Running head: MATE VALUE, BELIEFS, AND JEALOUSY

Relative Mate Value, Irrational Beliefs, and Romantic Jealousy

Cory Deutsch

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Supervisor: Dr. Dwight Mazmanian

Second Readers: Dr. Peter Voros

Dr. Kirsten Oinonen



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Abstract

The relationships between relative mate value, irrational beliefs, and romantic jealousy were examined. Three main questions were addressed: (1) does relative mate value affect the amount of romantic jealousy experienced for people in romantic relationships? (2) is there a relationship between irrational beliefs and romantic jealousy? and (3) do irrational beliefs act as a moderator variable in the relationship between relative mate value and romantic jealousy? Fifty-three women and 37 men completed a relative mate value questionnaire, the Multidimensional Jealousy Scale, and the General Attitude and Belief Scale. Relative mate value was manipulated by having participants imagine they were dating a partner either lower, equal, or higher than their own mate value. It was found that romantic jealousy was highly correlated with irrational beliefs, but had no significant relationship with relative mate value. Irrational beliefs did not act as a moderator variable in the relationship between relative mate value and romantic jealousy. The results suggest that individual differences in beliefs may play a larger role in romantic jealousy than does relative mate value.

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Relative Mate Value, Irrational Beliefs, and Romantic Jealousy

Jealousy is a human emotion that has been the source of debate and controversy for centuries. Several different theories on the nature of jealousy have been promulgated over this time. "Dispositional" theories of jealousy (e.g., Tooby & Cosmides, 1992) postulate that jealousy has its roots within the individual, such as cognitive distortions (Dazzi & Pedrabissi, 2004) or attachment style (Meyer, Olivier, & Roth, 2005). "Situational" accounts (e.g., Buss et al., 1999) contend that certain conditions in the environment are critical to jealousy's origin, for example infidelity of one's partner (Berman & Frazier, 2005) or rival characteristics (Buunk & Dijkstra, 2004). Other theories of jealousy include those who believe jealousy has its origins in early childhood conflict (e.g., Clanton & Smith, 1977; Freud, 1922/1948), while others believe jealousy is a learned trait and differs from culture to culture (Hupka, 1981). Not only is there disagreement on the cause and origin of jealousy, but there is also debate on its pragmatism. Traditionally, jealousy has been denounced as an immature, pathological reaction (e.g., Freud, 1922/1948) and viewed as evidence of insecurity (Bernhard, 1986). However, more recently, the field of evolutionary psychology has put forth a much different theory. Many researchers in this field believe that jealousy, like almost all human traits, has evolved as an adaptation through the process of natural and sexual selection and is a healthy advantageous trait to possess (Buss, Larsen, Westen, & Semmelroth, 1992; Buss & Shackelford, 1997; Buss et al., 1999).

Defining Jealousy

When defining jealousy, one must first differentiate jealousy from its closely related companion, envy. Envy is defined as the experience of lacking what another

person has and either wanting it or wishing the other person did not have it (Salovey & Rodin, 1984). Jealousy, on the other hand, is said to occur when a person either fears losing or has already lost a highly valued possession or important relationship with another person to a rival (Mathes, Adams, & Davies, 1985). In regards to relationships, jealousy can occur in different types of relationships, ranging from sibling jealousy, jealousy between friends, employees with the same boss, students with the same teacher, and so forth (Perrott, 1991). Perhaps the most common (and well-researched) form of jealousy is when the relationship in question is a romantic one - this being termed romantic jealousy. Romantic jealousy, the focus of the current research, has been defined as "a complex of thoughts, feelings, and actions which follows threats to the existence or quality of the relationship, when those threats are generated by the perception of a real or potential attraction between one's partner and a (perhaps imaginary) rival" (White, 1989, p.54).

There are several reasons why it is important to research and understand romantic jealousy. First, of all the forms of jealousy, romantic jealousy tends to elicit the most painful negative affect (Salovey & Rodin, 1986). Romantic jealousy has been associated with loss of affection, rejection, suspiciousness, insecurity, and anxiety (Peretti & Pudowski, 1997). External manifestations of romantic jealousy include crying, retaliating, and leaving (Pines, 1998); and jealousy has been indicated as a key cause of divorce across a variety of cultures (Betzig, 1989). Second, and more seriously, male romantic jealousy is a leading risk factor for spousal abuse and homicide against women (Daly & Wilson, 1988; Pines, 1998). Given these several well-documented deleterious effects of romantic jealousy, the importance of researching and better understanding it is clearly seen.

Theories of Jealousy

As explained, several different theories regarding the nature and origin of jealousy exist. Freud (1922/1948) believed romantic jealousy to essentially be a replaying of the Oedipal conflict: that is, it originates very early in life in relation to rivalry for the exclusive love of the mother. Other psychodynamic theories of romantic jealousy include the notion that it has its roots in childhood sibling conflict (Clanton & Smith, 1977; Levy, 1940). However, little or no evidence supports these hypotheses. A large amount of research has focused on situational antecedents correlated with romantic jealousy.

Examples of situational antecedents identified in the literature that have been significantly correlated with romantic jealousy include shorter relationship length (White, 1981), attractiveness of relationship alternatives, receiving threatening information about the self and the romantic relationship (Rydell, McConnell, & Bringle, 2004) and the presence of rivals with characteristics desirable to the other sex (Dijkstra & Buunk, 1998). Dispositional (i.e., within the person) constructs such as low self-esteem (White, 1981), high valuation of monogamy (Mathes, 1991), and relationship experience (Murphy et al., 2006) have all been positively correlated with romantic jealousy.

Two constructs that have been shown by previous research to be associated with romantic jealousy are relative mate value and irrational beliefs. The former construct is a relatively new term put forth by the field of evolutionary psychology and represents more of a "situational" (e.g., Buss et al., 1999) theory of romantic jealousy, while the latter term represents the more traditional "dispositional" view (e.g., Tooby & Cosmides, 1992). These two constructs, and their respective influences on romantic jealousy, are the focus of the current study. In order to better understand these constructs and how they lead to the impetus for the current study, the broad theoretical framework for each will be

discussed. The first construct, irrational beliefs, stems from the cognitive theory of emotions.

The Cognitive Theory of Romantic Jealousy

To illustrate the cognitive theory of jealousy, Richard Lazurus's cognitivephenomenological theory of emotions (Lazurus, 1966; Lazurus & Averill, 1972; Lazurus, Kanner, & Folkman, 1980) will be described. Lazurus conceptualizes the individual as "an evaluating organism, searching the environment for cues about what is needed or desired, and evaluating each input as to its relevance and significance" (Lazurus & Averill, 1972, p. 242). It is the evaluation component of this model which is key to the cognitive theory of jealousy. For it is at this evaluative stage that three kinds of appraisals take place: "primary appraisal," "secondary appraisal," and "reappraisal." Primary appraisal involves evaluating an event with respect to its significance to the individual's well-being. At this "primary" stage, three evaluations are possible: the event may be evaluated as irrelevant, benign/positive, or stressful. Irrelevant events have no effect on the individual's well-being. Benign/positive events enhance the individual's well-being. Stressful events involve harm or loss (an injury has already taken place); threat (an injury is anticipated); or challenge (although injury may occur, there is also the possibility of positive gain, mastery, or growth). Secondary appraisal involves an evaluation of the possible alternative courses of action, especially if the event is a stressful one. The extent to which the individual is threatened depends largely on how effective the individual believes they will be in dealing with the stressor. Reappraisal involves a re-evaluation of the situation (particularly a stressful one) resulting from the appearance of new evidence or perhaps re-evaluating the original situation in a different light.

The different cognitive appraisals lead to different potential coping responses, which can involve either behaviours designed to change the external situation or emotions. If the primary appraisal of the event is that it is irrelevant, little or no emotion follows. If the primary appraisal of the event is benign/positive, positive emotions follow. If the primary appraisal of the event is stressful, negative emotions follow. Secondary appraisal can heighten or lower these emotions, depending on whether these appraisals suggest that the individual can or cannot adequately cope with the event.

When Lazurus's theory is applied to romantic jealousy, the stimulus event that leads to the various cognitive appraisals is a situation where an individual has a romantic relationship with another individual and there exists a possibility that one of the individuals may lose their partner due to the presence of a rival. Whether this possibility of losing their partner gets evaluated (during primary appraisal) as stressful or not depends on various factors, some of which will be discussed later in this study. For now, suffice it is to say that if the possibility of losing one's partner to a rival is indeed evaluated as stressful (primary appraisal), the result is romantic jealousy.

This cognitive theory of romantic jealousy is a widely researched and useful way of understanding romantic jealousy. Several researchers have applied Lazurus' theory to romantic jealousy (e.g., Buunk, 1982; Hupka, 1981; Salovey & Rodin, 1986; White, 1981).

The next construct to be examined is relative mate value, a term taken from a relatively new theory of psychology - evolutionary psychology.

Evolutionary Psychology and Romantic Jealousy

To understand romantic jealousy from an evolutionary psychological standpoint, one needs to understand the general theory of evolutionary psychology. Evolutionary

psychology starts with certain basic assumptions about human behaviour. First, evolutionary psychology posits that all human behaviour is a result of mechanisms internal to the human, in conjunction with inputs that trigger the activation of those mechanisms (Buss & Shackelford, 1997). Even the simplest behaviour – an eye blink in response to a puff of air – requires both an input and a mechanism. This is as true for romantic jealousy as it is for an eye blink.

The second assumption made by evolutionary psychology is that all human behaviours, at some fundamental level of description, owe their existence to evolution by selection (Buss & Shackelford, 1997). Whatever mechanisms humans have – whatever they may be – evolved over time through the process of natural selection. Briefly, natural selection is the mechanism propounded by Darwin (1859) whereby he explained that some members of a species will be more likely to survive and reproduce than will others as a result of specific characteristics that they possess. Over time, the characteristics of a population of organisms will change as heritable traits that enhance survival and reproduction will become more prevalent at the expense of less favorable variations. As an illustrative example, consider the human trait of bipedalism. Assuming that in ancient times not all humans walked on two feet (i.e., some did and some did not), assume that bipedalism conferred some advantage in terms of reproduction and survival. Perhaps bipedalism allowed those who had this trait to free their hands and allowed them to carry meat longer distances (Lovejoy, 1981). Perhaps bipedalism acted as a cooling mechanism by exposing less surface area of the body to the sun which allowed them to forage for food longer during hotter parts of the day (Wheeler, 1991). Assuming this, those humans who possessed bipedalism had an advantage in terms of survival that increased their chances of reproducing. Over time the genes responsible for bipedalism would become

more prevalent in the population as the individuals who possessed them were more reproductively successful than those who did not, eventually making bipedalism pervasive in the population.

This theory of natural selection can be applied to romantic jealousy. For species that reproduce via external fertilization, where the gametes are fertilized outside of the female (e.g., some species of fish reproduce this way), both the male and female can be certain the offspring will contain their respective genes. However, for species that reproduce via internal fertilization (e.g., humans), where the gametes are fertilized within the female, the female can be the only one who knows with certainty that an offspring contains her genes, the male can never be 100% certain. The male risks significant costs in terms of reproduction: the loss of mating effort expended, including time, energy, risk, nuptial gifts, and mating opportunity costs (Buss et al., 1992). These severe reproductive costs should have imposed strong selection pressure on males to defend against infidelity. Symons (1979), and Daly, Wilson, and Weghorst (1982) have hypothesized that male sexual jealousy evolved as a solution to this adaptive problem. Men who were indifferent to sexual contact between their mates and other men presumably experienced lower paternity certainty, greater investment in competitors' gametes, and lower reproductive success than did men who were motivated to attend to cues of infidelity and to act on those cues to increase paternal probability (Buss et al., 1992). Females, on the other hand, do not risk maternal uncertainty, but they do risk the potential loss of time, resources, and commitment from a male if he deserts or channels investment to other mates (Buss, 1988; Thornhill & Alcock, 1983). The redirection of a mate's investment to another female is reproductively costly for a female, especially in environments where offspring suffer in

survival and reproductive currencies without investment from both parents (Buss et al., 1992).

Thus, it can be seen that, from an evolutionary psychological standpoint, romantic jealousy is an adaptation. As Buss (2000) puts it "Jealousy, according to this perspective, is not a sign of immaturity, but rather a supremely important passion that helped our ancestors, and most likely continues to help us today, to cope with a host of real reproductive threats...Sexual jealousy is often a successful, although sometimes explosive, solution to persistent predicaments that each one of our ancestors was forced to confront" (p. 5-6).

Now that the broad theoretical framework for both constructs have been presented, more specific elements will be discussed, starting with irrational beliefs.

Irrational Beliefs

Recall from Lazurus' cognitive-phenomenological theory of emotions presented earlier that during "primary appraisal" an event will be evaluated by an individual as irrelevant, benign/positive, or stressful. When person A is involved in a romantic relationship, the presence of a rival would elicit romantic jealousy in person A if person A evaluated the presence of the rival as stressful (primary appraisal). It was mentioned in the earlier presentation of Lazurus' model that various factors influence an individual's evaluation of an event during primary appraisal. One of these factors is that individual's mental health. If person A in the above example is mentally healthy, the presence of a rival will likely be perceived as less stressful than if person A is insecure (Mathes, 1991). If person A is mentally healthy, person A will be more optimistic about his or her chances of keeping their partner than if person A is insecure. Furthermore, if person A is

mentally healthy, person A will suffer less should person A lose their partner to the rival than if person A is insecure – there are other fish in the sea (Mathes, 1991).

There is a great deal of evidence supporting the notion that psychopathology and romantic jealousy are related. Positive and significant correlations between romantic jealousy and the following forms of psychopathology have been found: neuroticism (Buunk, 1981; Rosmarin et al., 1979), anxiety (Bringle et al., 1977; Bringle & Williams, 1979), low self-esteem (Buunk, 1982; Hupka & Bachelor, 1979; Rosmarin et al., 1979), and external locus of control (Bringle et al., 1977; White, 1984).

Cognitive Behaviour Therapy (CBT) is one of the most popular and widely accepted theories and therapeutic orientations today (Kuyken et al., 2005). CBT's effectiveness in treating a wide range of psychological problems has been extensively documented (e.g., Persons et al., 1999; Roth & Fonagy, 1996; Westbrook & Kirk, 2005). The basic theory of CBT is that emotions are mediated via ongoing cognitive appraisals and that biases in information processing are central in understanding psychopathology (McGinn et al., 2001). The premise of CBT is that if the therapist can help the client change these interpretations, which take the form of biased thoughts and images, then the accompanying maladaptive emotions will change as well (McGinn et al., 2001).

One of the original forms of CBT is Rational Emotive Behaviour Therapy (REBT). Created by Albert Ellis in 1962, the basic principle of REBT mirrors that of CBT - that is, cognition is the most important proximal determinant of human emotion (Whalen, DiGiuseppe, & Dryden, 1992). What distinguishes REBT somewhat from other forms of CBT is its emphasis on irrational beliefs. REBT states that dysfunctional emotional states and various forms of psychopathology are largely the result of dysfunctional thought processes which may be characterized by exaggeration,

oversimplification, overgeneralization, illogic, unvalidated assumptions, faulty deductions, and absolutist notions (Walen, DiGiuseppe, & Dryden, 1992). As Albert Ellis, the founder of REBT puts it "man is a uniquely rational, as well as a uniquely irrational, animal; that his emotional or psychological disturbances are largely a result of his thinking illogically or irrationally; and that he can rid himself of most of his emotional or mental unhappiness, ineffectuality, and disturbance if he learns to maximize his rational and minimize his irrational thinking" (Ellis, 1962, p. 32).

As can be seen from Ellis' description, REBT theory posits that people have two kinds of belief systems, which Ellis calls Rational Beliefs (RBs) and Irrational Beliefs (IBs). Both types of beliefs are evaluative in nature, not mere descriptions of reality. Thus, they are not merely statements such as "something might happen," but rather, if something does happen, a rational statement might be "how unfortunate!" while an irrational statement might be "how awful! What a catastrophe" (Walen, DiGiuseppe, & Dryden, 1992). Rational beliefs often are logical and lead to healthy, adaptive emotions, while irrational beliefs are characterized by the following features (from Walen, DiGiuseppe, & Dryden, 1992):

- 1) An irrational belief is logically inconsistent. It may begin with an inaccurate premise and/or lead to inaccurate deductions, and often represents an overgeneralization.
- 2) An irrational belief is inconsistent with empirical reality. It does not follow from actual events. So if someone were to say "I couldn't bear it if my wife left me," such a statement probably doesn't accurately reflect the person's actual ability to cope with such an occurrence.
- 3) An irrational belief is absolutist and dogmatic. They usually represent demands (vs. wishes), absolute shoulds (vs. preferences) and needs (vs. wants).

- 4) An irrational belief leads to disturbed emotions. Thus, if a client believes they prefer to do well on an exam, they will likely feel healthy emotions like concern. However, if a client believes they absolutely must do well on an exam, they will likely feel unhealthy amounts of anxiety and panic.
- 5) An irrational belief does not help us attain our goals. When we are tied up in debilitating emotions, we are hardly in an optimal position to effectively deal with the challenges of life. In the exam example above, the client who is experiencing anxiety and panic will likely perform worse than the client who experiences healthy concern.

REBT theory posits that virtually any dysfunctional emotion, including romantic jealousy, is largely the result of irrational beliefs. Applied to romantic jealousy, a person would experience unhealthy amounts of romantic jealousy when they escalate their desires for the love and affection of their partner (which REBT theory would call rational and healthy) into absolutist musts, shoulds, and needs for their partners love (which REBT would call irrational) (Ellis, 1996). Tying this into Lazurus' cognitivephenomenological theory of emotions, if a person held the irrational belief that they absolutely must have their partner's love (and it would be awful if they didn't have it), this person would tend to be overly sensitive to signs of possible threats to the relationship, thus be more likely to interpret various events as "stressful" during primary appraisal (and thus experience more romantic jealousy). While many other researchers have theorized a link between romantic jealousy and irrational thinking (e.g., Camaj, 1996; Rorer, 1989; Woods, 1991) it seems few studies have systematically studied this hypothesized correlation. In one such study, Lester et al. (1985) found that undergraduates who scored higher on a jealousy scale (Mathes & Severa, 1981) also had higher scores on a measure of general irrational thinking (Lee et al., 1979). Given the

paucity of systematic research into this hypothesized link between irrational beliefs and romantic jealousy, it seems important that more studies in the area are undertaken.

Relative Mate Value

Evolutionary psychology, as explained earlier, posits that virtually any behaviours we have are due to selection over time. The same can be said regarding what we find desirable in a mate. Given the different reproductive challenges facing men and women, it is not surprising that research has shown that there are considerable differences between the sexes regarding what they find desirable in a mate. Males, to promote their offsprings' chances for survival, will prefer females who can make direct investments such as becoming pregnant and nurturing their offspring. Males will therefore pay particular attention to signs of female reproductive potential, such as age and physical condition (Kenrick & Keefe, 1992; Symons, 1979). Females, on the other hand, maximize their offsprings' chances of survival if they mate with a male with good resources. Thus, females tend to pay attention to males' dominance and social status (Buss, 1994). A male's dominance may be characterized by self-confidence, initiative, assertiveness, extraversion, ascendance, and authoritativeness (Lutejin, Starren, & Van Dijk, 1985; Sadalla, Kenrick, & Vershure, 1987).

Some other examples of mate value indicators found in evolutionary psychology research are: a) fluctuating asymmetry (FA): FA refers to deviations from perfect bilateral symmetry in morphological traits (Van Valen, 1962). Research (e.g., Grammer & Thornhill, 1994; Hume & Montgomerie, 2001; Rikowski & Grammer, 1999) demonstrates a positive correlation between low-FA (i.e., high symmetry in morphological traits) and physical attractiveness in both males and females; b) body mass index (BMI): BMI is a measure of obesity that takes into account a person's height and

weight. Many studies (e.g., Puhl & Boland, 2001; Tovee, Hancock, Mahmoodi, Singleton, & Cornelissen, 2002; Tovee, Maisey, Emery, & Cornelissen, 1999;) show that a healthy BMI is a salient cue to physical attractiveness, especially in females; c) shoulder-hip ratio: certain research (e.g., Horvath, 1979) has shown that females find a certain shoulder-width and upper-body taper attractive in males. Shoulder-hip ratio in males has also been correlated with testosterone levels (Kasperk et al., 1997).

The degree to which an individual possesses the characteristics desired by the opposite sex can be defined as "mate value" (Greiling, 1997). Sometimes these measures of mate value are crudely translated into numbers, such as the actress Bo Derek being referred to as a "10" in the movie 10 (Buss, 2000). What is being found in a growing body of research is that in couples where there is a discrepancy in the partners' "mate values" (e.g., a "7" in a romantic relationship with a "10"), problems in the relationship tend to exist. Namely, the partner lower in relative mate value tends to experience significant amounts of jealousy (Buss, 2000). For example, in a study of 2000 people, those who evaluated their relationships as "balanced," in the sense of roughly equal in investments and rewards, had significantly fewer extramarital affairs than those who saw their relationship as "unbalanced" (Critelli & Wade, 1980; Hatfield et al., 1979). Buss and associates (1997) found that women married to men of higher mate value provided higher estimates of the likelihood their husbands will have an affair in the next year. Another study had participants read a series of vignettes depicting their partners engaging in varying levels of infidelity. Those participants who perceived fewer marital alternatives and more difficulty in replacing their partner with someone as desirable as their current partner were significantly more jealous by imagining these scenarios (Hansen, 1985).

The message of these studies is clear – individuals in romantic relationships who are lower in mate value than their partners tend to experience more romantic jealousy. Several theories could be offered to explain this phenomenon. One factor that has been identified in the literature regarding romantic jealousy is the notion of relationship rewards (Mathes, 1991). A partner lower in mate value has more to lose in the relationship in terms of the rewarding aspects of the relationship and also due to the fact it would be more difficult for this partner to replace their higher mate value partner with another individual of equal or higher mate value. Exchange theory may also help explain this phenomenon. Exchange theory posits romantic relationships are best suited to situations where there is an equal "exchange" between partners in terms of rewards and costs (Burgess & Huston, 1979). In relationships where one partner is of higher mate value than the other, there could be a greater chance of this higher-value partner perceiving a discrepancy of the relationship rewards, thus inducing them to look elsewhere for a more equitable relationship. These factors could easily trigger jealousy in the partner with the lower relative mate value.

To summarize, romantic jealousy is a complex, controversial phenomenon that many theories over the past century have attempted to explain. Two of the more contemporary theories that have emerged are the cognitive theory and, more recently, the evolutionary psychological theory. These theories propose different mechanisms for the nature of romantic jealousy, and thus far have been studied separately. The current study attempted to analyze the possible co-influence these theories may have on romantic jealousy.

The Current Study

The current study examined the respective influences of irrational beliefs and relative mate value on romantic jealousy. By doing so, it took constructs from both the cognitive theory and evolutionary psychological theory of romantic jealousy. While many studies have investigated these two theories of romantic jealousy separately, there seems to be a paucity of research that looks at both simultaneously. Thus, many studies (cited earlier) exist that show a relationship between irrational beliefs and jealousy, and many studies show a correlation between relative mate value and jealousy. But what are the relative contributions of these two constructs to romantic jealousy? For example, would an individual married to someone of higher mate value show more jealousy even with low levels of irrational beliefs? Or would this individual only show more jealousy with higher levels of irrational beliefs? Or would this individual show more jealousy regardless of levels of irrational beliefs? These are questions that studies to date have yet to answer, and what the current study addresses.

Thus, the present study could be conceptualized as addressing the following questions:

- 1) Will a correlation between relative mate value and romantic jealousy be found?
- 2) Will a correlation between irrational beliefs and romantic jealousy be found?
- 3) Will irrational beliefs act as a moderator variable for the relationship between relative mate value and romantic jealousy?

Based on previous research, the following predictions to the above questions were made:

1) In accordance with previous research (e.g., Buss, 2000; Buss et al., 1997) it was hypothesized that there would be significant correlations between relative mate value and romantic jealousy, with those participants with lower relative mate value experiencing significantly greater romantic jealousy than participants with higher relative mate value.

- 2) In accordance with previous research (Ellis, 1996; Lester et al., 1985) it was hypothesized that a significant correlation between irrational beliefs and romantic jealousy would be found, with participants with higher levels of irrational beliefs displaying higher levels of romantic jealousy.
- 3) Little or no research exists to date regarding the third question (i.e., whether irrational beliefs moderate the relationship between relative mate value and romantic jealousy). Some theories on possible results can be put forth, however. It would seem to make sense that participants with low levels of irrational beliefs (especially the irrational beliefs Ellis has identified that are particularly important to romantic jealousy – namely, the "need" for their partner's approval) would be more secure with themselves in any romantic relationships they are in regardless of their relative mate value. If this is the case, then relative mate value would have little effect on these participants' levels of romantic jealousy – they would not experience significant amounts of romantic jealousy no matter what their own or their partner's mate value is. However, for participants with high levels of irrational beliefs (again, especially the "need" for their partner's approval) relative mate value would likely have more of an effect on their romantic jealousy levels. That is, these relatively less "secure" participants would be especially vigilant for cues of their partner's infidelity, one such cue being the mate value of themselves and their partner. Thus, if these participants are lower in mate value than their partner, they are especially likely to experience significant amounts of jealousy for a variety of reasons, such as more rivals with desirable characteristics, more potential relationship losses, etc. Thus, it was hypothesized that irrational beliefs in fact do act as a moderator variable in the

relationship between relative mate value and romantic jealousy, which would be among the first experimental data to reveal such a relationship.

Method

Participants

Participants consisted of 90 students at Lakehead University enrolled in various spring/summer courses (53 women and 37 men, age range 19 to 65 years, mean age = 31.6 years, SD = 12.2). Participants were recruited during classroom hours on a voluntary basis. Participants were encouraged to take extra questionnaires if they had friends and/or family that could fill them out, which some participants did. No course credit was given for participating, with the exception of students enrolled in introductory psychology, who received a bonus mark. Participants were randomly assigned to one of three relative mate value conditions: lower, equal, or higher. Regarding the study, participants were merely told the study was on relationships and beliefs.

Materials

In addition to being asked basic demographic questions (e.g., relationship status, sex, age, level of education, etc.) (Appendix A), participants completed the following questionnaires:

Relative Mate Value Questionnaire (Appendix B). This questionnaire was developed for this study. Participants rated their own desirability as a potential mate (out of 10: 1 being the lowest, 10 the highest) based on a list of traits and characteristics taken from the Mate Value Inventory developed by Kirsner, Figueredo, and Jacobs (2003).

Multidimensional Jealousy Scale (Appendices C, D, and E). At the beginning of this questionnaire participants were asked to imagine they were dating someone who is either two points higher, lower, or equal to the mate value rating they gave themselves on the

Mate Value Inventory. Thus, there were three different versions of this questionnaire (one asking them to imagine a dating partner two points higher than their rating, one asking them to imagine a partner two points lower than their rating, and one asking them to imagine a partner equal to their rating), and participants were randomly assigned to one of the three versions. It should be noted that these instructions at the beginning of the questionnaire (asking them to imagine the dating partner) were the only difference between the three versions - the rest of the questionnaire was identical for all three versions. The Multidimensional Jealousy Scale itself is a 24-item scale (Pfeiffer & Wong, 1989) that provides a separate assessment of cognitive, emotional, and behavioural jealousy. Each item is answered on a 7-point rating scale, from "very pleased" to "very upset" in response to various scenarios in the emotional jealousy scale; and from "all the time" to "never" in response to various jealous thoughts and behaviours in the cognitive and behavioural jealousy scales. The scale has been found to have good reliability, validity, and high internal consistency. Cronbach's alphas for cognitive, emotional, and behavioural subscales have been found to be .92, .85, and .89 respectively (Pfeiffer & Wong, 1989).

General Attitude and Belief Scale (GABS) (Appendix F). The GABS was developed by DiGuiseppe, Leaf, Exner, and Robin in 1988. The GABS is a 55-item scale that principal factor analysis has shown contains one factor of rationality and six irrationality factors. Descriptions of the scales are as follows:

- need for achievement: measures degree to which respondent believes (s)he must be successful in important endeavors in his/her life.
- need for approval: measures degree to which respondent believes (s)he *must* have the approval of important people in his/her life.

- demands for fairness: measures degree to which respondent believes the world *must* be fair and just.
- need for comfort: measures degree to which respondent believes (s)he must be comfortable at all times and that (s)he can't stand discomfort.
- self-downing: measures degree to which respondent believes if bad things happen to him/her, it reflects his/her worthlessness as a person.
- other-downing: measures degree to which respondent believes that other must do what (s)he wants and that others are bad people if they do not.

Each irrationality factor contains statements related to that factor, while a more general "Rationality" factor contains a general range of rationally-expressed items. There is also a "Total Rationality" factor, which is a global measure combining all the irrationality factors except Rationality. Participants are asked on a 5-point rating scale the degree to which they agree with statements such as "I cannot tolerate not doing well at important tasks and it is unbearable to fail" and "I must be liked and accepted by people I want to like me, and I will not accept their not liking me." All the scales of the GABS have demonstrated satisfactory reliability (factor loadings of .35 and over), and moderately strong correlations have been found among the scales of the GABS and crossvalidation measures (e.g., trait anxiety, anger, Beck's Depression Inventory) (DiGiuseppe et al., 1988). Alpha coefficients for all seven subscales have been found to be over .70 (Bernard, 1998).

Data Reduction and Analysis

The scores used in the analyses for this study were generated in the following ways:

Jealousy scores. The Multidimensional Jealousy Scale measures emotional, cognitive. and behavioural jealousy by asking the participant to rate how jealous they would feel (on a 7 point scale) in eight imagined scenarios for each type of jealousy (for a total of 24 imagined scenarios). For example, on the emotional jealousy scale, the participant indicates how they would react to various scenarios from "very pleased" to "very upset." "Very pleased" is scored a 1 and "very upset" would score 8. A total score for each scale is obtained by adding the eight responses for each scale.

GABS scores. The participant responds to each of the 55 items on the GABS on a 5 point scale, from "strongly disagree" to "strongly agree." "Strongly disagree" is scored 1 while "strongly agree" is scored 5. Each of the eight subscales of the GABS is obtained by adding the scores of the items that correspond with that subscale (with the exception of the "Total Rationality" subscale, which is obtained by adding all the subscales except Rationality).

Mate Value. Participants were randomly assigned to one of three possible mate value conditions: lower, equal, or higher. In the data analyses, "lower" was assigned the value of 1, "equal" the value of 2, and "higher" the value of 3.

Procedure

Once ethical clearance was obtained from the Research Ethics Board at Lakehead University to conduct the study, participants were administered the questionnaires while gathered in classrooms, generally in groups of 10 to 15. Participants first read and signed an informed consent form (see Appendix G), then completed the questionnaires in the following order: demographic information, relative mate value questionnaire, Multidimensional Jealousy Scale, and the General Attitude and Belief Scale. Upon completion of the questionnaires, participants were given a debriefing form (see

Appendix H). Those participants who took questionnaires home to be filled out by associates returned the questionnaires (along with the signed consent forms) to a confidential mailbox in a secure room at Lakehead University (a total of 16 questionnaires were completed by friends/family of students).

Results

Data Screening

The data were examined for missing values, univariate outliers, and multivariate outliers. Cases with missing data were excluded from corresponding analyses. Univariate outliers, defined as cases with values > 3 SDs above or below the mean, were set one unit larger or smaller than the next most extreme score on the distribution (Tabachnick & Fidell, 2001). Four univariate outliers were found and adjusted in this manner. Multivariate outliers were tested for using Mahalanobis distance with a chi-square criterion. Two multivariate outliers were found and excluded from further analyses.

Group equivalency (i.e., each mate value condition: lower, equal, and higher) was examined for the following variables: age, gender, and own mate value rating. For the continuous variables (age, own mate value rating), one-way ANOVA's with an alpha level of .05 were performed. Results indicated no significant group differences for age, F (2, 83) = 1.62, p = .21; or own mate value rating, $\underline{F}(2, 83) = 1.25, p = .29.$ For gender, a discrete variable, a 2X3 chi-square analysis showed no significant differences between the groups on this variable, chi-square = 3.08 (2), p = .21.

Assumptions

The following assumptions were tested: normality, linearity, homoscedasticity, and homogeneity of variance. As previously mentioned, outliers were dealt with to eliminate the possibility of violation of normality due to outliers. Detrended normal

probability plots were also examined to protect against violation of this assumption (Tabachnick & Fidell, 2001).

All pairs of variables must have bivariate normality (Stevens, 1986). To test this, bivariate scatterplots were visually examined to ensure the assumption of linearity was not violated. If linearity is violated, the shape of the plot will be curved, not rectangular. If the assumption of homoscedasticity is violated, the residual plot will appear as a band of plotted residuals becoming wider at larger predicted values. Visual examination of the residual plots confirmed that the assumptions of linearity and homoscedasticity were generally satisfied.

According to Tabachnick and Fidell (2001), when sample sizes are relatively equal, the assumption of homogeneity of variance is quite robust, with discrepancies between the largest cell variance to smallest as great as 10 times being acceptable. On examination of cell variances in the current data, no ratio between the largest variance to smallest greater than three was found. This fact, combined with the fact that sample sizes were quite equal, indicates the assumption of homogeneity of variance was satisfied. Relative Mate Value and Romantic Jealousy

Table 1 shows the means and standard deviations of the emotional, cognitive, behavioural, and total jealousy scores for participants in each relative mate value condition. Between-groups analyses of variance procedures showed no statistically significant differences between any of the means for any of the groups examined.

Table 1. Means and standard deviations for emotional, cognitive, behavioural, and total jealousy for each relative mate value condition.

	Relative Mate Value	N	M (SD)
emotional jealousy	lower	30	36.76 (5.28)
total score	equal	28	39.89 (6.41)
	higher	28	38.50 (5.95)
cognitive jealousy	lower	30	21.60 (10.34)
total score	equal	28	19.50 (9.87)
	higher	28	21.61 (8.94)
behavioural jealousy	lower	30	20.33 (7.88)
total score	equal	28	18.21 (7.85)
	higher	28	18.68 (8.50)
total jealousy	lower	30	78.71 (20.41)
total score	equal	28	77.62 (15.93)
	higher	28	78.88 (14.03)

Statistics for emotional jealousy were \underline{F} (2, 83) = 2.08, \underline{p} = .14; for cognitive jealousy \underline{F} (2, 83) = .44, p = .65; for behavioral jealousy <u>F</u> (2, 83) = .56, p = .58.

Irrational Beliefs and Romantic Jealousy

Table 2 shows the correlations between the scales of the GABS and each of the jealousy scales. As can be seen from the table, there were several significant correlations between many of the GABS and jealousy scales. The highest correlations for the emotional jealousy scale was with the GABS scales Rationality, $\underline{r} = -.34$, $\underline{p} < .001$ and Need for Approval, $\underline{r} = .37$, $\underline{p} < .001$. The highest correlations for the cognitive jealousy scale was with the GABS scales Rationality, $\underline{r} = -.40$, $\underline{p} < .001$ and Self-Downing, $\underline{r} = .45$, p < .001. The highest correlation for the behavioral jealousy scale was with the GABS scale Total Rationality, $\underline{r} = .29$, $\underline{p} < .01$. Correlations between the GABS and jealousy scales were also performed separately for each mate value condition (see Tables 3, 4, and 5) and yielded similar results.

Relative Mate Value, Irrational Beliefs, and Romantic Jealousy

To test if irrational beliefs acted as a moderator variable in the relationship between relative mate value and romantic jealousy, moderated regression analysis, as recommended by Cohen and Cohen (1983) and Landsbergis, Schnall, Warren, Pickering and Schwartz (1994), was used. In moderated multiple regression, multiplicative terms are created with the independent variables and entered into the last step in a hierarchical multiple regression after the independent variables have been entered. If the multiplicative term causes a significant change in the multiple regression, the independent variable in question is considered to be a moderator variable.

Table 2. Correlations between the GABS and jealousy scales collapsed across all three mate value conditions.

	Multidimensional Jealousy Scales			
GABS Scales	Emotional	Cognitive	Behavioural	Total Jeal .
Rationality	34**	40**	14	42**
Self-Down	.29**	.45**	.25*	.49**
Achieve	.26*	.17	.21	.29**
Approval	.37**	.22*	.27*	.39**
Comfort	.14	.24*	.23*	.30**
Fairness	.22*	.21	.22*	.30**
Other-Down	.07	.10	.23*	.19
Total Rational	30*	.30*	.29*	.42**

Note. Emotional = emotional jealousy. Cognitive = cognitive jealousy. Behavioural = behavioural jealousy. Tot Jeal = total jealousy. Rationality = rationality GABS scale. Self-Down = self-downing GABS scale. Achieve = need for achievement GABS scale. Approval = need for approval GABS scale. Comfort = need for comfort GABS scale. Fairness = demands for fairness GABS scale. Other-Down = other-downing GABS scale. Total Rational = total rationality GABS scale. *p < .05 **p < .01

Table 3. Correlations between the GABS and jealousy scales for "lower" relative mate value (of the imagined partner) condition.

	Multidimensional Jealousy Scales				
GABS Scales	Emotional	Cognitive	Behavioural	Total Jeal .	
Rationality	62**	47**	36*	55**	
Self-Down	.43*	.48**	.46*	.54**	
Achieve	.33	.34	.33	.39*	
Approval	.43*	.35	.38*	.44*	
Comfort	.10	.25	.22	.24	
Fairness	.18	.23	.26	.27	
Other-Down	13	02	.08	01	
Total Rational	.30	.35	.36*	.40*	

Note. Emotional = emotional jealousy. Cognitive = cognitive jealousy. Behavioural = behavioural jealousy. Total Jeal = total jealousy. Rationality = rationality GABS scale. Self-Down = self-downing GABS scale. Achieve = need for achievement GABS scale. Approval = need for approval GABS scale. Comfort = need for comfort GABS scale. Fairness = demands for fairness GABS scale. Other-Down = other-downing GABS scale. Total Rational = total rationality GABS scale. *p <.05 **p <.01

Table 4. Correlations between the GABS and jealousy scales for "equal" relative mate value condition.

Multidimensional Jealousy Scales				
GABS Scales	Emotional	Cognitive	Behavioural	Total Jeal .
Rationality	.04	36	43	42
Self-Down	.22	.46*	.31	.53*
Achieve	.30	.04	.07	.18
Approval	.38*	.18	.12	.33
Comfort	.38*	.31	.29	.49*
Fairness	.34	.16	.16	.31
Other-Down	.37	.23	.26	.42*
Total Rational	.38*	.29	.24	.45*

Note. Emotional = emotional jealousy. Cognitive = cognitive jealousy. Behavioural = behavioural jealousy. Total Jeal = total jealousy. Rationality = rationality GABS scale. Self-Down = self-downing GABS scale. Achieve = need for achievement GABS scale. Approval = need for approval GABS scale. Comfort = need for comfort GABS scale. Fairness = demands for fairness GABS scale. Other-Down = other-downing GABS scale. Total Rational = total rationality GABS scale. *p <.05 **p <.01

Table 5. Correlations between the GABS and jealousy scales for "higher" relative mate value (of the imagined partner) condition

	Multidimensional Jealousy Scales			
GABS Scales	Emotional	Cognitive	Behavioural	Total Jeal .
Rationality	41*	52**	.32	31
Self-Down	.38*	.44*	01	.43*
Achieve	.19	.13	.24	.31
Approval	.35	.12	.27	.39*
Comfort	02	.11	.16	.16
Fairness	.17	.25	.23	.37
Other-Down	.25	01	.27	.26
Total Rational	.29	.26	.25	.44*

Note. Emotional = emotional jealousy. Cognitive = cognitive jealousy. Behavioural = behavioural jealousy. Total Jeal = total jealousy. Rationality = rationality GABS scale. Self-Down = self-downing GABS scale. Achieve = need for achievement GABS scale. Approval = need for approval GABS scale. Comfort = need for comfort GABS scale. Fairness = demands for fairness GABS scale. Other-Down = other-downing GABS scale. Total Rational = total rationality GABS scale. *p < .05 **p < .01

Thus, in the current study, hierarchical multiple regressions were conducted where first a GABS scale was entered, then relative mate value, then an interaction term (relative mate value multiplied by the GABS scale). Multiple regressions for each GABS scale were performed, for each of the three jealousy scales, for a total of 24 regression tests. In all the analyses, only once did a GABS scale meet the criterion for a moderator variable (at a p-value of .05), which was the Rationality scale with behavioural jealousy as the dependant variable. For this analysis, the third step in the multiple regression (which added the interaction term of relative mate value multiplied by Rationality scale) yielded the following statistics: $\underline{R}^2 = .079$ (adjusted $\underline{R}^2 = .045$), \underline{F} change (1, 82) = 4.21, p < .05. Thus, addition of the interaction term (of relative mate value and the Rationality scale) to the regression resulted in a significant increment in \mathbb{R}^2 . In no other analyses did any GABS scale meet the criterion as a moderator variable.

Self-Ratings of Mate Value

As a point of interest, the ratings the participants gave themselves for mate value (on the scale from 1 to 10) were examined for any potential effects they may have had. Overall, mean self-ratings were 8.02, $\underline{SD} = 1.38$, ranging from a minumum of 4 to a maximum of 10. The correlations between self-ratings and both the GABS and jealousy scales were examined both within the three relative mate value conditions and across these conditions (see Appendices G-J). For the most part, no significant correlations were found, with the exception of the Self-Downing scale in the equal mate value condition (r = -.43, p < .05) and also in the combined-groups analysis (\underline{r} = -.22, p < .05).

Sex Differences

To examine possible sex differences, independent t-tests with an alpha level of .01 were conducted for all of the scales for both the Multidimensional Jealousy Scale and the

GABS. No significant differences on any measure were found (i.e., men and women did not score significantly different on any measure).

Discussion

The three original hypotheses will be discussed in the order they were presented in the introduction, followed by a general discussion of the study overall.

Relative Mate Value and Romantic Jealousy

The current study found virtually no relationship between relative mate value and romantic jealousy. Participants displayed essentially the same amount of romantic jealousy for all three levels of relative mate value, for all types of romantic jealousy measured (i.e., emotional, cognitive, and behavioural). There are two possible interpretations of these results. First, one could view the results as a genuine finding of no relationship between relative mate value and romantic jealousy - in other words, one could view the design of the study, in particular the manipulation of relative mate value, as valid and take the results found at face value. Another possibility is that the manipulation of relative mate value was inadequate, thus rendering the findings questionable. While there is no way of knowing for certain which of these interpretations is accurate, certain pieces of information suggest that the latter may be true. Firstly, there are far more studies that have found that relative mate value affects romantic jealousy (e.g., Brown & Moore, 2003; Buss et al., 2000; Buunk & Dijkstra, 2000) than those that have not found this. Also, these studies used more concretely measured indices of relative mate value than the current study, such as fluctuating asymmetry (Brown & Moore, 2003) and physical attractiveness (Buss et al., 2000). Secondly, feedback from some participants indicated that the manipulation of relative mate value was inadequate in the sense that once participants started completing the jealousy questionnaire, they "forgot"

to complete it as if they were dating the hypothetical person they were instructed to imagine, and merely completed it imagining a more "generic" dating partner. If this was indeed the case, then the manipulation of relative mate value was likely ineffective, as participants probably completed the jealousy questionnaire the same way regardless of mate value condition. The results (i.e., the jealousy scores being so similar for all mate value conditions) would seem to support this explanation.

If one is to view the manipulation of relative mate value, and therefore the lack of relationship between relative mate value and romantic jealousy, as valid, then the current study provides evidence contrary to that of other researchers (e.g., Brown & Moore, 2003; Buss et al., 2000). However, if one is to take the position that the current manipulation was inadequate, then it is best to learn from this experience and improve future research aiming to manipulate relative mate value. There are a few possible explanations for why the current manipulation of relative mate value may have been ineffective. Firstly, it seems that participants too easily "forgot" they were supposed to complete the questionnaire as if they were dating someone of a certain mate value. Another possibility was that, in the current study, most participants rated their mate value in the 8-10 range (68.6% of participants in this range; 19.8% of participants rated themselves a 10). Thus, these participants may have had difficulty imagining dating someone of higher mate value. A further reason for the possible ineffectiveness of the manipulation was the fact that many participants have been in romantic relationships for many years. This may have made it difficult for these participants to imagine dating a hypothetical partner (i.e., someone other than their existing partner) and answer the jealousy questionnaire accordingly.

In any case, if it is assumed the manipulation of relative mate value used in the current study was ineffective, then future research in this area can heed the lessons learned in this study. One suggestion to improve future manipulations of mate value similar to the method used in this study would be to have more explicit and numerous instructions reminding participants to imagine the hypothetical dating partner. For example, in the current study the only instructions in this regard were at the beginning of the Multidimensional Jealousy Scale, then the "regular" Multidimensional Jealousy Scale was presented (i.e., without any wording changes to it). What future studies employing this method could do is have bolded instructions at the beginning of each section of the Multidimensional Jealousy Scale (e.g., "how often would you have the following thoughts about your partner if you were dating someone 2 points higher than you?") and then re-word the items to reflect the question being asked (e.g., change "I suspect my partner is seeing someone of the opposite sex" to "I would suspect my partner is seeing someone of the opposite sex"). These changes would make it less likely that participants would "forget" to imagine dating a hypothetical partner.

Another possible method of manipulating relative mate value would be to use visual stimuli rather than mere written instructions. Many studies have used photographic stimuli to assess what males and females find attractive in the opposite sex. Features such as body-mass index (BMI) and waist-to-hip ratio in females (Buunk & Dijkstra, 2005; Furnham, Petrides, & Constantinides, 2005; Henss, 2000; Swami, Caprario, Tovee, & Furnham, 2006) and facial symmetry in males and females (Olson & Marshuetz, 2005; Pawlowski & Jasienski, 2005; Weeden & Sabini, 2005) have been manipulated in photographs in previous studies to investigate mate value ratings. Thus, future studies that aim to have participants imagine dating someone at a certain mate value could use a

photograph of a hypothetical dating partner that has certain features manipulated to reflect a certain mate value (e.g., a low waist-to-hip ratio on a women to indicate higher mate value) and then have participants complete a jealousy questionnaire based on this hypothetical partner. This visual stimuli may be more salient to participants than written instructions alone, thus less easily forgotten.

Perhaps the most reliable method of manipulating relative mate value would be to study existing couples of varying relative mate value (i.e., some couples that have a discrepancy of mate value, some couples where there is equal mate value) and have these couples complete a jealousy questionnaire. This method would ensure there would be no "forgetting" the partner since they would be answering the questionnaire according to their current relationship. While this method would likely be the most reliable, it would also be the most complex in terms of logistics. In addition to having to find many couples, one would also have to determine the mate value of each participant, which would raise questions as to exactly which traits would be measured to determine mate value. As an example, Brown and Moore (2003) measured the fluctuating asymmetry (FA) of participants as an indicator of mate value using various body measurements. So while this methodology would be preferable in terms of reliability, the current study represents one simplistic measure of the very complex construct of mate value.

Romantic Jealousy and Irrational Beliefs

As hypothesized, there was a strong relationship between romantic jealousy and irrational beliefs. Every scale of the GABS significantly correlated with at least one of the jealousy scales, and most with more than one jealousy scale. These results provide strong evidence supporting previous theory and research that has claimed cognitions, in particular irrational or faulty assumptions, play an important proximal role in romantic

jealousy (Bishay et al., 1996; Bishay, Peterson, & Tarrier, 1989; Ellis, 1996; Lester et al., 1985). The current study, having used scales with multiple subscales, also provides additional information regarding the type(s) of irrational beliefs that more strongly correlate with particular facets of romantic jealousy. According to REBT theory, romantic jealousy is the result of escalating one's preference for the love and approval of one's partner into a demand or need for their approval (Ellis, 1996). Thus, one would expect the Need for Approval subscale of the GABS to strongly correlate with the jealousy scales. As can be seen from Table 2, this subscale was one of the strongest correlators, significantly correlating with all three jealousy scales. This evidence lends strong support for the REBT theory of romantic jealousy. Another interesting finding is that the GABS scale that correlated most strongly with the jealousy scales was the Self-Downing scale. This finding seems consistent with previous research that has found romantic jealousy significantly related to low self-esteem and insecurity (McIntosh,

These findings have implications regarding the treatment of romantic jealousy. For clients with romantic jealousy, therapists can use these findings to see that not only are cognitions in general involved in the problem, but which cognitions specifically are important in the experience of jealousy. Thus, a therapist could zero in fairly quickly on the clients' beliefs regarding their need for approval and self-downing.

Relative Mate Value, Irrational Beliefs, and Romantic Jealousy

1989; McIntosh & Tate, 1990).

A unique hypothesis of the current study was to examine if irrational beliefs act as a moderator variable in the relationship between relative mate value and romantic jealousy. It was hypothesized that relative mate value affects romantic jealousy via the beliefs of the individual - individuals with more irrational beliefs may be more affected

by the relative mate value of their partner than individuals with more rational beliefs. The current study found no compelling evidence that this is the case. Only once out of 24 tests did a GABS scale meet the statistical criterion for a moderator in the relationship between relative mate value and romantic jealousy. As was the case with the first hypothesis dealing with relative mate value and romantic jealousy, there are two main possible interpretations of these results. Firstly, one could view the manipulation of relative mate value as valid and take the results at face value - i.e., view the results as evidence that irrational beliefs do not act as a moderator variable in this relationship. Or, secondly, one could view the manipulation of relative mate value as questionable and emphasize the need for further research. As stated earlier, there are pieces of information that suggest the latter may be accurate. If so, it would also render this particular test questionable. Therefore, if future research addressing this issue is undertaken, it would likely provide a more valid test of this hypothesis if the suggestions made here are utilized.

Self-Ratings of Mate Value

As presented in the results section, correlations between the self-ratings of mate value participants gave themselves were correlated with the jealousy and GABS scales. Due probably to the small dispersion of ratings, not many significant results were found, but one interesting finding was that these ratings did significantly correlate negatively with the Self-Downing scale in both the "equal" mate value condition and when all three conditions were collapsed. This means that the lower the mate value rating the participants gave themselves, the more Self-Downing beliefs they endorsed. This would seem to substantiate previous research that has linked perceived mate value and selfesteem - i.e., the lower one's self-esteem, the lower one's perceived mate value (Fletcher & Boyes, 2004; Fletcher, Boyes, Overall, & Kavanagh, 2006) - given Self-Downing has

been related to self-esteem (McClennan, 1987; Neilson et al., 1996). This may indicate that the tendency to internalize or blame oneself for bad things that happen may lead to decreased perceived mate-value over time. And since the current study examined selfperceived mate-value, it may also highlight the fact that it is one's perception of their mate value that is important in regards to constructs like self-esteem, jealousy, etc. rather than one's actual mate value (i.e., as measured by objective measures like fluctuating asymmetry, waist-to-hip ratio, etc.).

General Discussion

The current study addressed three hypotheses, with one of the three hypotheses (i.e., a significant relationship between romantic jealousy and irrational beliefs) emerging as predicted. Unexpectedly, no relationship between relative mate value and romantic jealousy was found, nor did irrational beliefs act as a moderator variable in the relationship between relative mate value and romantic jealousy. As discussed, these results could indicate a genuine lack of relationship between these variables, or the manipulation could be invalid rendering the results questionable.

Perhaps the main contribution of the current study was the finding of such a strong relationship between romantic jealousy and irrational beliefs. While many researchers have theorized such a relationship (e.g., Beck, 1995; Burns, 1999; Ellis, 1996) few studies have systematically tested this hypothesis. The current study therefore provides such evidence. What is further compelling about the current study's results is that the GABS scales that correlated most strongly with the jealousy scales were the expected ones - i.e., the Need for Approval and Self-Downing scales. This would seem to provide further evidence in support of the cognitive - and in particular the REBT framework of romantic jealousy.

In addition to the possible methodological problems discussed, there were other possible limitations to the current study. The method of having participants rate their own mate value was a novel one. Thus, there is no evidence regarding this method and any possible effects it may have had on participants. For example, it could be argued that rating one's own mate value in such a manner (i.e., on a scale of one to ten) could induce a negative mood state, especially for participants with low self-esteem (and who rated themselves lowly), and subsequently affect their responses on the GABS and jealousy questionnaires. There is evidence that current mood can affect scores on a dysfunctional thinking questionnaire (i.e., negative mood leads to more dysfunctional thinking), but only for participants with a history of depression (Miranda & Persons, 1988; Miranda, Persons, & Byers, 1990). However, it is unlikely that this mood-state hypothesis significantly affected the results of the current study for the following reasons: 1) if this method does indeed induce a negative mood, it likely only does so for participants who: a) have low self-esteem and/or a history of depression; and b) gave themselves a low mate value rating. As stated earlier, there was little dispersion in self mate value ratings, with most being in the eight to ten range. Out of 90 participants, only four participants rated themselves 5 or lower (three rated themselves a 5, one a 4). Thus, even if this method did induce negative mood for certain participants, it likely only did so for very few participants.

2) again, even if this method did induce a negative mood for certain participants, it is unclear how this would affect their responses on the GABS and/or Multidimensional Jealousy Scale. Previous research (cited above) suggests negative mood can increase scores on dysfunctional attitude scales, and since there is also evidence that dysfunctional attitudes and jealousy are strongly correlated (as found in this study and others such as

Lester et al., 1985), it would stand to reason that if a participant's score on one measure was affected (e.g., the GABS) it likely had a similar effect on the other measure (e.g., the Multidimensional Jealousy Scale). Thus, the relationships between the variables would remain similar and not significantly affect the statistical analyses.

3) while there is some evidence (cited above) that suggests that negative mood can increase scores on a dysfunctional thinking measure, there is also evidence that suggests that it isn't that participants in a negative mood are thinking more dysfunctionally, just that their dysfunctional attitudes (if they have them) are more accessible or salient during the negative mood (Persons & Miranda, 1991). This may suggest that negative mood shouldn't actually affect scores on a dysfunctional thinking measure, as the strength of dysfunctional attitude isn't affected, only the accessibility.

Given these reasons, it is unlikely that the mood-state hypothesis significantly affected the results of the current study. However, future research that uses this method (i.e., asking participants to rate their own mate value) may want to safeguard against this possibility by: a) including a measure of self-esteem and/or history of depression; and b) a mood-state check, to observe if the method actually did cause a change of mood.

In conclusion, while there may have been some methodological issues with the current study, there are some important contributions it can make to the literature in this area. It is the opinion of the current researcher that the issue of irrational beliefs acting as a moderator variable in the relationship between relative mate value and romantic jealousy is a salient one that warrants further investigation.

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Appendix A

First of all, we need some information about you. Please answer all of the following questions. Please print clearly.

Demographic information:

Age (in years):
Gender: Male Female
What year of university are you in (e.g., 1 st , 2 nd , 3 rd , etc.)?
Degree you're in (e.g., BA, BSc, etc.):
Concentration (e.g., Psyc, Biol, Econ, etc.):
Are you currently in a romantic relationship?
If yes, how long have you been in the relationship?

Appendix B

Research has shown that people tend to find certain traits and characteristics more desirable than others in a potential mate of the opposite sex. Some examples of such traits and characteristics include:

Ambitious Attractive face Attractive body Desires children Enthusiastic about sex Faithful to partners Financially secure Generous Good sense of humor Healthy Independent Intelligent Kind and Understanding Loyal Responsible Shares my values Shares my interests Sociable Emotionally stable

Sometimes, on the basis of some of these traits and characteristics, people will rate a potential mate of the opposite sex with a number out of 10. For example, many males may rate the actress Pamela Anderson as a "10," or many females may rate the actor Brad Pitt as a "10."

Keeping these traits and characteristics in mind, and the explanation about rating potential mates out of 10 given above, what rate as a potential mate would you give yourself (out of 10; 1 being the lowest, 10 the highest)?

Appendix C

Now imagine you are dating someone who is approximately 2 points lower in their rank as a potential mate than you. Imagine you have been dating them for a moderate length of time (i.e., approximately 6-12 months).

Please answer the following questions as if you were in the relationship described above (i.e., you're dating someone 2 points lower than your own rating).

How would you react emotionally to the following situations? (place a checkmark in the appropriate space)

	Very Pleased	Pleased	Satisfied	Indifferent	Dissatisfied	Upset	Very Upset
Your partner comments to you on how great looking a particular member of the opposite sex is							
Your partner shows a great deal of interest or excitement in talking to someone of the opposite sex							
Your partner smiles in a very friendly manner to someone of the opposite sex							
A member of the opposite sex is trying to get close to your partner all the time							
Your partner is flirting with someone of the opposite sex							
Someone of the opposite sex is dating your partner					. <u></u>		
Your partner hugs and kisses someone of the opposite sex Your partner works							
closely with someone of the opposite sex (in school or office)							

How often would you have the following thoughts about your partner? (place a checkmark in the appropriate box)

	Never	Very Rarely	Rarely	Sometimes	Frequently	Very Frequently	All the time
I suspect that my partner is secretly seeing someone of the opposite sex							
I am worried that some member of the opposite sex may be chasing after my partner							
I suspect that my partner may be attracted to someone else							
I suspect that my partner may be physically intimate with another member of the opposite sex behind my back							
think that some nembers of the opposite sex may be omantically nterested in my partner							
am worried that comeone of the opposite sex is rying to seduce my partner							
think that my partner is secretly developing an intimate relationship with someone of the opposite sex							
suspect that my partner is crazy about members of the opposite sex		. ,					

How often would you engage in the following behaviours? (place a checkmark in the appropriate box)

	All the time	Very frequently	Frequently	Sometimes	Rarely	Very rarely	Never
I look through my partner's drawers, handbag or pockets							
I call my partner unrepentantly, just to see if he or she is there				<u></u>			
I question my partner about previous or present romantic relationships							
I say something nasty about someone of the opposite sex if my partner shows an interest in that person							
I question my partner about his or her telephone calls							
I question my partner about his or her whereabouts							
I join in whenever I see my partner talking to a member of the opposite sex							
I pay my partner a surprise visit just to see who is with him or her							

Appendix D

Now imagine you are dating someone who is approximately equal in their rank as a potential mate as you. Imagine you have been dating them for a moderate length of time (i.e., approximately 6-12 months).

Please answer the following questions as if you were in the relationship described above (i.e., you're dating someone equal to your own rating).

How would you react emotionally to the following situations? (place a checkmark in the appropriate space)

	Very Pleased	Pleased	Satisfied	Indifferent	Dissatisfied	Upset	Very Upset
Your partner comments to you on how great looking a particular member of the opposite sex is							
Your partner shows a great deal of interest or excitement in talking to someone of the opposite sex							
Your partner smiles in a very friendly manner to someone of the opposite sex							
A member of the opposite sex is trying to get close to your partner all the time							
Your partner is flirting with someone of the opposite sex							
Someone of the opposite sex is dating your partner				<u>.</u>	· ——.		
Your partner hugs and kisses someone of the opposite sex Your partner works							
closely with someone of the opposite sex (in school or office)							

How often would you have the following thoughts about your partner?

(place a checkm	Never	Very Rarely	Rarely	Sometimes	Frequently	Very Frequently	All the time
I suspect that my partner is secretly seeing someone of the opposite sex							
I am worried that some member of the opposite sex may be chasing after my partner						·	
I suspect that my partner may be attracted to someone else							
I suspect that my partner may be physically intimate with another member of the opposite sex behind my back							
think that some members of the opposite sex may be comantically nterested in my partner				——————			
am worried that someone of the opposite sex is rying to seduce my partner				· · · · · · · · · · · · · · · · · · ·			
think that my partner is secretly developing an ntimate relationship with someone of the opposite sex							
suspect that my partner is crazy about members of he opposite sex							

How often would you engage in the following behaviours? (place a checkmark in the appropriate box)

	All the time	Very frequently	Frequently	Sometimes	Rarely	Very rarely	Never
I look through my partner's drawers, handbag or pockets							
I call my partner unrepentantly, just to see if he or she is there							
I question my partner about previous or present romantic relationships							
I say something nasty about someone of the opposite sex if my partner shows an interest in that person	· 						
I question my partner about his or her telephone calls							
I question my partner about his or her whereabouts			·				
I join in whenever I see my partner talking to a member of the opposite sex							
I pay my partner a surprise visit just to see who is with him or her							

Appendix E

Now imagine you are dating someone who is approximately 2 points higher in their rank as a potential mate than you. Imagine you have been dating them for a moderate length of time (i.e., approximately 6-12 months).

Please answer the following questions as if you were in the relationship described above (i.e., you're dating someone 2 points higher than your own rating).

How would you react emotionally to the following situations? (place a checkmark in the appropriate space)

	Very Pleased	Pleased	Satisfied	Indifferent	Dissatisfied	Upset	Very Upset
Your partner comments to you on how great looking a particular member of the opposite sex is							
Your partner shows a great deal of interest or excitement in talking to someone of the opposite sex							
Your partner smiles in a very friendly manner to someone of the opposite sex							
A member of the opposite sex is trying to get close to your partner all the time							
Your partner is flirting with someone of the opposite sex							
Someone of the opposite sex is dating your partner				-			
Your partner hugs and kisses someone of the opposite sex Your partner works			.				
closely with someone of the opposite sex (in school or office)			<u> </u>				

How often would you have the following thoughts about your partner?

	Never	Very Rarely	Rarely	Sometimes	Frequently	Very Frequently	All the time
I suspect that my partner is secretly seeing someone of the opposite sex							
I am worried that some member of the opposite sex may be chasing after my partner							
I suspect that my partner may be attracted to someone else							
I suspect that my partner may be physically intimate with another member of the opposite sex behind my back							
I think that some members of the opposite sex may be romantically interested in my partner							
I am worried that someone of the opposite sex is trying to seduce my partner						·	
I think that my partner is secretly developing an intimate relationship with someone of the opposite sex			· 				
I suspect that my partner is crazy about members of the opposite sex					·	·	

How often would you engage in the following behaviours?

(place a checkmark in the appropriate box)

	All the time	Very frequently	Frequently	Sometimes	Rarely	Very rarely	Never
I look through my partner's drawers, handbag or pockets							
I call my partner unrepentantly, just to see if he or she is there							
I question my partner about previous or present romantic relationships							
I say something nasty about someone of the opposite sex if my partner shows an interest in that person							
I question my partner about his or her telephone calls							
I question my partner about his or her whereabouts							
I join in whenever I see my partner talking to a member of the opposite sex				<u></u>			
I pay my partner a surprise visit just to see who is with him or her							

Appendix F

General Attitude and Belief Scale (GABS)

DIRECTIONS

Here are a set of statements which describe what some people think and believe. Read each statement carefully and decide how much you agree or disagree with it.

If you STRONGLY AGREE with the statement circle number	5
If you AGREE	4
If you are NEUTRAL	3
If you DISAGREE	2
If you STRONGLY DISAGREE	1

There are no right or wrong answers. Only you can tell what you really believe so please mark the way you really think. Circle the number that shows your agreement or disagreement with each statement. Please try to answer each question.

Example:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
People should never					_
break a promise	1	2	3	4	5

The person has shown that he/she agrees with the statement by circling number 4. If the person had strongly agreed with the statement he/she would have circled number 5.

		Strongly Disagree	Disagree	Neutral	S Agree	trongly Agree
1.	When life is hard and I feel uncomfortable I realize it is not awful to feel uncomfortable or tense, only unfortunate and I can keep going.	1	2	3	4	5
2.	I believe that I would be a worthless person if I achieved poorly at tasks that are important to me.	1	2	3	4	5
3.	It's unbearable to fail at important things, and can't stand not succeeding at them.	1	2	3	4	5
4.	I can't stand a lack of consideration from other people, and I can't bear the possibility of their unfairness.	1	2	3	4	5
5.	It's unbearable being uncomfortable, tense or nervous and I can't stand it when I am.	1	2	3	4	5

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
6.	I can't stand being disliked by people who are important to me, and it is unbearable if they dislike me.	1	2	3	4	5
7.	I have worth as a person even if I do not perform well at tasks that are important to me.	1	2	3	4	5
8.	When I feel tense, nervous or uncomfortable I think it just goes to show what kind of bad worthless person I am.	1	2	3	4	5
9.	If I do not perform well at things, that are important, it will be a catastrophe.	1	2	3	4	5
10.	It is awful and terrible to be treated unfairly by people in my life.	1	2	3	4	5
11.	I can't stand being tense or nervous and I think tension is unbearable.	1	2	3	4	5
12.	It's awful to be disliked by people who are important to me, and it is a catastrophe if they don't like me.	1	2	3	4	5
13.	I want to do well at important tasks, but I realize that I don't have to do well at these important tasks just because I want to.	1	2	3	4	5
14.	If important people dislike me, it is because I am an unlikable bad person.	1	2	3	4	5
15.	I must do well at important things, and I will not accept it if I do not do well.	1	2	3	4	5
16.	I must be treated fairly by people, and I will not accept unfairness.	1	2	3	4	5
17.	Sometimes I think the hassles and frustrations of everyday life are awful and the worst part of my life.	1	2	3	4	5
18.	When I am treated inconsiderately, I think it shows what kind of bad and hopeless people there are in the world.	1	2	3	4	5
19.	If I am rejected by someone I like, I can accept myself and still recognize my worth as a human being.	1	2	3	4	5
20.	If I do not perform well at tasks that are so important to me, it is because I am a worthless bad person.	1	2	3	4	5

		Strongly Disagree	Disagree	Neutral		trongly Agree
21.	It's awful to do poorly at some important things, and I think it is a catastrophe if I do poorly.	1	2	3	4	5
22.	I think it is terribly bad when people treat me with disrespect.	1	2	3	4	5
23.	I must have a pleasant, comfortable life most of time, and I can't accept when life is a hassle.	1	2	3	4	5
24.	I must be liked by important people, and I will not accept not being liked by them.	1	2	3	4	5
25.	I do not like it when people act disrespectfully, but I can tolerate not having their respect.	1	2	3	4	5
26.	When people I like reject me or dislike me, it is because I am a bad or worthless person.	1	2	3	4	5
27.	I can't stand not doing well at tasks that are important to me.	I	2	. 3	4	5
28.	I cannot stand being treated unfairly, and I think unfairness is unbearable.	1	2	3	4	5
29.	I must have a pleasant life and I will not accept hassles when I don't want them.	1	2	3	4	5
30.	I believe that if a person treats me very unfairly they are bad and worthless.	1	2	3	4	5
31.	It is a disappointment if I'm disliked by some people I like, and I realize it's only unfortunate and not awful if they don't like me.	1	2	3	4	5
32.	If important people dislike me, it goes to show what a worthless person I am.	1	2	3	4	5
33.	It's essential to do well at important jobs; so I must do well at these things.	1	2	3	4	5
34.	I must be treated with respect by other people, and I will not accept it if I am not.	1	2	3	4	5
35.	It's awful to have hassles in one's life and it is a catastrophe to be hassled.	1	2	3	4	5
36.	I can't stand being disliked by certain people, and I can't bear the possibility of their disliking me.	1	2	3	4	5

		Strongly Disagree	Disagree	Neutral		rongly Agree
37.	It is frustrating to be hassled but I can stand the frustration of being hassled.	1	2	3	4	5
38.	I would not be a worthwhile person if I kept failing at work, school, or other activities that are important to me.	1	2	3	4	5
39.	I cannot tolerate not doing well at important tasks and it is unbearable to fail.	1	2	3	4	5
40.	It is awful to be treated unfairly by people who are important to me, and it is terrible if they do not act considerably.	1	2	3	4	5
41.	I think it is awful and terrible to experience tension, nervousness or frustration, and such feelings is the worst thing that can happen to me.	1	2	3	4	5
42.	It's essential to be liked by important people, and I will not accept their not liking me.	1	2	3	4	5
43.	It is important that people treat me fairly most of the time, however I realize I do not have to be treated fairly just because I want to be	l e.	2	3	4	5
44.	When I experience hassles and my life is unpleasant, I believe I am a worthless person because I have hassles or an unpleasant life.	1	2	3	4	5
45.	If I do not perform well at things which are important, it will be a catastrophe.	1	2	3	4	5
46.	It is unbearable to not have respect from people, and I can't stand their disrespect.	1	2	3	4	5
47.	I can't stand hassles in my life.	1	2	3	4	5
48.	I must be liked and accepted by people I want to like me, and I will not accept their not liking me.	1	2	3	4	5
49.	I want to be liked and accepted by people whom I like, but I realize they don't have to like me just because I want them to.	. 1	2	3	4	5
50.	When I experience discomfort or hassles in my life, I tend to think that I am not a good person.	1	2	3	4	5
51.	I must be successful at things that I believe are important, and I will not accept anything less than success.	1	2	3	4	5

		Strongly Disagree	Disagree	Neutral	S Agree	trongly Agree
52.	It is essential that people treat me with consideration, and I cannot accept it when they don't.	1	2	3	4	5
53.	I must not feel tense, nervous or uncomfortable and I believe that I cannot accept feeling bad.	1	2	3	4	5
54.	When people who I want to like me disapprove of me or reject me, I can't bear their disliking me.	1	2	3	4	5
55.	If people treat me without respect, it goes to show how bad they really are.	1	2	3	4	5

Appendix G

Correlations between self-ratings of mate value and Multidimensional Jealousy Scales and GABS scales collapsed across all mate value conditions

Jealousy Scales	Self- Rating	GABS Scales	Self- Rating
Emotional	19	Rationality	.02
Cognitive	24*	Self-Down	22*
Behavioral	.16	Achieve	07
Total	13	Approval	10
		Comfort	04
		Fairness	09
		Other-Down	.04
		Total Rational	12

Note. Emotional = emotional jealousy. Cognitive = cognitive jealousy. Behavioural = behavioural jealousy. Total = total jealousy. Rationality = rationality GABS scale. Self-Down = self-downing GABS scale. Achieve = need for achievement GABS scale. Approval = need for approval GABS scale. Comfort = need for comfort GABS scale. Fairness = demands for fairness GABS scale. Other-Down = other-downing GABS scale. Total Rational = total rationality GABS scale. *p <.05 **p <.01

Appendix H

Correlations between self-ratings of mate value and Multidimensional Jealousy Scales and GABS scales for "lower" mate value (of the imagined partner) condition

Jealousy <u>Scales</u>	Self- Rating	GABS Scales	Self- Rating
Emotional	05	Rationality	.21
Cognitive	32	Self-Down	01
Behavioral	02	Achieve	.00
Total	19	Approval	.08
		Comfort	.13
		Fairness	03
		Other-Down	.11
		Total Rational	.05

Note. Emotional = emotional jealousy. Cognitive = cognitive jealousy. Behavioural = behavioural jealousy. Total = total jealousy. Rationality = rationality GABS scale. Self-Down = self-downing GABS scale. Achieve = need for achievement GABS scale. Approval = need for approval GABS scale. Comfort = need for comfort GABS scale. Fairness = demands for fairness GABS scale. Other-Down = other-downing GABS scale. Total Rational = total rationality GABS scale. *p < .05 **p < .01

Appendix I

Correlations between self-ratings of mate value and Multidimensional Jealousy Scales and GABS scales for "equal" mate value (of the imagined partner) condition

Jealousy Scales	Self- Rating	GABS Scales	Self- Rating
Emotional	13	Rationality	41*
Cognitive	07	Self-Down	43*
Behavioral	.20	Achieve	24
Total	.01	Approval	23
		Comfort	29
		Fairness	15
		Other-Down	24
		Total Rational	33

Note. Emotional = emotional jealousy. Cognitive = cognitive jealousy. Behavioural = behavioural jealousy. Total = total jealousy. Rationality = rationality GABS scale. Self-Down = self-downing GABS scale. Achieve = need for achievement GABS scale. Approval = need for approval GABS scale. Comfort = need for comfort GABS scale. Fairness = demands for fairness GABS scale. Other-Down = other-downing GABS scale. Total Rational = total rationality GABS scale. *p < .05 **p < .01

Appendix J

Correlations between self-ratings of mate value and Multidimensional Jealousy Scales and GABS scales for "higher" mate value (of the imagined partner) condition

Jealousy Scales	Self- Rating	GABS Scales	Self- Rating
Emotional	28	Rationality	.15
Cognitive	36	Self-Down	21
Behavioral	.25	Achieve	.01
Total	20	Approval	20
		Comfort	04
		Fairness	12
		Other-Down	.04
		Total Rational	13

Note. Emotional = emotional jealousy. Cognitive = cognitive jealousy. Behavioural = behavioural jealousy. Total = total jealousy. Rationality = rationality GABS scale. Self-Down = self-downing GABS scale. Achieve = need for achievement GABS scale. Approval = need for approval GABS scale. Comfort = need for comfort GABS scale. Fairness = demands for fairness GABS scale. Other-Down = other-downing GABS scale. Total Rational = total rationality GABS scale. *p <.05 **p <.01

Appendix K

Relationship Study Consent Form

This study is being conducted by Cory Deutsch (MA candidate) under the supervision of Dr. Dwight Mazmanian of the Department of Psychology at Lakehead University. The purpose of the study is to examine the effects of beliefs on romantic relationships.

- 1. I understand that I will be asked to complete the questionnaire about relationships and that this will take 20 - 40 minutes to complete.
- 2. I understand that my participation is completely voluntary and that I am free to discontinue my participation at any time without explanation and without penalty.
- 3. I understand there are no known physical or psychological risks associated with the procedures used in this study.
- 4. I understand that the data will be anonymous and confidential.
- 5. I understand that the data from this study will be stored in a secure location for seven years by Dr. Mazmanian.
- 6. I understand that I may receive a summary of the results from this study when it is completed, if I wish.
- 7. I understand that if I am an introductory psychology student, I will receive one (1) bonus point toward my final course grade by participating in this study.

I have read and understand the information presented above and I consent to participate in the study.

Participant's Signature	Date
Introductory Psychology Students Who Please complete this section to ensure that	
Printed Name	Date

If you have any questions about this study, please contact Dr. Mazmanian at (807) 343-8257

Appendix L

Relationship Study Debriefing Form

Thank you for participating in this study on relationships. The purpose of this study was to examine the effects of beliefs on romantic relationships.

If you wish to obtain a summary of the findings of this study when it is complete, or have any further questions, please contact my Thesis Supervisor, Dr. Dwight Mazmanian at his office (807) 343-8257 located in the Psychology Department at Lakehead University SN 1016, or myself.

Suggested Readings

Buss, D.M. (2000). The dangerous passion: Why jealousy is as necessary as love and sex. New York, New York: The Free Press.

Ellis, A. (1988). How to stubbornly refuse to make yourself miserable about anything – yes, anything! Secaucus, NJ: Carol Publishing Group.

Sincerely,

Cory Deutsch Masters Student Department of Psychology Lakehead University Thunder Bay, Ontario P7B 5E1

Dr. Dwight Mazmanian Professor Department of Psychology Lakehead University Thunder Bay, Ontario P7B5E1