EFFECTS OF CROSS-SEX FRIENDSHIPS ON ROMANTIC RELATIONSHIPS

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ABSTRACT

Cross-sex friends can be perceived as third-party rivals in romantic relationships and threatens the persistence of the relationship. Despite the possible negative effects these friendships can have on romantic relationships, empirical studies examining this issue are scarce. Theory of motivated information management was used as an organizing framework to explore the information-management process individuals undergo when they desire to have more information about a romantic partner's cross-sex friendships. A longitudinal survey design was employed for this study by having participants complete questionnaires at two time points approximately four weeks apart. Results demonstrated a significant positive relationship between uncertainty discrepancy and negative emotions; however, these negative emotions at earlier time points did not predict later information seeking. The effect of valence of information obtained about a partner's cross-sex friendships on the relationship between information seeking and relational quality was mixed. Implications and directions for future research are discussed.

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CHAPTER 1. INTRODUCTION AND REVIEW OF LITERATURE

The need for intimate relationships and companionship is a hardwired response that intensifies at a young age. The first relationships that individuals maintain are with their family members (e.g., parents and siblings) and same-sex friends, and later, they begin to form relationships with cross-sex friends (Buhrmester & Furman, 1987). Socialization through regular exposure to the opposite sex begins as early as birth for individuals with older siblings of the opposite sex. Other children who are not socialized with the opposite sex at a young age may gain this experience in preschool or grade school between the ages of three to five years old. The desire for cross-sex friends generally emerges in the eighth grade and becomes increasingly normative through adolescence and into adulthood (Buhrmester & Furman, 1987; Connolly, Craig, Goldberg, & Pepler, 1999).

There are numerous benefits of being in cross-sex friendships. These benefits include emotional support, companionship, advice and perspective taking of the opposite-sex, and heightened self-esteem (Baumgarte, 2002; Bleske-Rechek et al., 2012; Kaplan & Keys, 1997; Rawlins, 1982). Additionally, individuals have fewer negative interactions, such as conflicts and annoyances, in their cross-sex friendships than in their romantic relationships (Hand & Furman, 2009). The relative lack of negative interactions could be because interdependence in cross-sex friendships is downplayed in comparison to romantic relationships. Considering that cross-sex friendships have similar benefits to romantic relationships but fewer negative interactions, cross-sex friendships may be more rewarding in some cases than romantic relationships. The rewards of cross-sex friendships may move these relationships to more intimate levels.

Cross-sex friendships can, however, be difficult to maintain because consistent cross-sex interactions can develop into romantic relationships. O'Meara (1989) suggested that cross-sex

friends must negotiate several things about their relationship to be successful. For instance, cross-sex friends must determine the type of relationships they wish to have, address the potential for sexual encounters between them, discuss the degree of egalitarianism in the relationship, and decide how they want to present themselves in public.

The transition of cross-sex friendships into sexual or romantic relationships has received considerable empirical attention. A cross-sex friendship can blossom into a romantic relationship despite one or both friends being involved in a romantic relationship. Bleske-Rechek et al. (2012) found that men want to date their cross-sex friends regardless of whether these friends are in exclusive romantic relationships. The possible trajectory of cross-sex friendships transitioning into intimate partnerships therefore poses a threat to existing romantic relationships (Etcheverry, Le, & Hoffman, 2013; Salovey, 1991). Cross-sex friends serve as potential romantic or sexual rivals to a romantic partner, leading some partners to experience a measure of anxiety over these relationships. Although cross-sex friendships can introduce myriad issues in a romantic relationship and lead to dissolution, the literature examining these issues is scarce.

The present investigation endeavors to provide a comprehensive picture of the information management process individuals undergo when they are involved in a romantic relationship with a partner who has cross-sex friends. The first goal of this study is to examine the relationships between uncertainty about a partner's cross-sex friendships, negative affective states, and information seeking. The valence of information obtained about these cross-sex friendships is also examined as a moderator of the association between information seeking and relationship quality. The quality of a romantic relationship, determined by relational satisfaction, commitment, investment size, and comparison level of alternatives in romantic relationships, is later discussed. In the following sections, the benefits and drawbacks of cross-sex friendships are

presented. Theories of information management are then used to explain the process of seeking information about cross-sex friends.

Benefits of Cross-sex Friendships

Friends provide companionship and social support that buffer accumulated stress in life and promote psychological well-being (Cohen & Wills, 1985; Demir & Davidson, 2013; Raja, McGee, & Stanton, 1992; Ryff, 1989). Cross-sex friendships often go beyond the typical friendship in the many benefits they offer. By and large, one of the greatest benefits of cross-sex friendships is getting perspective from the opposite sex on various issues. Insight from the opposite sex can be beneficial toward one's romantic relationship (Rawlins, 1982). Individuals may seek advice from cross-sex friends about a conflict they are experiencing with their romantic partners to increase awareness of and understanding about their partner's thoughts and behaviors. Inasmuch as cross-sex friends can provide advice on romantic relationships, they can also meet emotional needs that sometimes cannot be fulfilled by a romantic partner (Rawlins, 1982). Other benefits of maintaining cross-sex friendships include increasing the size of one's social network, companionship with those who enjoy similar activities, emotional and financial support, and physical protection (Baumgarte, 2002; Bleske-Rechek et al., 2012; Rawlins, 1982). Communication with cross-sex friends can also help individuals gain perspective on misguided, misunderstood, or dated sex roles (Bleske-Rechek et al., 2012; Kaplan & Keys, 1997).

Potential Risks of Cross-Sex Friendships

Despite the numerous advantages of maintaining cross-sex friendships, they can also complicate romantic relationships. There are often many gray areas of appropriateness in cross-sex friendships, which can lead to problems in one's romantic relationships. As Baumgarte (2002) suggested in reference to cross-sex friendships, "it may be inappropriate to think of them

as genuine friendships" (p. 12). This belief stems from those who are sometimes skeptical of the intentions of their romantic partner's cross-sex friends and view them as possible threats.

Assessments individuals make about their romantic partners' cross-sex friends can cause them to view these friends as third-party rivals. One threat to romantic relationships arises from the emotional support provided by cross-sex friends. When cross-sex friends are able to meet certain emotional needs that a romantic partner cannot provide (e.g., companionship, intimacy, emotional support), the partner may appraise a relational threat. Another threat is the physical relationship that can develop between partners and their cross-sex friends. Consistent sex differences in the relational intentions of individuals in cross-sex friendships have been discovered. Men are more motivated than women to establish friendships based on sexual attraction to the opposite sex (Rose, 1985), more likely to think about sexual interactions when asked about intimacy in cross-sex friendships (Monsour, 1992), and more likely to believe their cross-sex friendships can transition into romantic relationships (Sapadin, 1988). Hardwired biological sex differences can explain men's attraction to their cross-sex friends. Kaplan and Keys (1997) argued that men have larger sexual appetites than women. Men also tend to think more often about sex and have more sexual partners than women (Michael, Gagnon, Laumann, & Kolata, 1994). Involvement in an exclusive romantic relationship has little to no effect on men's desire to escalate cross-sex friendships into romantic relationships. However, both men and women can be sexually attracted to their close cross-sex friends (Kaplan & Keys, 1997).

Sexual interactions between cross-sex friends, which may complicate their romantic relationships, may not even need to stem from deep intimacy between them. Bisson and Levine (2009) defined "friends with benefits" (FWB) relationships as cross-sex friends who have sexual encounters without any expectation of a committed romantic relationship. Approximately half of

college students report that they were in a FWB relationship at some point in their lives (Puentes, Knox, & Zusman, 2008). The prevalence of these relationships suggests that males and females who have complementary interests and are in close proximity may likely grow to perceive the other as capable of fulfilling some physical need over time, even if they do not consider this individual a potential romantic partner.

Sexual attraction to cross-sex friends is not only an evolutionary proclivity but it is also reinforced through social expectations (Rawlins, 1982). For example, media often portray cross-sex friendships evolving into romantic relationships. Romantic involvement with cross-sex friends is ingrained in adolescent peer culture (Hand & Furman, 2009), and those involved in romantic relationships may be sensitive to this potential threat. Relational uncertainty increases when partners are aware of specific threats in the environment. Relational uncertainty can result in decreased positive relational maintenance behaviors (Dainton, 2003; Guerrero & Chavez, 2005), and individuals who believe their romantic partners are attracted to their cross-sex friends experience low relational satisfaction (Bleske-Rechek et al., 2012). To this end, cross-sex friendships can increase the level of uncertainty in romantic partners, decrease their perceived satisfaction levels, and in the most serious cases, lead to relational dissolution.

Individuals feel threatened when a person or situation is unpredictable, which leads to feelings of uncertainty and anxiety (Berger & Calabrese, 1975). Berger and Calabrese explained that uncertainty produces a psychological state of discomfort, such as anxiety. Historically, anxiety served a useful and adaptive function for survival because it increases attention and sensitivity to dangers in the environment (Kring, Johnson, Davison, & Neale, 2010). To reduce the discomfort associated with uncertainty, individuals have a natural inclination to seek information about the source of the uncertainty (Berger & Calabrese, 1975). The application of

theories related to uncertainty in relationships and information seeking may therefore be useful in examining the influence of cross-sex friendships on existing romantic relationships.

Theory of Motivated Information Management

Theory of motivated information management (TMIM), developed by Afifi and Weiner (2004), is based on the assumption that humans are rational beings who try to maximize rewards and minimize costs. TMIM synthesizes a rich collection of existing theories that address uncertainty in interpersonal relationships, including uncertainty reduction theory (Berger & Calabrese, 1975), predicted outcome value theory (Sunnafrank, 1986), and uncertainty management theory (Brashers, 2001). Previous theories of uncertainty reduction proposed that uncertainty in relationships is regarded as an aversive state associated with feelings of discomfort and negative arousal, such as anxiety (Berger & Calabrese, 1975). Individuals are motivated to engage in information-seeking strategies to free themselves from situations involving high uncertainty. Several studies have tested the theoretical relationship between uncertainty and information seeking but have failed to find one (e.g., Gudykunst & Nishida, 1984; Parks, Dindia, Adams, Berlin, & Larson, 1980; Roach, 1984). These findings suggest that individuals may know little about another and still lack the motivation to seek information about him or her.

TMIM departs from earlier theories of uncertainty by reexamining the deterministic role of uncertainty in information seeking. The term uncertainty management is used rather than uncertainty reduction to describe the relief of aversive psychological states. In TMIM, it is recognized that information seeking is not the sole destination of uncertain feelings. Uncertainty management can be achieved through avoidance and cognitive reappraisal in addition to information-seeking strategies. This information management process consists of three phases: the interpretation phase, evaluation phase, and decision-making phase.

Information Management Process

The first phase of TMIM is the *interpretation phase,* where individuals assess the importance of the issue. To do so, individuals must evaluate how much information they have about an issue in relation to how much information they desire to know, known as uncertainty discrepancy (Afifi & Weiner, 2004). Larger uncertainty discrepancy on a given issue calls more attention to its importance.

TMIM originally posited that larger uncertainty discrepancy precipitates negative arousal states, such as anxiety (Afifi & Weiner, 2006). Fowler and Afifi (2011) expanded the possible emotional responses associated with uncertainty discrepancy. They found that positive emotions, such as feelings of calmness, security, inspiration, and happiness, can also emerge when desired information deviates from known information. However, those who reported positive emotions from their discrepancy also reported that they felt they had sufficient information, thus experiencing lower levels of uncertainty discrepancy. These findings suggest that uncertainty discrepancy is positively associated with negative emotions such that individuals may experience more positive emotions when they have lower levels of uncertainty discrepancy.

The emotional responses from uncertainty discrepancy influence the next phase of the information management process: the *evaluation phase*. Outcome expectations and efficacy of information seeking are the two general evaluations made in the evaluation phase. Outcome assessments are the "expected outcomes that a search for information may produce" (Afifi & Weiner, 2004, p.175). Afifi and Weiner (2004) defined efficacy as "the extent to which individuals perceive themselves as able to successfully reduce the anxiety" through information management (p. 175). This includes individuals' beliefs about their effectiveness in coping with

the information they receive, in communicating with others to gain the desired information, and whether the target is willing to provide the requested information.

Outcome assessments and efficacy beliefs influence the final phase of TMIM: the *decision stage*. Theories of uncertainty reduction were based on the assumption that information seeking was the primary method used to manage uncertainty and accompanying levels of anxiety. Uncertainty about one's interactional partner can lead to psychological discomfort because the individual experiencing uncertainty may not have the knowledge or ability to predict future outcomes and behaviors of the other. The inability to predict future outcomes of interpersonal interactions with another can be perceived as a threat, motivating the individual experiencing uncertainty to subdue psychological discomfort associated with this threat through information-seeking strategies (Berger & Calabrese, 1975). By engaging in information seeking, people are able to gain more knowledge about their romantic partners and, in some cases, reduce their uncertainty.

Information-Seeking Strategies

A unique aspect of TMIM is based on the assumption that individuals are not deterministically motivated to reduce uncertainty through information seeking; rather, they are managers of their information (Afifi & Weiner, 2004). Theorists articulate several different strategies individuals use to manage uncertainty, such as avoidance of issue-relevant information and/or a general acceptance of uncertainty discrepancy through cognitive reappraisal. Three strategies have been identified to seek information about others: passive, active, and interactive (Berger, 1979; Berger & Bradac, 1982). Passive strategies involve direct, unobtrusive observations of a target to obtain information about him or her (Ramirez, Walther, Burgoon, & Sunnafrank, 2002). Tokunaga and Gustafson (2014) suggested that passive observations of

others to gain information can occur in the online domain. Active strategies involve seeking third-party sources of information about the target or using naive social experimentation by manipulating a situation and surveying the target's responses. However, when information is time sensitive, indirect information-seeking strategies are not desirable. In this case, interactive information seeking, or acquiring information from the source of the uncertainty, is used.

Information seeking may reduce negative affective states associated with uncertainty, but there may be individual or relational costs associated with seeking the information (Afifi & Burgoon, 1998; Baxter & Wilmot, 1985; Bell & Buerkel-Rothfuss, 1990; Guerrero & Afifi, 1995). Information seeking may expose individuals to many risks, including unresponsiveness of the target and evaluations of social inappropriateness. Furthermore, the acquisition of undesirable information may increase relational dissatisfaction and lead to the potential dissolution of the romantic relationship. These risks can motivate would-be information seekers to avoid issue-relevant information (Afifi & Guerrero, 1998; Guerrero & Afifi, 1995).

A distinction is made between active and passive avoidance (Afifi & Weiner, 2004). Afifi and Weiner (2004) explained, "passive avoidance reflects individuals' decisions to refrain from active information seeking" (p. 183). In other words, passive avoidance is the unassertive role that individuals play in information acquisition. Active avoidance involves cognitively reappraising or mindfully ignoring relevant information. Cognitive reappraisal can take the form of changing the amount of issue importance, reassessing the level of uncertainty, and/or changing the meaning of uncertainty (Afifi & Weiner, 2004). The strategy to reappraise uncertainty eliminates the anxiety associated with uncertainty discrepancy, and thus forgoes the information-management process.

The Present Study

TMIM proposes that uncertainty discrepancy leads to a wide range of emotions affecting the anticipated outcomes of information management and efficacy perceptions. This in turn influences the decision phase. By applying TMIM to the topic of uncertainty over cross-sex friendships, this study examines the various emotions individuals may feel from uncertainty discrepancy about their romantic partner's cross-sex friends and how these emotional states affect information management. According to TMIM, when the amount of information individuals have on a topic deviates from the amount of information they wish to have, uncertainty discrepancy is experienced. Uncertainty discrepancy can develop about romantic partners' cross-sex friendships because these friends can be viewed as potential rivals who are able to fulfill needs that a romantic partner cannot meet. The uncertainty discrepancy resulting from a romantic partner's cross-sex friends can threaten the romantic relationship and evoke negative affective states. Information seeking can be used to reduce uncertainty discrepancy involving cross-sex friendships and potential negative feelings that may accompany it. If the emotions elicited through the threat are strong enough, individuals may engage in information seeking, bypassing the evaluation stage altogether (Fowler & Afifi, 2011).

H1: Uncertainty discrepancy about one's romantic partner's cross-sex friends is positively related to negative emotions (e.g., anxiety, sadness).

H2: Negative affective states about cross-sex friends are positively associated with (a) passive, (b) active, and (c) interactive information-seeking strategies.

Uncertainty Reduction Theory

Uncertainty reduction theory (URT; Berger & Calabrese, 1975) suggests that uncertainty is negatively related to intimacy and liking. According to URT, uncertainty serves as a barrier to

high levels of intimacy. An individual is motivated to engage in information-seeking strategies to reduce uncertainty and increase liking. The proposition of URT that links uncertainty reduction to liking and intimacy, however, has lacked support in empirical tests (Antheunis, Valkenburg, & Peter, 2010; Yoo, 2004, 2009). Antheunis et al. explained that the relationship between uncertainty and relational quality is likely to depend on the information obtained through one's attempt to reduce uncertainty about another.

To understand the effects of information seeking about cross-sex friends on romantic relationships, it is necessary to identify factors that contribute to a healthy relationship. Couples become involved in romantic relationships and choose to devote themselves to their partners, yet many of these relationships fail to endure the test of time. Rusbult, Martz, and Agnew (1998) identified four primary factors that influence the persistence of relationships over time: satisfaction level, quality of alternatives, investment size, and commitment level.

The first component of a high quality relationship that affects commitment level is relational satisfaction, or the extent to which an individual's romantic partner is able to address his or her needs (Rusbult et al., 1998). If needs are not satisfied through one's romantic partner, individuals may turn to alternative sources for needs fulfillment. The quality of alternatives is defined as "the extent to which the individual's most important needs could effectively be fulfilled 'outside' of the current relationship" (Rusbult et al., 1998, p. 359). These needs can be fulfilled by several alternatives outside of the romantic relationship, such as another person or an activity. Investment size is based on the "magnitude and importance of the resources attached to a relationship - resources that would decline in value or be lost if the relationship were to end" (Rusbult et al., 1998, p. 359). Satisfaction level, quality of alternatives, and investment size influence the probability of a relationship's persistence; however, these three components are

mediated through commitment, defined as the motivation to stay in a relationship over the long term. If individuals fail to fulfill the needs of their romantic partners (i.e., have low satisfaction), cross-sex friends can serve as a surrogate to fulfill these needs. This alone may enhance the attractiveness and quality of alternatives, and when coupled with low levels of investment, the threat to the romantic relationship is amplified.

The nature of the information obtained, whether positively or negatively valenced, is also helpful in understanding the effects of seeking information about a romantic partner's cross-sex friends. Although the interpretation of information cannot be clearly defined outside of the boundaries of the individual, information is generally considered positive when it reduces the threat of cross-sex friends on the romantic relationship. For example, the discovery that one's romantic partners cross-sex friends are unattractive or currently involved in a serious dating partnership might be appraised as positive information. Positively-valenced information that reduces uncertainty can be beneficial to the relationship by generating positive relational dynamics, such as high satisfaction, low quality of alternatives, increased investment, and strong commitment. Therefore, information-seeking strategies that produce positively-valenced information should mitigate the threat of cross-sex friendships on romantic relationships and increase the quality of the romantic relationship. Information discovered about a partner's cross-sex friends that is interpreted negatively, on the other hand, affects romantic relationships in the opposite direction. Information is considered negatively-valenced when it does not reduce or increases the threat of cross-sex friends. For instance, information that reveals a romantic partner's cross-sex friends are attractive, single, and flirtatious can be appraised negatively. If information seeking reveals interpretably negative information about a romantic partner's cross-sex friendships, the information seeker will experience decreased levels of relational quality.

Because the relationships between information seeking and relational outcomes, such as satisfaction, quality of alternatives, investment, and commitment, come to depend on the nature of the information (i.e., whether positive or negative) obtained about a partner's cross-sex friends, information valence moderates these relationships.

H3: The relationship between information seeking about a romantic partner's relationship with cross-sex friends and (a) satisfaction, (b) quality of alternatives, (c) investment, and (d) commitment is moderated by the valence of the information obtained.

CHAPTER 2. METHODS

Participants

Participants consisted of 97 undergraduate students who were involved in a romantic relationship at the time of the study. Participants were enrolled in a Communicology course at a large Pacific university. To participate in this research, two requirements needed to be met: students had to be at least 18 years of age and involved in a romantic relationship. Participants' ages ranged from 18 to 37 years with an average age of 21 years (M = 20.96, SD = 3.42). The sample included a wide range of ethic backgrounds, with mostly Asians (n = 45, 46%), followed by Caucasians (n = 35, 36%), Pacific Islanders (n = 7, 7%), Hispanics (n = 3, 3%), and African Americans (n = 3, 3%). As expected, participants were involved in various types of romantic relationships, including casual dating partnerships (n = 30, 31%), serious dating partnerships (n = 66, 68%), and spousal relationships (n = 1, 1%). The length of time participants have been involved in their current romantic relationships also varied considerably, ranging from 1 month to 7.25 years (M = 20.79, SD = 20.35).

Procedure

Students were recruited through a Web-based research system. Students signed up to participate in this study on the Communicology Sona research website, which provided participants with a link to take part in an online survey. Sona presents several studies being conducted in the Communicology department and offers alternative options for those who did not meet certain criteria relevant to this study.

This study employed a longitudinal survey design that asked participants to complete online questionnaires at two different time points. Participants were first presented with a consent form (see Appendix A) online, which they read and agreed to before completing the

online questionnaire. The questionnaire was comprised of measures that address uncertainty discrepancy, negative emotions, information-seeking behaviors, valence of the information obtained, satisfaction, quality of alternatives, investment, commitment, and demographic information. Participants were informed that the study would take approximately 30 minutes to complete at both Time 1 and Time 2. The two questionnaires were distributed approximately four weeks apart from each other. Other studies applying the TMIM framework have used comparable times between waves (e.g., Fowler & Afifi, 2011). At the end of the first questionnaire, participants were asked to submit their e-mail address and create a unique identification code, which was used to link their responses from the initial and follow-up surveys. The questionnaires at each time point were identical to each other. At the conclusion of the study, participants were thanked and given research or extra credit for their participation.

Instrumentation

Uncertainty discrepancy. Four items adapted from Afifi and Weiner (2006) were used to measure uncertainty discrepancy about romantic partners' cross-sex friendships (see Appendix C). The items asked participants to rate their level of agreement with statements that assess their current knowledge about their partner's cross-sex friendships and their desired knowledge about these friendships. These items were rated on 7-point Likert scales (1 = *no information*, 7 = *a lot of information*). An index of uncertainty discrepancy was created by subtracting participants' responses to the item regarding how much information they wish to have from how much information they currently have. To illustrate, responses to the item "How much information do you *know* about your romantic partner's cross-sex friends" were subtracted from the responses to the item "How much information do you *want to know* about your romantic partner's cross-sex friends" to form one indicator of uncertainty discrepancy. Likewise, responses to the item "How

much information do you *have* about your romantic partner's cross-sex friends" were subtracted from the responses to the item "How much information do you *want to have* about your romantic partner's cross-sex friends." The mean of these two deltas created the uncertainty discrepancy construct. Higher scores on these scales indicated that respondents experience greater uncertainty discrepancy concerning the amount of information they know about their romantic partner's cross-sex friendships and how much information they desire to know.

Affective states. Negative emotions associated with uncertainty discrepancy were evaluated using a scheme developed by Fowler and Afifi (2011). On a 7-point Likert scale (1 = *not at all*, 7 = *very strongly*), participants were instructed to indicate the degree to which they experience 18 different emotions (e.g., anxious, disappointed, angry) associated with their partners' cross-sex friends (see Appendix D). For example, participants were asked to complete the sentence "My partners' cross-sex friendships make me feel [anxious/upset/bad]" and indicate the degree to which they experience emotions on a 7-point Likert scale from 1 (*not at all*) to 7 (*very strongly*). The list of emotions contains seven positive and twelve negative affective states; the positive items are included to obscure the purpose of the instrument.

Information management. Ten items were used to measure information-seeking behaviors about a romantic partner's cross-sex friendships (see Appendix E). Statements such as "I openly discussed my partner's cross-sex friendships with him or her" measured interactive information seeking. Three items were adapted from Morrison's (1993) information seeking scale to measure active information seeking strategies (e.g., "I asked someone (other than my romantic partner) about my partner's cross-sex friendships"). Finally, statements such as "I pay attention to how my romantic partner behaves with his/her cross-sex friends" measured passive information-seeking strategies.

Information Valence. The valence of information received through information-seeking strategies was measured using nine items (Clatterbuck, 1979; Yoo, 2004). Participants completed the sentence "I think the information I received about my partner's cross-sex friends was ___" with their attitudes about the information obtained about their romantic partner's cross-sex friendships. Attitudes were presented on a semantic differential continuum. Some examples of these attitudes include negative–positive, appropriate–inappropriate, and abnormal–normal (see Appendix F).

Relational Quality. To determine the quality of one's romantic relationship, investment model scales by Rusbult, Martz, and Agnew (1998) were included in the questionnaire. Four factors that directly affect the persistence of relationships over time are satisfaction level, quality of alternatives, investment size, and commitment level. Participants indicated their agreement to statements regarding their romantic relationships on 7-point Likert scales (1 = *strongly disagree*, 7 = *strongly agree*). Ten items assessed satisfaction level for the current romantic relationship (see Appendix G). Sample items include "My partner fulfills my needs for intimacy (sharing personal thoughts, secrets, etc.)" and "My partner fulfills my needs for emotional involvement (feeling emotionally attached, feeling good when another feels good, etc.)." Ten items measured investment size in the current romantic relationship. Example items from the investment scale are "I have invested a great deal of time in our relationship" and "My partner and I have an intellectual life together that would be difficult to replace" (see Appendix H). The quality of alternatives were measured by respondents' agreement to ten statements regarding the fulfillment of needs through other viable alternatives (see Appendix I). Sample items include "My needs for intimacy (sharing personal thoughts, secrets, etc.) could be fulfilled by others" and "My needs for companionship (doing things together, enjoying each others company, etc.) could be fulfilled

by individuals other than my romantic partner." Finally, participants indicated the extent to which they agreed with statements regarding the level of commitment to their current romantic relationship (1 = *strongly disagree*, 7 = *strongly agree*). Sample items include "I want our relationship to last for a very long time" and "I am committed to maintaining my relationship with my partner" (see Appendix J).

Demographic Information. The demographic section of the survey consisted of five questions, which asked about participants' gender, age, ethnicity, the type of dating relationship in which they are currently involved, and how long they have been in their current romantic relationship (see Appendix B). The reliabilities, means, standard deviations, and zero-order correlation matrix are provided in Table 1.

CHAPTER 3. RESULTS

Analysis Plan

It was predicted in Hypothesis 1 that uncertainty discrepancy about one's romantic partner's cross-sex friends is positively related to negative emotions, such as anxiety and sadness. That is, when uncertainty discrepancy is high, negative emotions will also be high. Because the linear association between uncertainty discrepancy about a romantic partner's cross-sex friends and negative emotions is of interest in this hypothesis, Pearson's Product Moment Correlation Coefficient was used to analyze the data.

Hypothesis 2 predicted that negative affective states are positively associated with (a) passive, (b) active, and (c) interactive information-seeking strategies. A lag exists in the time it takes for the interpretation of an event to materialize in a decision. For this reason, a longitudinal design was used to test whether earlier negative affective states in the interpretation stage led to later information seeking in the decision stage of TMIM. Given the nature of the longitudinal design with multiple independent variables (i.e., negative emotions at Time 1 and the lagged information-seeking strategy at Time 1 variables) and one dependent variable (information-seeking strategy at Time 2), multiple regression was used to test Hypotheses 2a to 2c.

Hypothesis 3 predicted that the relationships between information seeking about a romantic partner's cross-sex friends and (a) satisfaction, (b) quality of alternatives, (c) investment, and (d) commitment is moderated by the valence of the information obtained. The valence of information obtained moderates these relationships such that relational quality is harmed from information only when the information obtained is appraised negatively. Because this hypothesis predicts that the effect of information seeking on relational quality depends on the valence of information obtained, a moderation analysis in multiple regression was used.

Uncertainty Discrepancy and Negative Emotions

A positive linear relationship between uncertainty discrepancy about one's romantic partner's cross-sex friends and negative emotions was predicted in Hypothesis 1. The responses to the 12 negative emotions (i.e., worried, sad, nervous, scared, anxious, disappointed, distressed, frustrated, upset, irritable, angry, jealous) were collapsed into a single negative emotion variable. The results demonstrated that uncertainty discrepancy about one's romantic partner's cross-sex friends is positively associated with negative emotions, $r(95) = .45$, $p < .001$. Therefore, Hypothesis 1 was supported by the data.

Although not explicitly hypothesized, supplemental analyses were conducted to see if the opposite of Hypothesis 1 could be supported. That is, the inverse relationship between positive emotions and uncertainty discrepancy was tested. The responses to seven positive emotions (i.e., calm, thoughtful, secure, encouraged, inspired, happy, pensive) were collapsed into a single positive emotion variable. The results demonstrated a significant negative association between uncertainty discrepancy about one's romantic partner's cross-sex friends and positive emotions, $r(95) = -.21$, $p = .04$. This additional analysis provides support for the relationship between uncertainty discrepancy and negative affective states.

Negative Affective States and Information-Seeking Strategies

Hypothesis 2a proposed that the negative affect stemming from a need for information about a partner's cross-sex friends is positively associated with passive information-seeking strategies. The multiple regression analysis demonstrated that the linear combination of negative emotions at Time 1 and passive information-seeking strategies at Time 1 explained a significant proportion of variance in passive information seeking, $R^2 = .23$, $R^2_{adj} = .21$, $F(2, 94) = 13.72$, $p < .001$. The lagged passive information seeking at Time 1 was a significant predictor of passive

information seeking at Time 2 ($\beta = .47$, $SE = 0.10$, $p < .001$). The results revealed, however, that negative emotions were not related to passive information-seeking strategies ($\beta = .02$, $SE = 0.10$, $p = .86$). Therefore, Hypothesis 2a was not supported by the data.

Hypothesis 2b predicted that negative affect is positively associated with active information-seeking strategies. This hypothesis was not supported. A multiple regression analysis revealed that negative emotions and the lagged values of active information seeking at Time 1 collectively accounted for significant variance in active information seeking at Time 2, $R^2 = .26$, $R^2_{adj} = .21$, $F(2, 94) = 16.49$, $p < .001$. Active information seeking at Time 2 was significantly related to its lagged variable at Time 1 ($\beta = .50$, $SE = 0.09$, $p < .001$), but the results revealed that the experience of negative emotions was not positively related to active information-seeking strategies ($\beta = .03$, $SE = 0.11$, $p = .78$).

Hypothesis 2c predicted a relationship between negative affective states from a desire for more information about a partner's cross-sex friends and interactive information seeking. A multiple regression analysis demonstrated that the linear combination of negative affect and the lagged interactive information seeking was significant, $R^2 = .27$, $R^2_{adj} = .25$, $F(2, 94) = 17.17$, $p < .001$. Interactive information seeking values at Time 1 and at Time 2 were significantly related ($\beta = .51$, $SE = 0.09$, $p < .001$), but the results showed that experiencing negative emotion stemming from a romantic partner's cross-sex friends did not compel people to adopt interactive information-seeking strategies ($\beta = -.09$, $SE = 0.07$, $p = .34$). Therefore, Hypothesis 2c was not supported by the data.

Valence of Information and Relationship Quality

Hypothesis 3a predicted that the valence of information obtained through information seeking moderates the relationship between information seeking about a romantic partner's

cross-sex friends and satisfaction. Satisfaction at Time 2 was regressed on information seeking and valence of information obtained at Time 1 in the first step, $R^2 = .68$, $R^2_{adj} = .67$, F (4, 96) = 49.50, $p < .001$. Satisfaction was then regressed on information seeking, valence of information, and the interaction term in the second step. The interaction between information seeking and valence, hypothesized in this study, did not significantly add to variance explained in the model, $\Delta R^2 = .01$, $\Delta F = 2.16$, $p = .15$. Satisfaction at Time 2 and its lagged variable at Time 1 were significantly related ($b = .89$, $p < .001$); however, the valence of information obtained ($b = .06$, $p = .46$), information seeking at Time 1 ($b = .04$, $p = .63$), and their interaction ($b = -.12$, $p = .15$) were not significant predictors of satisfaction at Time 2. Therefore, the results did not support this hypothesis.

Hypothesis 3b predicted that the valence of information obtained about a partner's cross-sex friendships moderates the relationship between information seeking and quality of alternatives. Quality of alternatives at Time 2 was regressed on valence of information obtained, information seeking, and the quality of alternatives at Time 1 in the first step, $R^2 = .32$, $R^2_{adj} = .29$, F (4, 96) = 10.86, $p < .001$. The interaction term between information seeking and valence was included in the second step. The results demonstrated inconclusive support for this hypothesis. The additional variance explained by the inclusion of the interaction term was significant $\Delta R^2 = .04$, $\Delta F = 5.50$, $p = .02$. Quality of alternatives at Time 1 and at Time 2 were significantly related ($b = .32$, $p < .001$). Although information seeking ($b = .01$, $p = .97$) and the valence of information about partners' cross-sex friends obtained ($b = .01$, $p = .95$) were not significant predictors of the quality of alternatives, the interaction term ($b = .32$, $p = .02$) was associated with quality of alternatives at Time 2. A visual illustration of the decomposition of this interaction is presented in Figure 2. The interaction demonstrates that when information is

negatively valenced, the relationship between information seeking and quality of alternatives is negative, but as the evaluation of the information obtained becomes more positive, the relationship between information seeking and quality of alternatives is positive.

Hypothesis 3c predicted that the relationship between information seeking about one's romantic partner's cross-sex friends and investment size depends on the perceived valence of information acquired about a partner's cross-sex friends. Investment at Time 2 was regressed on information seeking, valence of information obtained, and investment at Time 1 in the first step, $R^2 = .63$, $R^2_{adj} = .61$, $F(4, 96) = 39.13$, $p < .001$. The interaction term was included in Step 2 of the model. No significant additional variance was explained by the inclusion of the interaction, $\Delta R^2 = .00$, $\Delta F = .01$, $p = .91$. Investment at Time 1 and at Time 2 were significantly related ($b = .81$, $p < .001$), but the results of the hypothesis test demonstrated that the valence of information obtained ($b = .11$, $p = .22$), information seeking ($b = -.08$, $p = .32$), and the interaction term ($b = -.01$, $p = .91$) were not significant predictors of relational investment. Therefore, Hypothesis 3c was not supported by the data.

Hypothesis 3d predicted that information valence moderated the relationship between information seeking about a romantic partner's cross-sex friends and commitment. Information seeking, valence of obtained information, and lagged values of commitment at Time 1 were included in Step 1, $R^2 = .66$, $R^2_{adj} = .64$, $F(4, 96) = 43.78$, $p < .001$. The interaction term was put in Step 2. The additional variance of information explained by the inclusion of the interaction term was nonsignificant $\Delta R^2 = .00$, $\Delta F = 0.32$, $p = .57$. Commitment at Time 1 and at Time 2 were strongly associated ($b = .81$, $p < .001$). Neither the valence of obtained information ($b = .02$, $p = .81$) nor information seeking ($b = -.02$, $p = .83$) was significant. The inclusion of the

Time 1 interaction term (b = .04, p = .57) did not explain significant variance in commitment at a later time point. Therefore, the results did not show support for Hypotheses 3a to 3d.

CHAPTER 4. DISCUSSION

The primary goal of this investigation was to assess how individuals manage uncertainty about their romantic partner's cross-sex friends. Prior to this study, little was known about how individuals in romantic relationships manage information about these cross-sex friendships and how the information obtained, if applicable, affects the quality of romantic relationships. To explore the relationship between uncertainty discrepancy about a partner's cross-sex friends, information-seeking strategies, and relational quality, theory of motivated information management was used as a guiding framework. In this study, the relationship between uncertainty discrepancy and negative affective states was evaluated. The associations between these negative arousal states stemming from uncertainty discrepancy and passive, active, or interactive information-seeking strategies were also evaluated. Finally, it was proposed that the valence of information obtained through information-seeking strategies affects relational quality, signaled by satisfaction, quality of alternatives, investment size, and commitment.

Uncertainty Discrepancy and Negative Affective States

Negative emotions experienced in a relationship can arise from many different events, but one such event that elicits these states, according to theory of motivated information management, is uncertainty discrepancy. Uncertainty discrepancy is the difference between how much information an individual knows about some aspect of another person and how much information he or she wants to know. In the context of this study, it was predicted that uncertainty discrepancy about a partner's cross-sex friends was related to negative emotions, such as anxiety, sadness, anger, and jealousy. As predicted, larger distances between how much information individuals know about their romantic partner's cross-sex friends and how much they wanted to know were associated with these negative emotions. This is consistent with

existing work that has found a reliable relationship between uncertainty discrepancy and negative emotions (Afifi et al., 2006; Fowler & Afifi, 2011). These findings suggest that as the amount of information one knows relative to how much information he or she desires to know increases, negative emotions increase proportionally.

Negative Emotions and Information-Seeking Strategies

Research has found that cross-sex friends can be a threat to the persistence of a romantic relationship (Baumgarte 2002; Bleske-Rechek et al., 2012; Etcheverry, Le, & Hoffman, 2013; Salovey, 1991). No relationship between earlier negative emotions and information-seeking strategies at a later date was found, however. It may be that the assumptions that this study was based on were incorrect. This study was predicated on the assumption that if negative affect associated with uncertainty discrepancy was profound, individuals can bypass the evaluation stage, which contains efficacy beliefs and outcome assessments, and directly make a decision about the best course of action to take regarding information management. The direct path from emotions in the interpretation phase to information management in the decision phase has been supported in previous research (Fowler & Afifi, 2011). Based on this assumption, outcome assessments or efficacy beliefs were not measured, offering at least one plausible explanation for the lack of significant findings. It may be that with regard to uncertainty about a romantic partner's cross-sex friendships, the evaluation stage may play an important mediating role in linking the interpretation and decision stages of TMIM.

TMIM departs from previous theories that discuss relational uncertainty by proposing that information seeking is not the sole destination in uncertainty reduction. Individuals can manage their information through alternative routes such as avoidance and cognitive reappraisal. However, this study did not hypothesize about or measure avoidance of issue-relevant

information or cognitive reappraisal, offering another explanation for the nonsignificant findings. Individuals who perceived information about a romantic partner's cross-sex friends to be too risky may not intend to seek such information, fearing that it could lead to relational dissolution or conflict with their partner. Afifi and Weiner (2004) explained that individuals avoid engaging in seeking information if they have low communication efficacy, coping efficacy, or target efficacy. In other words, individuals may not have felt like they possessed the communicative skills necessary to engage in successful communication with their partner about cross-sex friends (i.e., low communication efficacy), they would not be able to cope with the obtained information (i.e., low coping efficacy), or they did not believe their partner would be able and willing to provide the information requested (i.e., low target efficacy). Information seeking about highly sensitive topics, such as cross-sex friends, may be particularly difficult to obtain, as the information individuals receive from their romantic partner may be inherently biased or unreliable. Considering the results of this study, it is possible that the respondents perceived the risks to be greater than the benefits of seeking information.

Valence of Information Obtained and Relationship Quality

In the original formulation of uncertainty reduction theory, Berger and Calabrese (1975) proposed that uncertainty is a state of discomfort and individuals are motivated to reduce these uncomfortable states by engaging in information-seeking strategies. Theorists posit that liking rises as uncertainty falls in a relationship. Studies, however, have found that the acquisition of information neither inevitably reduces uncertainty nor automatically leads to liking; instead, the valence of the information obtained (i.e., perceived positive or negative information) is a better predictor of liking (Antheunis et al., 2010; Yoo, 2004, 2009). In this study, valence of the

information obtained did not influence the relationship between information seeking and relational quality, as signaled by relational satisfaction, investment size, or commitment level.

The perceived valence of information located during the information-seeking process, however, moderated the relationship between information seeking and quality of alternatives. The results demonstrated that when the acquired information is negatively appraised, the relationship between information seeking and quality of alternatives is negative, but the relationship between information seeking and quality of alternatives is positive when information is valenced positively. A possible explanation for the significant findings may lie in ego depletion and theories of self-control. The idea of ego depletion is that cognitive resources dedicated to behavioral self-control are limited (Muraven & Baumeister, 2000). Repeated exertion of self-control led to poorer performance in subsequent self-regulation tasks. When individuals receive positive information about cross-sex friends, they may continue to seek information, but the cognitive resources dedicated to self-regulating a malignant or problematic relationship are freed. This allows them to expend self-regulatory resources on alternatives, such as other people or activities. The self-regulation of alternatives may make them appear higher in quality. Negatively-valenced information is more cognitively taxing than positively valenced information, and therefore depletes cognitive resources more rapidly. Individuals see scant information gathered about a partner's cross-sex friendships as a serious problem and may have exaggerated perceptions of alternatives' quality. However, as information seeking increases, self-control resources must be focused singularly on the relationship, thereby redirecting any regulation individuals could have over their alternatives. Accordingly, the valence of information obtained about a partner's cross-sex friendships affects ego depletion and how self-control resources are directed.

An alternative explanation can also be argued when information is positively appraised. When individuals engage in low levels of seeking information evaluated positively, their perceived quality of alternatives is low, indicating that their partners can fulfill their needs. As seeking information deemed positive increases, however, an increase in the quality of alternatives is observed. A possible explanation for these findings can be attributed to relational factors. Tokunaga (2015) found that the more distrust people have in their romantic partner, the more they engage in passive information seeking. Thus, it is conceivable that these individuals who obtained positively appraised information, yet continued to engage in high levels of information seeking, are the ones lowest in dyadic trust and also those who would rate quality of alternatives high.

An explanation for why relational satisfaction, investment size, and commitment level were not predicted by information seeking, valence of information, or their interaction may lie in the type of relationships (i.e., casual dating partnership, serious dating partnership, spousal relationship) in which respondents were involved. Most participants were involved in serious dating partnerships (n = 66, 68%). It can be argued that these couples were highly experienced in dealing with conflict and were able to overcome issues concerning cross-sex friends. Specifically, these couples may have negotiated and resolved any conflicts concerning cross-sex friendships in the early stages of their romance, and thus, the valence of information obtained about cross-sex friends may not have played a significant role in these dyads.

Theoretical and Practical Implications

The present study investigated a fundamental issue that couples at one point in their relationship must negotiate and an issue that has serious implications. First, the results of this study show that uncertainty discrepancy about one's romantic partner's cross-sex friends is associated with negative emotions. This means uncertainty discrepancy resulting from a romantic partner's cross-sex friendships could be considered a relational threat. Individuals involved in any dating relationship should be cautious of the perceptions individuals form about their romantic partner's cross-sex friendships and may be wise to thwart such uncertainty by openly discussing this topic. The negative affective states that emerge with uncertainty discrepancy about a romantic partner's cross-sex friendships can elicit conflict, and if serious enough, potentially lead to the dissolution of the romantic relationship.

A second important finding is the support found for the proposition that individuals are not deterministically motivated to reduce uncertainty through information seeking. The axiom proposed in uncertainty reduction theory, which has reliably lacked empirical support, states that individuals are motivated to engage in information-seeking strategies to reduce uncertainty and increase liking (Antheunis et al., 2010; Yoo, 2004, 2009). The findings from the current study are consistent with existing literature investigating the relationship between uncertainty and information seeking. TMIM proposes three information-management strategies: information seeking, avoidance of issue-relevant information, and cognitively reappraising the situation. Although the current study does not specifically identify how these participants dealt with uncertainty discrepancy, it demonstrated that information seeking may not be the sole destination of uncertainty discrepancy. Indeed, individuals have other possible ways (e.g., cognitive

rumination, avoidance, minimization) to deal with negative affect that arises with the desire for more information about a romantic partner's cross-sex friendships.

Limitations

There are several limitations of the current study. First, the small sample size made the interpretation of the results problematic. One requirement to take part in this study was that participants had to be currently involved in a romantic relationship, which limited the number of individuals who could sign up for the study. This study also employed a longitudinal design that asked participants to complete questionnaires at two time points. Additionally, the length of the survey may have induced participant fatigue, leading to boredom and loss of interest. The issue with small sample sizes is the increased likelihood of committing Type II error. Because many of the hypotheses of this investigation were unsupported, a competing explanation to those given in the discussion is that the statistics were underpowered.

A second limitation is how quality of alternatives was measured. Six of the ten items used to measure quality of alternatives asked if individuals other than the participant's romantic partner could fulfill certain needs. However, four of the ten questions specifically asked about how cross-sex friends could serve as this alternative. Respondents were free to interpret "alternatives" as any activities (e.g., hobbies) or individuals other than one's romantic partner (e.g., family member, same-sex friend, or cross-sex friend) in the initial set of items, but in the latter items, the alternative was specified. The issue with the operationalization of quality of alternatives is that the construct is inherently multidimensional but treated in this study as a single dimension in the data analysis.

A third limitation is that the evaluation stage of TMIM is unrepresented in this study. This theory proposes that the information-management process consists of three phases: the

interpretation phase, evaluation phase, and decision-making phase. This study only assessed components of the interpretation and decision-making phase. Moreover, only information seeking (i.e., one of the three proposed strategies for information management) was measured; avoidance and cognitive reappraisal were ignored. It is conceivable that partners might use different ways to manage information, such as avoidance and cognitive reappraisal, when their need for more information about their partner's cross-sex friends is concomitant with negative emotions.

The fourth limitation lies in the construct of uncertainty discrepancy. Existing literature measures uncertainty discrepancy as the difference between how much information an individual knows and how much information they want to know about an issue (Afifi et al., 2006; Afifi & Weiner, 2004; Fowler & Afifi, 2011). However, it is possible for individuals to have more information than they wish to know, an information overload of sorts. According to TMIM, uncertainty discrepancy only exists when an individual has less information than he or she wants to have. When the discrepancy is in the opposite direction, it is no longer considered uncertainty discrepancy, even if the deviation is large. Although it is methodologically possible for people to indicate that they have more information than they want to know, there are inherent conceptual problems with this treatment, which should be reconciled in future research.

A fifth limitation is that participants were asked to recall all of the information they received about their partner's cross-sex friends, assign a value to each piece of information, and then respond to the valence scale with an overall evaluation (i.e., positive or negative) based on the cumulative information. However, the pieces of information about one's partner's cross-sex friends under consideration are likely to vary considerably and be difficult to aggregate in his or her mind. Thus, restricting time frame for evaluating the valence of information about one's

romantic partner's cross-sex friends to only recent events might produce more homogenized, unbiased information.

Directions for Future Research

A possible direction for future research is to test the tenets in this study on a larger population of people who may not be involved in romantic relationships. Individuals were required to be involved in a romantic relationship to participate in this study. However, this excludes an important group of individuals who may have terminated their romantic relationship due to negative-valenced information obtained about their romantic partner's cross-sex friends. Revising the requirements to allow all individuals who have been involved in a romantic relationship at some point could provide a more comprehensive picture of how the valence of information obtained about their romantic partner's cross-sex friends affects relational quality.

A second direction for future research is to use a more sensitive measure of relational development and examine whether the tenets of TMIM, tested in this study, change over the course of the relationship. For example, Knobloch and Solomon (2009) identified seven stages of premarital relationships that range from a causal dating partner with no emotional attachment to someone to whom an individual is engaged. Aune, Aune, and Buller (1994) found a curvilinear relationship between the expression of negative emotions and stages of relational development; couples that were in the middle states of their romantic relationship were most likely to express negative emotions in comparison to those who were in the early or late stages. Similarly, as a romantic relationship develops, expressions of negative emotions (e.g., jealousy) might be perceived as more appropriate (Aune & Comstock, 1997). Therefore, future studies should examine whether engagement in passive, active, or interactive information seeking of a partner's cross sex friends changes as a function of a relationship's developmental trajectory.

Another direction for future research is to investigate if there are sex differences in the perceived threat of cross-sex friends. For example, empirical studies have found sex differences in the desire to advance cross-sex friendships to more intimate levels such that men are more likely to develop cross-sex friendships based on sexual attraction, think about more sexual interactions with cross-sex friends, and have larger sexual appetites than women (Kaplan & Keys, 1997; Michael, Gagnon, Laumann, & Kolata, 1994; Monsour, 1992; Rose, 1985). Buss (1995) identified gender differences in sexual behavior and partner selection from an evolutionary standpoint by stating that "men and women show consistent sex difference in what qualities they desire in potential mates (e.g., cues to resource investment potential, cues to reproductive value); these differences are closely linked with the social adaptive problems that men and women have confronted in mating contexts and are highly consistent across cultures" (p. 8). Accordingly, sex differences concerning perceived threat of cross-sex friends can be the byproduct of intersexual mating and intrasexual competition (Archer, 1996). For example, the threat of cross-sex friends may be larger for men when their female romantic partners have cross-sex friends who are able to provide resources, whereas women may be more concerned about their partner's cross-sex friends who are physically attractive. For these reasons, future research should investigate sex differences in the predictions tested in this investigation.

A fourth direction for research would be to include components of the evaluation phase of TMIM in the questionnaire. This proposes that outcome expectancies and efficacy beliefs directly influence the type of information-management strategy people employ. Information concerning outcome expectancies and efficacy beliefs could provide a deeper understanding of why individuals engage in certain information-management strategies and could offer additional insight for the lack of significant findings.

Finally, this study did not include avoidance or cognitive reappraisal as information-management strategies. This study did, however, find that uncertainty discrepancy had a significant positive relationship with negative emotions and that individuals did not engage in information-seeking strategies to relieve these negative affective states. Participants may have engaged in cognitive reappraisal or avoidance to manage the negative affect associated with the uncertainty discrepancy about their partner's cross-sex friends. Avoidance and cognitive reappraisal can offer an explanation for the nonsignificant findings between negative emotions and information-seeking strategies, as well as provide a better understanding of how individuals deal with negative emotions associated with the uncertainty discrepancy about their romantic partner's cross-sex friends, and therefore, should be included in future research.

Conclusion

The present study investigated information seeking about cross-sex friends in romantic relationships through the framework of theory of motivated information management. Although negative emotions elicited from uncertainty discrepancy were not positively related to information seeking about one's romantic partner's cross-sex friends, it is possible that these individuals engaged in alternative information-management strategies to relieve negative affect. Future research endeavoring to determine the effects of cross-sex friendships on romantic relationships should continue to find fertile theories that might produce additional insight into this information-management process.

Table 1

Reliabilities, Means, Standard Deviations, and Zero-Order Correlation Matrix

Variable	α	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Uncertainty Discrepancy T1	.81	0.33	1.40	--																		
2. Negative Emotions T1	.86	2.90	1.43	.45	--																	
3. Passive Information Seeking T1	.63	4.68	1.53	.16	.26	--																
4. Active Information Seeking T1	--	--	--	.36	.48	.44	--															
5. Interactive Information Seeking T1	.36	4.19	1.04	-.14	.02	.35	.20	--														
6. Valence of Information T1	.89	5.08	0.95	-.30	-.38	-.02	-.28	.28	--													
7. Satisfaction T1	.96	5.77	1.19	-.21	-.22	-.04	-.28	.16	.35	--												
8. Quality of Alternatives T1	.91	3.39	1.33	.11	.05	-.01	.02	-.19	-.26	-.37	--											
9. Investment T1	.93	5.42	1.23	-.02	-.05	.12	.01	.19	.19	.53	-.57	--										
10. Commitment T1	.93	5.83	1.19	-.08	-.23	.10	-.20	.22	.31	.74	-.52	.75	--									
11. Uncertainty Discrepancy T2	.73	0.10	2.36	.68	.28	.18	.34	-.01	-.27	-.01	.09	.00	.11	--								
12. Negative Emotions T2	.86	2.90	1.43	.45	.28	.26	.48	.02	-.38	-.22	.05	-.05	-.23	.28	--							
13. Passive Information Seeking T2	.85	4.46	1.53	.16	.14	.48	.24	.45	.17	.22	-.16	.34	.37	.10	.14	--						
14. Active Information Seeking T2	.78	3.53	1.62	.24	.27	.43	.51	.34	-.16	.11	-.08	.24	.21	.30	.27	.60	--					
15. Interactive Information Seeking T2	.50	4.14	1.06	.01	-.08	.36	.12	.51	.19	.18	-.17	.17	.22	.04	-.08	.45	.32	--				
16. Valence of Information T2	.93	5.09	1.03	-.47	-.44	-.11	-.35	.25	.71	.37	-.22	.23	.36	-.45	-.44	.04	-.24	.37	--			
17. Satisfaction T2	.96	5.57	1.31	-.24	-.24	-.04	-.30	.23	.34	.82	-.42	.57	.73	-.07	-.24	.20	.12	.21	.42	--		
18. Quality of Alternatives T2	.94	3.49	1.54	.21	.50	-.02	.21	-.19	-.14	-.21	.53	-.38	-.32	.17	.05	-.09	-.02	.05	-.11	-.39	--	
19. Investment T2	.95	5.43	1.28	-.04	-.07	.02	-.12	.19	.22	.52	-.58	.79	.75	.06	-.07	.27	.17	.27	.29	.67	-.31	--
20. Commitment T2	.95	5.72	1.19	-.15	-.14	.07	-.22	.20	.26	.67	-.51	.67	.81	-.02	-.14	.29	.18	.22	.36	.84	-.36	.83

Figure 1. Framework for information seeking about cross-sex friendships.

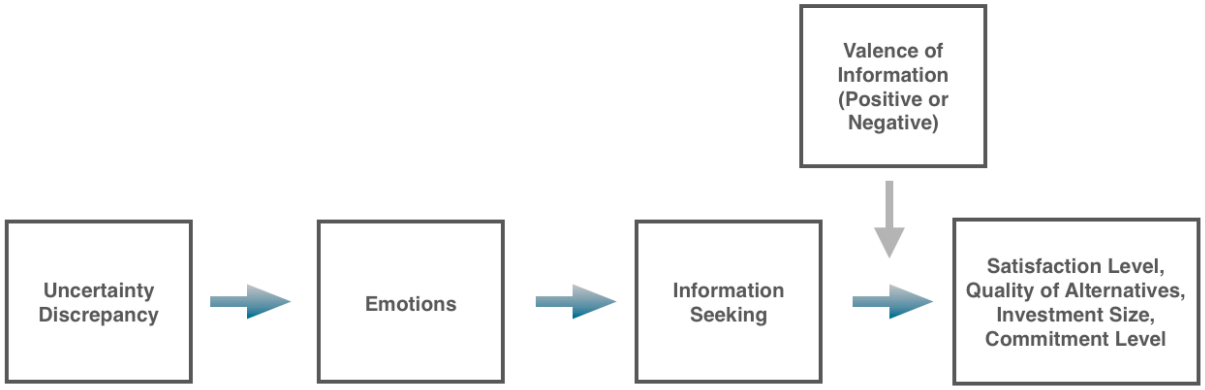
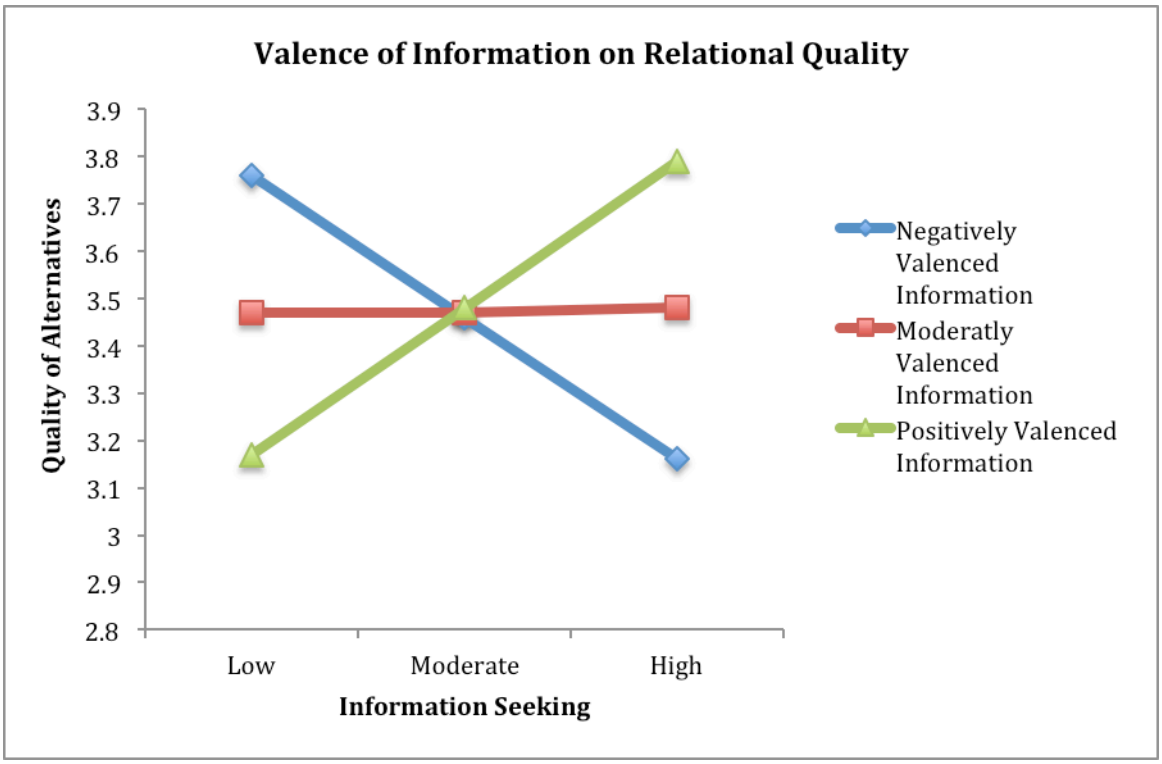


Figure 2. Valence of information on relational quality



Appendix A

University of Hawai‘i

Consent to Participate in Research

Cross-Sex Friendships in Romantic Relationships

My name is Rachel Rivers and I am a graduate student at the University of Hawai'i at Manoa (UHM) conducting a research project examining the influence of cross-sex friends on romantic relationships. Participation in this study will involve you completing a questionnaire about your romantic relationship and your romantic partner's cross-sex friends. We are asking you to participate in this project because you are at least 18 years old and are in a romantic relationship. Note that if at any time during the study you feel emotional distress or uncomfortable in any way, you may discontinue your participation in this study and receive full credit. Your contact information will be retained and used to contact you for a second wave of the study four weeks after the completion of the first survey. You will be sent an e-mail with the link to the follow-up questionnaire that will be conducted through Survey Monkey, an Internet-based survey system.

Project Description – Activities and Time Commitment: If you decide to take part in this project, you will be asked to complete a questionnaire that will take approximately 20 to 30 minutes. The questionnaire includes items that will measure the importance of the discussion about your romantic partner's cross-sex friends (e.g. "It is important to me to discuss my romantic partner's cross-sex friends with him/her") and how these friendships make you feel (e.g. "My partners' cross-sex friendships make me feel [encouraged/frustrated]". Other questions will measure relational satisfaction, investment size, quality of alternatives, and commitment level (e.g., "My partner fulfills my needs for intimacy [sharing personal thoughts, secrets, etc.]" and "I want our relationship to last for a very long time").

Four weeks after the completion of this questionnaire you will be sent a final questionnaire to complete via email, which will conclude the study. Total completion of both parts of the study will take no longer than 1 hour. Approximately 150 people will take part in this project. As incentive for your participation in this study, you will receive Sona research credits or extra credit.

Benefits and Risks: There will be no direct benefit to you for participating in this survey. The results of this project may contribute to a better understanding of how cross-sex friendships affect romantic relationships. There is a possibility of emotional distress that you may experience during this study. The questionnaire includes questions about your partner's cross-sex friendships (e.g. "My partners' cross-sex friendships make me feel [encouraged/frustrated]") and your romantic relationship (e.g. "My partner fulfills my needs for intimacy [sharing personal thoughts, secrets, etc.]"). If you feel these questions may elicit emotional distress you should not take part in this study.

If you feel uncomfortable or distressed in any way, you may discontinue your participation in the study and still receive the full credit promised for your participation. If you do find yourself

feeling distressed or unhappy because of your participation in this study, you may contact the UH Manoa Counseling Center at (808) 956–7927.

Confidentiality and Privacy: All personal contact and identifying information (i.e., phone number and/or email address) will remain strictly confidential. Following the completion of this research project, this information will be permanently deleted. We will not ask you to provide any other personal information that could be used to identify you personally.

Voluntary Participation: Participation in this project is voluntary. You can freely choose to participate or not participate in this study, and there will be no penalty or loss of benefits for either decision. If you agree to participate, you can stop at any time without any penalty or loss of benefits to which you are otherwise entitled.

Questions: If you have any questions about this study, you can contact me at Rachel Ah Sue, 808.358.7193, runnels@hawaii.edu. You can also contact our faculty advisor, Dr. Bobby Tokunaga, at 808.956.3323, robert.tokunaga@hawaii.edu. If you have any questions about your rights as a research participant, you can contact the UH Human Subjects Program at 808.956.5007 or uhirb@hawaii.edu.

By clicking "Next," you acknowledge that you have read the information above and give your consent to participate in this study. Please print a copy of this consent for your personal records.

Appendix B

Demographic Information

1. Please indicate your sex. [Male] [Female]
2. How old are you? [fill in the blank]
3. What ethnicity do you most identify with? [Asian, Caucasian, African American, Pacific Islander, Other (please indicate)]
4. Type of relationship [casual dating relationship, serious dating partner, spouse]
5. How long have you been involved in your current romantic relationship?
6. Approximately how many cross-sex friends do you have?
7. Approximately how many cross-sex friends does your romantic partner have?

Appendix C

Uncertainty Discrepancy Scale (Afifi & Weiner, 2004; Afifi et al., 2006)

Please indicate the extent to which you agree with each of the following statements.

1. It is important to me to discuss my romantic partner's cross-sex friendships with him/her. [1 = *strongly disagree*, 7 = *strongly agree*]
2. It is important for me to know what my romantic partner thinks/feels about his/her cross sex friends. [1 = *strongly disagree*, 7 = *strongly agree*]
3. It is critical that I hear how my partner thinks about his/her cross-sex friends. [1 = *strongly disagree*, 7 = *strongly agree*]
4. How much information do you *know* about your romantic partner's cross-sex friendships? [1 = no information, 7 = a lot of information]
5. How much information do you *want to know* about your romantic partner's cross-sex friendships? [1 = no information, 7 = a lot of information]
6. How much information do you *have* about your romantic partner's cross-sex friendships [1 = less than I want, 7 = more than I want]
7. How much information do you *want to have* about your romantic partner's cross-sex friendships [1 = less than I want, 7 = more than I want]

Appendix D

Emotional Response Scale (Fowler & Afifi, 2011)

Please indicate the degree to which you experience each of the following emotions to complete the sentence below. [1 = not at all, 7 = very strongly]

"My partners' cross-sex friendships make me feel ___."

1. Calm
2. Thoughtful
3. Secure
4. Encouraged
5. Inspired
6. Happy
7. Pensive
8. Worried
9. Sad
10. Nervous
11. Scared
12. Anxious
13. Disappointed
14. Distressed
15. Frustrated
16. Upset
17. Irritable
18. Angry
19. Jealous

Appendix E

Information-Seeking Scale (Afifi & Weiner, 2004; Morrison, 1993)

Please indicate the extent to which you agree with each of the following statements regarding your current romantic relationship. [1 = strongly disagree, 7 = strongly agree]

1. I openly discussed my partner's cross-sex friendships with him or her.
2. I openly discussed certain aspects of my partner's cross-sex friendships, but talked around other aspects.
3. I openly discussed certain aspects of my partner's cross-sex friendships, but refused to talk about other aspects.
4. I talked around all aspects of my partner's cross-sex friendships.
5. I tried to change the topic when discussions about my partner's cross-sex friends arose.
6. I avoided talking about my partners' cross-sex friendships.
7. I refused to talk about anything related to my partner's cross-sex friends.
8. I asked someone (other than my romantic partner) about my partner's cross-sex friendships.
9. I pay attention to how my romantic partner behaves with his/her cross-sex friends.
10. I socialize with my romantic partners cross-sex friends to learn how they behave and what they value.

Appendix F

CLUE7 Scale (Yoo, 2004)

This scale consists of a number of different words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word by completing the sentence "I think the information I received about my partner's cross-sex friend(s) was ___."

1. Negative	1	2	3	4	5	6	7	Positive
2. Something I would rate unfavorably	1	2	3	4	5	6	7	Something I would rate favorably
3. Something that I like	1	2	3	4	5	6	7	Something that I don't like
4. Something that I would respect	1	2	3	4	5	6	7	Something that I would not respect
5. Bad	1	2	3	4	5	6	7	Good
6. Deviant	1	2	3	4	5	6	7	Ordinary
7. Inappropriate	1	2	3	4	5	6	7	Appropriate
8. Normal	1	2	3	4	5	6	7	Abnormal
9. Desirable	1	2	3	4	5	6	7	Undesirable

10. When you were answering the questions in this section, did you have a specific person in mind or were you thinking about your partner's cross-sex friends in general?

☐ Specific Person

☐ My partner's cross-sex friends in general

11. If you were thinking about a specific person, who was this person in relation to your romantic partner (e.g. close friend, coworker, etc.)?
12. In 1 to 2 sentences, briefly describe the situation and explain what you found to be positive/negative information.

Appendix G

Satisfaction Scale (Rusbult, Martz, & Agnew, 1998)

Instructions: Please indicate the extent to which you agree with each of the following statements regarding your current romantic relationship. [1 = strongly disagree, 7 = strongly agree]

1. My partner fulfills my needs for intimacy (sharing personal thoughts, secrets, etc.).
2. My partner fulfills my needs for companionship (doing things together, enjoying each other's company, etc.).
3. My partner fulfills my sexual needs (holding hands, kissing, etc.).
4. My partner fulfills my needs for security (feeling trusting, comfortable in a stable relationship, etc.).
5. My partner fulfills my needs for emotional involvement (feeling emotionally attached, feeling good when another feels good, etc.).
6. I feel satisfied with our relationship.
7. My relationship is much better than others' relationships.
8. My relationship is close to ideal.
9. Our relationship makes me very happy.
10. Our relationship does a good job of fulfilling my needs for intimacy, companionship, etc.

Appendix H

Investment Scale (Rusbult et al., 1998)

Instructions: Please indicate the degree to which you agree with each of the following statements regarding your current romantic relationship. [1 = strongly disagree, 7 = strongly agree]

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.
6. I have put a great deal into our relationship that I would lose if the relationship were to end.
7. 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.
8. I feel very involved in our relationship - like I have to put a great deal into it.
9. My relationship 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).
10. Compared to other people I know, I have invested a great deal in my relationship with my partner.

Appendix I

Quality of Alternatives Scale (Rusbult et al., 1998)

Instructions: Please indicate the extent to which you agree with each of the following statements regarding the fulfillment of each need in your cross-sex friendships. [1 = strongly disagree, 7 = strongly agree]

1. My needs for intimacy (sharing personal thoughts, secrets, etc.) could be fulfilled by individuals other than my romantic partner.
2. My needs for companionship (doing things together, enjoying each others company, etc.) could be fulfilled by individuals other than my romantic partner.
3. My sexual needs (holding hands, kissing, etc.) could be fulfilled by individuals other than my romantic partner.
4. My needs for security (feeling trusting, comfortable in a stable relationship, etc.) could be fulfilled by individuals other than my romantic partner.
5. My needs for emotional involvement (feeling emotionally attached, feeling good when another feels good, etc.) could be fulfilled by individuals other than my romantic partner.
6. My cross-sex friends are very appealing.
7. My cross-sex friends are close to ideal (dating another, spending time with friends or on my own, etc.).
8. If I weren't with my current romantic partner, I would consider dating one of my cross-sex friends.
9. My cross-sex friends are attractive to me.
10. My needs for intimacy, companionship, etc., could easily be fulfilled by individuals other than my romantic partner.

Appendix J

Commitment Scale (Rusbult et al., 1998)

Please indicate the degree to which you agree with each of the following statements regarding your current romantic relationship. [1 = strongly disagree, 7 = strongly agree]

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).

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