canada (Dr. Biljana Stevanovski, bstevano@unb.ca, 1-506- 458-7693).

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Muise, M., **Belu, C. F.**, & O'Sullivan, L. F. (2021). Unspoken, yet understood: Exploring how couples communicate their monogamy agreements. *Canadian Journal of Human Sexuality*, 30, 196-204, <https://doi.org/10.3138/cjhs.2021-0011>

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Belu, C. F., & O'Sullivan, L. F. (2019). Roving eyes: Predictors of crushes in ongoing romantic relationships and implications for relationship quality. *Journal of Relationship Research*, 10, e2. <https://doi.org/10.1017/jrr.2018.21>

- Belu, C. F., & O'Sullivan, L. F.** (2018). Why find my own when I can take yours?: The quality of relationships that arise from successful mate poaching. *Journal of Relationship Research, 9*, e6. <https://doi.org/10.1017/jrr.2018.5>
- Semenyna, S. W., **Belu, C. F.**, Vasey, P. L., & Honey, P. L. (2018). Not straight and not straightforward: The relationships between sexual orientation, sociosexuality, and dark triad traits in women. *Evolutionary Psychological Science, 4*, 24-37. <https://doi.org/10.1007/s40806-017-0111-y>.
- Belu, C. F., Lee, B.H., & O'Sullivan, L.F.** (2016). It hurts to let you go: Characteristics of romantic relationships, breakups and the aftermath. *Journal of Relationship Research, 7*, 1-11. <https://doi.org/10.1017/jrr.2016.11>
- O'Sullivan, L. F., Fuller, R. B., & **Belu, C. F.** (2016). UNB Sexual Assault Climate Survey. https://www.unb.ca/initiatives/_assets/documents/sexualassault/assault-climate.pdf

Conference Presentations:

- Belu, C.F., & O'Sullivan, L. F.** (2021, October). *Crushing on you: Attraction toward someone other than your romantic partner*. Oral data blitz presented the annual meeting of the Canadian Sex Research Forum [virtual].
- Muise, M., **Belu, C. F.** & O'Sullivan, L. F. (2020, October). *Unspoken yet understood: Exploring how couples communicate their monogamy agreements*. Poster presented at the annual meeting of the Canadian Sex Research Forum [virtual].
- Belu, C. F. & O'Sullivan, L. F.** (2020, October). *Dancing with myself: The perceived stigma of singlehood among emerging adults*. Poster presented at the annual meeting of the Canadian Sex Research Forum [virtual].
- O'Sullivan, L. F., Lee. B., & **Belu, C. F.** (2019, October). *Efforts to maintain monogamy when faced with an attractive alternative partner*. Paper presented at the annual congress of the World Association for Sexual Health, Mexico City, Mexico.
- O'Sullivan, L. F., Lee. B., & **Belu, C. F.** (2019, July). *Only you: Monogamy maintenance strategies and the appeal of attractive others*. Poster presented at the annual Mini International Association of Relationship Research Conference, Brighton, United Kingdom.
- Belu, C. F., & O'Sullivan, L. F.** (2019, May). *Once a poacher always a poacher? Sociosexual orientation, serial infidelity, and associations with relationship quality*. Poster presented at the annual meeting of the Canadian Psychological Association, Halifax, NS.
- Richard, M., **Belu, C. F., & O'Sullivan, L. F.** (2019, May). *Rape myth acceptance among university students and its associations with bystander intervention*

attitudes and sexual assault. Poster presented at the annual meeting of the Canadian Psychological Association, Halifax, NS.

Byers, N., **Belu, C. F.**, & O'Sullivan, L. F. (2019, March). *Does duration of individuals' single status affect ratings of attractiveness?* Paper presented at the annual Graduate Research Conference at the UNB, Fredericton, NB.

Belu, C. F., & O'Sullivan, L. F. (2018, October). *Roving eyes: Predictors of crushes in adulthood and desire to connect with them.* Poster presented at the annual meeting of the Canadian Sex Research Forum, Toronto, ON.

Cormier, L. A., **Belu, C. F.**, Fuller, R. B., & O'Sullivan, L. F. (2018, October). *Varsity vulnerable? Experiences and perceptions of sexual assault among varsity athletes.* Poster presented at the annual meeting of the Canadian Sex Research Forum, Toronto, ON.

Belu, C. F., & O'Sullivan, L. F. (2017, October). *Mate poaching and relationship quality: Does a history of poaching make a difference?* Poster presented at the annual meeting of the Canadian Sex Research Forum, Fredericton, NB.

Semenyna, S. W., **Belu, C. F.**, Vasey, P. L., & Honey, P. L. (2017, July) *Not straight, and not straightforward: The relationships between sexual orientation, sociosexuality, and Dark Triad traits in women.* Poster presented at the annual meeting of the International Academy of Sex Research, Charleston, USA.

Belu, C. F., & O'Sullivan, L. F. (2017, June). *Crushes in adulthood: Are they just a backburner?* Poster presented at the annual meeting of the Canadian Psychological Association, Toronto, ON.

Belu, C.F., & O'Sullivan, L. F. (2016, November). *I've got a crush on you...but you're not mine.* Paper presented at the annual meeting of the Society for the Scientific Study of Sexuality, Phoenix, USA.

Belu, C.F., & O'Sullivan, L. F. (2016, September). *Would you have sex with your crush if you could get away with it?* Poster presented at the annual meeting of the Canadian Sex Research Forum, Quebec, QC.

Belu, C.F., & O'Sullivan, L. F. (2016, July). *Romantic attraction to someone other than your partner equals dissatisfaction...some of the time.* Paper presented at the biannual meeting of the International Academy of Relationship Research, Toronto, ON.

Belu, C.F., & O'Sullivan, L. F. (2015, October). *Mate poaching and the quality of relationships that emerge from it.* Paper presented at the annual meeting of the Canadian Sex Research Forum, Kelowna, BC.

Belu, C. F., & O’Sullivan, L. F. (2015, August). *Why find my own when I can take yours: Relationships that arise from mate poaching.* Poster presented at the annual meeting of the International Academy of Sex Research, Toronto, ON.

Belu, C.F., Lee, B. H., & O’Sullivan, L. F. (2015, June). *Still hung up on you: Post-relationship contact and tracking among Canadian emerging adults.* Paper presented at the annual meeting of the Canadian Psychological Association, Ottawa, ON.

Belu, C.F., Lee, B. H., & O’Sullivan, L. F. (2014, October). *Can’t let you go: Post-relationship contact and tracking among Canadian emerging adults.* Paper presented at the annual meeting of the Canadian Sex Research Forum, Kingston, ON.

Belu, C. F. & Honey, P. L. (2011, July). *The women your mom warned you about: Dominance, sexuality and the Dark Triad.* Poster presented at the annual meeting of the Human Behavior and Evolution Society, Montpellier, France.

Academic Awards:

2020	Maecenas Graduate Scholarship UNB <i>Awarded based on academic achievements and relevant contributions to the future recipient's field of study</i>	\$8,745
2019	Department of Psychology Discretionary Award UNB	\$1,000
2019	Snodgrass Prize for Graduate Research in Psychology UNB <i>Awarded for the best student research paper in the Psychology Department submitted to a refereed journal</i>	\$900
2019	Graduate Scholarship for Doctoral Students New Brunswick Innovation Foundation (NBIF)	\$7,000
2018 – 2019	Magee Third Century Postgraduate Merit Award UNB	\$3000
2018	Snodgrass Research Proposal Award UNB	\$1,000
2018	Psychology Graduate Student Award UNB	\$200
2018	Graduate Scholarship for Doctoral Students NBIF	\$7,000
2017 – 2018	Board of Governors Merit Award for Graduate Studies UNB	\$3,000
2017	Graduate Scholarship for Doctoral Students NBIF	\$7,000

2016 – 2019	Joseph Armand Bombardier Canada Graduate Scholarship (Doctoral Award-D3) Social Sciences and Humanities Research Council of Canada (SSHRC)	\$105,000
2016 – 2017	Magee Third Century Postgraduate Merit Award UNB	\$3,000
2015 – 2019	Faculty of Arts Graduate Assistantship (DECLINED) UNB	\$75,708
2015 – 2016	Magee Third Century Postgraduate Merit Award UNB	\$3,000
2015	Joseph Armand Bombardier Canada Graduate Scholarship (Master's Award - CGSM) SSHRC	\$17,500
2014	Graduate Academic Assistantship UNB	\$10,500
2014	Social Innovation Scholarship NBIF	\$7,000