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# Similarities And Differences Between Heterosexual And Homosexual Couples Based On Marq Data

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**SIMILARITIES AND DIFFERENCES BETWEEN HETEROSEXUAL AND  
HOMOSEXUAL COUPLES BASED ON MARQ DATA**

by

**KRAIG S. SHATTUCK**

**THESIS**

Submitted to the Graduate School

of Wayne State University,

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Advisor

Date

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## **CHAPTER 1: INTRODUCTION**

### **Background and significance**

With the recent social and political interest in same-sex marriage a number of extreme claims about same-sex couples have arisen, but few of these claims are based upon theory or research. In order to analyze these claims, more empirical studies on same-sex couples must be conducted. Of particular importance are comparative studies that analyze the similarities and differences between heterosexual and homosexual couples. While there have been a growing number of studies looking at the effects of homosexuality on a variety of relationship topics, some even comparing homosexual couples to heterosexual couples, there is still a need for more comparative research, both to substantiate the current findings as well as to elucidate more information on this topic.

There are a multitude of topics relating to similarities and differences between heterosexual and homosexual couples. Here three specific domains are expanded on: general relationship satisfaction, jealousy, and mate guarding behaviors. By itself each of these topics is large, so in order to narrow each topic down, gender differences within each of these domains are of particular interest.

Gender differences are consistently found in a multitude of domains in all cultures studied (Costa Jr., Terracciano, & McCrae, 2001; Wood & Eagly, 2002). Buss (1989) went even further, tying gender differences to biological differences based on evolutionary history. Through the analysis of gender differences between heterosexual and homosexual couples, as well as between gay and lesbian couples, some of the hypothesized biological underpinnings of homosexuality may be supported or refuted.

### **Relationship Satisfaction**

Relationship satisfaction plays a key role in successful, long-lasting relationships. In the context of marriage, marriages tend to be more stable when relationship satisfaction is high. While relationship satisfaction may rise and fall throughout a relationship, many couples find relationships to be highly satisfying overall (Gottman & Levenson, 1999). Levels of relationship satisfaction are important, but also of importance are things that affect relationship satisfaction. For instance, in respect to finding a partner who will result in higher satisfaction, according to Lucas et al. (2008) individuals seek out potential partners who tend to be mature, who are not close kin, and who make adaptive sense (i.e. those who aid in reproduction). It has also been found that relationship satisfaction and sexual satisfaction are strongly linked (Byers, 2005; Santtila et al., 2007).

As for gender differences in the domain of relationship satisfaction, Buss (1989) reported that men and women have different ideal partners, those who would result in the most satisfaction. It was found that men of all ages prefer women who are attractive and young, while women prefer men who are high status, financially well off, and moderately older than themselves. In relation to gender differences in sexual satisfaction and relationship satisfaction, McNulty and Fisher (2008) found that women's relationship satisfaction was related to expectations of sexual satisfaction, while men's relationship satisfaction was related to frequency of sex.

While the primary reason for intimate relationships, as explained by the evolutionary perspective, is to produce and rear offspring (Ember & Ember, 1983), the underlying mechanisms that build and maintain intimate relationships are the same for homosexual as for heterosexual couples (Dillon, 2009). That being said, relationship satisfaction in homosexual couples has not received much attention. What research has been conducted has shown that

homosexual couples are similar to heterosexual couples in the components of relationship satisfaction (Kurdek, 2004), levels of satisfaction (Peplau & Cochran, 1990; Kurdek, 1998), and the benefits of relationship satisfaction (Kurdek & Schmitt, 1987). Additionally, relationships between various variables and relationship satisfaction tend to be similar between homosexual and heterosexual couples. For instance, Ducharme and Kollar (2012) found that married homosexual women had similar correlations, to those of heterosexual married women, between relationship satisfaction and age, education, and dependent children.

### **Jealousy**

Jealousy is a multifaceted term that encompasses multiple domains. Relevant to the present study, two domains are of interest, fear of infidelity and jealousy of potential rivals. Within infidelity jealousy two specific types of jealousy are also of interest, those being sexual and emotional infidelity.

In the domain of infidelity, Buss et al. (1992) demonstrated that within a relationship men were more jealous in cases of sexual infidelity and women were more jealous in cases of emotional infidelity. Using evolutionary theory they linked these types of jealousy to loss of reproduction for men and loss of resources for women. While others have called these findings into question (Harris, 2002), newer studies are supporting the original findings with some caveats, such as past experience acting as a moderator (Tagler, 2010) and whether or not the infidelity resulted in progeny (Dural et al. 2014) – both affecting which type of jealousy an individual is likely to rate higher.

In the domain of potential rivals, according to a study by Dijkstra and Buunk (2002), and consistent with evolutionary theory, men were more jealous when potential rivals were high in

social status and dominance, both social and physical, while women were more jealous when a potential rival was physically attractive.

Within homosexual couples, multiple studies have found that homosexual men, as opposed to heterosexual men, had lower levels of experiencing and expressing sexual jealousy (Bringle, 1995; Hawkins, 2008). Dijkstra et al. (2005) extended Buss' et al. (1992) work on jealousy relating to sexual infidelity to homosexual couples. In contrast to heterosexual couples, homosexual men exhibited more jealousy of emotional infidelity, and homosexual women exhibited more jealousy of sexual infidelity. In these instances homosexual individuals were akin to their opposite gender heterosexual counterpart. Additionally, Scherer, Akers, and Kolbe (2013) found that bisexual men who were dating women were more jealous at the thought of their partner being sexually unfaithful than bisexual men dating men, and bisexual women dating women or men.

Dijkstra and Buunk (2002) went on to show that, consistent with heterosexual findings, gay men are more jealous of rivals high in dominance. Interestingly, gay men were found to be more jealous than heterosexual men of a potential rival high in social dominance, and lesbian women were more jealous than heterosexual women of potential rivals who were high in physical attractiveness. In relation to the expression of jealousy, Bevan and Lannutti (2009) found that homosexual men are more likely than heterosexual men to express jealousy through violent communication and threats. Conversely homosexual women are less likely than heterosexual women to express jealousy through manipulation attempts, a common expression of jealousy in women.

### **Mate Guarding**

Buss and Shackelford (1997a) proposed that one reason for the evolution of human aggression is the prevention of mate poaching through mate guarding. The fitness interests of couples are threatened by partner infidelity (Buss, 2000). Neglecting these threats can result in losing a highly valued mate, mating opportunity, resources, or parental investment (Shackelford, Goetz, & Buss, 2005). In men, mate guarding behaviors can be used to help prevent mate-poaching and cuckoldry. Gangestad, Thornhill, and Garver (2002) found male mate retention strategies to be highest near ovulation, coinciding with the time female interest in extra-pair copulations is the highest. In women, mate guarding is more about seeking to prevent mate poaching by more-attractive females (Buss & Shackelford, 1997a).

A number of different mate guarding behaviors have been identified and most of them can be attributed to one of two groups of behaviors: 1) concealing mates from competitors and 2) physical prevention of the mate copulating with competitors (Thornhill and Alcock, 1983). Proximity to a mate and touching of a mate, when in the presence of a potential competitor, are both forms of physical prevention, as they act to prevent a competitor from gaining access to their mate through physical means, specifically their presence.

In Buss (1988) some of the responses that he received related to human proximity as a form of mate guarding, specifically relating to individuals not letting their mate out of their sight at a party, or individuals showing up where their mate was, to check up on them. Buss and Shackelford (1997b) also had similar responses relating to proximity. Additionally, Platek and Shackelford (2006) found that both sexes use proximity to prevent infidelity.

The only known study relating touching to mate guarding in humans is Dillon et al. (2014), in which it was demonstrated that the desire to touch was related to worry about infidelity, such that those who worried more about their partner being unfaithful had a greater

desire to touch their partner. Both sexes acknowledge using touching to demonstrate mutual commitment to the relationship and thus to aid in the prevention of infidelity. The act of touching could convey many mate guarding related messages, such as claims of ownership, more specifically as a signal to potential competitors that the individual being touched is taken, or as a sign of vigilance, specifically a signal to the partner that they are being watched. It has also been found that touching used as an indicator of possessiveness may demonstrate that the partner is valued by the mate, thus increasing mate retention (Barelds, & Barelds-Dijkstra, 2007). Additionally, couples have been found to be aware of when their partner is using touching as a form of mate guarding (Shackelford, Goetz, & Buss, 2005).

### **Marriage and Relationship Questionnaire**

One research method that has proven useful in comparison studies is to administer scales to heterosexual and homosexual couples. Using the results for both types of couples, empirical comparisons can be made, looking at the differences and similarities between homosexual and heterosexual couples. For example the scales on personality have been administered to both heterosexual as well as homosexual couples, with results showing only a few major differences (Keyt, 2008).

For the present study, the Marriage and Relationship Questionnaire is an ideal scale to be used to analyze differences and similarities between heterosexual and homosexual couples. For more than twenty years the 230-item Marriage and Relationship Questionnaire (MARQ; Russell & Wells, 1993) has been used to examine heterosexual couples in multiple different cultures, looking at a multitude of relationship related questions. The MARQ was normed twenty-five years ago in Great Britain with a sample of 1250 married couples (Russell & Wells, 1993). Since then, it has been translated and used with Chinese, Turkish, American, Spanish, Brazilian, and

Russian samples. While it was originally designed for use with married couples, it has subsequently been administered to not only married couples but also to couples that are in long-term non-married relationships. The MARQ has consistently demonstrated high reliability and validity within the American and British samples, as well as cross culturally when including the Chinese, Turkish, and Russian samples (Lucas et al., 2008). While the MARQ has been used for a large number of studies, of relevance to the present study are five studies, Weisfeld, Russell, Weisfeld, and Wells (1992), Weisfeld and Stack (2002), Lucas et al. (2008), C. Weisfeld et al. (2011), and Dillon et al. (2014).

Weisfeld, Russell, Weisfeld, and Wells (1992), and Lucas et al. (2008) each in part analyzed demographics and scale reliability of the 12 scales of the MARQ. Weisfeld et al. (1992) also analyzed a series of factors looking at the homogamy of UK couples as it related to marital satisfaction. Here, homogamy is referring to the level of similarity between partners, with those being more homogamous in a characteristic having greater similarity in that characteristic. They found evidence for homogamy increasing marital satisfaction in 38 of the 42 characteristics that they measured. Additionally, they analyzed the effects of gender based dominance on marital satisfaction. They found evidence for gender based dominance, specifically male dominance, increasing marital satisfaction in 27 of 36 cases. Finally, they examined the relationship between attractiveness and marital satisfaction, expecting marital satisfaction to be higher when the wife was considered more attractive than the husband. They found that marital satisfaction was highest when the wife was more attractive in 3 of 6 cases. Lucas et al. (2008) analyzed marital satisfaction, using both the love and the partnership scales of the MARQ. The two scales were tested for cross- partner and cross-cultural invariance, and this was demonstrated in all four cases. That is, these scales performed similarly between husbands and wives and across the four

cultures tested. Weisfeld and Stack (2002) analyzed sex differences and similarities in married couples relating to marital satisfaction. They found that American couples displayed no gender differences in marital satisfaction.

C. Weisfeld et al. (2011) analyzed sex differences and similarities in married couples. This study is especially relevant to the current study due to its analysis of sex differences in the domain of jealousy. Through comparing these sex differences between heterosexual and homosexual individuals, as well as between lesbian women and gay men, potential evolutionary explanations can be identified. In their study they found expected sex differences in four items relating to jealousy, specifically men having more feelings of possessiveness of their wives and belief that their wives are jealous of their past relationships, and women having the belief that their past relationships were causing problems in the current relationship and worry about their husband's faithfulness.

Dillon et al. (2014) analyzed mate guarding behaviors in married couples. They used the Actor-Partner Interdependence Model (APIM) to test the associations between a series of variables and a set of behaviors related to mate guarding, as well as the interrelationship of each member of the relationship and these variables and behaviors. They found that for both men and women, 1) the more someone's partner found other people attractive, the more worry about their partner being faithful, 2) the more someone believed that their partner found them attractive, the less worry about their partner being faithful, 3) the more someone believed their partner found them attractive, the more possessive the partner was perceived to be, 4) the more someone's partner went out without them, the more worry about their partner being faithful, 5) the more someone felt possessive of their partner, the greater desire to touch the partner, 6) the more someone sought sexual fulfillment outside their relationship, the more worry about their partner

being faithful, and 7) the more someone sought sexual fulfillment outside the relationship, the more their partner worried about infidelity.

Until recently the MARQ has specifically been given to only heterosexual couples. In an effort to rectify this, the MARQ was administered to gay and lesbian couples. In Dillon (2009) 28 gay and 55 lesbian couples were assessed using MARQ data. Their findings included average ages of couple (43.2 for gay men, 37.3 for lesbian women), Average length of their relationship (13.1 years for gay couples, 5.7 year for lesbian couples), as well as alphas for the love (.84 for gay couples, .86 for lesbian couples) and partnership (.87 for gay couples, .92 for lesbian couples) scales.

Since then the MARQ has been administered to 73 more gay and lesbian couples, bringing the total to 156 couples (63 gay couples, 93 lesbian couples). These data, together with previous data on heterosexual couples, provide an opportunity to empirically test some similarities and differences between heterosexual and homosexual couples.

## **Theory**

While there is a growing quantity of research on same-sex relationships and marriage, one main concern needs to be addressed. Much of the research that has been conducted is not grounded in a solid theory. Many studies are lacking in theoretical reasoning or use theories that do not stand up to thorough empirical testing. Thus there is a need for research based on theory, specifically theory that has a strong empirical backing.

Before potential theories are explored, the topic of nature verses nurture needs to be examined. The topic of nature verses nurture is extremely controversial when it is related to sexual orientation. It is not socially acceptable to imply that environmental factors, which

influence an individual's life, may cause someone to "choose" to be gay. Following this line of logic, sexual orientation must be entirely nature and not nurture. The issue that arises is that there is nothing, even the most biologically programmed traits, which is completely nature. The same can be said for nurture, in that nothing, even the most "learned" traits, is entirely nurture. Nature and nurture both have an influence on traits and characteristics, including homosexuality in animals and humans. The diathesis stress model is typically used in psychopathology, but can be used to describe any characteristic that has both a nature and a nurture component. The model posits that people are born with biological predispositions which are then influenced by environmental factors, with the expressed characteristic being the result of the interaction of the two. As a result, contrary to popular opinion, learning theories should not be discounted out of hand when attempting to explain homosexuality.

Therefore, a few theories that should be considered are social cognitive theory, social exchange theory, and biological theories. Social cognitive theory states that most of behavior is the result of learning, mainly observational learning. While this theory should not be completely discarded, its strong emphasis on nurture, with little to no concessions for nature, makes it an inadequate theory to explain sexual orientation. Social exchange theory states that relationships are formed and sustained through the conscious and subconscious use of cost-benefit analyses relating to those relationships. While this theory may be potentially interesting in relation to sexual orientation, much like social cognitive theory, it relies too heavily on nurture and too little on nature to be of use here. It would be appropriate to include a theory, in this analysis, that strongly emphasizes genetics with little to no environmental influence, but there are no current theories, which are applicable to human behavior, that meet these criteria. The final potential set of theories is biological theories, which integrate both genetic and environmental factors.

Biological theories are all strongly tied to evolutionary theory, therefore evolutionary theory in general must be examined.

Evolutionary theory states that traits and characteristics that aid in survival and reproduction will be selected for, and thus become more common; traits and characteristics that hinder survival and reproduction will be selected against, and thus become less common (Darwin, 1859). It is important to note that evolutionary theory, being concerned with the transmission of genes, should be considered to be of exceptional importance whenever reproduction, or reproductive processes, are involved. As the formation of romantic relationships, as well as sexual acts, are at their core traits that were selected for throughout our ancestral past, these traits have a strong evolutionary component. Any variation relating to these traits should be strongly considered using evolutionary theory.

It is for this reason that it is proposed that evolutionary theory stands the strongest chance of explaining homosexuality. That being said, using evolutionary theory to explain homosexuality raises one very important problem, how can being homosexual not decrease fitness? If traits that aid in the passage of genes are the ones that are selected for (fitness), then how can a trait that precludes people from passing on their own genetic material, as homosexuality appears to do, not be selected against, and thus bred out of the population? Numerous theories, all of which are sub-theories of evolutionary theory, have been put forth in an effort to help solve this problem. The ones that have the most relevance here are the by-product theory, the trade-off theory (kin selection), and the hormonal extremes theory. Through each of these theories, testable predictions can be made about the traits and behaviors of homosexual individuals, specifically relating to their partner preferences.

By-product theory is a theory that proposes that certain traits are not themselves selected for, but are instead the by-products of other traits which are selected for (Harry, 1970). It is believed that many current traits started out as by-products and then were themselves selected for when they proved to increase fitness. An example of this is oxytocin's role in forming relationships (Fisher, 2004). Oxytocin is believed to have originally been a hormone that, among other functions, increased the bond between mother and newborn, but as a by-product it increased the bond between mother and father, something that increased the chances of the offspring surviving. Even traits that decrease fitness may arise and persist in a population if the trait that they are a by-product of is selected strongly enough. Due to the fact that they are so closely related to passing on genes, forming relationships and sex are some of the traits that are selected for the strongest. Therefore any trait that arises as a by-product of relationship formation or sex could persist, even if it decreased fitness in some individuals. Thus, homosexuality could have arisen as a by-product of heterosexual relationship formation, and through heterosexual relationship's close ties with reproduction it has persisted. This theory predicts that partner attractiveness should be highly valued by both homosexual men and homosexual women, as attractiveness is a sign of good genes, health, and fertility.

Trade-off theory, and relatedly kin selection theory, examines the fitness of individuals not just by the genes that they pass on, but also by the genes that are passed on that they share with others, usually their close relatives. The trade-off aspect arises when an individual forgoes direct reproduction while giving—relatives an increased chance of successfully reproducing, directly or indirectly. In support of this theory, it has been found in some cultures that the sisters of homosexual men have more children on average than do sisters of heterosexual men, thus increasing the inclusive fitness of homosexual men (Rahman, Wilson, & Abrahams, 2004). This

explanation is supported by the fact that some gay men seem to have a marker for the trait on the X chromosome. Consistent with this, Klinefelter's men, with two X chromosomes, have a higher prevalence of homosexuality. Additionally, many gay men have a gay maternal uncle. It is also possible that the sisters of homosexual men have high fitness due to being highly feminized, something that their homosexual brothers share due to genetics.

Through the trade-off theory, a series of predictions can be made. Homosexual men should seek partners that are high in resources. If the men are forgoing reproduction themselves, in order to have resources that they can expend on their kin, then they should seek out partners who are high in resources, in order to have more resources to share. Physical attractiveness of the partner should be of less consideration for both homosexual men and women, as attractiveness is a sign of direct fitness, something that is not important here. Another prediction that inclusive fitness makes is that the rates of homosexual individuals in a population will shift with the availability of resources. As resources become scarcer, the rates of homosexuality should increase, at least in individuals who have siblings, and as resources become more plentiful, the rates of homosexuality should decline. In this case, the changes in rates of homosexuality are not a genetic change over time, but is instead developmental plasticity based upon environmental factors, much like when more of a specific gender are born when there is a shortage of that gender in a population (Ellis & Bonin, 2004).

Another theory that has gained traction recently is the theory of hormonal extremes. This theory posits that hormones strongly influence behavior. This is accomplished by the mechanisms that circulate hormones keeping hormones at levels that walk a fine edge between the intended behavior and an unintended behavior. The idea is that the intended behavior is so beneficial to fitness that the drawbacks of a "miss", such as what happens when hormonal levels

are shifted and the unintended behavior, the behavior that is of low fitness, is what is expressed, are mitigated. Continuing on that line of logic, any imbalance in hormonal levels, especially during development, when life-long traits are being cemented, can shift those traits in ways that do not promote fitness for the individual affected. This would be especially pertinent to any behaviors relating to reproduction, as they are highly related to fitness. While traits highly related to fitness should be strongly protected against pathology, sex differentiation is complex and an 'error' in any one step could result in homosexuality. Even if each error is rare, the aggregate could result in a high prevalence of homosexuality. Further, since male differentiation is a more active process than female, one would expect more male homosexuality, as observed. Consistent with the hormonal extremes theory, lesbianism is common in congenital adrenal hyperplasia (Meyer-Bahlburg, 2001) and male homosexuality in sons whose mothers were stressed during pregnancy (Ellis, Peckham, Ames, & Burke, 1988). Another example is the increased odds of male homosexuality in individuals who have older brothers. This has been labeled as the older brother effect and is believed to be the result of a buildup of anti-masculinizing antibodies in the mother, after she has given birth to other boys (Blanchard, 2004).

These hormonal imbalances during prenatal development could therefore shift partner preference from the opposite sex to the same sex. If this theory is true then it would be expected that homosexual men would look for characteristics in potential male partners in a way that is similar to that which heterosexual women look for in male partners. For example, women tend to find dominance and potential for resources attractive in men, thus homosexual men should find these same things to be attractive. Similarly, homosexual women should look for characteristics in potential female partners that are similar to those which heterosexual men seek in potential female partners, such as physical attractiveness and youth.

## **Purpose and Aims of the Current Study**

Using these three evolutionary theories together a series of hypothesized differences and similarities that homosexual couples would exhibit vis-à-vis heterosexual couples were developed.

It is hypothesized that:

1. Relationship satisfaction will be able to be measured using the same scale for homosexual couples as it is for heterosexual couples. While none of the theories makes direct predictions about relationship satisfaction, regardless of sexual orientation, relationship satisfaction is a key factor in forming and maintaining relationships and therefore should not differ in homosexual couples from heterosexual couples. Additionally, previous studies on relationship satisfaction in homosexual couples have found that homosexual relationship satisfaction is similar to heterosexual relationship satisfaction (Kurdek, 2004; Peplau & Cochran, 1990; Kurdek, 1998). Therefore the same scale that is used to measure relationship satisfaction in heterosexual couples should be able to be used in homosexual couples. To test this, invariance testing can be conducted in order to determine if a scale is valid across groups. Using the Love Scale of the MARQ, it is predicted that homosexual couples will demonstrate psychometric invariance, something that has already been demonstrated in heterosexual couples (Lucas et al., 2008)
2. Some gender differences relating to jealousy will be the same in homosexual individuals and some will be reversed in homosexual individuals. Specifically, the gender differences relating to possessiveness and past relationships still causing problems should be the same in homosexual individuals as heterosexual individuals, and the gender differences relating to

worry about partner infidelity and jealousy of past relationships should be reversed in homosexual individuals. Based upon the hormonal extremes theory, sexually differentiated traits relating to reproduction should be reversed in homosexual individuals, primarily due to biological pressures, which are reminiscent of the biological pressures put upon the opposite gender in heterosexual individuals, influencing behavior. Additionally, based on the trade-offs theory loss of resources and potentially raising someone else's offspring, which these two hypothesized reversals are related to, should be reversed in homosexual individuals. Previous research has demonstrated that some components of jealousy are reduced or reversed, specifically sexual jealousy being reduced in homosexual men (Bringle, 1995; Hawkins, 2008), and sexual and emotional infidelity jealousy being reversed in homosexual individuals such that homosexual men show more jealousy of emotional infidelity and homosexual women showed more jealousy of sexual infidelity (Dijkstra 2005; Buss 1992), Using the MARQ items relating to jealousy and worry about unfaithfulness, comparisons can be made regarding gender differences in these domains.

3. Most of the relationships that have been found in heterosexual couples, between mate value and mate guarding behaviors, will be present in homosexual individuals. According to the trade-offs theory, the loss of a partner, and through them the loss of resources, as well as the threat of cuckoldry in lesbian couples, would result in mate guarding in homosexual couples. That being said, the loss of resources is of less of a concern to homosexual individuals, at least to those without children or who are not a primary means of resources for their sibling's children. Additionally, in lesbian couples, the chance of raising someone else's offspring is much lower than in heterosexual couples, making it less of a factor. Therefore, while homosexual individuals should express mate guarding behavior, it should not be to the same

degree as it is in heterosexual couples. By-product theory and hormonal extremes theory have less to predict relating to actual mate guarding behavior, but neither of them posit that mate guarding behaviors should be absent. There is a distinct lack of literature on the topic of mate guarding in homosexual couples, making predictions based upon previous studies impossible. Using the MARQ items related to mate guarding behaviors, and the Actor-Partner Interdependence Model, it can be determined if the results that were found to be significant in heterosexual couples are also significant in homosexual couples.

## **CHAPTER 2: METHOD**

### **Heterosexual Study**

#### **Participants**

As described by Weisfeld et al. (2000), 419 heterosexual couples were recruited by university students in a large Midwest metropolitan area in the United States. The majority of recruiting was done using the chain referral and modified snowball sampling methods (Bailey 1987). Stratified sampling techniques were used in order to obtain a range of racial and socioeconomic categories (using the Hollingshead criteria). Basic demographic information is presented in Table 1.

#### **Marriage and Relationship Questionnaire**

Each couple completed the 235-item Marriage Questionnaire originally developed by Russell and Wells (1986). There were differently worded versions for the husbands and the wives and they completed them privately and separately. For the version administered in America, the wording of some items was changed, from the original British version, to reflect national differences (e.g. quarrel in place of row).

Designed to give a comprehensive picture of the couples' individual views of their relationship, the questionnaire asks questions on a wide range of topics. There was a high percentage of agreement on corresponding items that pertain to the couples' perceptions of themselves and each other, attesting to the validity of the instrument. Within the MARQ, there is a series of preliminary items that are designed to gather demographic information about age, length of relationship, and children. The remaining items fall into two categories, questions that can be answered with a "yes" or a "no" and questions that have five response choices that are

specifically tailored to that question (example: "How sociable are you?" with the response options being 'not at all', 'not really', 'average', 'fairly', and 'very').

Additionally, 12 scales have been derived from the MARQ, the Roles, Values, Family Ties, Partnership, Love, Attractiveness, Jealousy, Conciliation, Personal Problems, Financial Problems, Partner Problems, and Relationship Problems scales. Of interest in the present study, the Love Scale is considered a measure of relationship satisfaction; it obtains partner ratings on love of their partner, romance in the relationship, partner respect and pride, how much joy is yielded from completing joint activities, and happiness in the relationship. Being used as a measure of marital satisfaction, it has been validated against other scales such as the Kansas Marital Satisfaction Scale, yielding correlations of .87 for husbands and .85 for wives (Schumm, et al., 1986). Unlike other commonly used measures of marital satisfaction, the Love Scale has also demonstrated invariance between husbands and wives as well as cross-culturally (Lucas, et al., 2008). Additionally, properties of the Love Scale were found to be similar for heterosexual, gay, and lesbian couples (Keyt, 2008).

## **Homosexual Study**

### **Participants**

Participants for the homosexual study are gay and lesbian couples who had been in their relationship for at least six months, who responded to electronic and print advertisements for a study entitled, "Aspects of Relationship Satisfaction for Gay and Lesbian Couples." The participants were split into gay and lesbian couples, in order to analyze sex differences. A total of 312 participants (156 couples) completed the survey, 126 men (63 couples) and 186 women (93 couples). Basic demographic information is presented in Table 1.

## Measures

Participants completed a 230-item revised version of the MARQ. The original version of the MARQ used separate versions for husbands and wives. These separate versions contained gender-specific language (e.g., husband, wife, him, and her). For this sample, the MARQ was reworded to be gender neutral, making it administrable to both heterosexual and homosexual couples. Three graduate students and two research psychologists comprised a research team who examined the changes. It was then reviewed by two researchers on gay and lesbian issues, Drs. Ken Cohen and Ritch Savin-Williams. Following their critique, the final reworded version of the MARQ was completed.

The revised MARQ was available online and in printed form. Couples who requested printed forms were mailed two questionnaires, instructions, and two return envelopes. Advertisements for the study were placed on email listservs, in free newspapers, and in free classified advertisement websites. The online version of the MARQ used the web-based survey tool, SurveyGizmo. Using the internet as a tool to recruit and conduct surveys allows for large-scale data collection from a potentially diverse population (Andrews, Nonneck, & Preece, 2003). The items were completed in the same order, and with the same number of items per page, in the online version. Participants were instructed to complete the surveys individually, anonymously, and by both members of the couple, as had been true of previous uses of the MARQ.

Participants were compensated \$1 for completing the questionnaire. Michigan residents received a scratch-off lottery ticket with a monetary value of one dollar. Non-Michigan residents were mailed \$1. Additionally, participants could choose whether to be entered in a raffle with three \$100 gift certificates to a restaurant of their choosing as prizes.

## **Analysis**

### **Invariance of Relationship Satisfaction**

Invariance testing was used to determine if relationship satisfaction is similar for homosexual couples as it is for heterosexual couples (Hypothesis 1). As described in Lucas et al. (2008), invariance testing is a type of covariance structure analysis intended to determine if measures are defined the same across groups (e.g., Byrne & Campbell, 1999; Cheung & Rensvold, 1999; Vandenberg & Lance, 2000). As with Lucas et al. (2008) LISREL 8.30 (Jöreskog & Sörbom, 1999) and maximum likelihood estimation were used to conduct covariance structure analysis in order to examine the invariance of the Love Scale as a measure of marital satisfaction. While Lucas et al. (2008) conducted cross-cultural analyses, the same principles can be applied to across-sexual orientation analyses. Additional models were then ran, in which item loadings, intercepts, and means were incrementally constrained in order to be equal across groups. In all instances, scale restriction was imposed by constraining the latent variable variances to one. If overall fit remains in the more constrained model, invariance between the models can be assumed.

### **Gender Differences in Jealousy**

Due to homosexual couples comprising only one gender, in order to analyze gender differences for each of the four jealousy items (Hypothesis 2), independent samples *t*-tests were conducted between gay men and lesbian women. As in C. Weisfeld et al. (2011) effect sizes were calculated, using the Cohen's *d* statistic, for all significant *t*-test differences found, in order to get a more accurate representation of the differences. This also allowed for comparison with their results from the heterosexual sample, which has a very different sample size.

### **Dyadic Effects in Mate Guarding**

A series of Actor-Partner Interdependence Models (APIM) were conducted analyzing various questions pertaining to Hypothesis 3, mate guarding behaviors. As explained in Dillon et al. (2014) APIMs are a form of dyadic analysis that can account for the interdependence in couples' data through allowing for the unexplained variances in the outcome variables to correlate. When using an APIM on couples the gender of the participant is typically used as a distinguishing feature. With homosexual couples, however, this is not possible as both members of the dyad have the same gender. Olsen and Kenny (2006) solved this by creating a version of the APIM for use with interchangeable dyads. Through constraining some model parameters, specifically by making actor and partner effects, predictor means and variances, outcome intercepts, and residual variances equal for both partners, the APIM can be used even without a distinguishing feature. As used in Dillon et al. (2014) the basic model, which does not contain degrees of freedom and is just identified, was used. Model fit was not examined. The basic model extrapolates actor effects as well as partner effects, though with the interchangeable dyads model, only one actor and one partner effect will emerge for each analysis. The results of these analyses were then compared to the results from the heterosexual couples to see if the same actor and/or partner effects emerge.

## **CHAPTER 3: RESULTS**

### **Invariance of Marital Satisfaction**

In order to examine the invariance of Love Scale, used as a measure of marital satisfaction, latent variable structural equation modeling was used. LISREL 8.80 (Joreskog & Sorbom, 2006) and maximum likelihood estimations were used to perform these analyses. The covariance matrices were then analyzed. The goal was to assess whether the Love Scale fit well in all couples, heterosexual, homosexual men, and homosexual women. When evaluating overall model fit, chi square values were expected to be significant due to large sample sizes (e.g., Bentler & Bonnett, 1980; Muliak et al., 1989). Therefore, model fit was evaluated primarily using fit indices. Overall fit was deemed to be acceptable if values for the Comparative Fit Index (CFI; Bentler, 1990; Satorra & Bentler, 1994) and the Nonnormed Fit Index (NNFI; Bentler & Bonett, 1980) were above .90, and values for the Standardized Root Mean Square Residual (SRMR; Hu & Bentler, 1999; McDonald & Ho, 2002) and the Root Mean Square Error of Approximation (RMSEA; Browne & Cudeck, 1993) were at or below .08.

Deterioration model comparison were used to evaluate invariance by comparing models that included increasingly stringent invariance constraints to the previous less constrained models (Fischer et al., 2011; Fontaine, 2005; van de Vijver & Leung, 1997; Vandenberg & Lance, 2000). A measure is considered to be functionally invariant across groups when it demonstrates structural equivalency (Vandenberg & Lance, 2000). In order to establish structural equivalency configural, metric, and scalar forms of invariance were examined. Configural equivalency is the least restrictive form of invariance and is achieved when parallel items load significantly onto the same constructs across all assessed groups, and through this establish a uniform factor structure across groups (Cheung & Rensvold, 1999; Vandenberg & Lance, 2000).

Metric invariance was then evaluated and compared to the configural results. Metric invariance requires equivalency of item factor loadings across groups. Finally, scalar, or intercept, invariance was examined and compared to metric invariance. Scalar invariance is based upon equivalency of item intercepts. As with Lucas et al. (2008) models were considered to be invariant if changes in CFI and RMSEA were .010 or less, and if changes in SRMR were .030 or less for metric invariance and .005 or less for intercept invariance (see also Rutkowski & Svetina, 2013).

For heterosexual couples, as seen in Table 2, and as reported in Lucas et al. (2008), overall fit and model comparisons both suggested that the Love Scale is psychometrically invariant for heterosexual couples. Specifically, the Love Scale demonstrated each of configural, metric, and intercept-level invariance for heterosexual couples.

For homosexual male couples, as seen in Table 3, the model comparisons are weaker, specifically between the metric and intercept models with the change in CFI and RMSEA going over our cutoff values of .010, the overall fit and model comparisons both suggest that the Love Scale is not psychometrically invariant in this instance. Specifically, the Love Scale failed to demonstrate each of configural and metric, and intercept-level invariance for homosexual male couples.

For homosexual female couples, as seen in Table 4, both overall fit and model comparison suggest that the Love Scale is not psychometrically invariant in this instance. Even at the configural level, the fit indices are indicating that the Love Scale has poor fit and the fit gets progressively worse in the metric and intercept constraint models. This lack of invariance means that the Love Scale is potentially not a good measure of relationship satisfaction in

homosexual women, and as a result no further comparisons of relationship satisfaction, between sexual orientations, should be made using this scale.

### **Gender Differences in Jealousy**

Independent *t*-tests were conducted in order to determine if there were gender differences, as well as differences between heterosexual and homosexual couples, on the four items relating to jealousy. Table 5 shows the means and standard deviations for the four jealousy items analyzed for heterosexual and homosexual men and women. As with C. Weisfeld et al. (2011) a Cohen's *d* was then calculated for each difference in order to determine the effect size of the differences. With the vastly different sample sizes, a measure of effect size is useful when making across group comparisons.

Table 6 shows the results of 16 Cohen's *d* effect sizes for the corresponding *t*-tests relating to jealousy across gender and relationship types. As shown, and previously reported by C. Weisfeld et al. (2011), heterosexual men, more than heterosexual women, felt possessive of their partner ( $d=0.11$ ,  $p=.12$ ) and felt that their partner was jealous of their past relationships ( $d=0.24$ ,  $p=.002$ ), though the former was not significant. Additionally, heterosexual women, more than heterosexual men, felt that their past relationships still caused problems ( $d=0.13$ ,  $p=.039$ ) and worried about their partner being unfaithful ( $d=0.27$ ,  $p<.001$ ). In homosexual couples, the sex difference in possessiveness felt about one's partner was not significant ( $d=0.03$ ,  $p=.76$ ). Consistent with heterosexual couples, women, more than men, felt that past relationships still caused problems ( $d=0.15$ ,  $p=.002$ ).

Unlike heterosexual couples, in homosexual couples men, more than women, worried about their partner being unfaithful ( $d=0.35$ ,  $p=.003$ ), and women, more than men, felt that their

partner was jealous of their past relationships ( $d=0.36, p<.001$ ). Comparing heterosexual couples to homosexual couples, heterosexual couples reported higher feelings of possessiveness about their partner ( $d=0.30, p<.001$ ), reported more worry about partner infidelity ( $d=0.14, p=.021$ ), and felt more that their partner was jealous of their past relationships ( $d=0.28, p<.001$ ). There was no significant difference in belief that one's past relationship was still causing problems, between heterosexual and homosexual couples ( $d=0.05, p=.44$ ).

### **Dyadic Effects in Mate Guarding**

Seven heterosexual men and women's results, from Dillon et al. (2014), were used as comparison measures. A series of Actor-Partner Interdependence Models were conducted on the homosexual data in order to determine if the relationships between mate value items and mate guarding behaviors of homosexual couples were consistent with those seven findings in heterosexual couples.

First, for heterosexual men and women, actor effects were found showing that the more that respondents reported that their partner found others attractive, the more they worried about their partner being unfaithful (heterosexual men,  $\beta = .19, p < .001$ ; heterosexual women,  $\beta = .26, p < .001$ ). This effect was not found in homosexual men and women, though homosexual men were approaching significance (homosexual men,  $\beta = .18, p = .063$ ; Figure 1; homosexual women,  $\beta = .10, p = .19$ ; Figure 2).

Second, for heterosexual men and women and homosexual women, actor effects were found showing that the more that respondents reported that their partner found them attractive, the less they worried about their partner being unfaithful (heterosexual men,  $\beta = .21, p < .001$ ;

heterosexual women,  $\beta = .27, p < .001$ ; homosexual women,  $\beta = .23, p < .001$ ; Figure 4). This effect was not found for homosexual men ( $\beta = .04, p = .67$ ; Figure 3).

Third, for heterosexual men and women and homosexual women, actor effects were found showing that the more respondents reported that their partner believed them to be attractive to others, the more possessive their partner was perceived to be (heterosexual men,  $\beta = -.18, p < .001$ ; heterosexual women,  $\beta = -.19, p < .001$ ; homosexual women,  $\beta = .14, p = .048$ ; Figure 6). This effect was not found for homosexual men ( $\beta = .04, p = .67$ ; Figure 5).

Fourth, for heterosexual men and women and homosexual women, actor effects were found showing that those whose partner often went out without them worried more about their partner being unfaithful (heterosexual men,  $\beta = .14, p < .001$ ; heterosexual women,  $\beta = .15, p < .001$ ; homosexual women,  $\beta = .17, p = .018$ ; Figure 8). This effect was not found for homosexual men ( $\beta = .05, p = .59$ ; Figure 7).

Fifth, for heterosexual men and women and homosexual women, actor effects were found showing that those who felt more possessive of their partner reported an increased desire to touch their partner (heterosexual men,  $\beta = .14, p < .001$ ; heterosexual women,  $\beta = .24, p < .001$ ; Figure 9; homosexual women,  $\beta = .19, p = .013$ ; Figure 10). This effect was not found for homosexual men ( $\beta = .13, p = .125$ ; Figure 9).

Sixth, for heterosexual men and women, actor effects were found showing that those who sought sexual fulfillment outside their relationship had increased concern over their partner being unfaithful (heterosexual men,  $\beta = .23, p < .001$ ; heterosexual women,  $\beta = .15, p < .001$ ). This effect was not found in homosexual men and women (homosexual men,  $\beta = .04, p = .66$ ; Figure 11; homosexual women,  $\beta = .06, p = .48$ ; Figure 12).

Seventh, for heterosexual men and women, partner effects indicated that for those who reported that they sought sexual fulfillment outside their marriage, their partner worried more about their infidelity (heterosexual men,  $\beta = .38$ ,  $p < .001$ ; heterosexual women,  $\beta = .15$ ,  $p < .001$ ). This effect was not found in homosexual men and women, though homosexual men were approaching significance (homosexual men,  $\beta = .17$ ,  $p = .070$ ; Figure 11; homosexual women,  $\beta = .08$ ,  $p = .34$ ; Figure 12).

## **CHAPTER 4: DISCUSSION**

### **Invariance of Marital Satisfaction**

Hypothesis 1 stated that the Love Scale would remain invariant for homosexual couples, as it was for heterosexual couples. In order to test this, invariance testing was conducted on the Love Scale from the MARQ, a scale that is used as a measure of relationship satisfaction. It was previously found that the Love Scale is invariant for heterosexual couples and if the scale was found to be invariant for homosexual men and women it could then be used to compare relationship satisfaction across sexual orientation. However, inconsistent with our hypothesis, the Love Scale was found to not be invariant for homosexual men or women, as the differences between the models were too large. Additionally, within homosexual women even the base model, the configural model, had poor fit. This indicates that there is something in the scale that is not consistent for homosexual men or women. As a result, the Love Scale should not be used as a comparison measure of relationship satisfaction between heterosexual and homosexual couples.

It is possible that these anomalous results are due to sampling error, but it is more likely that the nine items of the Love Scale are not an indicative measure of relationship satisfaction for homosexual men and women. While none of the theories was used to aid in the formation of this hypothesis, looking at them more may give aid in solving the inconsistency in the results. The trade-offs theory is one that may be of the most use. It states that resources and not reproduction are more of a focus for homosexual women. If this is the case then relationship satisfaction may need to be measured using different, more relevant, questions for homosexual women. For homosexual men, similar reasoning can be applied, in that reproduction is not a key component

of relationship satisfaction. Therefore a scale that considers reproduction may not be ideal to measure relationship satisfaction in homosexual men.

### **Gender Differences in Jealousy**

Hypothesis 2 stated that some gender differences relating to jealousy would be reversed in homosexual individuals, specifically worry about partner infidelity and jealousy of past relationships. It was expected that the gender differences in these two items would be reversed due to predictions by the hormonal extremes theories. This theory insinuates that biological factors influence an individual to act in ways that would be similar to those of the opposite gender for some sexually delineated traits. This becomes especially apparent when the trait is related to potential for raising someone else's offspring and loss of resources. Related to that, the trade-offs theory also predicts this reversal, in that homosexual men should be more concerned with the potential loss of resources, rather than the potential of raising someone else's children, and homosexual women should be more concerned about the potential of raising someone else's children, that their partner may have from previous relationships. In order to test this, independent samples *t*-tests were conducted and effects sizes were calculated on four items from the MARQ relating to jealousy.

The results supported these hypotheses. As expected, in homosexual individuals, consistent with heterosexual individuals, men felt more possessive of their partner than women did and women believed that past relationships still caused problems more than men did. Conversely, in homosexual individuals, unlike in heterosexual individuals, men were more worried about partner infidelity than women were and women were more jealous of past relationships than men were.

### **Dyadic Effects in Mate Guarding**

Hypothesis 3 stated that the relationships, found in heterosexual couples, between mate value items and mate guarding behaviors would be mostly present in homosexual couples. The trade-offs theory predicts that the loss of resources should be of high priority for homosexual men and women. For homosexual men, the loss of a partner would result in a loss of resources. For Homosexual women, the loss of a partner would also result in a loss of resources, but of greater concern would be the potential for raising someone else's offspring. Both of these would indicate that homosexual individuals should engage in mate guarding in order to retain their partner and/or keep their partner from getting pregnant. That being said, if the individual is not a primary care giver or major financial contributor for their own, or their sibling's, offspring, then the loss of resources is of less of a concern. In addition, the probability of someone in a lesbian relationship unknowingly raising someone else's offspring is much lower than in heterosexual couples, making it less of a factor. In order to test this, Actor-Partner Interdependence Models were performed on the homosexual couple's responses to items relating to mate guarding and these results were then compared to the results from heterosexual couples.

This hypothesis was partially supported, but only in homosexual women. Specific to homosexual men, of the six actor effects that were found in heterosexual couples, none of them was found in homosexual men, though one was approaching significance (the more they believed others found their partner attractive, the more they worried about their partner being unfaithful). Specific to homosexual women, of the six actor effects that were found in heterosexual couples, four of them were found in homosexual women (the more they believed that their partners found them attractive, the less they worried about their partner being unfaithful; the more they believed

that their partners thought that they were attractive to others, the more they believed their partner was possessive of them; the more their partner went out without them, the more they worried about their partner being unfaithful; and the more possessive they felt of their partner, the more they wanted to touch their partner). One partner effect was found in heterosexual couples (the more someone sought sexual fulfillment outside their relationship, the more their partner worried about them being unfaithful), but this effect was not found in homosexual men or women, though the effect was approaching significance in homosexual men.

### **Limitations**

There are a number of limitations to the current study. The most prominent is that the sample sizes for the homosexual samples are relatively low, with only 63 male couples and 93 female couples. The result of this is that some of the smaller effects did not show up in the homosexual analyses. This was partially mitigated by the effect size calculations in the jealousy analysis. On the other hand, SEM analysis typically requires large sample sizes to account for all of the different values that are being estimated. Larger sample sizes then may find more significant results in the invariance and APIM testing.

Another limitation to this study is that the study is only looking at American couples, both homosexual and heterosexual. While there is a plethora of cross-cultural heterosexual MARQ data, with samples from America, Britain, Turkey, Russia, China, and Brazil, the only homosexual sample is from America. For this reason, only the American heterosexual sample was used for comparison. Cross-cultural data are preferred because they allow for the analysis of universal constructs. Not only does this assist with examining relationships within specific types,

(e.g. heterosexual and homosexual) but it helps elucidate more about the universal constructs that are present not only across cultures, but across relationship types as well.

### **Future Directions**

In the future it would be beneficial to collect a much larger sample, on the magnitude of the heterosexual sample (400 or more couples) then rerun these analyses to see if the results remain stable or change in the direction of our original predictions. Additionally, samples from other cultures, or a cross-cultural sample, would help test the universality of these findings. Finally the collection of personality traits would be beneficial in the dyadic analyses, as personality traits could aid in turning indistinguishable dyads into distinguishable dyads based on a specific trait. A few traits that may be of use here is dominance within the relationship, as well as masculinity-femininity in appearance and behavior. There are also multiple other constructs that could be examined in homosexual couples to determine if the results are the same as in heterosexual individuals. Some of the other heterosexual studies that have been done using the MARQ, which could be replicated in the homosexual sample, include analysis of humor, the other eleven scales of the MARQ, children's effect on relationship satisfaction, and relationship violence.

It would be interesting to look more into the results that were obtained which were inconsistent with the hypotheses. That the Love Scale did not work for homosexual women is of particular importance, as it was expected that relationship satisfaction would be constant across all sexual orientations. A first step would be replication with a larger sample to determine if the results are valid or are a product of the particular sample that was collected for this study. Next,

if the anomaly remains, using other measures of relationship satisfaction could help determine if this is a problem specific to the Love Scale, or if it is present across different measures.

While the current study does help identify some similarities and differences between heterosexual couples and homosexual couples, it is only an early step in the process of truly being able to understand what similarities and differences there are between these two relationships types, as well as why these similarities and differences exist. It is hoped that this study helps push forward future research in this domain.

## Appendix A

*Table 1. MARQ Demographics*

	Heterosexual			Homosexual		
	Men	Women	Total	Men	Women	Total
No. of Couples	—	—	419	63	93	156
Mean Age	42	40	41	43	40	41
Mean No. of Children	2.1	2.1	2.1	0.3	0.7	0.5
Mean Length of Marriage	15	15	15	10	8	9
Education Level*	3.9	3.7	3.8	4.2	4.2	4.2
Income*	3.6	3.5	3.6	3.5	3.3	3.4
Divorced Parents	15.7%	16.0%	—	25.4%	37.1%	—
Sought Outside Help with Relationship	22.1%	24.5%	—	25.4%	48.8%	—
Employment**	91.4%	58.8%	—	75.4%	79.0%	—

\* On a scale from 1-5 with 5 being the highest

\*\* Full-time employment

*Table 2. Psychometric Invariance of MARQ Love Scale: Heterosexual Couples*

Model	$\chi^2$	<i>df</i>	NNFI	CFI	RMSEA	SRMR
Configural	433.35	125	.970	.976	.080	.053
Metric	453.09	134	.971	.975	.079	.063
Intercept	499.54	142	.970	.972	.081	.063
<u>Model Comparisons</u>		<u><math>\Delta</math>CFI</u>	<u><math>\Delta</math>RMSEA</u>	<u><math>\Delta</math>SRMR</u>		
1 vs. 2		.001	.001	.010		
2 vs. 3		.003	-.002	.000		

*Table 3. Psychometric Invariance of MARQ Love Scale: Homosexual Male Couples*

Model	$\chi^2$	<i>df</i>	NNFI	CFI	RMSEA	SRMR
Configural	170.83	125	.883	.904	.064	.098
Metric	181.86	134	.886	.900	.063	.128
Intercept	235.96	142	.789	.804	.084	.128
<u>Model Comparisons</u>		<u><math>\Delta</math>CFI</u>	<u><math>\Delta</math>RMSEA</u>	<u><math>\Delta</math>SRMR</u>		
1 vs. 2		.004	.001	.030		
2 vs. 3		.096	-.021	.000		

*Table 4. Psychometric Invariance of MARQ Love Scale: Homosexual Female Couples*

Model	$\chi^2$	<i>df</i>	NNFI	CFI	RMSEA	SRMR
Configural	239.22	125	.845	.873	.099	.127
Metric	306.77	134	.781	.808	.116	.188
Intercept	342.02	142	.761	.778	.115	.180
<u>Model Comparisons</u>		<u><math>\Delta</math>CFI</u>	<u><math>\Delta</math>RMSEA</u>	<u><math>\Delta</math>SRMR</u>		
1 vs. 2		.065	.017	.051		
2 vs. 3		.030	-.001	-.008		

*Table 5. Means and Standard Deviations of MARQ Jealousy Items*

Item	Heterosexual Men		Heterosexual Women		Homosexual Men		Homosexual Women	
	M	SD	M	SD	M	SD	M	SD
Do you feel possessive about your partner?	2.87	1.18	2.74	1.23	2.48	1.09	2.44	1.22
If you have been in a serious relationship before does it still cause problems?	1.34	0.74	1.24	0.63	1.19	0.44	1.28	0.64
Do you worry about your partner being unfaithful?	1.53	0.78	1.76	0.91	1.67	0.82	1.41	0.67
Is your partner jealous of your past relationships?	2.06	1.17	1.79	1.04	1.41	0.73	1.72	0.99

Table 6. Effect Sizes of Differences in MARQ Jealousy Items

Item	Heterosexual			Homosexual			Hetero vs. Homo		
	Cohen's <i>d</i>	<i>p</i>	Greater	Cohen's <i>d</i>	<i>p</i>	Greater	Cohen's <i>d</i>	<i>p</i>	Greater
Do you feel possessive About your partner?	0.11	.12	M	0.03	.76	M	0.30	<.001	Hetero
If you have been in a serious relationship before does it still cause problems?	0.13	.039	F	0.15	.002	F	0.05	.44	Hetero
Do you worry about your partner being unfaithful?	0.27	<.001	F	0.35	.003	M	0.14	.021	Hetero
Is your partner jealous of your past relationships?	0.24	.002	M	0.36	<.001	F	0.28	<.001	Hetero

**Appendix B**

Figure 1. APIM Male: "Do you find your partner attractive?" and "Do you worry about your partner being unfaithful?"

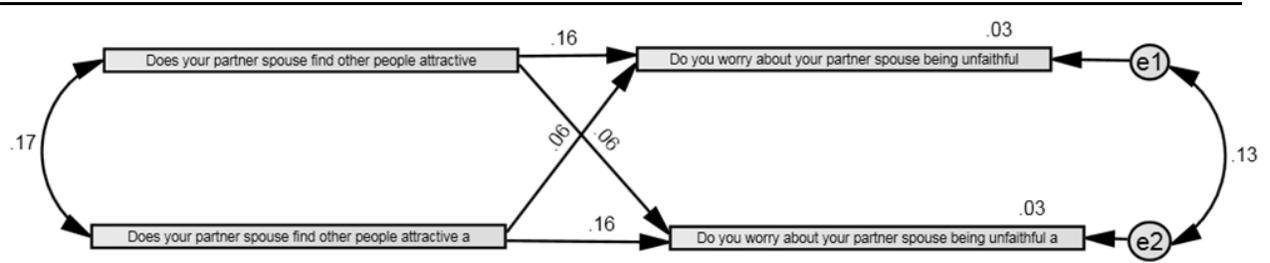


Figure 2. APIM Female: "Do you find your partner attractive?" and "Do you worry about your partner being unfaithful?"

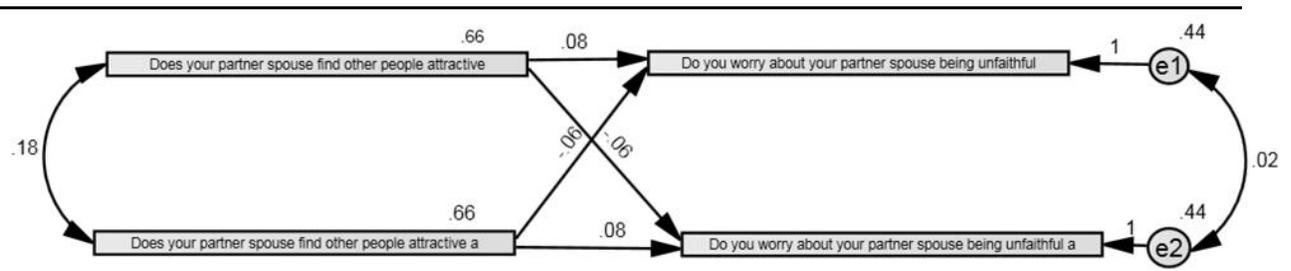


Figure 3. APIM Male: "Does your partner find you attractive?" and "Do you worry about your partner being unfaithful?"

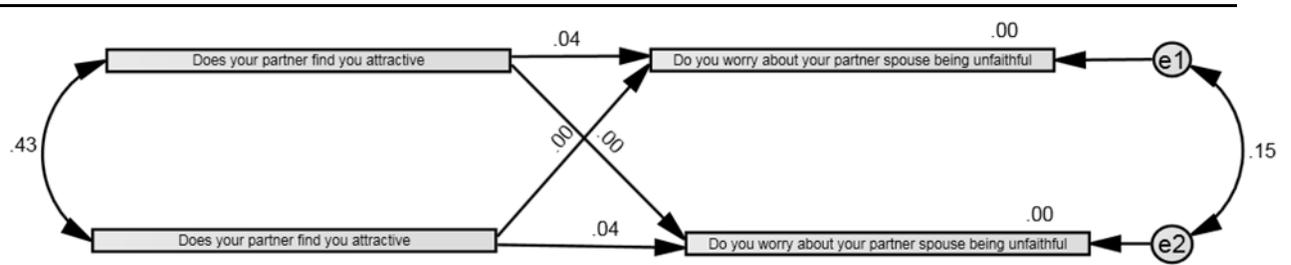
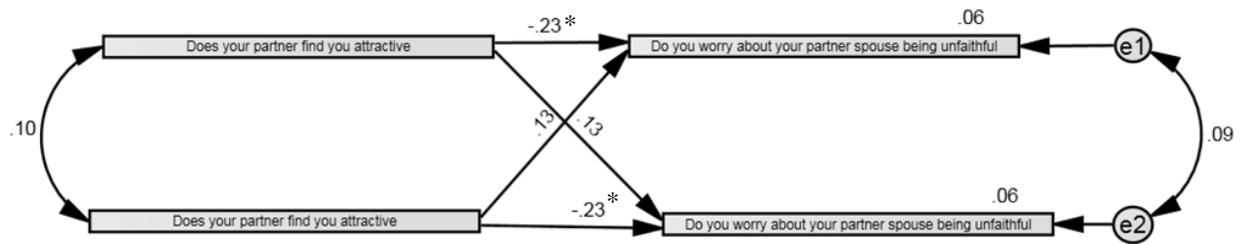


Figure 4. APIM Female: "Does your partner find you attractive?" and "Do you worry about your partner being unfaithful?"



\*  $p < .001$

Figure 5. APIM Male: "Does your partner find you attractive?" and "Does your partner feel possessive about you?"

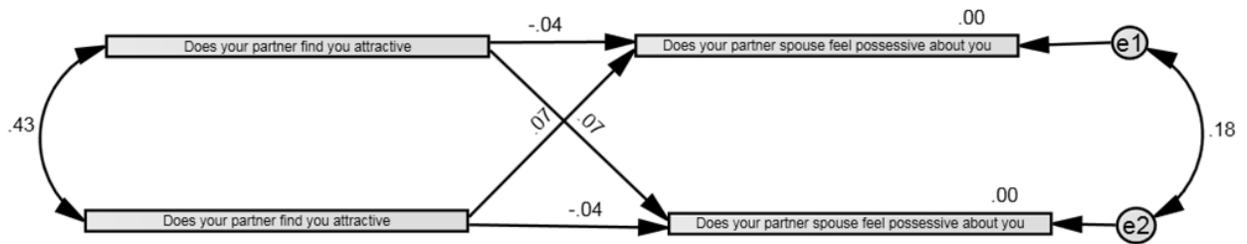


Figure 6. APIM Female: "Does your partner find you attractive?" and "Does your partner feel possessive about you?"

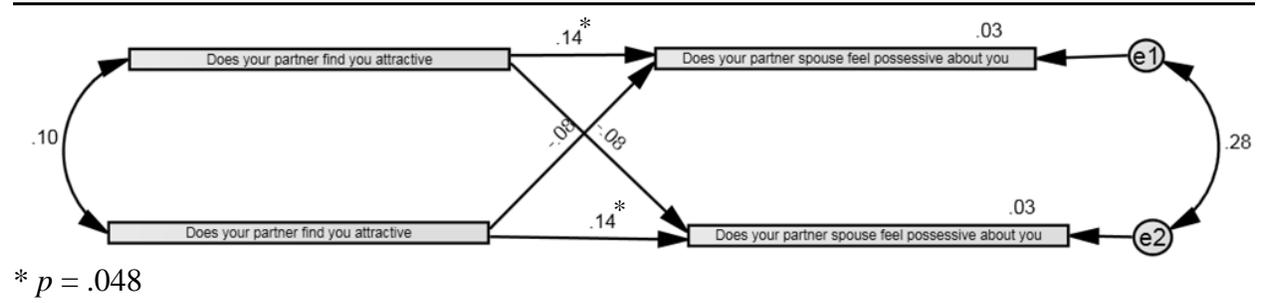


Figure 7. APIM Male: "Does your partner go out without you?" and "Do you worry about your partner being unfaithful?"

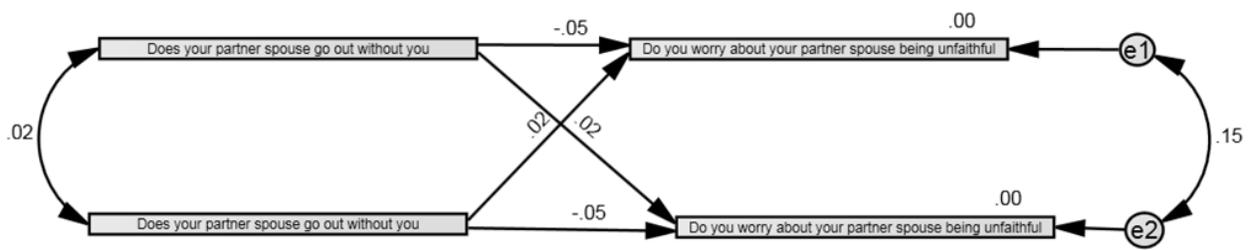
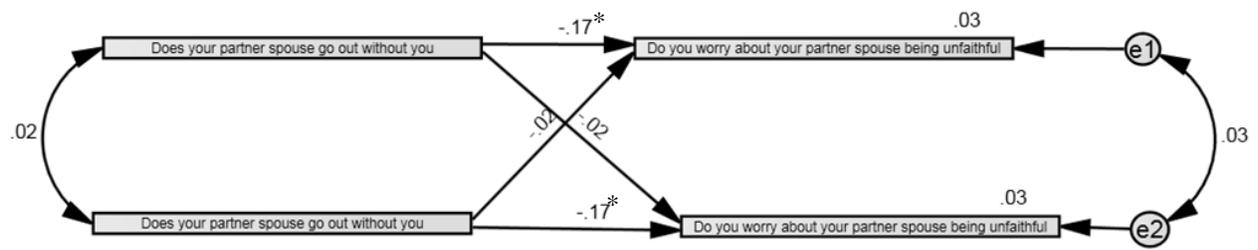


Figure 8. APIM Female: "Does your partner go out without you?" and "Do you worry about your partner being unfaithful?"



\*  $p = .018$

Figure 9. APIM Male: "Do you feel possessive about your partner?" and "Do you want to touch your partner?"

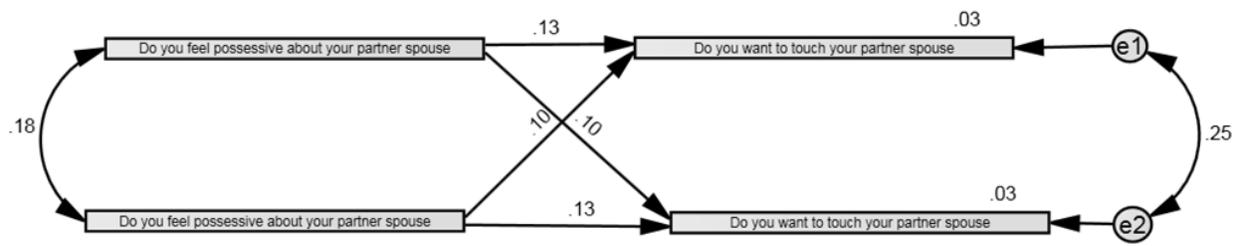
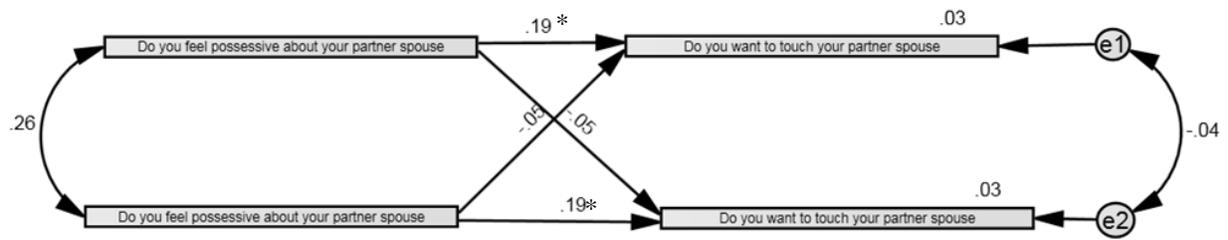


Figure 10. APIM Female: "Do you feel possessive about your partner?" and "Do you want to touch your partner?"



\*  $p = .013$

Figure 11. APIM Male: "Do you find sexual fulfillment outside your partnership?" and "Do you worry about your partner being unfaithful?"

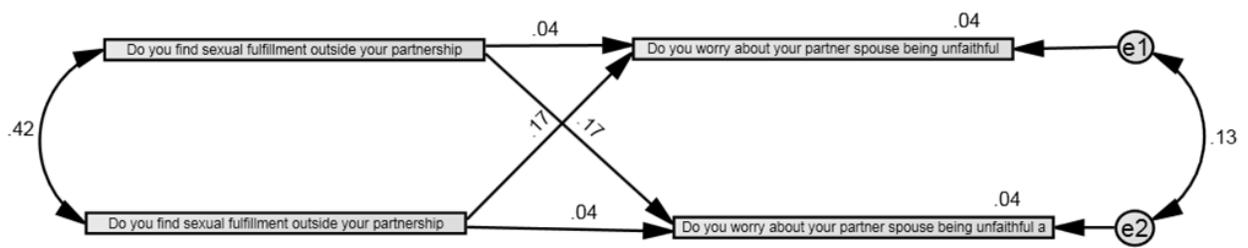
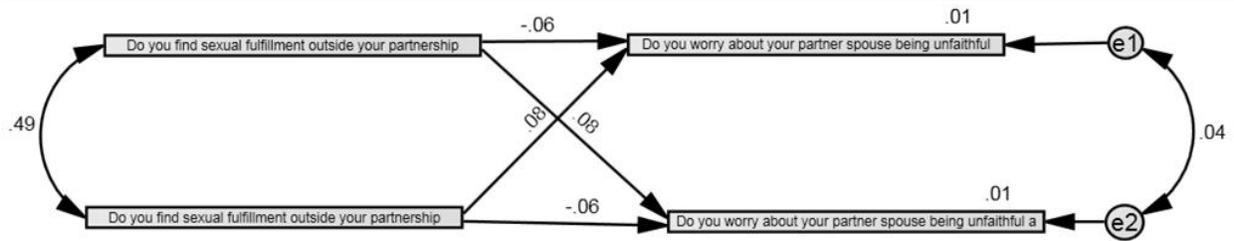


Figure 12. APIM Female: "Do you find sexual fulfillment outside your partnership?" and "Do you worry about your partner being unfaithful?"



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**ABSTRACT****SIMILARITIES AND DIFFERENCES BETWEEN HETEROSEXUAL AND  
HOMOSEXUAL COUPLES BASED ON MARQ DATA**

by

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There has been a lack of comparative research on homosexual couples, comparing them to heterosexual couples, which is also grounded in solid theory. In order to remedy this, evolutionary theory is used to make predictions on similarities and differences between heterosexual and homosexual couples within three domains, relationship satisfaction, jealousy, and mate guarding. It was predicted that 1) homosexual couples would not differ from heterosexual couples in relationship satisfaction; 2) some gender differences relating to jealousy would be the same and some would be reversed in homosexual individuals; 3) mate guarding would be present, but lower, in homosexual individuals as opposed to heterosexual individuals. One hundred and fifty-six homosexual couples were analyzed and compared to existing studies on homosexual couples. It was found that 1) homosexual men did not differ from heterosexual individuals in the measure of relationship satisfaction, but homosexual women did differ; 2) the gender differences in jealousy were consistent with what was expected, in that some were the same in homosexual individuals as heterosexual individual, and others were reversed; 3) mate guarding was present, at least to a lesser extent, in only homosexual women, not homosexual

men. While the relatively small sample size of the homosexual sample is of concern, it is hoped that this study sets the groundwork for future comparative studies based in solid theory.

**AUTOBIOGRAPHICAL STATEMENT**

Kraig S. Shattuck earned his Bachelor's Degree with a major in psychology and a minor in applied statistics from Grand Valley State University in 2010. He is a member of the International Society for Human Ethology and the Human Behavior and Evolution Society.