

2017

# Gender differences in cognitive dissonance reduction strategies for partner's physical attractiveness

Lijing Ma  
*University of Northern Iowa*

Copyright ©2017 - Lijing Ma

Follow this and additional works at: <https://scholarworks.uni.edu/etd>

*Let us know how access to this document benefits you*

---

## Recommended Citation

Ma, Lijing, "Gender differences in cognitive dissonance reduction strategies for partner's physical attractiveness" (2017). *Electronic Theses and Dissertations*. 431.  
<https://scholarworks.uni.edu/etd/431>

This Open Access Thesis is brought to you for free and open access by the Graduate College at UNI ScholarWorks. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of UNI ScholarWorks. For more information, please contact [scholarworks@uni.edu](mailto:scholarworks@uni.edu).

Copyright by

LIJING MA

2017

All Rights Reserved

GENDER DIFFERENCES IN COGNITIVE DISSONANCE REDUCTION  
STRATEGIES FOR PARTNER'S PHYSICAL ATTRACTIVENESS

An Abstract of a Thesis  
Submitted  
in Partial Fulfillment  
of the Requirements for the Degree  
Master of Arts

Lijing Ma  
University of Northern Iowa  
July 2017

## ABSTRACT

Physical attractiveness is an important standard for mate selection for both men and women (Langlois et al., 2000). However, men may care more about their partners' physical attractiveness than do women (Feingold, 1990). This study applied cognitive dissonance theory (Festinger, 1957) to physical attractiveness in mate selection. Not everyone can find a partner who is as attractive as he or she would ideally like, so this may create cognitive dissonance between their attitudes and behavior. Cognitive dissonance theory suggests that people try to reduce uncomfortable feelings caused by the differences between their attitudes and behaviors (Festinger, 1957). Because men care more about their partners' physical attractiveness than do women, men and women may reduce cognitive dissonance caused by partner's physical attractiveness differently.

282 college students who were in a heterosexual romantic relationship completed demographic questions and rated their partner's physical attractiveness. Then they were randomly assigned to a physical attractiveness condition, a personality condition, or a pure control condition. Participants in the physical attractiveness condition were primed to think of physical attractiveness as important, but reminded of their partner's lower attractiveness levels; participants in the personality condition were primed to think of kindness as important and not reminded about their partner's attractiveness level; and participants in the pure control condition were primed to think about healthy foods. Then all participants rated their partner's physical attractiveness again and the importance of physical attractiveness in relationships. They also completed the measures assessing the quality of alternatives and commitment level in their current relationships.

I hypothesized that men would be more likely to change attitudes toward finding a new partner or leaving their current partner if they believe their partners' physical attractiveness is important but they are reminded that they are dating less attractive partners. Specifically, I predicted that men in the physical attractiveness condition would score higher on quality of alternatives and lower on level of commitment in relationships compared to women in physical attractiveness condition. In contrast, I expected that women would be more likely to change attitudes toward partners' physical attractiveness in this situation. Specifically, I predicted that women in the physical attractiveness condition would score lower on importance of partner's physical attractiveness and higher on ratings of partner's attractiveness. I did not expect gender differences in the other two conditions. Contrary to predictions, men and women did not differ in ways of reducing dissonance. Men rated physical attractiveness as more important, reported more relationship alternatives, and were less committed to their current relationships than were women. Men also tended to rate their partner as more attractive than women did. There were no effects of condition. It may be that short-term interactions are not sufficient to induce dissonance about relationship issues with their partners.

*Key words:* physical attractiveness, cognitive dissonance theory

GENDER DIFFERENCES IN COGNITIVE DISSONANCE REDUCTION  
STRATEGIES FOR PARTNER'S PHYSICAL ATTRACTIVENESS

A Thesis  
Submitted  
in Partial Fulfillment  
of the Requirements for the Degree  
Master of Arts

Lijing Ma  
University of Northern Iowa  
July 2017

This Study by: Lijing Ma

Entitled: Gender Differences in Cognitive Dissonance Reduction Strategies for Partner's  
Physical Attractiveness

has been approved as meeting the thesis requirement for the

Degree of Master of Arts

\_\_\_\_\_  
Date

\_\_\_\_\_  
Dr. Helen C. Harton, Chair, Thesis Committee

\_\_\_\_\_  
Date

\_\_\_\_\_  
Dr. Nicholas Schwab, Thesis Committee Member

\_\_\_\_\_  
Date

\_\_\_\_\_  
Dr. Robert Hitlan, Thesis Committee Member

\_\_\_\_\_  
Date

\_\_\_\_\_  
Dr. Kavita R. Dhanwada, Dean, Graduate College

## TABLE OF CONTENTS

	PAGE
LIST OF TABLES .....	vi
LIST OF FIGURES .....	vii
CHAPTER 1. INTRODUCTION .....	1
Gender Differences in the Importance of Partners' Physical Attractiveness.....	4
Explanations for the Gender Differences in Mate Selection of Physical Attractiveness.....	5
Cognitive Dissonance Theory.....	7
Cognitive Dissonance Theory in Romantic Relationships .....	13
Current Research.....	14
CHAPTER 2. METHODS .....	18
Participants.....	18
Procedure .....	19
Phase 1: Demographic and Additional Questions .....	19
Phase 2: Rating Physical Attractiveness .....	20
Phase 3: Ranking Physical Attractiveness and Other Traits .....	20
Phase 4: Writing Short Essay.....	21
Phase 5: Rating Faces .....	22
Phase 6: Changing Something about Their Partner .....	23
Phase 7: Assessing Dissonance Reduction Methods .....	23
Phase 8: Additional Questions and Debriefing.....	25

CHAPTER 3. RESULTS .....	27
Data Cleaning.....	27
Manipulation Check.....	27
Rating for Changing Attitudes .....	29
Exploratory Analyses.....	37
CHAPTER 4. DISCUSSION.....	43
Gender Differences in Relationship Attitudes .....	48
Limitations and Ideas for Future Research .....	50
Implications for Theory .....	53
Conclusions.....	54
REFERENCES .....	55
APPENDIX A: DEMOGRAPHIC AND ADDITIONAL QUESTIONS.....	61
APPENDIX B: SOCIOECONOMIC STATUS LADDER .....	65
APPENDIX C: BEM SEX-ROLE INVENTORY .....	66
APPENDIX D: PARTNER’S PHYSICAL ATTRACTIVENESS SCALE.....	68
APPENDIX E: RANKING PHYSICAL ATTRACTIVENESS AND OTHER TRAIT...71	
APPENDIX F: SHORT ESSAY COVER STORY .....	73
APPENDIX G: SAMPLE FACES.....	75
APPENDIX H: CHANGING ATTITUDES .....	79
APPENDIX I: QUALITY OF ALTERNATIVES .....	81
APPENDIX J: COMMITMENT LEVEL.....	84

APPENDIX K: ADDITIONAL QUESTIONS.....86

APPENDIX L: DEBRIEFING .....88

## LIST OF TABLES

TABLE	PAGE
1 ANCOVA for Rating of Partner's Physical Attractiveness at Post- Test .....	31
2 ANCOVA for Rating of Importance of Partner's Physical Attractiveness.....	32
3 ANCOVA for Quality of Alternatives .....	34
4 ANCOVA for Level of Commitment .....	35
5 Compare Means for Gender (Dependent Variables) .....	37
6 Correlations between Dependent Variables, SES, Masculinity and Femininity ....	38
7 Correlations between Dependent Variables, SES, Masculinity and Femininity by Gender.....	39

## LIST OF FIGURES

FIGURE	PAGE
1 Ratings of Partner's Physical Attractiveness (Post-test) by Condition and Gender.....	31
2 Ratings of Partner's Importance of Physical Attractiveness by Condition and Gender.....	33
3 Ratings of Quality of Alternatives by Condition and Gender.....	34
4 Ratings of Level of Commitment by Condition and Gender.....	36

## CHAPTER 1

### INTRODUCTION

Imagine yourself going to a dance party one night: you meet a person who you never met before and spend the night dancing and chatting with that person. What factors would lead you to decide whether to date that person again after that night? In one of the first studies to examine dating preferences, Walster, Aronson, Arahams and Rottman (1966) found that the only factor that predicted the likelihood of wanting to date the partner again in the future was physical attractiveness.

As the example above shows, physical attractiveness is very important in romantic relationships, especially in the formation of romantic relationships. Physical attractiveness is the most important characteristic in short-term relationships (Sangrador & Yela, 2000). Because physical attractiveness is also related to other positive stereotypes, physically attractive people may find it easier to start a relationship. For example, men perceive physically attractive women as more sociable, sexually warm, interesting, independent, sexually permissive, bold, outgoing, humorous, and socially adept than physically unattractive women. Women also prefer physically attractive men to average looking men (Dion, Berscheid, Walster, 1972; Feingold, 1992; Snyder, Tanke, & Berscheid, 1977)

Moreover, physical attractiveness is also important in promoting maintenance in romantic relationships (Simpson, Gangestad, & Lerma, 1990). Physical attractiveness, at least among Spaniards, is correlated with different components of love. People with highly attractive partners report more erotic passion and romantic passion toward their

partner, as well as high intimacy and commitment to the relationship (Sangrador & Yela, 2000). In addition, physical attractiveness is one of the few elements that predict relationship satisfaction (Sangrador & Yela, 2000). If someone often derogates or complains about his or her partner's physical attractiveness, the partner's self-esteem and relationship satisfaction may decrease (Shackelford, 2001). In addition, among newlyweds, if wives are more attractive than their husbands, both of them behave more positively in their relationships, which could increase their relationship satisfaction (McNulty, Neff, & Karney, 2008). Thus, if people can find an attractive partner, they may have greater relationship satisfaction, and this may be especially true for men.

Physical attractiveness is not only important for romantic relationships. Meta-analyses have shown that physical attractiveness is important in a variety of settings and for both children and adults. For example, physically attractive children are more likely to be judged positively on different dimensions, are treated better, and exhibit more positive behaviors, such as sharing and other prosocial behaviors, than unattractive children. Physically attractive children are judged to have higher academic and developmental competence than unattractive children (Langlois et al., 2000). Similar results have also been found among adults. Physically attractive adults are judged to have higher occupational competence and higher social appeal than unattractive adults (Langlois et al., 2000).

People seem drawn to physically attractive partners, regardless of their own looks. Berscheid, Dion, Walster, and Walster (1971) asked college students to choose one opposite-sex person for a date from six people's pictures with different levels of physical

attractiveness. Half of the participants were told that their potential dates all showed interest towards them, and the other participants did not know whether their potential dates were interested in them. Participants in both groups selected more attractive persons to date regardless of their own physical attractiveness. Thus, people are still attracted to attractive people regardless of their own physical attractiveness.

Although physical attractiveness is important in romantic relationships, if everyone only dates very physically attractive people, most people would be left out. However, this is not the case, and many unattractive people can still find a partner. Research using the Pairing Game suggests that even if people all want very attractive partners, they may settle for average-looking partners (Ellis & Kelley, 1999). The matching phenomenon (Walster et al., 1966) suggests that people might look for a partner who is similar to themselves in attractiveness. People are aware of their own physical attractiveness and look for a partner who has a similar level of physical attractiveness (White, 1980). People who are attractive feel comfortable approaching other attractive people when they look for partners. However, people who are not very attractive may be concerned about rejection by attractive people, so people who are not very attractive may be likely to look for partners who are less attractive. In the Pairing Game (Ellis & Kelley, 1999), each student was randomly assigned a value (either a numerical value or a list of adjectives). The students themselves did not know their value, but they put their value on their forehead so other students were able to see it. Students were encouraged to try to pair up with another students with as high a value as possible. The Pairing Game showed that people tended to pair with others who had a similar “value” to themselves, even if

they did not know their own value (Ellis & Kelly, 1999). A similar process may occur with attractiveness in romantic relationships.

Physical attractiveness is very important for mate selection and beyond, and it seems to be important for most people. However, partners' physical attractiveness may be more important for men than for women.

#### Gender Differences in the Importance of Partners' Physical Attractiveness

Although men and women both consider their partners' physical attractiveness to be an important factor in mate selection, men consider it to be more important than women do. Men rate being good-looking and having a good body type as more desirable traits in a potential partner than do women (Fales et al., 2016). Across a nationally representative U.S. sample, youth and physical attractiveness were more important for men than for women, and the results were consistent across different ages (Sprecher, Sullivan, & Hatfield, 1994). A meta-analysis of five different research paradigms, including 23 studies with American and Canadian participants, showed that men rated physical attractiveness as more important than women did with a medium effect on average (Feingold, 1990).

These gender differences are not only found in Northern American cultures. Male Israeli students stated that they are more attracted to good-looking partners than did female Israeli students (Malach Pines, 2001). Another cross-cultural study showed how important physical attractiveness is for mate selection with a larger variety of culture backgrounds. Participants from 37 cultures (33 countries on six continents and six islands) completed a survey rating the importance of 18 different characteristics for mate selection,

which included dependability, chastity, and physical attractiveness. Overall the results were very similar across cultures— physical attractiveness was a more important standard for men than for women in nearly all countries (Buss et al., 1990).

#### Explanations for the Gender Differences in Mate Selection of Physical Attractiveness

There are several explanations for why men may value physical attractiveness as more important than women do. Evolutionary theory, which incorporates the Darwinian theory of natural selection, emphasizes adaptation in sexual selection (Archer, 1996). Evolutionary theory suggests that men select women based on their physical attractiveness because “good looking” indicates a good reproductive system. In contrast, women value partners’ occupational and financial status more than men because it also would be helpful for their reproduction; men’s high status indicates that they can provide more resource for women (Buss, 1989). The parental investment model argues that men and women provide different parental investments to their offspring (Trivers, 1972). Men provide more indirect recourses to their offspring, like food and money (Kenrick & Keefe, 1992). They tend to provide opportunities for learning, power, and status to their offspring. On the other hand, women tend to provide more direct resources, like their body for reproduction (Kenrick & Keefe, 1992). Women who are better at reproduction should invest more in their offspring and bring more benefits to their family (Trivers, 1972). Because women’s bodies are more important to their offspring than men’s bodies, men tend to care more than women about their partners’ physical attractiveness when they select partners.

In contrast, social role theory (Eagly, 1987; Eagly & Wood, 1999) explains the gender differences in mate selection as due to certain social activities that can be done better by one sex than another. According to social role theory, gender differences in social behavior come from divisions of labor between men and women. That is, in the past, men's roles were working outside of the house and earning money, whereas women's roles were staying at home and taking care of the family. These different gender roles lead to the different characteristics related to the roles. Thus, men tend to have assertive and instrumental characteristics, and women tend to have nurturing and yielding characteristics. These different characteristics of men and women formed basic gender stereotypes (Archer, 1996). In mate selection, men and women exchange their gender roles to find equilibrium between their gender roles and their partners' gender roles. For example, there would be an exchange between men's wealth and women's beauty. Because physical attractiveness is associated with positive stereotypes like competence and good social skills, men tend to select young and attractive partners who would seem to be good at taking care of a family. In contrast, women tend to select a partner who can earn more money. Hence, according to social role theory, men care more about their partner's physical attractiveness than women as well.

Gender roles and socioeconomic status may also affect gender differences in mate selection and the importance of partner's physical attractiveness. People who believe more in traditional gender roles have greater sex-typing of mate preferences (Eastwick et al., 2006)-- that is, men focus more on their partner's physical attractiveness, but women focus more on their partner's power and status. Social role theory also states that

women's focus on partner's status may be caused by the gender inequalities from a historical perspective (Moore & Cassidy, 2007). When women's socioeconomic status changes, their desire for status may also change. Specifically, when women's socioeconomic status increases, their focus on men's status decreases, and they focus more on their partner's physical attractiveness (March & Bramwell, 2012; Moore & Cassidy, 2007; Moore, Cassidy, & Perrett, 2010). Gender roles may also affect the degree to which women value attractive partners. Women who were more androgynous (high on both masculinity and femininity) considered partner's physical attractiveness as more important than did women who were more undifferentiated (low on both masculinity and femininity), but only if the women had high socioeconomic status (SES). However, men's individual socioeconomic status (SES), gender roles, or the interaction between SES and gender roles did not affect the importance of partner's physical attractiveness in long-term relationships (March & Grieve, 2014).

Although physical attractiveness is more important for men than for women, it is an important criterion for mate selection overall (Sangrador & Yela, 2000; Walster et al., 1966). However, not everyone can have a very attractive partner. What do people do when they do not have a very attractive partner? Cognitive dissonance theory (Festinger, 1957) suggests some ways that people may deal with this situation.

#### Cognitive Dissonance Theory

Cognitive dissonance theory (Festinger, 1957) may help explain how people reduce dissonance when they think that their partner's physical attractiveness is important but they have a partner who is not very attractive. Cognitive dissonance theory suggests

that people feel an uncomfortable feeling, or dissonance, when their attitudes conflict with their behaviors. People experience both negative affect and psychological discomfort when their behaviors are different from the attitudes they hold (Harmon-Jones, 2000). Because people do not like this uncomfortable feeling, they are motivated to reduce the dissonance. They can reduce the cognitive dissonance by changing their behavior to make it consistent with their attitude. They can also reduce the dissonance by changing one of their cognitions to make it more consistent with their behavior. The third way to reduce dissonance is that they can add new cognitions that are consistent with their behavior. The final way to reduce dissonance is to make it less important.

Smoking can be used as an example of dissonance reduction. Many smokers know that smoking is bad for their health, but they continue smoking. This conflict between their attitudes and behavior towards smoking could cause them to experience dissonance. Smokers could change their behavior to reduce the dissonance. That is, they could stop smoking. Thus, their behavior would become consonant with their cognition. They can also reduce dissonance by changing their cognition; for example, they could convince themselves that smoking is not that harmful. They could also add another new cognition, like thinking about positive aspects of smoking (e.g., stress reduction), so the negative effects of smoking become less important. Finally, they could trivialize the dissonance between their attitudes towards smoking and their behaviors. For example, they may think that although smoking is bad for health in general, it will not affect their own health very much if they smoke.

In an early test of cognitive dissonance (Festinger & Carlsmith, 1959), participants were asked to do an extremely boring task for an hour. Then, they were asked to tell the next participant (who was actually a confederate of the experimenter) that the task was very interesting. Some participants were paid one dollar for doing this, and other participants were paid twenty dollars. Participants who were paid one dollar reported that they liked the task more than those who were paid twenty dollars. People in both groups experienced dissonance between their attitude (the task is boring) and the behavior (telling someone the task is interesting). However, people who were paid twenty dollars could explain their behavior as that they lied to the next participant because of money, so they continued believing that the task was boring. In contrast, people who were paid one dollar could not easily explain their behavior. Thus, they changed their attitude towards the task and started to believe that the task was interesting.

Aronson and Mills (1959) provide another example of how people may reduce cognitive dissonance by changing their attitude. College women were randomly assigned to one of three conditions. In one condition, they were asked to read embarrassing materials before becoming members of a discussion group. In another condition, they were asked to read less embarrassing materials before becoming members of the group. In the control condition, participants did not read anything. Women who read embarrassing materials reported more liking towards the group than those in the other two conditions. Women in the embarrassing material group needed to justify their behavior, and did so by changing their attitudes about the group. Thus, the study supported cognitive dissonance theory because people in the embarrassing material group

felt more dissonance, and they reduced this dissonance by increasing their liking towards the group.

The previous studies showed that people experience dissonance when they do an unpleasant task with little or no reward (Aronson & Mill, 1959; Festinger & Carlsmith, 1959). People can also experience similar dissonance when they refrain from doing a pleasant task with little punishment. In Aronson and Carlsmith (1963), the experimenters gave preschoolers toys to play with but they did not allow the preschoolers to play with the most attractive toys. In one condition, the experimenters used a severe threat to discourage them from playing the most attractive toys. In another condition, the experimenters used a mild threat to discourage them from playing those toys.

Preschoolers in both conditions tried not to play the attractive toys, but preschoolers' liking towards the attractive toys in mild threat conditions decreased. In the severe threat condition, the preschoolers refrained from playing the toys because they would get punished if they played. However, the preschoolers in mild threat condition would not get much punishment if they played with the attractive toys, but they still refrained from playing with them. Hence, to reduce the dissonance between the belief that they would get little punishment if they play the attractive toys and the behaviors that they did not play the toys, the preschoolers reduced their liking towards the toys.

In another classic cognitive dissonance study (Zimbardo, 1965), members of an army reserve unit were asked to eat fried grasshoppers by one of two officers: a kind officer or a cold officer. Participants who were asked to eat grasshoppers by a cold officer became more favorable towards the grasshoppers than the other participants. Eating

grasshoppers is an unpleasant experience because grasshoppers are distasteful. Those who did so at the request of a kind officer could justify their actions as wanting to help someone who was nice to them, but those in the cold officer condition did not have that justification. Thus, to reduce the dissonance between their attitudes and behavior, the participants who were asked by a cold officer changed attitudes to like eating grasshoppers more.

Since Festinger's (1957) original conception of cognitive dissonance theory, there have been several revisions. Cooper and Fazio's (1984) "new look" dissonance theory emphasizes the idea that the inconsistency *per se* does not produce the changes in reducing dissonance, but that it is the arousal caused by the inconsistency that motivates attitude change. In one study (Nel, Helmreich, & Aronson, 1969), participants gave a counterattitudinal speech about legalization of marijuana. In one group, they were told the audience was firmly committed against the idea of the speech; in another group, the audience was firmly committed in favor of the speech. In the third group, the audience was school children. The attitude change was only found in the third group, although there was inconsistency in all groups. It was because participants in the third group gave a speech that was considered to be much more persuasive and have more potential negative effects than the other two groups, so only the participants in the third group experienced dissonance arousal.

Aronson's (1969) new aspect of cognitive dissonance theory states that dissonance occurs when a behavior is inconsistent with a person's sense of self and the behavior is important to the self. To reduce dissonance, people try to justify themselves to

maintain a good and stable self-concept. In one study (Aronson, Fried, & Stone, 1991), sexually-active students were given the role of an HIV prevention educator and asked to write a speech advocating condom use. Some students were told that they would be videotaped and the video would be shown in a high-school sex-education class (whereas others rehearsed the speech privately), and some students were asked to write about times they had failed to use condoms in the past (whereas others were not). Those who were made mindful of their past failures and who recorded a video to be shown to high school students (hypocrisy condition) were more likely to report that they would improve their condom use in the future. The participants' public behavior (the speech) was inconsistent with their stated attitude because they had failed to use condoms in the past. Thus, they changed their attitude to reduce the dissonance (Aronson et al., 1991). This study showed that dissonance induced change only occurred when participants acted in a hypocritical way—publicly stating a viewpoint that might influence others while being reminded that they had not personally acted in accordance with the speech.

In summary, cognitive dissonance arises when people's attitudes conflict with their behaviors. People try to reduce the dissonance by changing their attitude, changing their behavior, adding another cognition, or trivializing the relationship between the attitude and behavior. People may experience dissonance especially if the consequences are adverse (Cooper & Fazio, 1984) or they threaten the self-concept (Aronson, 1969). Both of these elements may be likely to occur in dissonance-arousing situations in romantic relationships. For example, when people lie to their partner, people may experience their attitudes conflicting with their behaviors. The potential arousal may be

negative, and people want to reduce this potential arousal. Thus, we can apply cognitive dissonance theory to the study of romantic relationships.

### Cognitive Dissonance Theory in Romantic Relationships

Most research that has applied cognitive dissonance theory to romantic relationships has focused on moral transgressions in relationships. For example, people who believe they should not hurt their partners but hurt them reduce their cognitive dissonance by acting more positively towards their partner later and being more optimistic about their future relationships (Cameron, Ross, & Holmres, 2002). After lying to partners, people may feel dissonance between their attitude that lying is bad and their behavior of lying to their partners. Most people tend to reduce this dissonance by convincing themselves that they lied to their partners due to kindness (Kaplar & Gorden, 2004).

People do not always try to change their attitude or behavior when they experience cognitive dissonance in romantic relationships. Some people may use trivialization, which means minimizing the importance of something-- for example, to reduce the dissonance due to their infidelity (Foster & Misra, 2013; Simon, Greenberg, & Brehm, 1995). That is, people who commit unfaithful behaviors may believe that their behaviors are not very important in terms of describing what kind of people they are. Trivializations reduce the self-concept discrepancy and psychological discomfort of the people who commit unfaithful behaviors (Foster & Misra, 2013).

Cognitive dissonance theory has also been applied to relationship satisfaction in long distance relationships. When people in long distance relationships were told that

long distance relationships were bad, and people in geographically proximal relationships were told that geographically proximal relationships were bad, they experienced arousal from cognitive dissonance. Compared to non-dissonance conditions, people in both geographically proximal relationships and long distance relationships who were told their relationship type was bad increased their relationship satisfaction to reduce dissonance (Gardner, 2005).

Because most of the research applying cognitive dissonance theory in romantic relationships has studied transgression, it may be useful to apply cognitive dissonance theory to study other aspects of romantic relationships. There has been little research applying cognitive dissonance to the importance of partners' physical attractiveness. Thus, current study investigated whether there is a gender difference in the dissonance reduction techniques used for dissonance caused by the importance of partner's physical attractiveness.

### Current Research

There are many people who hold the belief that their partners' physical attractiveness is important. Many people would like to state that they consider their partners' physical attractiveness as a standard of their mate selection. However, not all of them end up finding a very attractive partner. According to cognitive dissonance theory (Festinger, 1957), people who have different attitudes and behavior towards the importance of their partners' physical attractiveness may feel psychological arousal, called dissonance. Because dissonance is aversive, people will try to reduce the dissonance. In addition, because their partner's physical attractiveness is important to the

self, as shown in previous research (e.g., Walster et al., 1966), if people do not have an attractive partner, their self-concepts may be threatened. Thus, reducing the dissonance is necessary. Some people may change their attitude (“my partner’s physical attractiveness is not that important for me,” or “my partner is actually attractive”). Others may change their behavior, such as looking for an alternative partner.

Men care more about partners’ physical attractiveness than women do (Feingold, 1990; Malach Pines, 2001; Shackelford, Schmitt, & Buss, 2005). When an attitude is more difficult to change, people will try other ways to reduce the dissonance, such as changing behaviors (Cooper & Fazio, 1984). In the current study, I explored whether men and women will use different methods for reducing their dissonance between their attitude and behavior. My hypothesis is that men will more likely to change their behavior (like looking for an alternative partner) compared to women, whereas women will be more likely to change their attitudes (such as, agreeing that “physical attractiveness is not that important”) compared to men when they both experience the cognitive dissonance related to their partner’s physical attractiveness.

In this study, 282 college students who were in heterosexual romantic relationships were randomly assigned to one of three conditions: a physical attractiveness condition, a personality condition, or a pure control condition. College students are a good population for this study because most college students who are in relationships are not married. Thus, their attitudes and behaviors towards their partner and their relationship may be more easily changed.

Participants in the physical attractiveness condition were reminded of the discrepancy between believing that their partner's physical attractiveness is important but that their partner is not very attractive. Then, they were primed to focus on the belief that their partners' physical attractiveness is important. They ranked the importance of different traits for mate selection. They ranked less important characteristics (based on Buss et al., 1990) and physical attractiveness. Then they wrote a short essay about the importance of partners' physical attractiveness. They were told that the essays were for a school project to make them think the essays have important implications (Cooper & Fazio, 1984). After that, they were reminded that their partners are not very attractive by rating very attractive other-sex faces. Finally, they were asked if they could change something about their partner's appearance, what they would change.

Participants in the personality condition were not reminded of the discrepancy between believing that their partner's physical attractiveness is important but their partner is not very attractive. They were primed not to focus on the belief that partners' physical attractiveness is important. They ranked the importance of different traits for mate selection, and they ranked physical attractiveness and some important traits. Then, they wrote a short essay about the importance of partners' kindness. After that, rated some low attractive other sex faces. Finally, they were asked if they could change something about their partner's habits what they would change.

Participants in the pure control condition did not get a prime related to their partners. They first ranked the healthiness of different foods. Then, they wrote a short essay about the importance of a healthy diet. After that, they rated the healthiness of

attractive and unattractive faces. Finally, they were asked if they could change something about their diet what they would change.

All the participants then completed several questionnaires assessing their attitudes and behaviors. They also rated their commitment in current relationship. Participants also completed some additional measures assessing socioeconomic status, masculinity, and femininity. These questions were asked to eliminate some potential confounds, as these variables may affect how important physical attractiveness is to women.

I hypothesized that men would be more likely to change behaviors, as shown by attitudes toward finding a new partner or leaving their current partner, if they believe their partners' physical attractiveness is important but they are reminded that they are dating less attractive partners. I did not measure behavior directly in this study, but expected men who were in the physical attractiveness condition to rate their quality of alternatives higher and their level of commitment lower than women who were in the physical attractiveness condition, which might indicate a desire to leave the relationship. There were no gender differences expected in the rating of quality of alternative and commitment level for participants in the personality and control conditions. In contrast, women were expected to be more likely to change attitudes toward partners' physical attractiveness, such as believing their partners are less attractive or their partner's physical attractiveness is not important. Women who were in the physical attractiveness condition were expected to rate the importance of their partner's physical attractiveness as lower than did men in the physical attractive condition. There were no gender differences expected in the personality condition and pure control condition.

## CHAPTER 2

### METHOD

#### Participants

According to Cohen (1988), a small effect size requires 322 participants in each group, and a medium effect size requires 52 participants in each group in an ANOVA design when power is estimated at .80. Previous studies on cognitive dissonance in romantic relationships usually have reported a small to medium effect size (Cohen's  $d$  between .2 and .5; e.g., Kaplar & Gordon, 2004; Simon, Greenberg & Brehm, 1995). In addition, Simmons, Nelson, and Simonsohn, (2013) suggested that there should be at least 50 participants in each condition. The current study is a 2 (gender) x 3 (condition) design, thus, those guidelines suggest that my study should have a sample size between 300 and 1,932.

For this study, 296 participants in heterosexual romantic relationships were recruited from introductory psychology courses at the University of Northern Iowa. The data from 19 participants were removed for various reasons (see data cleaning section of Chapter 3), leaving 277 participants for analysis. The number of participants led to a slightly underpowered study because it was hard to get enough college student participants in a four-month period. Participants were told that the purpose of this study was to investigate people's perceptions about important characteristics in romantic relationships and other attitudes towards their relationship before they signed up for the study. To participate this study, participants must have currently been in a heterosexual romantic relationship. Thirty three percent of the participants were cisgender male, and

67% of the participants were cisgender female. Ninety one percent of the participants were Caucasian, 7% of the participants were African American, and 2% of the participants identified with other ethnicities or races (e.g., Hispanics, Asians, Native American). The mean age of the participants was 18.84, with a standard deviation of 1.18. Thirty three percent of the participants were in a causal relationship, 66% of the participants were in a serious relationship, and 1% of the participants were either engaged or married at the time they participated this study.

### Procedure

After signing up to participate in a study of important characteristics in romantic relationships, participants who were in heterosexual romantic relationships came to a campus computer lab and a female experimenter asked them to read and sign a consent form for the study. Participants completed the experiment online via Qualtrics.

### Phase 1: Demographic and Additional Questions

After signing the consent form, participants were asked whether they were currently in a heterosexual romantic relationship. If they answered “no”, they received an end of survey message saying that they were not qualified for this study. Then, they were asked to leave the computer lab. All participants who answered “yes” to the question then completed demographic questions (including their gender, ethnicity/race, age, religion, and political affiliation, Appendix A) and some additional questions (including a question assessing their own physical attractiveness as well as items assessing how much they are in love with their partners, how long they have been with their partners, and what kind of relationship they were in, Appendix A), a socioeconomic ladder (Appendix B), and 19

items from the Bem Sex-Role Inventory (BSRI, excluding social desirability items; Bem, 1974; Appendix C). They completed the demographic questions, SES ladder and BSRI in a random order.

The Bem Sex-Role Inventory (BSRI; Bem, 1974) was originally used to measure people's androgyny, but it also measures masculine and feminine gender roles. The short form of the BSRI contains 30 traits. Ten of them assess masculinity, 10 of them assess femininity and the rest of the 10 items assess social desirability. In this study, I only used the traits assessing masculinity ( $\alpha = .83$ ) and femininity ( $\alpha = .87$ ). I accidentally put one wrong item in femininity, so there were 9 items for femininity in this study. Participants rated whether the traits described themselves on a 7 point Likert scale, from *never or almost never true* to *almost always true*. One sample item for masculinity is "independent," and one sample item for femininity is "tender."

#### Phase 2: Rating Physical Attractiveness

All participants then rated their partners' physical attractiveness and additional qualities (12 items) on 7-point Likert scales from *strongly disagree* to *strongly agree* ( $\alpha = .91$ ). The questions for assessing their partner's physical attractiveness include "My partner looks better than the average person." The additional items, for example, "my partner is in good health" asked about their partner's personality and other traits and were used to make the purpose of the study less obvious (Appendix D).

#### Phase 3: Ranking Physical Attractiveness and Other Traits

Next, participants in the physical attractiveness condition and personality condition ranked several characteristics in terms of how important they are in choosing a

romantic partner, from most to least important. In the physical attractiveness condition, those traits included “physically attractive” and other less important characteristics for mate selection, like “similar religious background,” “chastity,” and “similar political background.” Participants in the personality condition ranked several characteristics including “physically attractive” along with other important characteristics for mate selection, like “mutual attraction,” “dependable character,” and “emotional stability and maturity.” These characteristics were chosen based on ratings from Buss et al. (1990). Important characteristics for this study were chosen from the highest rated characteristics in Buss et al.’s study, and the less important characteristics for this study were chosen from the lowest rated characteristics in Buss et al.’s study. Participants in the pure control condition ranked several foods, such as “apple” and “carrot,” in terms of how healthy they are (Appendix E.)

#### Phase 4: Writing Short Essay

After ranking the traits, participants in the physical attractiveness and personality conditions were asked to write a short essay. They were told that this part of the study involved collecting quotes for a school project on people’s opinions on romantic partner’s traits. Participants were told that the computer system would randomly select a trait for them, based on what people have already written about. They do not have to write about this trait, but they were told that it would be really helpful for the project if they could. For that trait, they were asked to write a few points about why that characteristic is important in a relationship. The trait that was “randomly” chosen for participants in the physical attractiveness condition was physical attractiveness. Participants in the

personality condition were asked to write an essay about why kindness is important. They were told that their responses were anonymous. Two coders read the short essays, assessed whether they rated about the assigned trait (all participants did), and then rated how important their points suggest that it is on a 5-point Likert scale from 1 (*not important at all*) to 5 (*extremely important*). The interrater reliability was assessed by the correlations between the ratings from the two coders. The interrater reliability was  $r = .45$ ,  $p < .001$  for both the physical attractiveness condition and personality condition. Participants in the pure control condition wrote an essay about why eating a healthy diet is important (Appendix F).

#### Phase 5: Rating Faces

Participants in the physical attractiveness and personality conditions rated the physical attractiveness of 10 other-sex people's faces (Appendix G) on a 7-point Likert scale from 1 (*not attractive at all*) to 7 (*very attractive*.) The faces were from the Chicago Face Database (Ma, Correll, & Wittenbrink, 2015.) The age range of the faces was from 20 to 30 years old. The majority of the faces were White (5-7 of the faces were White in each condition, the number of White faces vary depends on the conditions), but participants also got several Black ( $n=2-3$ ), Asian ( $n=0-1$ ), or Hispanic ( $n=0-1$ ) faces. The attractiveness of faces was rated on a 7-point scale by 1,087 individual judges from diverse racial background when Ma et al. (2015) developed the database. Participants in the physical attractiveness condition rated faces that received ratings of 4 to 7. Participants in the personality condition rated faces that received ratings of 1 to 3. The purpose of rating attractive faces is to remind the participants that their partners are less

attractive, and vice versa. Participants in the pure control condition rated 5 attractive faces and 5 unattractive other-sex people's faces. They rated how healthy these people seem to be on a 7-point Likert scale from (*not healthy at all*) to (*very healthy*).

#### Phase 6: Changing Something about Their Partner

Participants in the physical attractiveness condition were asked “If you could change one thing about your partner’s face or body, what would you like to change?” and “What are some parts of your partner’s body that you don’t like?” Participants in the personality condition were asked two questions: “If you can change one of your partner’s habits, what would you like to change?” and “What are some parts of your partner’s body that you don’t like?” Participants in the pure control condition were asked two questions: “If you can change one thing about your diet, what would you like to change?” and “What are some things about your diet that you are not satisfied with?” Two coders read participants’ responses and rated whether they wrote about what they were supposed to write. They were coded into three categories: 0 = *wrote nothing*, 1 = *wrote something related with what I asked*, 2 = *wrote something unrelated with what I asked*. The interrater reliability was assessed by Cohen’s Kappa. The interrater reliability was  $k = .57$ ,  $p < .001$ , for the first question and the interrater reliability was  $k = .90$ ,  $p < .001$  for the second question, for participants in the physical attractiveness condition.

#### Phase 7: Assessing Dissonance Reduction Methods

Then participants completed several questionnaires assessing their methods to reduce dissonance between their attitudes and behaviors. The questions for changing attitudes include 3 questions assessing importance of partner’s physical attractiveness,

such as “To what extent do you think your partner’s physical attractiveness is important to you” ( $\alpha = .85$ , Appendix H).

The questions related changing attitudes also include a measure of their partner’s physical attractiveness. Participants were asked to rate the physical attractiveness of their partners again on the same scale as they did in phase two (Appendix D). They also rated two additional items on partner’s physical attractiveness (Appendix H). In total, they completed 9 items assessing their partner’s physical attractiveness ( $\alpha = .93$ ).

The Quality of Alternatives facet and global items in Investment Model Scale (Appendix I, Rusbult, Martz, & Agnew, 1998) were used to assess attitudes that might be related to behaviors. These questionnaires were used to measure whether participants were likely to have alternatives for their current relationships, such as whether they are likely to date another partner or stay alone. One example of a facet item is “My needs for intimacy (sharing personal thoughts, secrets, etc.) could be fulfilled in alternative relationships.” One example of a global item is “The people other than my partner with whom I might become involved are very appealing”. Participants rated how much they agreed on these statements from a 9-point Likert scale from “*do not agree at all*” to “*agree completely*”. Internal consistency (alphas) for the quality of alternatives scale ranges from .82 to .88 in Rusbult’s studies. In Rusbult’s studies, only global items were included for analyses. The facet items were included to help people answer the global items. In current study, both facet items and global items were included, but only global items were used in analyses. The internal consistency for the quality of alternatives global items in this study was  $\alpha = .90$ .

Participants also completed a questionnaire assessing their commitment in their relationship on a 9-point Likert scale from “*don’t agree at all*” to “*agree completely*.” The questions are also from Rusbult’s investment model scale (Appendix J, 1998). An sample question is “I want our relationship to last for a very long time.” Alphas for the commitment scale range from .91 to .95 in Rusbult’s studies. In current study, the internal consistency for the commitment scale was  $\alpha = .89$ . The Investment Model Scale has high convergent and discriminate validity (Rusbult et al., 1998).

Participants were also given two attention check questions at a random time during the study to make sure they paid attention in the study. The first attention check appeared during the rating of partner’s physical attractiveness at the post-test. The question was “Please select ‘7’ for this question.” The second attention check question appeared during the alternative facet questions. The question was “Please select ‘Agree Slightly’ for this question.”

#### Phase 8: Additional Questions and Debriefing

After participants completed the study, participants were asked about what they thought the purpose of the study was. They were also asked if they answered the questions honestly, if we should use their data, and if they had additional comments on the study (Appendix K). Then, they were asked to write down some positive characteristics of their partners, something they like best about their partners, and something their partner did that impressed them a lot. These questions were only used to help restore them to the state they were in when they started the study. Finally, participants received the debriefing page after finishing the study. They were informed of

the purpose of the study, and they were also informed that we would not make the essays public (Appendix L).

## CHAPTER 3

### RESULTS

#### Data Cleaning

I deleted data from seven participants who indicated that they were not in a heterosexual relationship. I also deleted data from four participants who did not pass the first attention check and data from six participants who did not pass the second attention check. If the participants had indicated that the purpose of the study was related to gender differences in physical attractiveness or cognitive dissonance theory, they would have been excluded for data analysis. However, none of the participants indicated the purpose of the study correctly. None of the participants indicated that they were not honest at all on this study. I excluded two participant who chose less than three on the honesty question from 1 = *not honest at all* to 5 = *very honest*. Most of the participants indicated that they thought we should to use their data. Eighteen of the participants indicated that I should not use their data. Nobody indicated that I should not use their data because they were not honest or had concerns about privacy, so I did not exclude any participants based on this question.

#### Manipulation Checks

I conducted a one-way ANOVA to determine whether the difference between the initial ratings of physical attractiveness of participants' partners were significantly different in the three conditions. The ratings of physical attractiveness in the physical attractiveness condition ( $M=5.75$ ,  $SD= .92$  [95%  $CI$  5.56, 5.94]), personality condition ( $M = 5.83$ ,  $SD= .93$  [95%  $CI$  5.64, 6.02]), and pure control condition ( $M = 5.72$ ,  $SD = 1.03$ ,

[95% *CI* 5.50, 5.94] were not significantly different,  $F(2, 273) = .34, p = .71, \eta^2 = .002$  [95% *CI* .000, .020].

I conducted a Mann-Whitney U test to determine whether people in the physical attractiveness condition ranked physical attractiveness higher than people in the personality condition. Mann-Whitney U test is a nonparametric test that is used to compare differences in two groups when the dependent variable is ordinal or continuous. The Mann-Whitney U test does not assume a normal distribution. The ranking in the personality condition (mean rank=5.15) was higher than the ranking in physical attractiveness condition (mean rank=2.98). Participants in the physical attractiveness condition ranked physical attractiveness as a more important trait than participants in personality condition (number 1 is the most important and number 7 is the least important). The Mann-Whitney U value was statistically significant,  $U=7295.00, p < .001$ .

For the short essay question on importance of traits, all the participants in the physical attractiveness and personality conditions wrote about what I wanted them to. That is, all the participants in the physical attractiveness condition wrote an essay about the importance of physical attractiveness and all the participants in the personality condition wrote an essay about the importance of kindness.

I averaged the ratings of the attractiveness of different faces and conducted an independent sample *t*-test to determine whether the differences between the ratings of physically attractive and unattractive faces was significant. For female faces, there was a significant difference between the ratings of physically attractive faces ( $M=3.32, SD=.54$  [95% *CI* 3.12, 3.51]) and physically unattractive faces ( $M=1.74, SD=.66$  [95% *CI* 1.50,

1.98]);  $t(62)=10.51$ ,  $d= 2.62$ ,  $p<.001$ . For male faces, the ratings of physically attractive faces ( $M=2.91$ ,  $SD=.64$  [95%  $CI$  2.75, 3.07]) and physically unattractive faces ( $M=1.81$ ,  $SD=.73$  [95%  $CI$  1.63, 2.00]) were also significantly different,  $t(120)=8.85$ ,  $d= 1.60$ ,  $p<.001$ . For both genders, participants rated faces in the physical attractiveness condition as more attractive than faces in the personality condition.

Across the two questions about changes to their partner's physical attractiveness, 71.1% of the participants in the physical attractiveness condition wrote about something they would change about their partner's face or body. That is, most of the participants indicated something on their partner's body that they were not satisfied or they wanted to change.

#### Ratings for Changing Attitudes

I ran a 2 (gender: male vs. female; between participants) x 3 (condition: physical attractiveness condition vs. personality condition vs. pure control condition; between participants) ANCOVAs, controlling for initial ratings of partner's attractiveness to determine whether gender and the condition participants were assigned to affected the methods participants used to reduce dissonance. The dependent variables were importance of partners' physical attractiveness in romantic relationship, the rating of partner's physical attractiveness at post-test, quality of alternatives, and level of commitment in current relationships. Bonferroni corrections were conducted to protect against Type I error. When there are multiple analyses conducted on the same dependent variable, the chance of having Type I error increases. In the study, there were four ANCOVAs on each dependent variable, so the Bonferroni corrected  $p$  value is .013.

Levene's test for equality of variance for each dependent variable was conducted because it tests homogeneity, which is an assumption for an ANCOVA test. Levene's test for equality of variance for rating of partner's physical attractiveness at post-test was not significant,  $F(2, 274) = .53, p = .71$ , which met the assumption for homogeneity of variance. Levene's test for equality of variance for importance of partner's physical attractiveness was not significant,  $F(2, 274) = .63, p = .96$ , which met the assumption for homogeneity of variance. Levene's test for equality of variance for quality of alternatives was not significant,  $F(2, 273) = .45, p = .43$ , which met the assumption for homogeneity of variance. Levene's test for equality of variance for level of commitment was not significant,  $F(2, 273) = .06, p = .19$ , which met the assumption for homogeneity of variance.

To test the hypothesis that women are more likely to change to believe that their partners are attractive than men in the physical attractiveness condition, the nine items assessing partner's physical attractiveness at the post-test were used as the dependent variable. The ratings of partners' physical attractiveness at the post-test for the three conditions were not significantly different,  $F(2, 269) = .16, p = .85, \eta^2 < .001$  [95% CI .000, .014]. Men rated their partners' physical attractiveness ( $M = 6.06, SD = .78$  [95% CI 5.90, 6.22]) as similarly to how women rated their partners' physical attractiveness ( $M = 5.51, SD = .99$  [95% CI 5.37, 5.66],  $F(1, 269) = 4.90, p = .028, \eta^2 = .004$  [95% CI .000, .061]). There was no interaction for gender and condition in the rating of partners' physical attractiveness at the post-test,  $F(2, 269) = .85, p = .43, \eta^2 = .002$  [95% CI .000, .022] (Table 1).

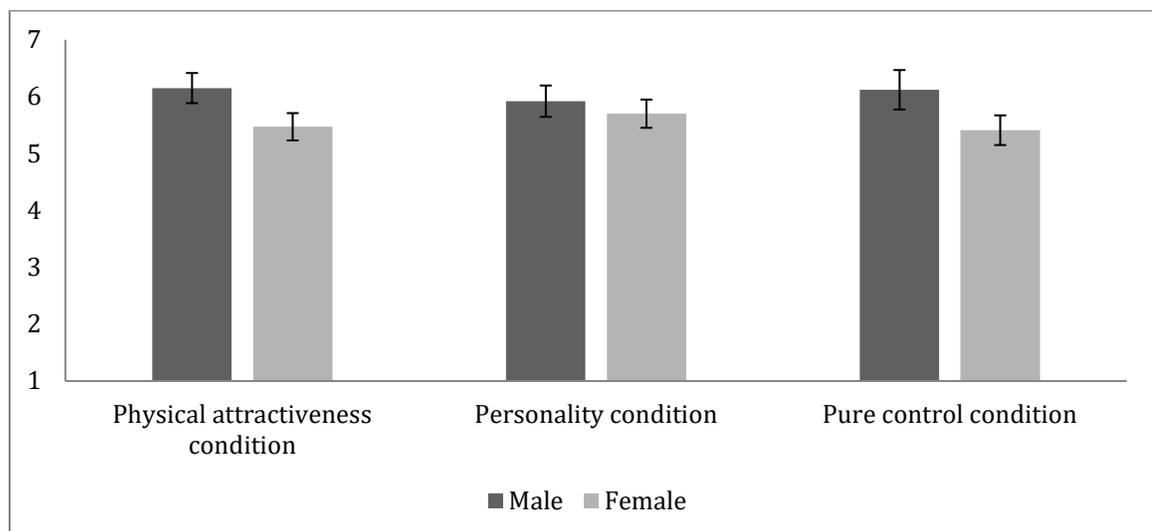
Table 1

*ANCOVA for Ratings of Partner's Physical Attractiveness at Post-test*

	<i>df</i>	<i>F</i>	<i>p</i>	$\eta^2$	95% <i>CI</i>
Main effect for condition	(2,269)	.16	.85	<.001	[.000, .014]
Main effect for gender	(1, 269)	4.90	.28	.004	[5.37, 5.66]
Interaction effect for condition x gender	(2, 269)	.85	.43	.002	[.000, .061]

Figure 1

*Ratings of Partner's Physical Attractiveness (Post-test) by Condition and Gender*



*Note: Error bars represent 95% confidence intervals.*

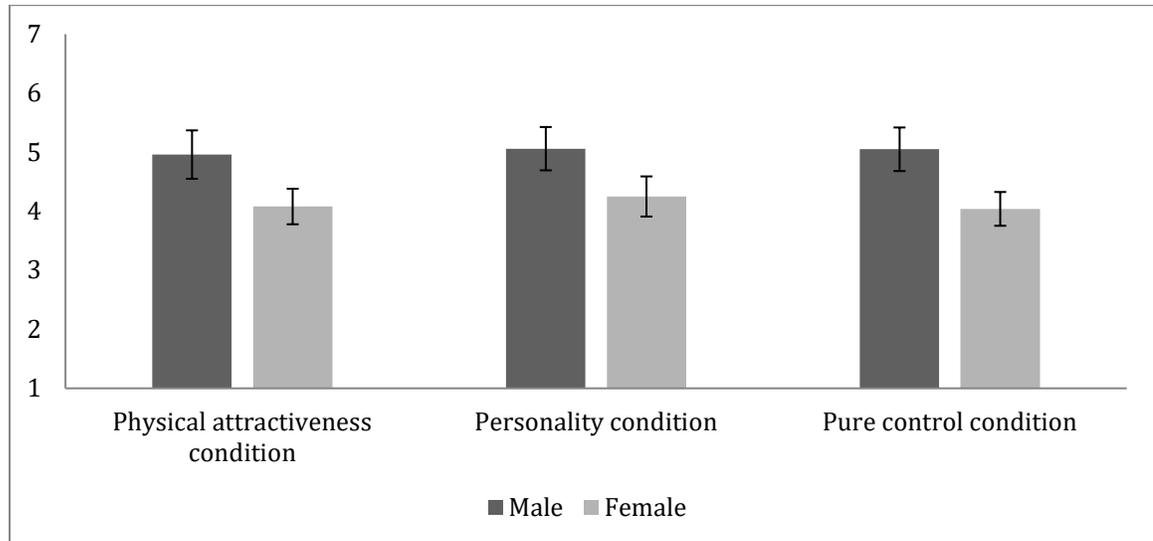
Next, to test the hypothesis that women will believe that their partner's physical attractiveness is less important than do men in the physical attractiveness conditions, I used the average score of all the items assessing importance of partner's physical attractiveness as the dependent variable. Importance of partner's physical attractiveness for the three conditions was not significantly different,  $F(2, 269) = .35, p = .71, \eta^2 = .002$  [95% CI .000, .021]. Men ( $M=5.02, SD=1.02$  [95% CI 4.81, 5.24]) rated partners' physical attractiveness as significantly more important than women did ( $M=4.11, SD=1.22$  [95% CI 3.93, 4.28]),  $F(1, 269) = 27.27, p < .001, \eta^2 = .086$  [95% CI .037, .162],. There was no interaction of gender and condition in the rating of partners' physical attractiveness,  $F(2, 269) = 0.99, p = .91, \eta^2 = .001$  [95% CI .000, .010] (Table 2).

Table 2

*ANCOVA for Rating of Importance of Partner's Physical Attractiveness*

	<i>df</i>	<i>F</i>	<i>p</i>	$\eta^2$	95% CI
Main effect for condition	(2, 269)	.35	.71	.002	[.000, .021]
Main effect for gender	(1, 269)	27.27	<.001	.086	[.037, .162]
Interaction effect for condition x gender	(2, 269)	.099	.91	.001	[.000, .010]

Figure 2

*Ratings of Importance of Partner's Physical Attractiveness by Condition and Gender*

*Note: Error bars represent 95% confidence intervals.*

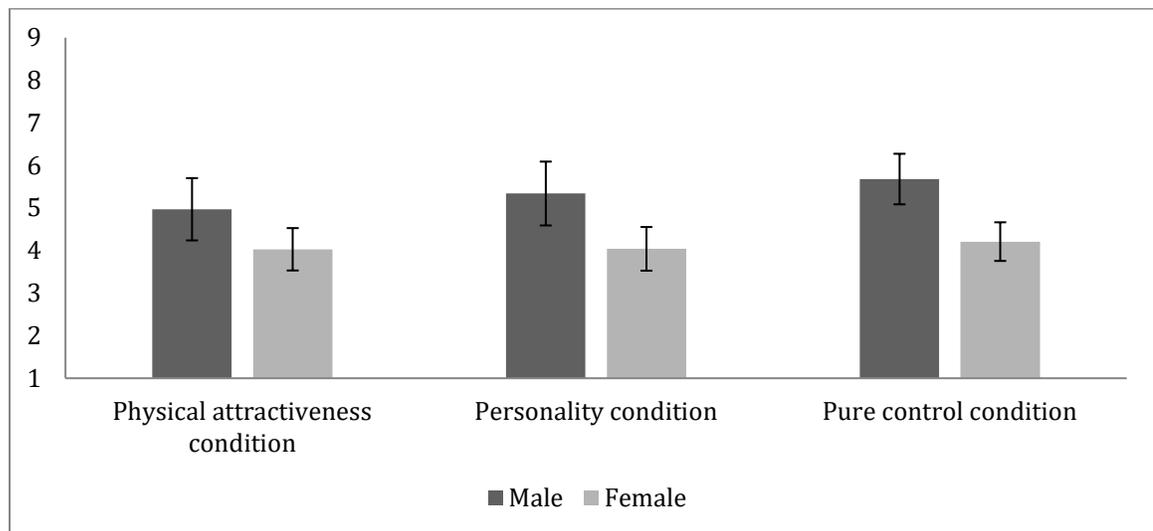
To test the hypothesis that men are more likely to report higher quality of alternatives to their relationship than will women in the physical attractiveness condition, I used the Quality of Alternatives global items as a dependent variable. The ratings of quality of alternatives for the three conditions were not significantly different,  $F(2, 268)=1.10, p=.34, \eta^2=.007$  [95% CI .000, .037]. Men ( $M=5.31, SD=1.91$  [95% CI 4.91, 5.71]) rated the quality of alternative significantly higher than women did ( $M=4.09, SD=1.92$  [95% CI 3.81, 4.37],  $F(1, 268)=32.23, p<.001, \eta^2=.105$  [95% CI .047, .180]). There was no interaction of gender and condition in the quality of alternatives,  $F(2, 268)=.38, p=.68, \eta^2=.002$  [95% CI .000, .022] (Table 3).

Table 3

*ANCOVA for Quality of Alternatives*

	<i>df</i>	<i>F</i>	<i>p</i>	$\eta^2$	95% CI
Main effect for condition	(2, 268)	1.10	.34	.007	[.000, .037]
Main effect for gender	(1, 268)	32.23	<.001	.105	[.047, .180]
Interaction effect for condition x gender	(2, 268)	.38	.68	.002	[.000, .022]

Figure 3

*Ratings of Quality of Alternatives by Condition and Gender*

*Note: Error bars represent 95% confidence intervals.*

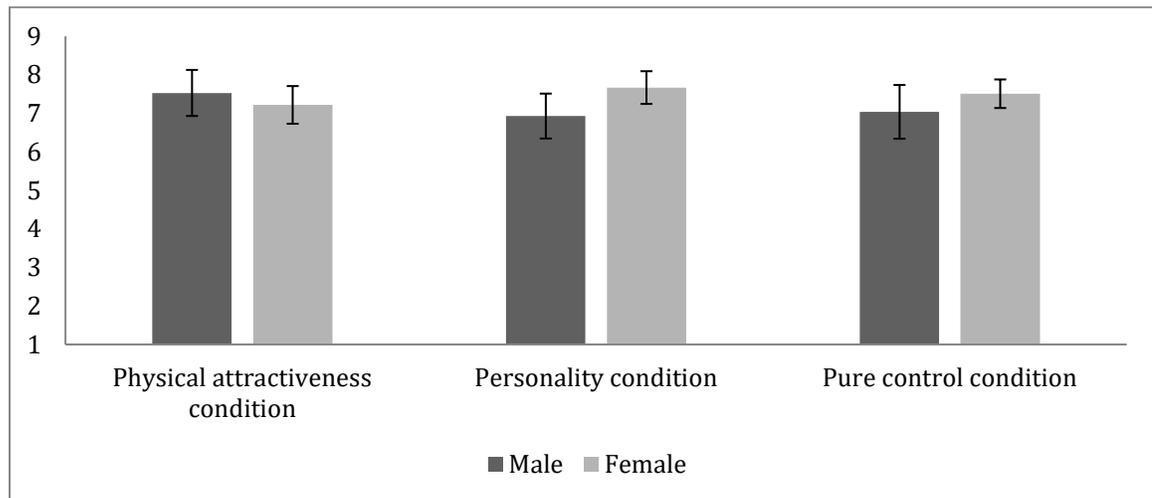
To test the hypothesis that men will report lower levels of commitment than will women in the physical attractiveness condition, I used the commitment scale as a dependent variable. The ratings of commitment for the three conditions were not significantly different,  $F(2,268)=1.07, p=.90, \eta^2=.001$  [95% CI .000, .011]. Women ( $M=7.46, SD=1.69$  [95% CI 7.21, 7.70]) rated their commitment level higher than men did ( $M=7.17, SD=1.67$  [95% CI 6.83, 7.52]) across all three conditions,  $F(1,268)=7.54, p=.006, \eta^2=0.024$  [95% CI .002, .076]. The interaction effect for condition and gender was not significant,  $F(2,270)=1.51, p=.22, \eta^2=.010$  [95% CI .000, .043] (Table 4).

Table 4

*ANCOVA for Level of Commitment*

	<i>df</i>	<i>F</i>	<i>p</i>	$\eta^2$	95% CI
Main effect for condition	(2, 268)	1.07	.90	.001	[.000, .011]
Main effect for gender	(1, 268)	7.54	.006	.024	[.002, .076]
Interaction effect for condition x gender	(2, 270)	1.51	.22	.010	[.000, .043]

Figure 4

*Ratings of Level of Commitment by Condition and Gender*

*Note: Error bars represent 95% confidence intervals.*

The results did not support my hypotheses. There were no interactions of gender and condition for the rating of partner's physical attractiveness at post-test, importance of partner's physical attractiveness, quality of alternatives, or level of commitment. Men and women did not differ in their methods of reducing cognitive dissonance caused by partners' physical attractiveness. However, men rated physical attractiveness as more important and reported higher quality of alternatives and less commitment than women (Table 5).

Table 5  
*Means by Gender (Dependent Variables)*

Variable	Male				Female			
	95% CI				95% CI			
	M	SD	LL	UL	M	SD	LL	UL
Attractiveness	6.06	.78	5.90	6.22	5.51	.99	5.37	5.66
Importance***	5.02	1.02	4.81	5.24	4.11	1.22	3.93	4.28
Alternatives***	5.31	1.91	4.91	5.71	4.09	1.92	3.81	4.37
Commitment**	7.17	1.67	6.83	7.52	7.46	1.69	7.21	7.70

*Note.* \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$  for the significance value of the gender differences

### Exploratory Analyses

For both men and women, the correlations between ratings of attractiveness, alternatives, and commitment were all significant, except for the correlation between partner's attractiveness and quality of alternatives (Table 6). I also separated data from men and women and examined correlations (Table 7). For women, the correlations between the ratings of attractiveness, alternatives, and commitment dependent variables were all significant. Men who rated their partner as more attractive had higher levels of commitment in current relationships. Men who reported lower quality of alternatives were more committed in current relationships. For both men and women, masculinity and femininity correlated with some of the other measures, including partner's attractiveness, importance of partner's attractiveness, quality of alternatives and level of commitment.

Females who had higher SES perceived their partner's physical attractiveness as more important. However, this effect was not found for male participants.

Table 6

*Correlations between Dependent Variables, SES, Masculinity and Femininity*

	Importance	Alternatives	Commitment	Masculinity	Femininity	SES
Attractiveness	.31**	-.10	.34**	.13*	.27**	.11
Importance		.25**	-.14*	.12*	-.04	.14*
Alternatives			-.51**	.17**	-.17**	.03
Commitment				.04	.26**	.02
Masculinity					-.00	.00
Femininity						.06

*Note.* \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 7

*Correlations between Dependent Variables, SES, Masculinity and Femininity by Gender*

	Attractive	Import	Alts	Commit	Masc	Femin	SES
Attractive		.17	-.09	.52**	.24*	.26*	.14
Importance	.28*		.20	.03	.25*	-.15	.11
Alternatives	-.23**	.16*		-.41**	.24*	-.13	-.08
Commitm	.33**	-.17*	-.55**		.10	.19	.15
Masculinity	.04	-.01	.08	.04		-.03	.05
Femininity	.31**	.03	-.16*	.28**	.03		.10
SES	.10	.16*	.09	-.05	-.02	.03	

*Note: Data above the diagonal are males, data below the diagonal are females*

*Abbreviation: Attractive=Attractiveness, Import=Importance, Alts=Alternatives,*

*Commit=Commitment, Masc= Masculinity, Femin=Femininity*

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

To examine whether SES and gender roles may affect the results, I did a second set of ANCOVAs, controlling for physical attractiveness at pretest, SES, masculinity, and femininity. The ratings of attractiveness for the three conditions were not significantly different,  $F(2, 248) = .31, p = .74, \eta^2 = .001$  [95% CI .000, .021]. Men ( $M = 6.06, SD = .78$ , [95% CI 5.90, 6.22]) tended to rate partner's physical attractiveness higher than women did ( $M = 5.51, SD = .99$ , [95% CI 5.37, 5.66]),  $F(1, 248) = 3.95, p = .048, \eta^2 = 0.004$  [95%

*CI* .000, .059]). There was no interaction of gender and condition in the rating of partner's physical attractiveness,  $F(2, 248) = .81, p = .45, \eta^2 = .002$  [95% *CI* .000, .034]. None of the covariates were statistically significant.

Using the importance of partner's physical attractiveness as dependent variable, there was also no effect of condition,  $F(2, 248) = .52, p = .60, \eta^2 = .004$  [95% *CI* .000, .028]. Men ( $M = 5.02, SD = 1.02$  [95% *CI* 4.81, 5.24]) rated the importance of partner's physical attractiveness higher than women did ( $M = 4.11, SD = 1.22$ , [95% *CI* 3.93, 4.28],  $F(1, 248) = 20.79, p < .001, \eta^2 = .070$  [95% *CI* .025, .147]). There was no interaction of gender and condition in the rating of importance of partner's physical attractiveness,  $F(2, 248) = .06, p = .99, \eta^2 < .001$  [95% *CI* .000, .002]. Socioeconomic status was a significant covariate,  $F(1, 248) = 4.18, p < .05, \eta^2 = .014$  [95% *CI* .000, .061].

Using quality of alternatives as dependent variable, there was also no effect of condition,  $F(2, 247) = 2.10, p = .13, \eta^2 = .015$  [95% *CI* .000, .056]. Men ( $M = 5.31, SD = 1.91$  [95% *CI* 4.91, 5.71]) rated quality of alternatives higher than women did ( $M = 4.08, SD = 1.91$  [95% *CI* 3.81, 4.36],  $F(1, 247) = 22.42, p < .001, \eta^2 = .083$  [95% *CI* .029, .154]). There was no interaction of gender and condition in the rating of quality of alternatives,  $F(2, 247) = .25, p = .78, \eta^2 = .002$  [95% *CI* .000, .019]. Masculinity was a significant covariate,  $F(1, 247) = 8.21, p < .01, \eta^2 = .028$  [95% *CI* .003, .086].

Using the rating of level of commitment as a dependent variable, there was also no effect of condition,  $F(2, 247) = .36, p = .70, \eta^2 = .003$  [95% *CI* .000, .023]. Men ( $M = 7.17, SD = 1.67$ , [95% *CI* 6.83, 7.52]) rated level of commitment lower than women did ( $M = 7.47, SD = 1.69$  [95% *CI* 7.23, 7.71],  $F(1, 247) = 6.21, p = .013, \eta^2 = .011$  [95%

*CI* .001, .074]). There was no interaction of gender and condition in the level of commitment,  $F(2, 247) = .71, p = .49, \eta^2 = .005$  [95% *CI* .000, .032]. Femininity was a significant covariate,  $F(1, 247) = 7.96, p < .01, \eta^2 = .027$  [95% *CI* .003, .085].

To examine whether how long the participants and their partners have been together, how much they were “in love” with their romantic partner, and participants’ ratings of their own physical attractiveness affected the results, I included these variables along with partner’s physical attractiveness at pretest, SES, masculinity, and femininity as covariates in a third set of ANCOVAs. Using the ratings of partner’s physical attractiveness as a dependent variable, there was no effect of condition,  $F(2, 234) = .43, p = .65, \eta^2 = .003$  [95% *CI* .000, .025]. Men and women were not significantly different in the ratings of partner’s physical attractiveness,  $F(1, 234) = 2.51, p = .14, \eta^2 = .011$  [95% *CI* .000, .048]. There was no interaction of gender and condition in rating of partners’ physical attractiveness,  $F(2, 234) = .38, p = .68, \eta^2 = .003$  [95% *CI* .000, .024]. The ratings of participants’ own physical attractiveness was a significant covariate,  $F(1, 247) = 3.92, p = .012, \eta^2 = .004$  [95% *CI* .000, .062].

Using the ratings of importance of partner’s physical attractiveness as a dependent variable,  $F(2, 234) = 1.00, p = .37, \eta^2 = .009$  [95% *CI* .000, .038], there was no effect of condition. Men rated the importance of partner’s physical attractiveness higher than women did,  $F(1, 234) = 14.28, p < .001, \eta^2 = .060$  [95% *CI* .013, .118]. There was no interaction of gender and condition in the importance of partner’s physical attractiveness,  $F(2, 234) = .24, p = .79, \eta^2 = .002$  [95% *CI* .000, .019]. The rating of participants’ own

physical attractiveness,  $F(1, 234) = 17.51, p < .001, \eta^2 = .057$  [95% CI .020, .139], was a significant covariate.

Using the quality of alternatives as a dependent variable,  $F(2, 233) = 2.42, p = .09, \eta^2 = .018$  [95% CI .000, .064], there was no effect of condition. Men had higher quality of alternatives than women did,  $F(1, 233) = 17.43, p < .001, \eta^2 = .069$  [95% CI .020, .139]. There was no interaction of gender and condition in quality of alternatives,  $F(2, 235) = .18, p = .84, \eta^2 = .002$  [95% CI .000, .017]. Masculinity,  $F(1, 233) = 9.60, p = .002, \eta^2 = .029$  [95% CI .005, .099] and how much participants were “in love” with their romantic partner,  $F(1, 233) = 36.46, p < .001, \eta^2 = .112$  [95% CI .064, .217] were significant covariates.

Using the level of commitment in three conditions were not significantly different,  $F(2, 233) = .43, p = .65, \eta^2 = .004$  [95% CI .000, .027], there was no effect on condition. Men tended to rate the importance of partner’s physical attractiveness higher than women did,  $F(1, 233) = 4.20, p = .042, \eta^2 = .018$  [95% CI .000, .064]. There was no interaction of gender and condition in level of commitment,  $F(2, 233) = .82, p = .44, \eta^2 = .006$  [95% CI .000, .036]. How much participants were “in love” with their romantic partner was a significant covariate,  $F(1, 233) = 98.49, p < .001, \eta^2 = .238$  [95% CI .204, .383].

## CHAPTER 4

### DISCUSSION

Our manipulations were effective, in that participants in the physical attractiveness condition ranked physical attractiveness as a more important characteristic than did participants in the personality condition, and participants in the physical attractiveness condition also discussed why physical attractiveness was important in their essays. In addition, participants in the physical attractiveness condition rated the attractive faces as more attractive than the unattractive faces that participants in the personality condition rated. Most of the participants in the physical attractiveness condition also wrote about what they wanted to change about their partners' physical attractiveness. However, despite these manipulations, there were no differences by condition in how people rated their partners. That is, the dissonance condition did not result in a change in attitudes toward physical attractiveness for women, or a change in anticipated attitudes toward looking for alternative relationships or leaving their current partners for men as I predicted.

The results did not support my hypotheses that men and women would reduce cognitive dissonance caused by importance of partner's physical attractiveness differently. These null findings could be due to several things. First, there was no direct evidence that participants felt or responded to dissonance. It is possible that 20 minutes was not long enough to properly induce dissonance about one's relationship. In this study, I did not directly measure whether participants felt dissonance. In order to measure whether they felt dissonance, I needed to measure their level of arousal, which could be measured by

physiological measurement such as heart rate. However, there would still be issues with that assessment, as they could feel arousal for a number of other reasons besides dissonance (e.g., attraction to the faces they rated).

Second, it is possible that participants were aware that partners' physical attractiveness is important and their partners are not very attractive, but that they reduced any dissonance in a different way (e.g., by decreasing the importance of the discrepancy; reaffirming their partner's attractiveness) than those I measured. For example, participants could have reduced the dissonance by saying that their partner is perfect when asked about what they would change about their partner's looks. In fact, twenty-nine percent of participants in the physical attractiveness condition indicated that they would not change anything about their partner's physical attractiveness. The results, however, were essentially the same with or without those people included.

Third, participants could also add a new cognition to reduce the dissonance. For example, participants could believe that their partner is kind so they want to stay with their partner or believe that personality is more important in a romantic relationship. In this way, it is not necessary to change their original attitudes, but they could still reduce the cognitive dissonance caused by thinking about the importance of partner's physical attractiveness.

Fourth, participants may have already resolved their cognitive dissonance caused by their partner's physical attractiveness prior to taking the study. Most of the participants had been in their current relationship for a while. When they first got together with their current partner, they may have experienced cognitive dissonance

caused by their partner's physical attractiveness. They might have tried to reduce the dissonance by either changing their attitude toward their partner or relationship. Thus, participants might have already changed their attitudes to believe that physical attractiveness is not very important or their partner is attractive and showed no effects due to my manipulations. For example, people tend to have positive illusions about their partners (Murray, Holmes, Dolderman, & Griffin, 2000). Participants may perceive their partner as more attractive than an objective rating of partner's physical attractiveness (Barelds, Dijkstra, Koudenburg, & Swami, 2011). The perception of partner's physical attractiveness can also be affected by other factors. For example, people's perception toward one's personality can also affect their perception toward that person's physical attractiveness. People who received a favorable description of their personality were perceived to be more attractive (Gross & Crofton, 1977). Perceptions of one's ability also affect the perception of that person's physical attractiveness (Felson & Bohrnstedt, 1979). In this study, it was possible that participants have already reduced dissonance by seeing their partners as physically attractive, whether they were or not. At the beginning of the study, the average rating of partner's physical attractiveness was 5.62, which was above the mean on a 7-point scale. Thus participants already rated their partners as more attractive than the average person.

Fifth, people may attribute the arousal caused by the importance of partner's physical attractiveness to something else, such as their attraction to the faces they rated. According to the two-factor theory of emotion (Schachter & Singer, 1962), emotion is based on physiological arousal and cognitive label. When people feel an emotion, they

may use their environment to search for cues of the cause of the emotion or cues on how to label the emotion. In this way, sometime people may misattribute their arousal to something else. Because people rated faces in the study, the faces may be an external stimulus that is easy to think of when they search for a reason for their arousal. Thus, participants might misattribute their dissonance-induced arousal to attraction to the faces they viewed or to guilt over rating how attractive others are when they are in a relationship.

Sixth, participants may not have differed in their dissonance reduction strategies due to the unreality of the manipulations in the study. The current study might not be realistic because I primed participants with the importance of physical attractiveness to lead participants in the physical attractiveness condition to say that physical attractiveness is important and because the consequences of their actions (written essay, rating scales) were not great. In some classic studies of cognitive dissonance, the manipulations were more realistic. For example, in Festinger and Carlsmith's (1959) study, participants were given either \$1 or \$20 of real money, which may create a stronger cognitive dissonance and lead participants to have more intentions to reduce the dissonance. In Zimbardo's (1965) classic study of cognitive dissonance, the participants were members of an army reserve unit, and study was done in a real-life situation. It was a realistic study also because participants were given real grasshoppers to eat and interacted with actual officers instead of simply imagining themselves eating grasshoppers and meeting officers. In my study, the manipulations may not have been as

impactful as participants were just reading things and answering question on a computer screen.

Finally, participants may be less likely to use behavioral methods to reduce dissonance with their relationships. While it may be easy to leave a study or say that one will use condoms more frequently, leaving a romantic partner has costs. Leaving a current partner may make people feel lonelier, and it is possible that people may not be able to find a better partner. The cost of leaving their current relationship can make people less likely to look for alternatives or leave their current relationship when they experience cognitive dissonance caused by partner's physical attractiveness.

There also might not be any gender differences in methods of reducing cognitive dissonance. Although men believe that their partner's physical attractiveness is more important than women do, this does not necessarily suggest that men's attitudes related to their partners' physical attractiveness are harder to change than women's attitudes. Changing attitudes towards importance of partner's attractiveness or perception of partner's attractiveness might be easy, but changing behavioral attitudes such as intentions to leave their partner may be harder. The quality of alternatives and level of commitment in relationships may depend on different factors, such as the satisfaction in the relationship. Although I tried to control for some potential confounds in this study, there may still be other variables that may affect people's decisions. Thus, it could be that men and women are all willing to make changes to reduce dissonance when it is induced, but that they do not differ in the methods of changes.

### Gender Differences in Relationship Attitudes

Consistent with previous research (Feingold, 1990), men rated physical attractiveness as more important than women did. In addition, men rated their own quality of alternatives higher and their level of commitment lower in their current romantic relationships than did women. Men also tended to rate partner's physical attractiveness higher than women did. The finding that men reported higher quality of alternatives and less commitment in their relationships than women did may be due to different mating strategies between men and women. Men may be more interested in short-term relationships and more promiscuous, whereas women are more interested in long-term relationships (Buss & Schmitt, 1993), supporting evolutionary psychology predictions (Buss, 1989).

Socioeconomic status (SES), masculinity, and femininity did not affect the methods people used to reduce the cognitive dissonance caused by their partner's physical attractiveness. However, SES was positively correlated with the importance of physical attractiveness for women. This finding is consistent with previous research suggesting that women who have a higher SES are more likely to focus on their partner's physical attractiveness (e.g., March & Bramwell, 2012). Masculinity also affected people's ratings of their partner's physical attractiveness, with people who were more masculine rating their partner as more attractive. People who reported a more feminine gender role reported lower quality of alternatives. According to social role theory (Eagly, 1987; Eagly & Wood, 1999), men and women have different social roles. Men tend to go out and earn money, so they focus on their partner's physical attractiveness as an

exchange of social role. When women have higher SES, however, they too may focus more on their partner's physical attractiveness as an exchange. More masculine participants may exchange these traits with the attractiveness of their partner, so they find their partners to be more attractive. Finally, participants with a more feminine gender role may not be assertive so they may perceived themselves as having lower quality of alternatives.

The contrast effect (Kenrick & Gutierrez, 1980) suggests that people tend to rate average people as less attractive after being exposed to attractive people. On the other hand, after being exposed to unattractive people, people tend to rate average people as more attractive. Women are less likely to be affected by the contrast effect (Kenrick, Gutierrez, & Goldberg, 1989). According to the contrast effect, one would expect that participants, and especially men, who rated attractive faces would rate their partner as less attractive at the post-test than participants who rated unattractive faces. In the current study, participants who were exposed to attractive faces did not differ from participants who were exposed to unattractive faces on their ratings of their partner's physical attractiveness, controlling for partner's initial physical attractiveness. My results did not support the contrast effect. In Kenrick et al.'s study, participants rated a stranger's physical attractiveness; however, participants in this study rated their own romantic partner's physical attractiveness and participants rated their partner initially as more physically attractive than an average person. They already were biased towards their partner's attractiveness, so it may be different from rating a stranger's physical

attractiveness. Participants might find their partner attractive regardless of the physical attractiveness of the faces that they rated.

#### Limitations and Ideas for Future Research

The study has several limitations. The participants were all undergraduate students. The ages of the participants were not representative of the general population because most of the students were around age of 18-19 years old. However, I chose to use undergraduate participants because most of the participants at these ages were in dating relationships. They may be less committed to their current relationship than people who are engaged or married. Thus, their attitudes and behaviors toward their partner's physical attractiveness or their current relationships may be easier to change. Older couples might be a more conservative test of dissonance reduction strategies for partner's physical attractiveness. Older couples may be more committed to their current relationships and have lower quality of alternatives compared to college students. In addition, older couples may have more costs in leaving their current partner because they may have invested more in their current relationship (e.g., invested more money, have children).

Second, the current study's power analysis suggested that 300 to over 1000 participants were needed for adequate power. My goal was to get at least 300 participants, but there were only 277 participants in the study after cleaning the data, making the study at least slightly underpowered. The fact that the effect sizes in the study tended to be extremely small suggests that the upper limits of my power analysis were probably correct, and that in fact my study was extremely underpowered. There were also fewer

male participants than female participants due to there being more female students in Introduction to Psychology classes. In the future, it would be advantageous to include more participants, especially male participants.

Third, the relatively low inter-rater reliabilities of the short essay question about importance of partner's physical attractiveness and the questions about changing partner's physical attractiveness might also be a limitation of this study. The raters differed in gender and ethnicity and may have had different standards for rating the answers, although they were given the same scales for rating. However, this may not have had much effect on the study because these items were used as manipulations rather than as dependent variables. Most of the participants indicated that physical attractiveness was important and noted something they would change about their partner's physical attractiveness.

Finally, in this study, I did not measure perceived control or self-efficacy (Bandura, 1997), which may also affect the methods used to reduce cognitive dissonance caused by their partner's physical attractiveness. I found no previous literature on perceived control and ratings of partner's physical attractiveness. However, people who have a higher perceived control or self-efficacy are more likely to believe that they can successfully control their own behaviors to produce the outcome that they want (Bandura, 1997). Thus, in this study, people who have higher perceived control may have been more likely to change either their attitudes or behaviors to reduce dissonance compared to people who have lower perceived control.

Future research should also examine other ways to manipulate physical attractiveness (e.g., asking a friend to comment on their partner's physical attractiveness) instead of reminding participants that their partners are not attractive by rating faces or thinking about what they want to change about their partner's look. A way to implement asking a friend to comment on their partner's physical attractiveness could be by asking a friend to say something like "Why do you date this person? He is not attractive." This could be a better manipulation because it is more realistic and people generally care about friends' opinions, although there are potential ethical concerns with this procedure.

Videos might also be a more powerful manipulation because videos may show more details of the people's appearance from different angles. It would also be better to create a longitudinal study and study people's attitude and behaviors of mate selection before they get a romantic partner and track their attitude and behavior changes after they have a romantic partner.

Another way to better assess the effects of dissonance in relationships would be to only study those participants who do show signs of cognitive dissonance. This could be assessed by using physiological measures (e.g., heart rate or galvanic skin response) to show which participants demonstrate the increased physiological arousal indicative of cognitive dissonance (Croyle & Cooper, 1983). However, rating physical attractiveness of faces could also cause arousal through attraction, making this a less than perfect measure in this situation.

In addition, although there was a personality condition in this study, that group was only used as a comparison group. In a future study, it would be possible to

investigate whether people would develop cognitive dissonance caused by the importance of partners' certain personality traits (e.g., kindness), in romantic relationships. For example, people may hold the opinion that their partner's kindness is important in a romantic relationship, but their partners are not very kind in general or they may have done something not very kind recently. It would also be interesting to explore whether the methods people use to reduce the dissonance caused by the importance of a personality is similar to methods used to reduce it for the importance of physical attractiveness.

#### Implications for Theory

This study tested a new way to apply cognitive dissonance theory in romantic relationships compared to past research which focused on transgressions in romantic relationships. Cognitive dissonance theory suggests that people will try to change attitudes or behaviors to reduce arousal when they experience cognitive dissonance. Because the results of the study were not significant, it may suggest that people may not feel it was necessary to change either attitudes or behaviors when they experience cognitive dissonance. In addition, the dissonance that participants experienced in this study might be small, so people did not feel it was necessary to reduce it. This study suggests that the need to reduce dissonance may depend on the intensity of cognitive dissonance people experience. When the intensity of dissonance is low, people may be less likely to make changes to reduce the dissonance. In addition, it is likely that people reduce the dissonance prior to taking the study. If that is the case, it may suggest that people still reduce dissonance caused by the importance of partner's physical

attractiveness. It may also suggest that people tend to reduce dissonance at an early time after they experience it.

### Conclusions

The study did not find any gender difference in dissonance reduction methods. Men were not more likely to intend to find a new partner or be less committed to their current relationships than women. This finding could give people (especially women) a sense of security. On the other hand, the study also showed that men rated physical attractiveness as more important, their quality of alternatives as higher, and their commitment to their current relationship lower, which may not provide women with a sense of security. The gender differences found in this study might be caused by gender differences in mating strategies. Men are more likely to engage in short-term relationships, whereas women are more likely to engage in long-term relationships (Buss & Schmitt, 1993).

In conclusion, men and women did not differ in the way of reducing dissonance caused by the importance of their partner's physical attractiveness. However, it is not clear from this study whether that is because they did not experience cognitive dissonance or because they do not differ in their methods of reducing dissonance.

## REFERENCES

- Archer, J. (1996). Sex differences in social behavior: Are the social role and evolutionary explanations compatible?. *American Psychologist*, *51*, 909-917. doi:10.1037/0003066X.51.9.909
- Aronson, E. (1969). The theory of cognitive dissonance: A current perspective. *Advances in Experimental Social Psychology*, *4*, 1-34. doi: 10.1016/S0065-2601(08)600751
- Aronson, E., & Carlsmith, J. M. (1963). Effect of the severity of threat on the devaluation of forbidden behavior. *The Journal of Abnormal And Social Psychology*, *66*, 584-588. doi:10.1037/h0039901
- Aronson, E., Fried, C., & Stone, J. (1991). Overcoming denial and increasing the intention to use condoms through the induction of hypocrisy. *American Journal of Public Health*, *81*, 1636-1638.
- Aronson, E., & Mills, J. (1959). The effect of severity of initiation on liking for a group. *The Journal of Abnormal and Social Psychology*, *59*, 177-181. doi:10.1037/h0047195
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: Freeman.
- Barelds, D. H., Dijkstra, P., Koudenburg, N., & Swami, V. (2011). An assessment of positive illusions of the physical attractiveness of romantic partners. *Journal of Social and Personal Relationships*, *28*, 706-719. doi:10.1177/0265407510385492
- Bem, S. L. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology*, *42*, 155-162. doi:10.1037/h0036215
- Berscheid, E., Dion, K., Walster, E., & Walster, G. W. (1971). Physical attractiveness and dating choice: A test of the matching hypothesis. *Journal of Experimental Social Psychology*, *7*, 173-189. doi:10.1016/0022-1031(71)90065-5
- Buss, D. M. (1989). Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures. *Behavioral And Brain Sciences*, *12*, 1-49. doi:10.1017/S0140525X00023992
- Buss, D. M., Abbott, M., Angleitner, A., Asherian, A., Biaggio, A., Blanco-Villasenor, A., ... & El Lohamy, N. (1990). International preferences in selecting mates a study of 37 cultures. *Journal of Cross-Cultural Psychology*, *21*, 5-47.

- Buss, D. M., & Schmitt, D. P. (1993). Sexual strategies theory: an evolutionary perspective on human mating. *Psychological Review*, *100*, 204-232. doi: 10.1037/0033-295X.100.2.204
- Cameron, J. J., Ross, M., & Holmes, J. G. (2002). Loving the one you hurt: Positive effects of recounting a transgression against an intimate partner. *Journal of Experimental Social Psychology*, *38*, 307-314. doi:10.1006/jesp.2001.1506
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Earlbaum Associates.
- Cooper, J., & Fazio, R. H. (1984). A new look at dissonance theory. *Advances in Experimental Social Psychology*, *17*, 229-266. doi: 10.1016/S0065-2601(08)60121-5
- Croyle, R. T., & Cooper, J. (1983). Dissonance arousal: Physiological evidence. *Journal of Personality and Social Psychology*, *45*, 782-791. doi: 10.1037/0022-3514.45.4.782
- Dion, K., Berscheid, E., & Walster, E. (1972). What is beautiful is good. *Journal of Personality and Social Psychology*, *24*, 285-290. doi:10.1037/h0033731
- Eagly, A. H. (1987). *Sex differences in social behavior: A social-role interpretation*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Eagly, A. H., & Wood, W. (1999). The origins of sex differences in human behavior: Evolved dispositions versus social roles. *American Psychologist*, *54*, 408-423. doi:10.1037/0003066X.54.6.408
- Eastwick, P. W., Eagly, A. H., Glick, P., Johannesen-Schmidt, M. C., Fiske, S. T., Blum, A... Volpato, C. (2006). Is traditional gender ideology associated with sex-type mate preferences? A test in nine nations. *Sex Roles*, *54*, 603-614. doi:10.1007/s11199006-9027-x
- Ellis, B. J., & Kelley, H. H. (1999). The pairing game: A classroom demonstration of the matching phenomenon. *Teaching of Psychology*, *26*, 118-121. doi:10.1207/s15328023top2602\_8
- Fales, M. R., Frederick, D. A., Garcia, J. R., Gildersleeve, K. A., Haselton, M. G., & Fisher, H. E. (2016). Mating markets and bargaining hands: Mate preferences for attractiveness and resources in two national U.S. Studies. *Personality And Individual Differences*, *88*, 78-87. doi:10.1016/j.paid.2015.08.041

- Feingold, A. (1990). Gender differences in effects of physical attractiveness on romantic attraction: A comparison across five research paradigms. *Journal of Personality and Social Psychology*, *59*, 981-993. doi:10.1037/0022-3514.59.5.981
- Feingold, A. (1992). Good-looking people are not what we think. *Psychological Bulletin*, *111*, 304-341. doi:10.1037/0033-2909.111.2.304
- Felson, R. B., & Bohrnstedt, G. W. (1979). " Are the Good Beautiful or the Beautiful Good?" The Relationship Between Children's Perceptions of Ability and Perceptions of Physical Attractiveness. *Social Psychology Quarterly*, *42*, 386-392.
- Festinger, L. (1957). *A theory of cognitive dissonance*. Stanford, CA: Stanford University Press.
- Festinger, L., & Carlsmith, J. M. (1959). Cognitive consequences of forced compliance. *The Journal of Abnormal and Social Psychology*, *58*, 203-210. doi:10.1037/h0041593
- Foster, J. D., & Misra, T. A. (2013). It did not mean anything (about me): Cognitive dissonance theory and the cognitive and affective consequences of romantic infidelity. *Journal of Social and Personal Relationships*, *30*, 835-857. doi:10.1177/0265407512472324
- Gardner, K. A. (2005). *Cognitive dissonance as an explanation for relationship satisfaction in long distance relationships* (Doctoral dissertation, Iowa State University, Ames). Retrieved from <http://lib.dr.iastate.edu/cgi/viewcontent.cgi?article=2728&context=rtid>
- Gross, A. E., & Crofton, C. (1977). What is good is beautiful. *Sociometry*, *40*, 85-90. doi: 10.2307/3033549
- Harmon-Jones, E. (2000). Cognitive dissonance and experienced negative affect: Evidence that dissonance increases experienced negative affect even in the absence of aversive consequences. *Personality and Social Psychology Bulletin*, *26*, 1490-1501. doi:10.1177/01461672002612004
- Kaplar, M. E., & Gordon, A. K. (2004). The enigma of altruistic lying: Perspective differences in what motivates and justifies lie telling within romantic relationships. *Personal Relationships*, *11*, 489-507. doi:10.1111/j.1475-6811.2004.00094.x
- Kenrick, D. T., & Gutierrez, S. E. (1980). Contrast effects and judgments of physical attractiveness: When beauty becomes a social problem. *Journal of Personality and Social Psychology*, *38*, 131-140. doi:10.1037/0022-3514.38.1.131

- Kenrick, D. T., Gutierrez, S. E., & Goldberg, L. L. (1989). Influence of popular erotica on judgments of strangers and mates. *Journal of Experimental Social Psychology*, 25, 159-167. doi: 10.1016/0022-1031(89)90010-3
- Kenrick, D. T., & Keefe, R. C. (1992). Age preferences in mates reflect sex differences in human reproductive strategies. *Behavioral and Brain Sciences*, 15, 75-133. doi:10.1017/S0140525X00067595
- Langlois, J. H., Kalakanis, L., Rubenstein, A. J., Larson, A., Hallam, M., & Smoot, M. (2000). Maxims or myths of beauty? A meta-analytic and theoretical review. *Psychological Bulletin*, 126, 390-423. doi:10.1037/0033-2909.126.3.390
- Ma, D. S. Correll, J. & Wittenbrink, B. (2015). The Chicago Face Database: A Free Stimulus Set of Faces and Norming Data. *Behavior Research Methods*, 47, 1122-1135.
- Malach Pines, A. (2001). The role of gender and culture in romantic attraction. *European Psychologist*, 6, 96-102. doi:10.1027//1016-9040.6.2.96
- March, E., & Bramwell, A. (2012). Sex differences in mate preferences in Australia: Exploring evolutionary and social-economic theories. *Journal of Relationships Research*, 3, 18-23. doi: 10.1017/jrr.2012.3
- March, E., & Grieve, R. (2014). Sex differences and mate preferences: Contributions and interactions of gender roles and socio-economic status. *Sensoria: A Journal of Mind, Brain & Culture*, 10, 34-42. doi: 10.7790/sa.v10i2.410
- McNulty, J. K., Neff, L. A., & Karney, B. R. (2008). Beyond initial attraction: Physical attractiveness in newlywed marriage. *Journal of Family Psychology*, 22, 135-143. doi:10.1037/0893-3200.22.1.135
- Moore, F. R., & Cassidy, C. (2007). Female status predicts female mate preferences across nonindustrial societies. *Cross-Cultural Research*, 41, 66-74. doi:10.1177/1069397106294860
- Moore, F. R., Cassidy, C., & Perrett, D. I. (2010). The effects of control of resources on magnitudes of sex differences in human mate preferences. *Evolutionary Psychology*, 8, 720-735. doi: 10.1177/147470491000800412
- Murray, S. L., Holmes, J. G., Dolderman, D., & Griffin, D. W. (2000). What the motivated mind sees: Comparing friends' perspectives to married partners' views of each other. *Journal of Experimental Social Psychology*, 36, 600-620. doi:10.1006/jesp.1999.1417

- Nel, E., Helmreich, R., & Aronson, E. (1969). Opinion change in the advocate as a function of the persuasibility of his audience: A clarification of the meaning of dissonance. *Journal of Personality and Social Psychology*, *12*, 117-124. doi:10.1037/h0027566
- Rusbult, C. E., Martz, J. M., & Agnew, C. R. (1998). The Investment Model Scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships*, *5*, 357-391. doi:10.1111/j.14756811.1998.tb00177.x
- Sangrador, J. L., & Yela, C. (2000). 'What is beautiful is loved': Physical attractiveness in love relationships in a representative sample. *Social Behavior and Personality: an International Journal*, *28*, 207-218. doi:10.2224/sbp.2000.28.3.207
- Schachter, S., & Singer, J. (1962). Cognitive, social, and physiological determinants of emotional state. *Psychological Review*, *69*, 379-399. doi: 10.1037/h0046234
- Shackelford, T. K. (2001). Self-esteem in marriage. *Personality and Individual Differences*, *30*, 371-390. doi:10.1016/S0191-8869(00)00023-4
- Shackelford, T. K., Schmitt, D. P., & Buss, D. M. (2005). Universal dimensions of human mate preferences. *Personality And Individual Differences*, *39*, 447-458. doi:10.1016/j.paid.2005.01.023
- Simon, L., Greenberg, J., & Brehm, J. (1995). Trivialization: the forgotten mode of Dissonance reduction. *Journal of Personality and Social Psychology*, *68*, 247-260. doi:10.1037/00223514.68.2.247
- Simmons, J. P., Nelson, L. D., & Simonsohn, U. (2013). *Life after p-hacking*. Meeting of the Society for Personality and Social Psychology, New Orleans, LA, 17-19 January 2013. Available at <http://dx.doi.org/10.2139/ssrn.2205186>
- Simpson, J. A., Gangestad, S. W., & Lerma, M. (1990). Perception of physical attractiveness: Mechanisms involved in the maintenance of romantic relationships. *Journal of Personality and Social Psychology*, *59*, 1192-1201. doi:10.1037/00223514.59.6.1192
- Sprecher, S., Sullivan, Q., & Hatfield, E. (1994). Mate selection preferences: gender Differences examined in a national sample. *Journal of Personality and Social Psychology*, *66*, 1074. doi:10.1037/0022-3514.66.6.1074

- Snyder, M., Tanke, E. D., & Berscheid, E. (1977). Social perception and interpersonal behavior: On the self-fulfilling nature of social stereotypes. *Journal of Personality and Social Psychology*, *35*, 656-666. doi:10.1037/0022-3514.35.9.656
- Trivers, R. (1972). Parental investment and sexual selection. *Sexual Selection & the Descent of Man*, Aldine de Gruyter, New York, 136-179
- Walster, E., Aronson, V., Abrahams, D., & Rottman, L. (1966). Importance of physical attractiveness in dating behavior. *Journal of Personality and Social Psychology*, *4*, 508-516. doi:10.1037/h0021188
- White, G. L. (1980). Physical attractiveness and courtship progress. *Journal of Personality and Social Psychology*, *39*, 660-668. doi:10.1037/0022-3514.39.4.660
- Zimbardo, P. G. (1965). The effect of effort and improvisation on self-persuasion reduced by role-playing. *Journal of Experimental Social Psychology*, *1*, 103-120. doi:10.1016/0022-1031(65)90039-9

## APPENDIX A

## DEMOGRAPHIC AND ADDITIONAL QUESTIONS

Questions about Relationships:

How much would you say you are “in love” with your partner?

0 1 2 3 4 5 6 7 8

Not at all

Very

much

How would you describe your relationship?

Casual relationship

Serious relationship

Engaged

Married

Partnered but not married

Other

How long have you been dating your partner?

Less than one month

One month to 6 months

6 months to a year

1-2 years

2-3 years

3-4 years

4-5 years

More than 5 years

About how many casual relationships have you been in?

About how many serious relationships have you been in?

How long was/is your longest relationship?

Less than one month

One month to 6 months

6 months to a year

1-2 years

2-3 years

3-4 years

4-5 years

more than 5 years

On a scale from 1 (not at all physically attractive) to 10 (extremely physically attractive), where would you rate yourself? Be honest--no one will know how you respond.

1    2    3    4    5    6    7    8    9    10

Demographic Questions:

What is your age?

What is your gender? (Cisgender means that your gender identity aligns with the sex that you were assigned at birth.)

Cisgender male

Cisgender female

Transgender male

Transgender female

Gender not listed

What is **your partner's gender?**

Male (cisgender or transgender)

Female (cisgender or transgender)

Gender not listed

What is your race/ethnicity? Check all that apply.

White/Caucasian

Black/African American

Hispanic/Latino

Native American/American Indian

Asian

Pacific islander

Other

What is your political orientation?

Extremely Liberal

Moderately Liberal

Slightly Liberal

Moderate

Slightly Conservative

Moderately Conservative

Extremely Conservative

What is your class (year) in college?

Freshman

Sophomore

Junior

Senior

Graduate Student

Other

## APPENDIX B

## SOCIOECONOMIC STATUS LADDER

A. Imagine that this ladder shows how your society is set up.

- At the top of the ladder are the people who are the best off – they have the most money, the highest amount of schooling, and the jobs that bring the most respect.
- At the bottom are people who are the worst off – they have the least money, little or no education, no jobs or jobs that no one wants or respects.

Now think about your family. Please tell us where you think your family would be on this ladder. **Place an 'X' on the rung that best represents where your family would be on this ladder.**



## APPENDIX C

## BEM SEX-ROLE INVENTORY

Please rate yourself on each item, on a scale from never or almost never true to almost always true.

Never (1)      Rarely (2)      Sometimes (3)      Often (4)      Always (5)

Affectionate

Warm

Compassionate

Gentle

Tender

Sympathetic

Sensitive to needs of others

Soothes hurt feelings

Understanding

Loves children

Willing to take a stand

Defends own beliefs

Independent

Has leadership abilities

Strong personality

Forceful

Dominant

Aggressive

Assertive

Willing to take risks

## APPENDIX D

## PARTNER'S PHYSICAL ATTRACTIVENESS SCALE

Please rate how much do you agree with following statements:

My partner is in good health.

1	2	3	4	5	6	7
Strongly disagree						Strongly
agree						

My partner is in good physical shape

1	2	3	4	5	6	7
Strongly disagree						Strongly
agree						

My partner is intelligent.

1	2	3	4	5	6	7
Strongly disagree						Strongly
agree						

My partner looks better than my friends' partners.

1	2	3	4	5	6	7
Strongly disagree						Strongly
agree						

My partner is more dependable than my friends' partners.

1	2	3	4	5	6	7
Strongly disagree						Strongly
agree						

My partner's face is attractive.

1	2	3	4	5	6	7
Strongly disagree						Strongly
agree						

Strangers find my partner attractive.

1	2	3	4	5	6	7
Strongly disagree						Strongly
agree						

Strangers find my partner to be kind.

1	2	3	4	5	6	7
Strongly disagree						Strongly
agree						

Friends find my partner attractive.



## APPENDIX E

## RANKING PHYSICAL ATTRACTIVENESS AND OTHER TRAITS

Physical attractiveness condition:

Please rank the importance of the following characteristics for a romantic relationship partner. Number 1 is the most important, and number 7 is the least important. Drag and drop items to move them higher or lower in the list.

Good Cook and Housekeeper

Favorable Social Status or Rating

Similar Religious Background

Chastity (no previous experience in sexual intercourse)

Physical Attractiveness

Similar Political Background

Refinement, Neatness

Personality condition:

Please rank the importance of the following characteristics for a romantic relationship partner. Number 1 is the most important, and number 7 is the least important. Drag and drop items to move them higher or lower in the list.

Mutual Attraction--Love

Dependable Character

Emotional Stability and Maturity

Pleasing Disposition

Physical Attractiveness

Education and Intelligence

Good Health

Pure control condition:

Please rank how healthy the following foods are. Number 1 is the most healthy, and number 7 is the least healthy. Drag and drop items to move them higher or lower in the list.

Carrot

Apple

Cheeseburger

Egg

Chicken breast

Vanilla ice cream

Sushi

## APPENDIX F

## SHORT ESSAY COVER STORY

Physical attractiveness condition:

We are doing a project at UNI about traits in romantic relationships. We will post short anonymous essays from students about why different traits are important in relationships.

We already have enough essays on some traits, and the traits we picked for you is:

**Physical attractiveness**

It would be really helpful for us if you could write a few sentences about how you think **physical attractiveness** helps in a relationship. How can it help facilitate a good relationship?

The continue button will appear in one minute.

Personality condition:

We are doing a project at UNI about traits in romantic relationships. We will post short anonymous essays from students about why different traits are important in relationships.

We already have enough essays on some traits, and the traits we picked for you is:

**Kindness**

It would be really helpful for us if you could write a few sentences about how you think **kindness** helps in a relationship. How can it help facilitate a good relationship?

The continue button will appear in one minute.

Pure control condition:

We are doing a project at UNI about the importance of keeping health for college students. We will post short anonymous essays from students about why eating a healthy diet is important.

It would be really helpful for us if you could write a few sentences about why it is important to eat a healthy diet.

The continue button will appear in one minute.

APPENDIX G  
SAMPLE FACES

Attractive male



Unattractive male



Attractive female



Unattractive female



APPENDIX H  
CHANGING ATTITUDES

Importance:

Please rate how important these characteristics are to you on a scale from 1=not important at all to 7=very important.

How important is your partner's physical attractiveness to you?

1                      2                      3                      4                      5                      6                      7

Not Important At All

Very Important

How important is physical attractiveness to you in someone you date?

1                      2                      3                      4                      5                      6                      7

Not Important At All

Very Important

How important is physical attractiveness compared to personality in someone you date?

1                      2                      3                      4                      5                      6                      7

Not Important At All

Very Important

Attractiveness:

Please rate how much you agree with the following statements on a scale from 1=not at all to 7= to a great extent.

To what extent do you think your partner looks better than your friends' partner?

1                      2                      3                      4                      5                      6                      7

Not at all

To a great extent

To what extent do you think your partner looks better than the average person?

1

2

3

4

5

6

7

Not at all

To a great extent

## APPENDIX I

## QUALITY OF ALTERNATIVES

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

(a) My needs for intimacy (sharing personal thoughts, secrets, etc.) could be fulfilled in alternative relationships

Don't Agree	Agree	Agree	Agree
At All	Slightly	Moderately	Completely

(b) My needs for companionship (doing things together, enjoying each other's company, etc.) could be fulfilled in alternative relationships

Don't Agree	Agree	Agree	Agree
At All	Slightly	Moderately	Completely

(c) My sexual needs (holding hands, kissing, etc.) could be fulfilled in alternative relationships

Don't Agree	Agree	Agree	Agree
At All	Slightly	Moderately	Completely

(d) My needs for security (feeling trusting, comfortable in a stable relationship, etc.) could be fulfilled in alternative relationships

Don't Agree	Agree	Agree	Agree
At All	Slightly	Moderately	Completely

(e) My needs for emotional involvement (feeling emotional attached, feeling good when another feels good, etc.) could be fulfilled in alternative relationships

Don't Agree	Agree	Agree	Agree
At All	Slightly	Moderately	Completely

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

0	1	2	3	4	5	6	7	8
Do Not Agree			Agree			Agree		
At All			Somewhat			Completely		

3. My alternatives to our relationship are close to ideal (dating another, spending time with friends or on my own, etc.)

0	1	2	3	4	5	6	7	8
Do Not Agree			Agree			Agree		
At All			Somewhat			Completely		

4. If I weren't dating my partner, I would do fine--I would find another appealing person to date.

0	1	2	3	4	5	6	7	8
Do Not Agree			Agree			Agree		
At All			Somewhat			Completely		

5. My alternatives are attractive to me (dating another, spending time with friends or on my own, etc.).

0	1	2	3	4	5	6	7	8
Do Not Agree			Agree			Agree		
At All			Somewhat			Completely		

6. My needs for intimacy, companionship, etc, could easily be fulfilled in an alternative relationship.

0	1	2	3	4	5	6	7	8
Do Not Agree			Agree			Agree		
At All			Somewhat			Completely		

## APPENDIX J

## COMMITMENT LEVEL

1. I want our relationship to last for a very long time.

0	1	2	3	4	5	6	7	8
Do Not Agree			Agree			Agree		
At All			Somewhat			Completely		

2. I am committed to maintaining my relationship with my partner.

0	1	2	3	4	5	6	7	8
Do Not Agree			Agree			Agree		
At All			Somewhat			Completely		

3. I would not feel very upset if our relationship were to end in the near future.

0	1	2	3	4	5	6	7	8
Do Not Agree			Agree			Agree		
At All			Somewhat			Completely		

4. It is likely that I will date someone other than my partner within the next year.

0	1	2	3	4	5	6	7	8
Do Not Agree			Agree			Agree		
At All			Somewhat			Completely		

5. I feel very attached to our relationship--very strongly linked to my partner.

0 1 2 3 4 5 6 7 8

Do Not Agree                      Agree                      Agree

At All                      Somewhat                      Completely

6. I want our relationship to last forever.

0 1 2 3 4 5 6 7 8

Do Not Agree                      Agree                      Agree

At All                      Somewhat                      Completely

7. I am oriented toward the long-term future of my relationship (for example, I imagine being with my partner several years from now).

0 1 2 3 4 5 6 7 8

Do Not Agree                      Agree                      Agree

At All                      Somewhat                      Completely

APPENDIX K  
ADDITIONAL QUESTIONS

Open-ended questions

Have you heard about this study before? If yes, what have you heard about it?

What do you think this study is about?

Was there anything about this study that was confusing or difficult to understand?

Do you have any other comments or suggestions about this study?

Did you answer all the questions in the survey honestly?

Not honest at all (1)

(2)

(3)

(4)

Very honest (5)

Do you think we should use your data? If not, please explain why.

Yes

No

Question for Restoring Relationships:

Please think about three good characteristics of your partner and list them below:

## APPENDIX L

### DEBRIEFING

Thank you again for taking this study. This study applies cognitive dissonance theory (Festinger, 1957) to physical attractiveness in mate selection. Cognitive dissonance theory suggests that people try to reduce uncomfortable feelings caused by the differences between their attitudes and behaviors (Festinger, 1957). Not everyone can find a partner who is as attractive as they expect, so this may create a cognitive dissonance between their attitude and behavior. This study examine whether there is a gender difference in cognitive dissonance reduction for partner's physical attractiveness. We hypothesized that men might be more likely to change behaviors (e.g., searching for an alternative relationship) if they believe their partners' physical attractiveness is important but they are reminded that they are dating less attractive partners. In contrast, women might be more likely to change attitudes (e.g., believing their partners are attractive) in this situation.

The traits that you rated, the trait that you were asked to rate, and the pictures you rated were all designed to either make you think about your partner's physical attractiveness or a different trait, and to think of your partner as more or less attractive compared to others. If you were in the group that was reminded of the importance of physical attractiveness and then shown very attractive pictures to rate, then it would be normal to feel that your partner is less attractive temporarily. At the end of the study, we had you write about positive traits about your partner to remind yourself of why you are with that person and to try to take away any effects from the study.

In the short essay part of the study, we told you that your responses would be used in a class project—in fact, there is no project. No one but the researchers will read what you wrote. We told you it would be public so that you were publicly committing to your thoughts.

It was important that we mislead you because if we told you exactly what we were looking for, it might not have had an effect. We appreciate your help with our study, and we would be happy to talk to you more about it.

If you have answered questions about your health and diet, you were randomly assigned in the control condition. These questions are not related to what we are studying. It is important to include this control condition to compare with experiment condition.

We would also ask that you please not talk about the study with others who might not have done it, as this could mess up our results. If people ask you what you did, just say that you answered questions about your relationship and relationship attitudes in general.

Again, thank you. We couldn't do our study without you.

Please contact Lijing Ma: [lijing@uni.edu](mailto:lijing@uni.edu), or Helen Harton: [Helen.harton@uni.edu](mailto:Helen.harton@uni.edu) if you have any questions regarding this study. If you are feeling any form of discomfort, please contact counseling center: (319) 273-2676.