

Summer 8-19-2016

Predicting Relationship Satisfaction in Same- and Cross-Sex Friendships

Hannah Ford

University of Maine - Main, hannah.ford@umit.maine.edu

Follow this and additional works at: <http://digitalcommons.library.umaine.edu/etd>



Part of the [Child Psychology Commons](#), and the [Developmental Psychology Commons](#)

Recommended Citation

Ford, Hannah, "Predicting Relationship Satisfaction in Same- and Cross-Sex Friendships" (2016). *Electronic Theses and Dissertations*. 2475.

<http://digitalcommons.library.umaine.edu/etd/2475>

This Open-Access Dissertation is brought to you for free and open access by DigitalCommons@UMaine. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of DigitalCommons@UMaine.

**PREDICTING RELATIONSHIP SATISFACTION
IN SAME- AND CROSS-SEX FRIENDSHIPS**

By

Hannah A. Ford

B.A. Clark University, 2009

M.A. University of Maine, 2013

A DISSERTATION

Submitted in Partial Fulfillment of the

Requirements for the Degree of

Doctor of Philosophy

(in Psychology)

The Graduate School

The University of Maine

August 2016

Advisory Committee:

Douglas W. Nangle, Professor of Psychology, Advisor

Cynthia A. Erdley, Professor of Psychology

Shannon K. McCoy, Assistant Professor of Psychology

Emily A. P. Haigh, Assistant Professor of Psychology

Rachel L. Grover, Associate Professor of Psychology at Loyola University

DISSERTATION ACCEPTANCE STATEMENT

On behalf of the Graduate Committee for Hannah A. Ford, I affirm that this manuscript is the final and accepted dissertation. Signatures of all committee members are on file with the Graduate School at the University of Maine, 42 Stodder Hall, Orono, Maine 04469.

Dr. Douglas W. Nangle, Professor of Psychology

Date

LIBRARY RIGHTS STATEMENT

In presenting this dissertation in partial fulfillment of the requirements for an advanced degree at the University of Maine, I agree that the Library shall make it freely available for inspection. I further agree that permission for “fair use” copying of this dissertation for scholarly purposes may be granted by the Librarian. It is understood that copying or publication of this dissertation for financial gain shall not be allowed without my written permission.

Signature:

Date:

**PREDICTING RELATIONSHIP SATISFACTION
IN SAME- AND CROSS-SEX FRIENDSHIPS**

By Hannah A. Ford

Dissertation Advisor: Douglas W. Nangle, Ph.D.

An Abstract of the Dissertation Presented in Partial
Fulfillment of the Requirements for the
Degree of Doctor of Philosophy
(in Psychology)
August 2016

Friendships between members of the opposite sex become more common and increase in importance across adolescence (e.g., Kuttler, La Greca, & Prinstein, 1999); however, little research has examined these relationships. Of the limited research, most has focused on comparing mean-level differences in friendship features between cross-sex (CS) friendships and same-sex (SS) friendships. Overall, this research has suggested that CS friendships are lower in positive quality compared to SS friendships. These findings offer little insight into why CS friendships continue to be valued and maintained.

The current study used two approaches to better elucidate the value of CS friendships in a sample of 309 college students. First, this study added to the existing literature by evaluating both positive and negative dimensions of quality in SS and CS friendships. Results suggested that although greater positive quality was reported in SS friendships, lower negative quality was simultaneously reported for CS friendships.

Second, the current study examined participants' self-reports of the interactions that occurred within their CS and SS friendships, as well as what they wanted to occur to determine how the fulfillment of desired behaviors contributed to satisfaction in each friendship. This approach allowed participants to determine the types and amount of

interactions that they would like from their friendship partners, rather than relying on pre-determined notions of quality. Polynomial regression with response surface analysis was employed to examine how discrepancies between received and desired maintenance impacted satisfaction. Results partially confirmed a matching hypothesis, with greater satisfaction reported when levels of received and desired maintenance were similar. However, in contrast to the interdependence theory hypothesis, greater levels of satisfaction were reported at higher levels of maintenance. Importantly, response surface results suggested that high overprovision was associated with a corresponding decrease in satisfaction for SS friendships. This result is in contrast to traditional, “more is better” conceptions of friendship features and suggests that participants may experience “too much of a good thing” with friends. Overall, the use of these two approaches is thought to be a more balanced investigation of CS friendships than previous assessments of positive quality that have dominated the literature.

ACKNOWLEDGEMENTS

First, I would like to express my sincere gratitude to my advisor and committee chair, Dr. Douglas Nangle for his mentorship and guidance throughout my training at the University of Maine. His support, encouragement, and commitment have been essential in helping bring this project to fruition. I am also extremely thankful to my committee members, Drs. Cynthia Erdley, Emily Haigh, Shannon McCoy, and Rachel Grover for their excellent insight and guidance throughout the dissertation process.

The members of Dr. Nangle's research laboratory also contributed greatly in helping to make this project possible. I would like to thank my lab mates, Ethan Rothstein, Jennifer Sauve, Karim Assous, Shannon Brothers, and Natalie Holbrook. From initial development to running participants, they have contributed their knowledge, time, and support throughout this project, and I would not have been able to complete it without them. I would also like to thank the undergraduate research assistants who volunteered their time and worked tirelessly on this study.

Thank you to my family who have provided me with endless support and encouragement throughout my graduate training. Your constant faith in me has helped provide me the confidence to pursue my passion, even when it was really hard. Finally, thank you to my amazing friends. To my girl friends, for always listening and being there when I wanted to talk, and to my guy friends, for always being there to hang out and have fun when I didn't want to talk about it. You all know exactly what I need, and I could not have completed this journey without you.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	iii
LIST OF TABLES	ix
LIST OF FIGURES	x
Chapter	
I: INTRODUCTION	1
Friendship	2
Definition of friendship.....	2
The role of friendship across development.....	3
Friendship quality	9
Defining friendship quality	9
Assessing friendship quality	10
Relation to adjustment	13
Gender differences in same-sex friendship.....	17
Gender differences across development	17
Implications for friendship quality.....	19
Cross-Sex Friendships	22
The role of cross-sex friendships across development	23
Comparison with same-sex friendships	26
Conceptions of same-sex and cross-sex friendships	26
Friendship quality across same-sex and cross-sex friendships.....	28

Comparison with romantic relationships	31
Conceptions of cross-sex friendships and romantic relationships	31
The role of romantic and sexual interest in cross-sex friendships	32
Relationship quality in cross-sex friendships and romantic relationships	39
The unique role of cross-sex friendships	40
Gender differences in cross-sex friendships	44
Summary	49
Incorporating a Social Exchange Perspective	54
Overview of social exchange and interdependence theories	54
Relationship satisfaction	55
Relational maintenance	57
Relational maintenance in romantic relationships	58
Relational maintenance in friendships	61
The Current Study	68
Hypotheses for the current study	73
Relationship quality	73
Friendship maintenance	73
CHAPTER II: METHOD	75
Participants	75
Sample characteristics	75

Measures	76
Primary measures.....	76
Demographic information.....	76
Demographic Questionnaire	76
Friendship characteristics.....	76
Target friendship identification.....	76
Cross-sex friendship characteristics.....	77
Friendship network	78
Friendship maintenance behaviors.....	79
Received maintenance behaviors.....	79
Desired maintenance behaviors	80
Relationship outcomes	80
Relationship quality	80
Relationship satisfaction	81
Procedure	82
Screening.....	82
Laboratory session	83
CHAPTER III: RESULTS.....	84
Preliminary Data Preparation and Analyses	84
Descriptive statistics and preliminary correlations	85
Major Study Hypotheses.....	87
Group differences in relationship quality	87
Data analytic strategy.....	87

Differences in positive relationship quality	88
Differences in negative relationship quality	89
Group differences in friendship maintenance	90
Data analytic strategy.....	90
Differences in received friendship maintenance.....	91
Differences in desired friendship maintenance.....	92
Polynomial regression with response surface analyses	94
Data analytic strategy.....	94
Male cross-sex friendships.....	98
Female cross-sex friendships	101
Male same-sex friendships.....	104
Female same-sex friendships	107
CHAPTER IV: DISCUSSION	111
Overview of Findings	113
Examination of mean-level differences	113
Mean-level differences in relationship quality	113
Mean-level differences in friendship maintenance	115
Interdependence theory approach	117
Summary	121
Limitations	124
Future Directions	127
Conclusions.....	129
REFERENCES	131

APPENDIX A: Informed Consent.....	144
APPENDIX B: Sona Recruitment Summary for Males	147
APPENDIX C: Sona Recruitment Summary for Females.....	148
APPENDIX D: Community Recruitment Email Posting	149
APPENDIX E: Demographic Questionnaire	150
APPENDIX F: Friendship Identification Form—Participant Version	155
APPENDIX G: Friendship Identification Form—Experimenter Version	157
APPENDIX H: Cross-Sex Friendship Questionnaire.....	159
APPENDIX I: Peer Relationships Questionnaire	162
APPENDIX J: Friendship Maintenance Scale—Received Version	163
APPENDIX K: Friendship Maintenance Scale—Desired Version	164
APPENDIX L: Network of Relationships Inventory—Relationship Quality Version.....	165
APPENDIX M: Friendship Satisfaction	167
BIOGRAPHY OF THE AUTHOR.....	168

LIST OF TABLES

Table 1. Correlations Among Primary Variables	86
Table 2. Agreement Across Maintenance Groups	95
Table 3. Received-Desired Maintenance Discrepancy as Predictor of Male CS	
Friendship Satisfaction.....	100
Table 4. Received-Desired Maintenance Discrepancy as Predictor of Female CS	
Friendship Satisfaction.....	102
Table 5. Received-Desired Maintenance Discrepancy as Predictor of Male SS	
Friendship Satisfaction.....	105
Table 6. Received-Desired Maintenance Discrepancy as Predictor of Female SS	
Friendship Satisfaction	108

LIST OF FIGURES

Figure 1. Group Differences in Positive Relationship Quality	89
Figure 2. Group Differences in Negative Relationship Quality	90
Figure 3. Group Differences in Received Friendship Maintenance Behaviors	92
Figure 4. Group Differences in Desired Friendship Maintenance Behaviors.....	93
Figure 5. Example Response Surface Graph Using Hypothetical Data.....	98
Figure 6. Response Surface Graph of Received and Desired Maintenance with CS Friendship Satisfaction for Males	101
Figure 7. Response Surface Graph of Received and Desired Maintenance with CS Friendship Satisfaction for Females.....	104
Figure 8. Response Surface Graph of Received and Desired Maintenance with SS Friendship Satisfaction for Males.....	107
Figure 9. Response Surface Graph of Received and Desired Maintenance with SS Friendship Satisfaction for Females	110

CHAPTER I:

INTRODUCTION

Friendships between members of the opposite sex become more common and increase in importance across adolescence (e.g., Arndorfer & Stormshak, 2008; Feiring, 1999; Kuttler, La Greca, & Prinstein, 1999; Poulin & Pedersen, 2007). Despite this, relatively little research has focused on the role of cross-sex (CS) friendships in adolescence and young adulthood. Of this limited research, most has focused on comparing characteristics of CS friendships to other important peer relationships, namely same-sex (SS) friendships. In general, this research has suggested that CS friendships are lower in positive quality as compared to SS friendships, especially for females. These findings offer little insight into why CS friendships continue to be valued and maintained.

Addressing some key shortcomings in the existing literature, the current study utilized two approaches to better elucidate the value of CS friendships in a sample of college students. First, this study added to the existing literature by evaluating both positive and negative dimensions of quality in SS and CS friendships. To date, the majority of research has focused exclusively on positive features of friendships, with only limited investigation of negative features. Some tentative evidence, however, has suggested that CS friendships may be lower in negative features compared to SS friendships (Furman & Buhrmester, 2009; Lempers & Clark-Lempers, 1993). Second, this study incorporated perspectives from social exchange and interdependence theories to examine how processes within relationships may contribute to satisfaction. Previous research has suggested that CS friendships may serve different functions or meet different needs for different individuals, which may not be captured when comparisons are made

across relationships. Consequently, the current study examined participants' reports of the interactions that occur within their CS and SS friendships, as well as what they wanted to occur in their friendships in order to determine how the fulfillment of desired behaviors contributed to satisfaction in each friendship. This approach allowed participants to determine the types and amount of interactions that they would like from their relationship partners, rather than relying to pre-determined notions of quality that may not be as relevant for CS friendships. Overall, the use of these two approaches is thought to be a more balanced investigation of CS friendships than previous assessments of positive quality that have dominated the literature.

Friendship

Definition of friendship. Friendships are key social relationships that emerge early in childhood and persist throughout the lifespan. They are often described as “horizontal” relationships, where both members of the dyad are considered equal (Bagwell & Schmidt, 2011; Hartup, 1989; Rawlins, 1992). This differs from other primary social relationships, such as parent-child or work relationships, where one member of the dyad holds a position of authority relative to the other. Friendships also differ from many other social relationships in that they are voluntary (Bukowski, Newcomb, & Hartup, 1996; Rawlins, 1992). Unlike family relationships, for example, both members of a friendship dyad choose to develop and maintain a relationship, and, in turn, may elect to discontinue the friendship if they desire. In light of these characteristics, Hall and colleagues (2011) described friendship as “a non-contractual relationship, marked by voluntary interdependence, formed and maintained for the sole purpose of its own existence and preservation” (p. 530).

In order to understand the nature of friendship, researchers have asked individuals ranging from children to older adults to describe their friendships. These studies have noted that, regardless of age, individuals often emphasize the importance of liking, or the desire to spend time with that person, as a primary characteristic of friendship (Bagwell & Schmidt, 2011; Bukowski, Newcomb, & Hartup, 1996; Rawlins, 1992). In addition, reciprocity is often cited as a key dimension of friendship (Bukowski, Newcomb, & Hartup, 1996; Hartup & Stevens, 1999; Rawlins, 1992). Hartup and Stevens (1999) noted that “friends may or may not share likes and dislikes, but there is always the sense that one supports and sustains one’s friends and receives support in return” (p. 76). This emphasis on the importance of reciprocity has been found across age groups, leading researchers to argue that the meaning, or deep structure, of friendships changes relatively little from preschool through old age, whereas the surface structure, or the actual exchanges and interactions that occur between friends, varies greatly according to the developmental tasks associated with different ages (Hartup & Stevens, 1997; 1999).

The role of friendship across development. Although its defining characteristics remain relatively stable across the lifespan, the role and salience of friendship changes across development. In his interpersonal theory, Sullivan (1953) posited that different stages of development are associated with changes in social needs. Consequently, individuals seek certain types of social provisions to satisfy these needs, which, in turn, result in corresponding changes in interpersonal relationships, including the types of social provisions that are desired, interactions that occur, and the relationships best suited to meet these needs (Buhrmester, 1996; Chow, Roelse, Buhrmester, & Underwood, 2012). Though Sullivan was among the first to describe the need-fulfilling role of social

relationships across development, systems theorists have expanded this work by further exploring the unique contributions of different relationships that comprise one's social network. Buhrmester (1996) observed that individuals are embedded in a network of social relationships and that specific social needs may be met by several different members of the network; however, some types of relationships may be better suited than others to provide certain social provisions. Thus, the nature and salience of friendship must be evaluated in the context of development and in relation to other important social relationships.

Although parents and siblings satisfy many of the primary social needs present in early childhood, Sullivan (1953) observed that friendships begin to emerge as important social relationships around the time children enter school. During this time, children experience a growing desire for social acceptance and avoidance of rejection, which are best addressed through the development of relationships with peers (Sullivan, 1953). As a result of these needs, peer group acceptance is particularly salient during childhood, with children learning what characteristics, behaviors, and abilities they prefer in companions and forming relationships with peers who meet their expectations and excluding those who do not (Bagwell & Schmidt, 2011; Sullivan, 1953).

By early adolescence, however, cognitive, pubertal, and sociocultural changes result in increased concerns related to social validation, self-clarification, and obtaining assistance with coping (Buhrmester, 1996). In order to address these concerns, adolescents begin to desire greater intimacy in social relationships, and, as a result, features of particular relationships, rather than general acceptance by the peer group, become increasingly important (Sullivan, 1953). This shift results in increased

prominence of friends relative to other social partners, as well as changes in the types of interactions that occur within friendships. In support of this notion, research has found that as children transition into adolescence they spend less time with parents and siblings and more time with friends (Furman & Buhrmester, 1992). Additionally, compared to children, adolescents engage in higher levels of self-disclosure, support, and validation in their friendships, behaviors that serve to address the growing need for intimacy (Bagwell & Schmidt, 2011; Furman & Buhrmester, 1992; Hafen, Laursen, & DeLay, 2012; Mathur & Berndt, 2006).

In later adolescence, romantic relationships begin to emerge as important social relationships, likely impacting the role and functioning of friendships. Although more serious relationships may not develop until later in adolescence, romantic and sexual needs begin to emerge in early adolescence as a result of changing hormones (Seiffge-Krenke & Shulman, 2012). This change also coincides with increased interactions with peers of the opposite sex. Furman and Wehner (2002) noted that this is a particularly challenging time for adolescents, as they have to navigate novel relationships with peers of the opposite sex, cope with emerging sexual needs, and consider how new cross-sex relationships may impact their status in their peer group. During this time, the primary goal of cross-sex relationships is to develop the skills and competencies necessary for interacting with peers of the opposite sex (Furman & Wehner, 2002; Sullivan, 1953).

Although many younger adolescents report involvement in romantic relationships, evidence suggests that the duration and quality of these relationships increases significantly throughout the course of adolescence (Furman, 2002; Furman & Wehner, 1997; Seiffge-Krenke & Shulman, 2012). Furman and Wehner (1997) noted that in

middle adolescence, romantic partners primarily function as affiliative and sexual figures, but by later adolescence they are expected to meet a range of needs including providing support, comfort, care, and fulfillment of sexual needs. Through meeting these different needs, romantic partners emerge as prominent social relationships in late adolescence (Furman, 2002; Seiffge-Krenke & Shulman, 2012). In a study of 4th grade, 7th grade, 10th grade, and college students, Furman and Burhmester (1992) asked participants to rate the amount of support in their relationships with their mother, father, sibling, grandparent, same-sex friend, and romantic partner. Results showed the increasing role of romantic partners over development. Students in 4th grade rated romantic partners lowest in support compared to their other relationships, but by 7th grade ratings of romantic partners began to eclipse those of some family members. In college, students rated their romantic relationships as more supportive than any of their other relationships. It is important to note, however, that males in college perceived their romantic relationships as more supportive than females, with males reporting that they received the most support in their romantic relationships and females reporting similar levels of support in their relationships with their mothers, friends, siblings and romantic partners.

The emergence of romantic relationships may have important implications for friendships. Although many studies have found that late adolescents and young adults report higher levels of self-disclosure, support, and intimacy in their friendships compared to younger adolescents, some studies have found a decrease in intimacy during this time (see Chow et al., 2012, for a review). For example, in a three-year longitudinal study of adolescents beginning at age 15, Updegraff and Crouter (2002) found that participants reported decreases in intimacy in their same-sex friendships each year. These

inconsistent findings may be due, in part, to the increasing prominence of romantic relationships during adolescence. For example, Furman and Burhmester (1992) found that friendships were identified as the most supportive relationships in grades 7 and 10. In college, however, students simultaneously reported a decrease in support from their friends and an increase from their romantic partners, resulting in romantic partners providing slightly higher, though statistically similar, levels of support compared to friends. Although romantic relationships increase in importance and relevance throughout adolescence, it is clear that friendships continue to remain an important social relationship.

Additional research has focused more specifically on the social relationships of young adults. Young adulthood is a period of significant change in the composition and organization of social networks (Carbery & Buhrmester, 1998; Rawlins, 1992). Individuals within this age range may be at markedly different life stages, each of which is accompanied by different social needs, resulting in significant variation in the features and salience of different types of relationships. Some researchers have argued that inconsistent findings regarding the prominence of romantic relationships and their impact on friendship in late adolescence and early adulthood may be attributable, in part, to characteristics of the romantic relationship, such as the length of the relationship or level of commitment (Carbery & Buhrmester, 1998; Chow et al., 2012; Furman & Wehner, 1997).

In a study examining friendship features in a sample of young adults with varying degrees of romantic involvement, Johnson and Leslie (1982) found that individuals in highly committed relationships (e.g., married) reported less self-disclosure in their

friendships and perceived friendships as less important compared to casual daters. Similarly, additional studies have found that as young adults begin to have children, the importance and number of friends begins to decrease (Chow et al., 2012). Consequently, the role of friendships appears to be impacted by the changing roles involved in the transition into adulthood, such as becoming a spouse or a parent. As these transitions occur at different ages for different individuals, there is significant variability in the social roles of individuals within the young adult age group.

Furman and Buhrmester have conducted several studies investigating developmental changes in the relative contribution of social provisions made by friends as compared to parents and romantic partners with samples of students ranging from grade two through college (Buhrmester & Furman, 1987; Furman & Buhrmester, 1985, 1992). Carbery and Buhrmester (1998) further extended this work with a sample of university and community college students at three different phases of young adulthood: single, married without children, and married with children. Based on aggregate data from these studies on ratings of self-disclosure, Buhrmester (1996) concluded that there is a significant increase in the relative importance of friends as confidants in early and middle adolescence compared to other relationships. Relationships with romantic partners also showed a steady, albeit more gradual, increase in self-disclosure during this time period, whereas disclosure in parental relationships declined. College students continued to report high levels of self-disclosure with friends, but reported a significant increase in self-disclosure with romantic partners, resulting in similar levels across both types of relationships. Single young adults reported the highest levels of self-disclosure with friends, but those who were married reported a significant increase in self-disclosure with

romantic partners and a significant decrease with friends. Although not reported, Buhrmester (1996) indicated that the findings for other social provisions generally followed the same pattern. These results suggest that the level of commitment in romantic relationships may have a stronger impact on friendships than the mere presence or absence of a romantic relationship.

In summary, research examining the role of friendships across development has found that the importance of friendships varies with age, peaking in late adolescence and the single phase of early adulthood. Additionally, these results highlight the systematic developmental changes in social needs and in the social relationships that fulfill these needs.

Friendship quality. It is clear that friendships are significant social relationships throughout the course of development; however, it is important to note that not all friendships are the same. As Bagwell and Schmidt (2011) observed, there are some friends that one may turn to for support and others that one may look to when he or she wants to have fun. There may be significant variation in the nature of friendships with different partners as well as changes that occur in these friendships over time. Friendship quality is one way that researchers describe these differences and how they may impact adjustment.

Defining friendship quality. There has been some inconsistency across the literature in the use of the term friendship quality and related terminology (Bagwell & Schmidt, 2011). In order to maintain consistency, the current review will utilize Berndt's (1996) descriptions of friendship features and friendship quality. According to Berndt (1996), friendship features are the attributes or characteristics of the relationship, such as

intimacy, companionship, and conflict. Friendship features may be further described as either processes or provisions. Processes occur at the behavioral level and involve interactions between friends (e.g., self-disclosure, conflict), whereas provisions indicate the benefits an individual receives from the friendship (e.g., intimacy, security, closeness) and are a product or outcome of friendship processes (Ladd & Kochenderfer, 1996).

Every friendship has multiple features and these features may be positive or negative (Berndt, 1996). Friendship quality, in turn, is the combination of the positive features and the negative features. Friendships that have many positive features and few negative features are considered to be high-quality friendships (Bagwell & Schmidt, 2011; Berndt, 1996). Notably, Berndt (1996) argues that unlike the term feature, which has a neutral connotation, the term quality is not affectively neutral and therefore suggests that some friendships are better than others.

Assessing friendship quality. Assessments of friendship quality typically rely on self-report questionnaires or interviews that ask adolescents to report on their perceptions of the features in particular friendships (Bagwell & Schmidt, 2011; Brendgen, Markiewicz, Doyle, & Bukowski, 2001). Although use of self-report has been criticized for relying on individuals' perceptions that may or may not be accurate, Furman (1996) counters that this form of measurement is aptly suited for the study of close relationships as an individual's perception of a relationship partner and the relationship likely influences his or her own behavior and perception of the partner's behavior, thereby shaping the course of the relationship.

Despite using a similar approach, there is significant variation in the types and number of features that have been identified and assessed across the literature. To date,

investigations of friendship quality have focused primarily on positive features of friendships (Furman, 1996; Mathur & Berndt, 2006). Researchers have described a range of positive features, including self-disclosure, prosocial behavior, intimacy, and support, among others. More recently, researchers have also begun to acknowledge the role of negative features. Indeed, Berndt (2002) notes that even the best friendships can have some negative features. Of the negative features, conflict has been most widely examined in the literature; however, some investigations have also included features such as attempts at dominance, rivalry, and antagonism (Berndt, 2002). Although there has been significant progress in the assessment of negative features of friendships, Bagwell and Schmidt (2011) note that it will be important for future research to explore additional negative features, beyond just conflict.

There has also been significant variation in assessment of these features across the literature, with some researchers examining features individually and others using different combinations of features to create composite scores. Some research has suggested that both multi-factor and two-factor approaches are appropriate. For example, Parker and Asher's (1993) and Bukowski and colleagues' (1994) measures of friendship quality both originally yielded multi-factor scales; however, re-examination of their data by Furman (1996) also found support for a two-factor approach comprised of positive and negative dimensions. In support of the dimensional approach, Berndt (1996; 2002) argues that when friendships are high in one positive feature, they tend to also be higher in other positive features as well, lending support to the notion of a single dimension of positive friendship quality. Negative features also tend to co-occur within friendships, suggesting the presence of a single negative dimension. Importantly, Berndt (2002) notes

that studies have found that the positive and negative dimensions are only weakly related to one another, underlining the importance of considering both valances when assessing relationship quality. These findings also raise some concern with measures that combine both positive and negative features to create a single composite score of friendship quality because negative and positive features may be associated with different outcomes.

As such, the current study used the Network of Relationships Inventory (NRI; Furman & Buhrmester, 1985; 1992), which includes assessments of both positive and negative quality. The NRI was not developed to measure relationship quality solely in friendships, but rather to evaluate quality across several important relationships in the social network. The measure is relationship-specific, meaning that it can be completed in reference to different relationship partners, including friends, romantic partners, parents, and siblings. The original version of the NRI includes seven scales that combine to form two index scales, support and negative interactions, that assess the positive and negative dimensions of relationship quality, respectively. Recently, Furman and Buhrmester developed a new version of the NRI called the Relationship Qualities Version (NRI-RQV; Furman & Buhrmester, 2008). In line with some criticisms regarding limited assessment of negative features in existing relationship quality research (e.g., Bagwell & Schmidt, 2011), one of the primary aims in the development of the NRI-RQV was to expand the assessment of negative relationship features to include a more diverse range of related features. Whereas the negative quality dimensions of the previous versions of the NRI included scales measuring conflict and antagonism, the RQV measures criticism, dominance, exclusion, pressure, and conflict. Given the importance of assessing negative

features of friendships, the current study utilized the relationship qualities version of the NRI.

Relation to adjustment. The quality of relationships with friends has long been thought to impact both current and future socioemotional functioning. In line with Sullivan's (1953) theory, high-quality friendships are more likely to meet the social needs that accompany a given stage of development. In contrast, low quality relationships characterized by a lack of positive features are less likely to meet these needs, and relationships that also include increased levels of negative features may actually cause distress. Furthermore, high-quality friendships are thought to provide a context for learning how to navigate interpersonal relationships and thereby facilitate the development of prosocial skills and social competencies that can be applied in future relationships (Bagwell & Schmidt, 2011; Berndt, 2002; Hartup, 1989).

The previously reviewed issues with defining and assessing friendship quality also have important implications for empirical investigations of the role of friendship quality in development and adjustment. In support of this notion, Bagwell and Schmidt (2011) suggest that the outcomes associated with a friendship that lacks positive features may not be the same as those associated with a friendship that has many negative features. Furthermore, they posit that the effects of having a friendship with high levels of conflict are likely different if the conflict is accompanied by few positive features as opposed to high levels of positive features, such as support, closeness, and intimacy. Consequently, when drawing conclusions about the correlates of friendship quality, it is important to consider how quality was defined and assessed across studies, as this may result in important differences in research findings.

There has been a significant amount of research examining the positive dimension of friendship quality. In general, this research has found support for the notion that higher levels of positive features of friendships are associated with positive adjustment and some support for the notion that a lack of positive features is associated with poorer adjustment. For example, in a study of self-reported and friend-reported intimacy with adolescents, Buhrmester (1990) found that greater intimacy (either self-reported or according to the friends' report) was associated with higher self-esteem and fewer internalizing problems. In a longitudinal study, Laursen and colleagues (2006) found that higher social support in friendships in 10th grade was associated with higher self-esteem both concurrently and in 12th grade. Similarly, greater social support from close friends was associated with lower social anxiety in a sample of adolescents (mean age = 17; La Greca & Lopez, 1998). In a study examining depressive symptoms in a sample of 6th grade students, Laursen and colleagues (2006) found that lack of support from friends was associated with greater depression. Furthermore, the authors identified a high-risk group characterized by depression scores in the clinical range, which was comprised of students from single parent families that also had low friendship support.

Similar results have been found in studies assessing positive friendship quality in college student samples. Following the first semester of college, Buote and colleagues (2007) examined the relationship between friendship quality, using a composite measure of positive quality, and college adjustment, using a measure that included scales assessing social, academic, and personal-emotional adjustment in a sample of college students. Results showed that, when controlling for depression levels at the start of the school year, higher positive friendship quality was associated with overall better adjustment to

college. Using a composite measure of positive quality, Festa and colleagues (2012) found that positive friendship quality was associated with interpersonal competence in a sample of college students. Additionally, Pittman and Richmond (2008) found that higher friendship quality was positively associated with scholastic competence and self-esteem and negatively associated with internalizing and externalizing problems. It is important to note, however, that Pittman and Richmond (2008) used a composite measure of quality that combined two positive features (i.e., trust and communication) and a negative feature (i.e., conflict), which makes it difficult to determine the relative contribution of positive and negative features to adjustment. Overall, results suggest that positive features of friendships have important implications for adjustment across development.

Additional research has simultaneously examined both positive and negative dimensions of quality. Results have highlighted the importance of also including assessments of negative quality, as negative quality appears to be particularly linked to maladaptive outcomes (Bagwell et al., 2004). For example, in a sample of 7th and 8th graders, Mounts (2004) separately examined both positive and negative features of friendship and found that negative features were strongly associated with delinquent activity and drug use, but positive features were unrelated to these problems. Similarly, using the positive and negative dimensions of the NRI, Burk and Laursen (2005) found that the negative, but not positive, dimension of quality was associated with both internalizing and externalizing problems in a sample of high school students. In a sample of college students that completed the NRI, results showed that higher scores on the positive dimension were associated with increased self-esteem, whereas higher scores on the negative dimension were associated with increased clinical symptoms on a measure

that included symptoms of depression, anxiety hostility, and interpersonal sensitivity (Bagwell et al., 2005).

The importance of evaluating both positive and negative features has also been evidenced by studies that have found that these dimensions may be differentially related to some outcomes. For example, in a study examining the positive and negative dimensions of the NRI in a sample of high school students, La Greca and Harrison (2005) found that friendships with higher levels of positive qualities served a protective function against social anxiety, but not depression, whereas high levels of negative qualities were associated with both increased depression and social anxiety. Demir and Urberg (2004) found that a composite scale of positive friendship quality was associated with happiness and depression (in the expected directions) for males, but not females. Negative friendship quality (i.e., conflict), in contrast, was associated with depression and happiness (in the expected directions) for both males and females. These studies highlight the need for assessing the positive and negative dimensions of friendship quality separately.

Overall, there has been significant variation in the conceptualization and assessment of friendship quality across the literature, which has important implications for understanding of the contribution of friendship quality to adjustment outcomes throughout development. These results highlight the importance of recognizing negative features of friendships, as negative quality appears to be particularly associated with problematic outcomes such as delinquency and depression. Furthermore, these results indicate that both positive and negative features can impact the same outcomes,

potentially in different ways, highlighting the need to include both dimensions when assessing friendship quality.

Gender differences in same-sex friendship. Though the previous review focused on patterns for same-sex (SS) friendships in general, there are important differences in the SS friendships of males and females. In general, female friendships have been described as more intimate and more likely to be characterized by talk (Caldwell & Peplau, 1982; Rawlins, 1982). As a result, female friendships have been viewed as more communal and focused on building interpersonal connections (Buhrmester, 1996; Maccoby, 1990). Male friendships, in contrast, are typically characterized by engaging in activities and are thought to be more agentic and prioritize the enhancement of individual status (Buhrmester, 1996; Caldwell & Peplau, 1982; Maccoby, 1990; Rawlins, 1982). These differences have resulted in SS male friendships being described as “side-by-side” relationships, whereas female friendships are viewed as “face-to-face” relationships (Wright, 1982). In order to understand how gender influences the friendships of young adults, it is important to consider how these differences have emerged over the course of development.

Gender differences across development. It has been argued that gender differences in friendships begin as early as childhood when boys and girls largely segregate themselves by sex (Buhrmester, 1996). Throughout preschool and elementary school children typically spend time with peers of the same sex (Arndorfer & Stormshak, 2008). During this time, boys generally have larger, more diverse groups of friends and their interactions tend to focus on engaging in activities (Kuttler et al., 1999). Boys’ friendships also tend to be hierarchical and competitive, with an emphasis on dominance

and independence (McDougall & Hymel, 2007). Girls' friendships during childhood, in contrast, tend to be comprised of more exclusive, dyadic relationships, which are based on disclosure and intimacy (Kuttler et al., 1999). This gender segregation in friendships typically continues until adolescence, and has led to the development of the "two worlds theory." This theory posits that, due to gender segregation, boys and girls essentially develop in two different worlds or cultures, which each have different norms for behavior that are reinforced or discouraged (Maccoby, 1990; McDougall & Hymel, 2007).

Through interacting with other peers in their respective group, boys and girls learn different ways of relating to friends, which may continue to shape their friendships throughout development (Bagwell & Schmidt, 2011; Buhrmester, 1996; McDougall & Hymel, 2007).

Similarly, Buhrmester (1996) argues that gender segregation in childhood may also contribute to differences in the social needs of males and females, which may continue to influence friendships throughout development. As previously noted, girls' friendships tend to be centered on features such as self-disclosure and intimacy, whereas boys' friendships center on engaging in activities and promote competition.

Consequently, girls' friendships emphasize the interpersonal, or communal, nature of friendships, whereas boys' friendships tend to be more individualistic, or agentic.

Although these differences likely promote different notions about friendships or styles of interacting, as noted above, Buhrmester (1996) argues that these differences in childhood may also socialize the development of different social needs, which may be more readily met by male or female relationship partners. For example, females may develop greater communal needs, which would be more readily met by female relationship partners who

are likely to have an interpersonal style characterized by engaging in self-disclosure and providing emotional support. Males, in contrast, may develop greater agentic needs, which would be more readily met by male relationship partners who are more likely to want to engage in competition and activities. Consequently, gender segregation in childhood may facilitate the development of gender-typed social needs, resulting in continued gender differences in friendships throughout development.

Although males and females begin interacting and forming relationships with peers of the opposite sex beginning in early adolescence, researchers argue that the gender-typical styles of interacting with peers that are fostered in childhood continue to persist throughout development. Furthermore, children may develop greater needs for different social provisions that may be more readily met by members of their own gender. Consequently, gender differences in the SS friendships of males and females continue to be observed even after cross-sex interactions become more normative.

Implications for friendship quality. Gender differences in friendship quality have been widely cited throughout the literature. In line with the notion that female friendships provide more opportunity for the fulfillment of communal needs, research has consistently found that females report more affection, closeness, self-disclosure, intimacy, and emotional support in their SS friendships compared to males (Bagwell & Schmidt, 2011; Brendgen et al., 2001; Buhrmester, 1996; Furman & Buhrmester, 1985; Sharabany, Gershoni, & Hofman, 1981). In contrast, gender differences typically have not been found for companionship or sharing activities (Buhrmester, 1996; Furman & Buhrmester, 1985; Sharabany et al., 1981). Research that has reported on composite measures of positive quality has also shown support for overall higher positive friendship

quality in the SS friendships of females compared to males (Brendgen et al., 2001; Furman & Buhrmester, 1992; Hussong, 2000; La Greca & Harrison, 2005).

There has been less research examining gender differences in the negative features of SS friendships and findings have been somewhat mixed. Bagwell and Schmidt (2011) argue that most studies that include negative features of friendship have focused exclusively on conflict and these studies typically have not found significant gender differences between male and female SS friendships (Furman & Buhrmester, 1985, 1992). Among the few studies that have examined other negative features, such as peer control (Hussong, 2000) or negative interactions patterns (La Greca & Harrison, 2005), there has been some evidence to suggest that male friendships have higher levels of negative features than those of females. To better understand the gender differences in the quality of SS friendships, an evaluation of both positive and negative features and an expansion in assessment of negative features beyond conflict are needed.

Although gender differences in friendship quality have been widely reported in the literature, some have begun to criticize the existing research for relying almost exclusively on examinations of mean-level differences in the positive features of male and female friendships (Bagwell & Schmidt, 2011; Hussong, 2000). They contend that the assessment of friendship quality has been biased towards features such as intimacy and self-disclosure, features that are more salient in female friendships. Consequently, they argue this has resulted in female friendships coming to be viewed as “ideal” friendships and all other friendships being considered sub par (Fehr, 1995; Furman, 1996; Reeder, 1996). In addition, Hussong (2000) cites concerns with the way some constructs, such as intimacy, have been defined and measured across studies, noting that although

many studies have found support for the notion that female SS friendships are more intimate than the SS friendships of males, these findings may be biased by the use of measures that emphasize female modes of intimate expression over those of males. Furthermore, Hussong (2000) notes that when studies examine different definitions of intimacy, mean gender differences vary depending on which definition of intimacy is used. Consequently, researchers have advocated for the examination of both mean- and structural-level gender differences in the study of friendship quality (Bagwell & Schmidt, 2000; Buhrmester, 1996; Hussong, 2000).

In one of the few studies examining both mean- and structural-level gender differences in friendship quality, Hussong (2000) investigated differences in the features of intimacy and peer control in a sample of adolescents ages 16-19. Results showed support for both mean- and structural-level differences in these friendship features. At the structural level, results indicated that intimacy and peer control were defined by different behaviors for males and females, with companionship emerging as a stronger component of intimacy for males and overt behaviors being more indicative of peer control for females. At the mean level, results showed higher levels of intimacy in female friendships and more peer control in male friendships. Similarly, a study by Camarena and colleagues (1990) found different pathways to emotional closeness across genders, with males achieving closeness through shared experiences and self-disclosure, whereas females achieved closeness only through self-disclosure. These results highlight the need to examine the processes and provisions that serve to make up friendship quality for males and females in addition to mean-level differences across genders in order to more accurately understand differences in the quality of male and female friendships.

Overall, it is clear that there are characteristic differences in the SS friendships of males and females. These differences emerge early in development and likely continue to shape friendships throughout the course of development. Although these differences have been widely noted, there is less understanding of why they exist, how they emerge, or how they impact our assessment of friendship quality. In order to address some of these issues, researchers have advocated for increased understanding of variations in the social needs of males and females, greater assessment of the negative features of friendships, and increased attention to the processes and provisions that comprise friendship quality.

Cross-Sex Friendships

Although the majority of friendship research has focused on SS friendships, friendships also exist between members of the opposite sex. O'Meara (1989) described cross-sex (CS) friendship as “a specific type of friendship—a nonromantic, nonfamilial, personal relationship between a man and a woman,” and further noted that the function of CS friendships is “purposely dissociated from courtship rites by the actors involved” (pp. 526). It is clear, even from this definition, that CS friendships occupy a complicated place in the social networks of adolescents and young adults. Indeed, Rawlins (1982) noted that CS friendships do not fit into any “neat” category. Like SS friendships, CS friendships are platonic relationships; however, like heterosexual romantic relationships, they are comprised of male and female partners. Consequently, there has been significant debate in the literature regarding the nature and function of CS friendships, and the majority of research on CS friendships has focused on comparing and contrasting these relationships with SS friendships and heterosexual romantic relationships. Prior to reviewing this

literature, it should be noted that the current review, and the majority of CS friendship research in general, is focused on the CS friendships of heterosexual individuals.

The role of cross-sex friendships across development. Although it is clear that friendships with members of the same sex emerge early in childhood, friendships with those of the opposite-sex typically show a different trajectory. During childhood and preadolescence, friendships dyads consist almost exclusively of members of the same sex. Beginning in early adolescence, however, CS friendships start to emerge and continue to become more prominent throughout adolescence (Sippola, 1999). It has been posited that the development of CS friendships may coincide with the emergence of sexual and reproductive needs that also begin to develop at this time (Furman & Buhrmester, 1992) and that CS friendships may serve as a bridge from SS friendships to romantic relationships (Hand & Furman, 2009). Indeed, it is possible that for early adolescents CS friendships may be the first close relationship with a member of the opposite sex. Consequently, these relationships may serve as a context for developing the necessary skills for interacting with the opposite sex, thereby facilitating the development of future romantic relationships (Connolly & Johnson, 1996; Furman & Shaffer, 2003; Sippola, 1999; Sullivan, 1953). It is important to note, however, that CS friendships likely serve functions beyond facilitating the development of romantic relationships. Indeed, Sullivan (1953) identified learning how to relate to members of the opposite sex as an important developmental task in adolescence. Sippola (1999) argued that these skills are important for functioning in an increasingly heterosocial world in which individuals interact with members of the other-sex in many contexts outside of romantic or sexual relationships. Furthermore, CS friendships persist beyond the emergence of

romantic relationships, suggesting that they continue to meet important social needs across development.

In his seminal ethnographic study, Dunphy (1963) used observations, interviews, and dairies to investigate these changes in the structure of peer social networks over the course of two years in a sample of adolescents ages 13 through 21. In early adolescence, Dunphy (1963) noted that peers typically interacted in small groups made up of SS friends, called cliques. These cliques eventually merged with other cliques comprised of members of the opposite sex, forming larger mixed-sex groups. Dunphy (1963) noted that these mixed-sex cliques continued to function as small intimate groups, but contained members of both sexes. In later adolescence, these larger groups dissolved into groups of couples in romantic relationships. Overall, Dunphy (1963) concluded that the major role of the adolescent peer group is the socialization of heterosexual activity and that features of the peer network facilitate the emergence of romantic relationships.

Some researchers have attempted to replicate Dunphy's (1963) findings through empirical studies. In a sample of students in grades five through eight, Connolly and colleagues (2004) found evidence for a sequence in which adolescents moved from SS friendships, to mixed-sex groups, followed by dating, and finally romantic relationships. It is important to note, however, that participants did not discontinue their involvement in mixed-gender groups once dating began, but instead these relationships co-occurred, indicating an expansion of the social network, rather than the emergence of new social relationships that replace previous relationships. In a three-year longitudinal study, Connolly, Furman, and Konarski (2000) asked adolescents in 9th, 10th, and 11th grades to identify peers in their social network. Results showed that the number of CS peers

identified increased with age, while the number of SS peers decreased slightly; however, 97% of students still reported more SS than CS peers in their network. Similarly, Feiring (1999) evaluated the gender structure of the peer group network in a sample of students ages 9, 13, and 18 and found that participants had more SS friends than CS friends at all ages, but that the gap between the number of SS friends and CS friends declined significantly with age, with the smallest gap being found in late adolescence. Furthermore, in a five-year longitudinal study of students from grades 6 through 10, Poulin and Pederson (2007) found that the proportion of CS friends increased linearly over time, though SS friends remained dominant. Lastly, in a sample of college students, participants reported that 42% of their friendships were CS (Lenton & Webber, 2006). Taken together, these results suggest that CS friendships emerge in early adolescence and become increasingly normative over the course of adolescence.

CS friendships emerge in early adolescence and not only increase number, but also in importance over the course of adolescence. Research has shown that CS friends are more frequently identified as close or best friends over the course of adolescence. For example, in a sample of students in grades six through eight, Arndorfer and Stormshak (2006) found older students were significantly more likely to identify a peer of the opposite sex as their *best* friend. CS friends were nominated as best friends at a similar rate in sixth grade (i.e., 14%) and seventh grade (i.e., 16%); however, a significant increase was found for eighth grade students (i.e., 21%), suggesting that CS friendships also increase in importance in adolescence. Similarly, Kuttler and colleagues (1996) asked students ages 15 through 18 to list the names and gender of their closest friends (up to eight friends), beginning with their closest friend, then listing their second closest

friend, and so on. Results showed that the likelihood of having a close CS friend (i.e., in the top three friends listed) increased significantly with age, with 43% of 15- and 16-year-olds and 57% of 17- and 18-year-olds identifying a CS friend as one of their three closest friends. Research with college students has found that 93% of students report having a close CS friend (Horner, 1996).

In addition to more frequently being identified as close friendship partners, CS friendships, like SS friendships, also show increases in important relationship provisions over the course of adolescence. For example, Buhrmester and Furman (1987) found significantly higher rates of companionship and intimacy in the CS friendships of both boys and girls in 8th grade compared to 5th grade. Similarly, in a sample of students in 5th, 7th, 9th, and 11th grades, Sharabany (1981) found that students reported increases in intimacy in their CS friendships at each grade level. Lastly, Johnson (2004) found that participants reported greater closeness in their CS friendships across adolescence in a sample 8th grade, 10th grade, 12th grade, and college students. In sum, it is clear that CS friendships begin to emerge and become increasingly common and important across adolescence. Many of these friendships appear to develop in addition to already established SS friendships, resulting in an expansion of the friendship network; however, it is important to note that CS friendships are not limited to just casual friends, but in many cases become close friends as well.

Comparison with same-sex friendships.

Conceptions of same-sex and cross-sex friendships. Despite becoming a relatively common type of relationship by adolescence, CS friendships have been largely ignored in the research literature (Monsour, 2002; Sippola, 1999). Of the limited research

examining these relationships, the majority has focused on comparing CS friendships to SS friendships. This may be due, in part, to challenges with the conceptualization and definition of CS friendships. Although these friendships share many of the same characteristics as SS friendships, they are also inherently distinct because they are comprised of members of both sexes. This has lead some to question whether CS friendships are functionally similar to SS friendships or whether they constitute a separate, unique type of relationship.

In a study examining the conceptions of CS friendships compared to SS friendships across childhood and adolescence, McDougal and Hymel (2007) found both similarities and differences between the two relationships. Across age groups, SS and CS friends were both viewed as people to have fun with and who make important social gestures to continue the friendship. Interestingly, McDougal and Hymel (2007) found that when students were asked to explain what made their CS and SS friendships similar or different they emphasized shared activities, intimacy, and trust in both situations. This finding suggests that the same features that differentiated CS and SS friendships for some students made these relationships similar for other students. Additionally, two unique characteristics of CS friendships emerged, with older students noting that CS friendships allowed access to a unique perspective, but also sometimes involved issues with relationship expectations, such as others assuming the relationship is not platonic. Overall, despite observing several similarities between the two types of relationships, when students were directly asked if they thought their CS and SS friendships were similar or distinct relationships, approximately 64% of the students endorsed the belief that SS and CS friendships are distinct relationships. These findings indicate that

although CS and SS friendships are similar in many ways, they tend to be viewed as unique relationships.

Friendship quality across same-sex and cross-sex friendships. Most knowledge regarding the features and quality of CS friendships has come from studies that compare aspects of CS friendships to SS friendships. As with SS friendships, most research examining friendship features in CS friendships has focused primarily on the positive dimension of quality. For example, in a sample of 15- through 18-year-olds, Kuttler, La Greca, and Prinstein (1999) investigated self-reported levels of companionship, prosocial support, esteem support, and intimacy in SS and CS friendships. Results showed that higher levels of companionship were reported in SS friendships as compared to CS friendships. Higher levels of prosocial support were found in SS friendships, but only for young adolescent girls, with older adolescents reporting similar levels of prosocial support in their SS and CS friendships. Adolescent males reported receiving more esteem support from their CS friends than SS friends and in particular reported that their female friends were more likely than their male friends to make them feel good about themselves and their accomplishments. Lastly, adolescents reported similar levels of intimacy in their SS and CS friendships, although females reported more intimacy than males in both relationships. Overall, these results suggested that SS friendships conferred similar or more positive friendship features as compared to CS friendships, but that CS friendships may have some particular benefits for males.

Monsour (1988) examined intimacy in the SS and CS friendships of college students using both self-report and coded observations. For the observation portion of the study, participants were recorded engaging in a 20-minute unstructured conversation with

either a friend of the same sex or the opposite sex. For each conversation, observers rated how intimate the conversation was during five one-minute intervals. As expected, SS female dyads reported greater intimacy compared to all other dyads, and these ratings were supported by results from the coded observation. Females reported less intimacy in their CS friendships, but these levels were still higher than those reported by males in either type of friendship. Males reported similar levels of intimacy in their CS and SS friendships, though CS friends were rated as more intimate by coders during the observation. Interestingly, although females reported higher levels of intimacy in their CS friendships, males in CS friendships were rated as more intimate by observers.

Johnson (2004) investigated closeness in the CS and SS friendships of students in 8th grade, 10th grade, 12th grade, and college and found that students in grades 8 and 10 reported greater closeness in their SS than CS friendships, but students in grade 12 and college reported more closeness in their CS friendships. Significant gender differences were found at each age with females reporting greater closeness in their friendships than males; however, gender differences across SS and CS friendships were not examined. In a sample of college students, however, females reported greater closeness in their SS friendships than their CS friendships, whereas males reported more closeness in their CS than SS friendships (Reeder, 2003). Overall, these results provide further evidence that, in terms of positive relationship features, CS friendships may offer unique benefits for males, whereas females likely receive greater benefits from their SS friendships.

Very little research has examined negative features of CS friendships; however, some qualitative research has suggested that a benefit of CS friendships may be the lack of such features compared to other relationships. For example, Rawlins (1992) observed

that some adolescent females reported negative features such as jealousy and possessiveness in their SS friendships, but that these problems were not present in their CS friendships. Additionally, in a study investigating the subjective experience of CS friendships, Reeder (1996) found that the ability to “be blunt” and to “be self,” as well as the perception that CS friendships are “less work and worry” were some of the central aspects of CS friendships. Similarly, Horner (1996) found that CS friendships were “less competitive” than SS friendships. Although these studies were qualitative in nature, the results suggest that consideration of the negative aspects of relationships may help us better understand why CS friendships are developed and maintained.

There have also been relatively few studies that have simultaneously compared both positive and negative features in SS and CS friendships. In an investigation of students in 6th through 12th grades, Lempers and Clark-Lempers (1993) found that participants reported higher levels of positive features in their SS friendships compared to CS friendships across grade levels; however, participants also reported higher levels of negative features in their SS friendships compared to CS friendships. An important caveat of the Lempers and Clark-Lempers (1993) study is that the directions for identifying a CS friend instructed participants to “think about your current boyfriend (if you are a girl) or girlfriend (if you are a boy).” No distinction was made between CS friends and romantic partners and therefore, it is likely that their findings include information about romantic relationships. Similarly, in a study of 10th graders, Furman and Buhrmester (2009) found higher levels of both positive and negative features in SS compared to CS friendships. These findings lend additional support for the notion that a benefit of CS friendships may lie in their relatively lower levels of negative features

relative to SS friendships; however, additional research is needed before more definitive conclusions can be made.

Comparison with romantic relationships.

Conceptions of cross-sex friendships and romantic relationships. In the past, CS friendships were relatively ignored by researchers, often because they were thought to represent unrealized romantic relationships rather than true, platonic friendships. Indeed, some have questioned whether platonic friendships can exist between men and women (O'Meara, 1989). As a result, much of the literature has focused on examining aspects of romantic and sexual attraction in CS friendships in an effort to determine whether CS friendships are actually just unrealized romantic relationships. Despite this, people can typically distinguish between CS friends and romantic partners, viewing CS friendships as separate, unique relationships. Indeed, in a study of children and adolescents in grades 3, 6, 9, and 12, 81% of participants said it was possible to have a purely platonic friendship (McDougal & Hymel, 2007). Additionally, in a sample of college students, 93% of participants reported that they had a platonic CS friendship and did not have any interest in the friendship developing into a romantic relationship (Horner, 1996).

Similarly, additional research suggests that conceptions of CS friendships and romantic relationships also differ. For example, Connolly and colleagues (1999) sought to investigate whether adolescents' conceptions of romantic relationships could be differentiated from their conceptions of CS friendships in a sample of students ages 9 through 14. Results showed that even the youngest children differentiated between the two relationships, with CS friendships being characterized by affiliation, whereas romantic relationships were characterized by passion and commitment. Furthermore, a

study of college students compared the behavioral expectations of CS friends with those of romantic partners and found that expectations for romantic partners were higher in all categories, suggesting that CS friendships are not analogous to romantic relationships (Fuhrman, Flannagan, & Matamoros, 2009).

Although the current study is focused on friendships, romantic relationships are important social relationships for late adolescents and young adults. Consequently, it is critical to understand the role of CS friendships relative to romantic relationships and to distinguish CS friendships as platonic friendships, rather than emerging romantic relationships. Lastly, it is necessary to evaluate how features of romantic relationships, if present, may impact CS friendships and whether the presence of such features differentiates these relationships from more platonic CS friendships.

The role of romantic and sexual interest in cross-sex friendships. Although CS friendships are considered platonic in nature, these friendships may still involve challenges related to romantic and sexual issues that are not typically encountered in SS friendships, with some CS friends reporting being romantically or sexually interested in their friend and even engaging in sexual activity. Consequently, it is important to determine how common romantic and/or sexual interest is in these relationships, how CS friendships are affected by these factors, and whether these relationships truly constitute CS friendships if romantic and/or sexual involvement is present.

One area of interest is whether or not CS friendships involve attraction. It is important to note, however, that attraction may not be a unidimensional construct, but, rather, may involve different types of attraction that may have different implications for CS friendships. In an interview study of college students in CS friendships, Reeder

(2002) found that participants differentiated among four different types of attraction: subjective physical/sexual, objective physical/sexual, romantic, and friendship.

Subjective physical/sexual attraction involved feeling physically or sexually attracted to one's CS friend. Objective physical/sexual attraction, in contrast, involved acknowledging that one's CS friend is physically attractive in general, but not feeling attracted to the friend. Romantic attraction was described as being attracted to the idea of turning the friendship into a romantic relationship. Lastly, friendship attraction included feeling close and connected as friends.

In addition to identifying different types of attraction, Reeder (2002) noted that different types of attraction appeared to function differently in CS friendships. For example, in most cases, participants who identified sexual attraction in their CS friendships reported that these feelings were strongest in the beginning of the friendship. It is possible that in the early stages of CS friendship, friendship partners may be uncertain of the type of relationship they would like to pursue, but as they get to know one another better, they may begin to view their partner more clearly as a friend, which may result in decreased feelings of sexual attraction. Importantly, participants clearly differentiated between sexual attraction and romantic attraction. Even when physical attraction was present in a friendship, a romantic relationship was not necessarily desired, suggesting that sexual attraction can be present without romantic interest. Furthermore, participants often differentiated between the characteristics they found attractive in a friendship, but would not find attractive in a romantic partner. This finding suggests that individuals may look for different characteristics in friendship partners than romantic partners and characteristics that are desirable in one relationship may be unsuitable in the

other. Lastly, it should be noted that friendship attraction was the strongest form of attraction experienced by participants and was prioritized above the other forms of attraction, suggesting that participants valued the platonic nature of their friendships. Overall, these findings suggest that it is important to differentiate between various types of attraction as they may have different implications for CS friendships.

Although researchers have generally agreed that platonic CS friends typically do not engage in sexual activity together, many have observed that CS friends may still experience sexual attraction toward one another (O'Meara, 1989, 1994; Rawlins, 1982; Reeder, 2002; Werking, 1997). In a study of college students, Kaplan and Keys (1997) found that 57% of males and 42% of females reported some attraction to their CS friends, suggesting that sexual attraction is relatively common in CS friendships. Interestingly, similar results were found regardless of whether or not participants were currently in a romantic relationship, providing further evidence that sexual attraction does not necessarily indicate a developing romantic relationship. Furthermore, the presence of sexual attraction in a CS friendship does not necessarily mean that the attraction causes problems in the relationship. For example, Monsour (1994) found that only 6% of male and 8% of female undergraduates felt that sexuality was a challenge in their CS friendships, indicating that while attraction may be an issue for some CS friends, the majority of individuals do not experience difficulty in this area. Consequently, research suggests that sexual attraction is not uncommon in CS friendships and appears to emerge as a problem in only a small minority of CS friendships.

In addition to differentiating among different types of attraction, researchers have distinguished between sexual attraction and sexual contact, noting that although sexual

attraction may be somewhat common in CS friendships, it does not necessarily lead to sexual contact. One study of undergraduates found that 49% of participants reported that they had never engaged in any sexual activity with any CS friend during their lifetime and 26% indicated that they had only engaged in sexual activity with one CS friend in their lifetime (Afifi & Faulkner, 2000). Note, these findings reflect any sexual contact with any CS friend. Given that other studies have found that approximately 42% of college students' friendships are with individuals of the opposite sex (Lenton & Webber, 2006), it is likely that even the participants that reported engaging in sexual contact with a CS friend in the past likely also had many other CS friendships that did not involve any sexual contact. Additionally, of those who reported engaging in some sexual activity with a CS friend in the past, over half reported that these relationships did not subsequently develop into romantic relationships and instead viewed sexual contact as part of the friendships (Afifi & Faulkner, 2000). Indeed, Furman and Shaffer (2011) note that the sexual behavior of adolescents and young adults often occurs in contexts other than romantic relationships, which has been described as nonromantic sexual behavior, or "hookups." Although Furman and Shaffer (2011) were not specifically referring to CS friends, their findings nevertheless provide additional evidence that sexual contact may not necessarily be romantic in nature. Overall, these results suggest that although sexual attraction may be relatively common in CS friendships, engaging in sexual activity occurs less frequently; however, when it does occur, it does not necessarily signify romantic interest or the development of a romantic relationship.

In contrast to sexual attraction, it has been suggested that lack of romantic interest, in particular, may differentiate CS friendships from other opposite-sex

relationships. In a sample of college students, Koenig and colleagues (2007) asked participants to report their own level of romantic and sexual interest in their CS friend as well as their perception of their CS friends' interest in them. Participants' reports were also supplemented by the CS friends' report of their interest in the participant. Results showed that perceivers tended to project their own levels of sexual and romantic interest onto their CS friend. This finding is important because additional research has found that both self-reported romantic interest and perceived interest can impact interactions in CS friendships. For example, one study with college students separated participants into groups based on their own romantic interest in their CS friend and their perception of their CS friends' romantic interest in them and found that both self-reported and perceived romantic interest impacted the types of interactions in the relationship (Guerrero & Chavez, 2005). Specifically, it was found that individuals who desired romance and believed their CS friends were also interested in romance engaged in interactions designed to move the relationship forward into a romantic relationship, whereas those in platonic friendships reported less focus on the status of the relationship and discussed romantic relationships with others with their CS friend (Guerrero & Chavez, 2005). Furthermore, females who were not romantically interested in their CS friends, but felt their CS friends were romantically interested in them reported engaging in public social activities with their CS friends less often than other participants, possibly in an effort to avoid misperceptions of the relationship as being more than platonic (Guerrero & Chavez, 2005). Interestingly, participants who were interested in romantic involvement, but felt their CS friends were not reported less discussion of their relationship status, possibly in an effort to avoid disrupting the relationship or due to fear

of rejection. Similarly low levels of relationship discussion were found for participants in mutually platonic relationships where neither the participants nor their friends desired romantic involvement. It is possible that these low levels may be due to fewer concerns related to the status of the relationship, and therefore, less need to discuss the nature of the friendship (Guerrero & Chavez, 2005).

This notion is supported by additional research that has found individuals report wanting to keep their CS friendships platonic and that this preference for a platonic status is associated with the use of different types of behaviors to maintain the friendship (Messman et al., 2001). Of note, the most commonly cited reason for wanting to maintain the platonic nature of the CS friendship was to safeguard the friendship, followed by lack of attraction. These results suggest that CS friendships are not simply unrealized romantic relationships, but rather that participants value the platonic nature of the friendship and would not want the friendship to become romantic.

In addition to investigating the impact of potential future romance on CS friendships, it is important to determine whether CS friendships with former romantic partners function differently from those with no history of romantic involvement. Schneider and Kenny (2000) asked college students to report on aspects of their relationships with friends of the opposite sex that they had never had a romantic relationship with, as well as in their friendship with a former romantic partner, if they had one. Results showed that participants reported greater desire for romantic involvement with former romantic partners than CS friends. Furthermore, participants reported receiving more benefits and fewer costs in their relationship with their CS friend compared to their former romantic partner. Consequently, Schneider and Kenny (2000)

concluded that although it is possible to be friends after being romantic, friendship between former romantic partners is a distinct type of relationship that is different from a platonic friendship.

These findings have important implications for research on CS friendships. Although many studies state in their definition of a CS friendship that a CS friend should not be a romantic partner, fewer studies also state that a CS friend should not be someone the participant is romantically interested in, and many studies do not give any explanation of a CS friendship at all. Furthermore, some studies of CS friendships simply ask participants to identify a “boy friend” or “girl friend.” Consequently, it is likely that the existing research on CS friendships includes many different types of relationships under this term, which may actually be better conceptualized as different types of relationships (Sippola, 1999). Indeed, Hand and Furman (2009) note that much of the existing literature on CS friendships would be better conceptualized as research on CS relationships. Furthermore, they argue that if researchers want to understand the transformations in adolescent peer networks and their implications for adjustment, it is important to distinguish between CS friendships and romantic relationships (Hand & Furman, 2009). In particular, research suggests that dyads comprised of former romantic partners or where one or both members desires a romantic relationship likely function differently compared to more platonic friendships and should not be considered the same type of relationship (Guerrero & Chavez, 2005; Koenig et al., 2007; Messman et al., 2001; Schneider & Kenny, 2000). Therefore, it is important to clearly define CS friendships and to assess for romantic interest and prior romantic involvement in relationships identified as CS friendships. Given these findings, the current study asked

participants to identify as CS friend that they had never been in an exclusive romantic relationship with and that they did not have romantic interest in. Additionally, because the impact of sexual contact is less understood, participants were asked to report on previous instances of sexual contact with their CS friend and to indicate whether they were currently interested in engaging in sexual contact with their CS friend to determine whether group differences existed based on sexual interest or past sexual involvement.

Overall, it is clear that platonic CS friendships not only exist, but are common and do not simply represent unrealized romantic relationships. Although attraction appears to be somewhat common in CS friendships, it appears to have little impact on the functioning of CS friendships unless accompanied by other features, such as romantic desire. The results regarding sexual contact, however, are less clear. Although less common than attraction, sexual contact does occur between friends and is not necessarily indicative of a romantic attachment. More research is needed to determine whether these relationships are functionally similar or different from CS friendships that do not include sexual contact. Regardless, the presence of romantic interest or previous romantic involvement is an important characteristic that differentiates these relationships from CS friendships and makes them more functionally similar to romantic relationships. Consequently, relationships that include romantic interest or past romantic involvement should not be considered CS friendships.

Relationship quality in cross-sex friendships and romantic relationships. Some additional research has sought to compare relationship quality in CS friendships to romantic relationships. As with the findings from SS friendships, research has generally found that romantic relationships are rated as higher in positive quality as compared to

CS friendships. Using the positive dimension of the NRI, Buhrmester and Furman (1987) found that males and females in 5th and 8th grades reported more intimacy and companionship in their romantic relationships as compared to their CS friendships. In a study that included both self-report and observation of self-disclosure and emotional expressiveness in CS friend and romantic partner college student dyads, Monsour (1988) found that romantic partners reported self disclosing more and being more emotionally expressive than CS friends, but were rated by observers as lower than CS friends in these areas. In an examination of both positive and negative quality, using the NRI, Hand and Furman (2009) found that romantic relationships were rated not only as more supportive than CS friendships, but more conflictual as well, in a sample of 12th grade students.

The unique role of cross-sex friendships. To date, most research on CS friendships has focused on comparing and contrasting these relationships with other important peer relationships. Although many similarities and differences have been noted in these studies, some researchers have argued that CS friendships likely also serve unique functions or provide unique benefits that SS friendships and romantic relationships do not and therefore, should be viewed as distinct relationships, worthy of study in their own right (Bagwell & Schmidt, 2011). Although most research has considered CS friendships in relation to other social relationships, some evidence has emerged to support this notion.

Several of the unique benefits of CS friendships that have been identified are related to the gender composition of these friendships. One such benefit of CS friendships is access to an “insider’s perspective” of the other sex, including insight into how members of the opposite sex think, feel, and behave (Sapadin, 1988). Access to an

insider's perspective has been endorsed as a benefit of CS friendships in studies of students in high school through college (Hand & Furman, 2009; McDougal & Hymel, 2007; Monsour, 1988; Reeder, 1996; Sapadin, 1988; Werking, 1997). Another related benefit of CS friendships is that these friendships may contribute to the development of interpersonal competencies, in particular, those necessary for the development and maintenance of relationships with members of the opposite sex (Hand & Furman, 2009; Sippola, 1999). Furthermore, CS friendships may provide individuals with access and opportunities to meet other members of the opposite sex and potential romantic partners (Connolly et al., 2000; Feiring, 1999). Indeed, Furman and Shaffer (2011) observed that CS friendships fulfill many of the typical functions of a friendship, but because they are with members of the opposite sex, they can also provide experiences and perspectives that are not available in SS friendships. Furthermore, CS friendships may help facilitate the development of competencies that are more characteristic of one sex than the other. For example, males may learn to become more open and expressive and females may learn how to become more assertive in their relationships (Leaper & Anderson, 1997).

Another potential benefit of CS friendships is that they may serve as a context to meet certain social needs without the demands often associated with other relationships. For example, Monsour (1988) found that CS friendships provided opposite-sex companionship without the expectations and demands that typically accompany romantic relationships. Furthermore, in a study examining the subjective experience of CS friendships, Reeder (1996) identified several themes that were particularly salient for individuals in CS friendships. Although many of these themes were similar to those found in other relationships (e.g., provide support, spend time together), participants also

noted that CS friendships, in particular, provide a context where they can be themselves, say what is on their mind in an honest and frank manner even when the information is negative, and simultaneously require less work and worry than other relationships. These results may help explain Rawlins' (1992) finding that adolescents often report being less open in their romantic relationships as compared to their CS friendships. Overall, these results suggest that another benefit of CS friendships may be that they offer some similar provisions as other relationships, but do so in a context that may have fewer expectations for behavior and therefore, potentially involve less pressure and judgment, allowing individuals to feel especially comfortable to be themselves and open in these friendships.

The notion that CS friendships are both similar to and distinct from other important peer social relationships is nicely summarized by the findings of Hand and Furman (2009). In a sample of 12th grade students, Hand and Furman (2009) asked participants to report on the benefits and costs of CS friendships, SS friendships, and romantic relationships. Overall, they found that CS friendships included both rewards and costs that are distinct from SS friendships and romantic relationships, and, in fact, were found to differ from at least one of the two other relationships on 13 of 16 categories of rewards and 10 of 13 categories of costs. In terms of unique benefits, participants endorsed positive personality traits, the opportunity to learn about the other sex, engaging in perspective taking, and providing a connection to meet other members of the opposite sex as benefits of CS friendships more often than SS friendships and romantic relationships, suggesting that these are unique benefits of CS friendships. In terms of unique costs, participants cited more confusion, lack of intimacy, lack of compatibility,

and misperception of the relationship by others as costs of CS friendships more often than the other two relationships.

Hand and Furman (2009) also noted that several important gender differences emerged when rewards and costs were examined across males and females in the three relationships. For example, they found that males were half as likely to mention intimacy as a reward of CS friendships than for SS friendships. These findings are in contrast with previously reviewed research that has found that males report more intimacy in their CS than SS friendships and may be more likely to seek intimacy from female friendship partners given the low levels of intimacy present in their SS friendships (Buhrmester & Furman, 1987; Furman & Buhrmester, 1985; Lempers & Clark-Lempers, 1993). Importantly, Hand and Furman (2009) also noted that a disproportionate number of the gender differences that were found were specific to rewards of CS friendships. They argued that this finding suggests that CS friendships may be more likely than other relationships to serve different purposes for males and females.

Overall, these results suggest that CS friendships likely provide many similar benefits and meet many similar social needs as SS friendships and romantic relationships; however, they also provide unique benefits not found in SS friendships and romantic relationships. Furthermore, emerging evidence suggests CS friendships may have some unique costs, but may also be characterized by relatively low levels of negative features and demands compared to other relationships. Taken together, these findings suggest that mean-level comparisons across relationships may fail to capture some important aspects of CS friendships. Therefore, it may be better to view these relationships all as unique, parallel relationships that help meet different needs across adolescence.

Gender differences in cross-sex friendships. Similar to that regarding gender differences in SS friendships, research on CS friendships has often focused on mean-level comparisons of friendship features across the CS and SS friendships of males and females. Consequently, this work is susceptible to many of the same issues that have been critiqued by Hussong (2000) and others in the SS friendship literature, which may also result in additional issues not encountered in SS friendship research. For example, researchers examining SS friendships have found that males and females may experience intimacy through different types of interactions, which may account for some of the characteristic differences observed in male and female SS friendships (Camarena et al., 1990; Hussong, 2000). These differences are likely more apparent in SS friendships as both members of the dyad are apt to hold these gender-typical styles. CS friendships, however, are inherently more complex because each dyad involves a male and female partner and both partners likely bring their own gender-typical style of interacting to the relationship, meaning that these friendships may include features commonly associated with the SS friendships of both genders.

Although there have not been systematic investigations of mean and structural-level gender differences in SS and CS friendships, some researchers have begun to investigate how gender impacts our understanding of these friendships. Similar to SS friendships, one area that has been found to be particularly problematic is the assessment of intimacy. Consequently, variations in the way intimacy is defined and conceptualized across investigations may impact findings on CS friendships. Bagwell and Schmidt (2011) note that definitions of intimacy utilized in research range from simply the behavior of self-disclosure to definitions that focus on the affective feeling of emotional

closeness. Broader definitions of intimacy may also incorporate both behavioral and affective components such as spending time together, feelings of caring, and the experience of loyalty (Monsour, 1992).

As previously noted, features such as self-disclosure and emotional expressiveness may be more salient and more readily encouraged among females, whereas males may be more likely to express intimacy through shared activities and companionship (Camarena et al., 1990, Hussong, 2000). In a study of SS and CS friendships, Horner (1996) asked participants to indicate the type of intimacy they typically experience in their friendships. Results showed that females and males defined intimacy differently, with females endorsing a more traditional view of intimacy that focused on high levels of emotional disclosure and verbal exchange. Males, in contrast, endorsed a different definition of intimacy that emphasized shared time and concern, but in a manner that avoided verbal disclosure and expression of vulnerability. Consequently, Horner (1996) concluded that it may not be that females are more intimate than males, but rather that they engage in a different type of intimacy.

Given these findings, some researchers caution that gender differences in intimacy and overall positive friendship quality that have been found in the literature may be inflated in favor of females when definitions of intimacy focus on self-disclosure or emotional expressiveness (Bagwell & Schmidt, 2011; Horner, 1996). The overwhelming finding that females have more intimate friendships may be partially a result of using a female definition of intimacy and neglecting to assess additional types of intimacy that may be more relevant to males. Clearly this has important implications for research on CS friendships as well. If assessments of friendship quality define high-quality

friendships as those that contain features that are more salient in female friendships, it is unlikely that friendships that include males (either CS friendships or SS male friendships) will exhibit these features to the same degree as SS female friendships.

In addition to considering whether males and females define intimacy differently, some studies have begun to examine whether males and females also view intimacy differently in their SS friendships compared to their CS friendships. For example, Monsour (1992) asked college students to describe how they define and express intimacy in their CS and SS friendships, respectively. Results showed that females were more likely to include self-disclosure in their definition of intimacy in both their SS and CS friendships than males were in either type of relationship, suggesting that self-disclosure is less central for males in conceptualizing intimacy. Females endorsed self-disclosure as a meaning of intimacy more often in their SS friendships as compared to their CS friendships, whereas males identified self-disclosure as a component of intimacy equally as often in their SS and CS friendships. In contrast with other studies, emotional expression was endorsed as a meaning of intimacy by a higher percentage of males in CS friendships than females in either type of friendship. A similar proportion of males and females identified unconditional support and trust as components of intimacy across both relationships. Lastly, endorsement of activities as a meaning of intimacy showed an interesting pattern with no males in CS friendships and no females in SS friendships endorsing activities as a facet of intimacy; however, activities were endorsed by some males in SS friendships and females in CS friendships (Monsour, 1992). It is possible that activity sharing represents a particularly masculine approach to intimacy and therefore is particularly salient for females in CS friendships because it is a noticeable deviation from

their SS friendships, whereas it may be less salient for males in CS friendships because it occurs more regularly in their SS friendships. Overall, these results suggest not only that there are important differences in the way intimacy is conceptualized and expressed across males and females, but that there may also be important variations based on the type of relationship. In particular, it is possible that some aspects of intimacy that are not found in one type of relationship might emerge as particularly salient in the other.

In addition to emphasizing the importance of how constructs, such as intimacy, are defined across research, Monsour (1992) noted that the features of friendships may be partly determined by the gender of the partner with whom an individual is interacting. Previous studies have compared differences across gender and across friendship type; however, few studies have considered how the gender of the friendship partner may impact findings. In a study of SS and CS friendships with college students, Horner (1996) examined differences in intimacy by comparing results based on the gender of the participant, the type of friendship (i.e., SS or CS), and the gender of the friendship partner. Results for female friendship partners, for instance, would include responses from females' reports of their SS friendships and males' reports of their CS friendships. These different approaches of analyzing data resulted in some interesting differences. For example, when examining differences across gender, females reported that intimacy was more important in their friendships than did males. When differences were examined across friendship type, results showed that intimacy was more important in CS friendships than SS friendships. In terms of the gender of the partner, results showed that intimacy was reported to be more important in friendships with female partners than those with male partners. Furthermore, results showed that the effects of the gender of the

partner were stronger than the effects of either the friendship type or the participant's sex. These findings lend greater support to the notion that intimacy may be a particularly feminine feature of friendships and may be less relevant for males. Furthermore, these results suggest that by limiting investigations to mean-level differences across SS and CS friendships and the participants' gender, researchers may fail to capture the full impact of gender in these relationships.

These conclusions are further bolstered by additional findings that show the gender of relational partners can impact interactions. In a study of college students, Felmlee (1999) presented participants with a series of scenarios involving either a male or female friend and asked them to indicate the appropriateness of the friend's behavior in each vignette. Felmlee (1999) wanted to determine if judgments differed based on whether they were made by a male or female participant and also whether they were evaluating behaviors that were displayed by a male or female friend. Results showed that women were more approving of behaviors such as hugging and crying in their SS or CS friendships than men. Although these results were based on hypothetical situations, they provide further evidence that, at least in some situations, female friendships are more intimate than male friendships. Taken together, these findings suggest that the gender of the relationship partner may have an important influence on the interactions that take place in friendships. This has important implications for research on friendships, as it is possible that the different benefits found in the CS friendships of males and females may be better explained by examining differences based on the gender of the friendship partner, rather than the gender of the participant.

Overall, research suggests that some features of friendship may be more salient when interacting with females or males. Findings regarding gender differences in SS friendships have suggested that female friendships may be higher in features, such as self-disclosure and emotional expression, and research on CS friendships has found that males report higher levels of similar features in their CS friendships compared to their SS friendships. Taken together, these results suggest that intimacy and other similar features may be particularly characteristic of female relationships and ways of interacting. This possibility would also be in line with the notion that there are structural differences in aspects of male and female friendships, as well as with Buhrmester's (1996) theory that female friendships are better equipped to meet communal needs, while male friendships are more adept at meeting agentic needs. In terms of CS friendships, these results provide further support for the notion that simply comparing SS friendships and CS friendships based on measures of quality is inadequate and inaccurately suggests that one type of relationship is better or worse than the other. Instead, it is likely that CS friendships serve different functions and have different benefits for different individuals.

Summary

It is clear that friendships are important social relationships across development, particularly so during adolescence and young adulthood (Buhrmester, 1996; Carbery & Buhrmester, 1998; Chow et al., 2012; Furman & Buhrmester, 1992, 2009; Mathur & Berndt, 2006; Sullivan, 1953). During this time, friends offer social provisions, such as companionship and intimacy, which are critical for adjustment (Brendgen et al., 2001; Buhrmester, 1996; Sullivan, 1953). Having high-quality friendships that meet these important social needs is associated with better adjustment, whereas having friendships

that fail to meet these needs may be associated with poorer adjustment (Buhrmester, 1990; Buote et al., 2007; Festa et al., 2012; Laursen et al., 2006). To date, the majority of research has examined SS friendships, likely because these relationships are the dominant type of friendships across development. CS friendships, however, also emerge and become increasingly significant during adolescence (Arndorfer & Stormshak, 2006; Connolly et al., 2000; Feiring, 1999; Horner, 1996; Kuttler et al., 1999; Poulin & Pedersen, 2007). By late adolescence, having CS friendships becomes a normative experience, and college students have reported that almost half of their friends are of the opposite sex (Horner, 1996; Kuttler et al., 1996). Therefore, it is clear that CS friendships are important social relationships, worthy of study in their own right.

Despite the existing focus on SS friendships, there has been growing interest in the role of CS friendships in the literature. To date, much of this research has focused on comparing SS and CS friendships based on features that have been identified in the SS friendship literature in order to assess similarities and differences between these types of friendships. As with research on SS friendships, the focus has been on the positive features of friendships, such as support and intimacy. In general, these investigations have found that SS friendships are higher in positive features than CS friendships (Furman & Buhrmester, 2009; Lempers & Clark-Lempers, 1993). Important differences have emerged across gender, however, with females reporting higher positive quality in their SS friendships compared to their CS friendships (Kuttler et al., 1999; Monsour, 1988; Reeder, 2003). Results for males, in contrast, have been somewhat mixed, with some studies finding higher positive quality in CS friendships and others in SS friendships (Monsour, 1988; Reeder, 2003; Sharabany et al., 1981). As has been observed

in examinations of SS friendships, females also tend to report higher positive quality in their SS and CS friendships compared to males (Kuttler et al., 1999; Monsour, 1988). Despite findings that suggest CS friendships are of lower quality than SS friendships, especially for females, researchers acknowledge that CS friendships remain common and valued relationships across adolescence and young adulthood for males and females (Horner, 1996; Monsour, 1988). This has led some to argue that CS friendships may meet different needs for different individuals and to question the current approach of examining mean-level differences in relationship quality across CS and SS friendships and across gender.

Some have begun to investigate possible structural differences in friendship features for males and females in SS friendships, which likely also have important implications for our understanding of CS friendships. For example, SS friendship studies have found that there are differences in the types of behaviors and interactions that make up positive friendship features, such as intimacy and closeness, as well as negative features, such as peer control, for males and females (Camarena et al., 1990; Hussong, 2000). Consequently, several research groups have argued that findings that female friendships are more intimate than the friendships of males may be biased by the use of measures that emphasize female modes of intimate expression over those of males (Bagwell & Schmidt, 2011; Furman, 1996; Horner, 1996). This has important implications for research on CS friendships. For example, if assessments of friendship quality define high-quality friendships as those that contain features that are more salient in female friendships, it is unlikely that friendships that include a male (either CS

friendships or SS male friendships) will exhibit these features to the same degree as a SS female friendship.

Although structural differences in CS friendship features have not been investigated, there is some evidence to suggest that reliance on more feminine notions of friendship quality in the research literature has resulted in CS friendships appearing deficient. For example, Horner (1996) found that females reported more intimacy in their friendships than males, but also that all participants reported greater intimacy in their friendships if they were reporting on a female relationship partner. These findings suggest that intimacy may be a particularly feminine feature of friendships and may not be as relevant in friendships for males. Furthermore, Monsour (1992) found that males and females endorsed different definitions of intimacy across both SS and CS friendships, but also that within each gender there were differences in the way intimacy was defined and expressed in SS friendships compared to CS friendships. Overall, these findings suggest that there may be some problems in the assessment of constructs that comprise quality, and it is possible that the relevance or definition of these constructs varies by gender and possibly also across different types of friendships. One possible approach to addressing this problem may be to investigate the types of interactions that actually occur in friendships, rather than broad descriptive constructs such as intimacy. Examinations at the behavioral level may eliminate some of the problems that arise from variations in the definition or the behaviors that make up features, such as intimacy.

In addition to differences in the structure of constructs that comprise relationship quality, some researchers have suggested that SS and CS friendships may meet different needs for different individuals. Indeed, some research has found that individuals report

that CS friendships provide rewards that are not available in their SS friendships or romantic relationships (Monsour, 1988). Furthermore, evidence suggests that males and females may look to CS friendships to fulfill different needs that are not as readily met in SS friendships (Buhrmester, 1996; Monsour, 1988). These findings suggest that individuals may vary considerably in what they look for in their SS and CS friendships; however, this type of individual variation is not considered in evaluations of friendship quality. As Berndt (1996, 2002) noted, the term quality is not affectively neutral and implies that some relationships are better than others. Specifically, assessments of friendship quality assume that the more positive features and the fewer negative features present in a relationship, the better the quality. This approach assumes that the ideal features of a friendship are the same across different individuals in different relationships and does not allow for the possibility that individuals may look to different relationship partners for different provisions. In a sense, by comparing SS and CS friendships solely on measures of friendship quality, researchers pre-determine what a person should and should not want from his or her friendships. Although comparing different relationships across a similar set of standards may be helpful for answering some questions, such as the relative contribution of different relationships to particular social needs, this approach may not be sufficient for understanding the role of CS friendships in late adolescence.

Taken together, these findings suggest that the traditional approach of making mean-level comparisons of positive friendship quality across the SS and CS friendships of males and females may result in an inaccurate understanding of the role of CS friendships in late adolescence. Instead, it may be prudent to look within individual relationships to help understand why CS friendships are included as valued social

relationships in young adulthood. Incorporating perspectives from social exchange theory may be one way to expand our understanding of processes that occur within individual relationships and may help reconcile some of the contradictory findings in the existing literature.

Incorporating a Social Exchange Perspective

Overview of social exchange and interdependence theories. At its most basic, social exchange theory analyzes the interactions between members of a dyad in terms of the costs and benefits to each individual and posits that interactions are more likely to continue if both individuals receive more benefits than costs (Thibaut & Kelley, 1959). Benefits, or rewards, are conceptualized as exchanged resources that bring pleasure or satisfaction, whereas costs, in contrast, are exchanged resources that are perceived as loss or punishment (Thibaut & Kelley, 1978). Social exchange theory has implications for the development, maintenance, and dissolution of relationships, including friendships. If an initial interaction is perceived as rewarding, individuals are more likely to continue to pursue additional interactions, eventually leading to the development of a friendship. Friendships that include more costs than benefits, however, are likely to be discontinued (Dindia & Canary, 1993).

Interdependence theory is an extension of social exchange theory that takes into consideration the fact that relationships consist of unique individuals with unique histories that likely influence their expectations for relationships. Consequently, interdependence theory contends that individuals examine the rewards and costs in their relationship in comparison to their expectations for such rewards and costs in this type of relationship (Kelly & Thibaut, 1978). These expectations are called the comparison level

(CL) and are the product of an individual's working models for relationships and their history (Stafford & Canary, 2006). The discrepancy between what an individual actually experiences and his or her expectations determines how satisfied he or she is in the relationship. Therefore, when an individual's perceived outcomes meet or exceed his or her expectations, that person is satisfied; however, if perceived outcomes fall below the CL, the individual will be dissatisfied (Dainton, 2000; Dindia & Canary, 1993; Kelly & Thibaut, 1978; Stafford & Canary, 2006).

Relationship satisfaction. One of the primary strengths of incorporating social exchange and interdependence approaches to the study of friendships is that these theories take into account the individual's subjective account of a relationship, rather than relying on the presence and frequency of certain features. These perspectives allow for the possibility that individuals may be equally as satisfied in relationships that are very different from one another. Satisfaction is a related, but distinct, concept from relationship quality. As would be expected, research has consistently found that measures of satisfaction and friendship quality are significantly correlated (Furman & Buhrmester, 1985; Parker & Asher, 1993; Weeks, 2014); however, there are important differences between these constructs. As has been previously noted, assessments of friendship quality take a "more is better" approach that assumes the more positive features and the fewer negative features that are present in a relationship, the better the quality. Satisfaction, however, is a more subjective and individualized assessment of a relationship that captures individuals' perceptions of the adequacy of the relationship in meeting their needs (Jones, 1991). Consequently, an examination of friendship satisfaction allows for the possibility that individuals may be satisfied in friendships that do not subscribe to

traditional notions of quality. This possibility has important implications for the study of CS friendships, as some have argued that traditional assessments of friendship quality may not appropriately capture important aspects of CS friendships (Hand & Furman, 2009; Horner, 1996; Monsour, 1988).

Although large and consistent gender differences have been widely documented in the research on friendship features and quality, relatively few differences have been found in assessments of friendship satisfaction. Research with children has found that boys and girls tend to report equal levels of satisfaction in their SS friendships, even though girls simultaneously report higher levels of friendship features (Crockett, Losoff, & Peterson, 1984; Furman & Buhrmester, 1985; Parker & Asher, 1993; Patterson, Kupersmidt, & Griesler, 1999; Rose & Rudolph, 2006). Findings with adolescents and young adults have been somewhat mixed, with some studies finding that females report significantly higher satisfaction in their friendships than males (Jones, 1991; Lempers & Clark-Lempers, 1993).

Many assessments of satisfaction, however, have included content that overlaps with other important constructs, such as quality, making it difficult to draw definitive conclusions about the relationship between satisfaction and quality and to determine gender differences. Since gender differences in assessments of friendship quality have been widely documented, Weeks (2014) argues that overlapping content may actually explain some of the gender differences favoring females that have been observed in some assessments of satisfaction. To address this issue, Weeks (2014) examined the links among gender, friendship features, and friendship satisfaction using items (adapted from Parker & Asher, 1993) that focused only on global perceptions of satisfaction and did not

include any content related to friendship features. In a sample of young adults ages 18-29, Weeks (2014) found that males and females reported similar levels of satisfaction in their SS friendships, despite the fact that females report significantly higher levels of friendship features including emotional support, self-disclosure, and validation. These findings suggest that unlike assessments of friendship quality, measures of friendship satisfaction do not typically show large differences across males and females. Consequently, these findings also provide further evidence supporting the use of satisfaction as an alternative outcome to quality in studies of CS friendships because satisfaction appears to be less biased towards female friendships.

Relational maintenance. Social exchange theorists have also investigated the types of interactions that occur in the day-to-day maintenance of relationships and how these interactions may relate to indices of relationship functioning, such as satisfaction. These interactions, or maintenance behaviors, are behaviors that occur between the initiation and termination of a relationship and are enacted by relational partners in an effort to keep the relationship in a desired state or condition (Dainton, 2000; Oswald, Clark, & Kelly, 2004). In line with social exchange perspectives, receiving maintenance behaviors are thought to serve as rewards in relationships (Canary & Stafford, 1992; Guerrero, Eloy, & Wabnik, 1993).

Maintenance behaviors are a similar, but distinct concept from relationship features, and examination of maintenance behaviors has some important advantages over the assessment of friendship quality. First, unlike friendship quality, which may include either processes or provisions, examinations of maintenance behaviors are limited to the behavioral level (e.g., “how often do you and your friend work together on jobs or

tasks?"). This distinction is important given findings by Hussong (2000) and others that there may be structural differences between males and females and across SS and CS friendships in the ways in which features such as intimacy are defined and achieved. Assessing maintenance behaviors may reduce or eliminate some of these problems by examining the types of behaviors that occur in friendships, rather than more abstract concepts, such as intimacy, that are thought to result from these behaviors. Lastly, investigations at the behavioral level may facilitate operationalization of the comparison level by asking participants to consider actual instances of behaviors and whether they would like this behavior to happen more or less often, rather than less tangible concepts, such as intimacy or support. Overall, examination of maintenance behaviors, rather than friendship features and quality, may be a more appropriate venue for ascertaining the benefits of CS friendships because maintenance behaviors allow for an understanding of the types of daily interactions that occur in relationships and may be less susceptible to the conceptual and definitional issues that plague more abstract relational constructs.

Relational maintenance in romantic relationships. To date, the majority of relational maintenance studies have focused on romantic relationships. As such, research regarding maintenance in romantic relationships will be presented first, followed by a review of the limited research in SS and CS friendships. Using the most widely used measure of relational maintenance, the Relationship Maintenance Strategy Measure (RMSM), Stafford and Canary (1991) identified five categories of behaviors that serve to maintain romantic relationships: *positivity* (behaving in a cheerful and optimistic manner), *openness* (self-disclosure and direct discussion of the relationship), *assurances* (messages stressing commitment to the partner and relationship), *social networks* (relying

upon common friends and affiliations), and *sharing tasks* (equal responsibility for accomplishing tasks that face the couple). In a series of studies, receipt of the five types of maintenance behaviors has been consistently and strongly associated with important relational characteristics including love, liking, satisfaction, commitment, and control mutuality in samples of dating and married couples (Canary & Stafford, 1992; Dainton, Stafford, & Canary, 1994; Olgosky & Bowers, 2012; Stafford & Canary, 1991). For satisfaction in particular, Stafford and Canary (1991) found that all five maintenance behaviors accounted for 56% of the variance in relationship satisfaction.

Although research has found that receiving more maintenance behaviors from a romantic partner is associated with greater satisfaction, additional research has sought to evaluate the role of maintenance behaviors using interdependence theory. In a sample of adults in romantic relationships, Dainton (2000) used two different methods of scoring the RMSM to assess the relationship between fulfillment of maintenance behavior expectations and relationship satisfaction. The first study used a direct method to assess the comparison level that evaluated the individual participant's perception of his/her partner's use of maintenance behaviors relative to the participant's own expectations for these behaviors. Applying this approach, participants reported on their partners' use of maintenance strategies based on a scale that ranged from -3 to 3, where 0 represented their expectation level for the behavior and positive or negative numbers indicated receiving behaviors that were increasingly above or below expectations, respectively. The second study used an indirect approach that relied on the calculation of discrepancy scores. In this study, participants were asked to complete the RMSM twice. First, participants were told to complete the measure based on their expectations for what

relationships “should” be like, regardless of what their current relationship is actually like. The second time, participants were instructed to report on the extent to which their partner actually performed each behavior. In this study, expectancy fulfillment was operationalized by creating discrepancy scores where the participants’ reports of actual behaviors were subtracted from their reports of expectations for those behaviors.

Although it has been argued that there are no differences in measuring comparison levels directly, as was done in the first study, or indirectly, as was done in the second study, Dainton (2000) argued that there are several benefits to using an indirect approach. Firstly, using a direct approach assumes that the participant expects his or her partner to engage in all of the maintenance behaviors. Even though maintenance behaviors are rewarding, individuals may not necessarily hold expectations that their partner will engage in all of the behaviors. Furthermore, the direct approach does not provide any information about potential differences in expectations for different maintenance behaviors. It is possible that individuals may have greater expectations for some types of maintenance behaviors than others. Lastly, the direct approach does not allow for any investigation of the relationship between expectations and perceptions of maintenance behavior.

Overall, results of both studies indicated that expectancy fulfillment for the partners’ use of maintenance behavior was positively associated with relational maintenance; however, the indirect approach utilized in the second study allowed for additional examination of the nature of expectations and perceptions of maintenance behavior in romantic relationships. For example, results showed that participants varied in their expectations for different types of maintenance behaviors on the RMSM, with the

use of social networks being expected less and use of tasks and assurances being expected more than all other behaviors. In addition, results showed only small to moderate correlations between expected and actual maintenance behaviors. This is important because it suggests that individuals are able to differentiate between what actually happens in relationships and their expectations. Furthermore, for all maintenance behaviors except social-network use, mean discrepancies scores were negatively signed, indicating that reports of actual behaviors were lower than expectations for behaviors. This suggests that participants were not idealizing their partners' use of behaviors. Overall, Dainton (2000) concluded that the second approach of using two separate versions of the RMSM to define the CL was superior because it provided additional information about both received and desired maintenance.

Relational maintenance in friendships. Examination of relational maintenance in friendships is just beginning. Although previous research had been primarily theoretical or qualitative in nature (e.g., Hays, 1984; Rose & Serafica, 1986), Oswald and colleagues (2004) recently developed a quantitative measure of friendship maintenance behaviors, the Friendship Maintenance Scales (FMS). As a more standardized measure, the FMS allows for greater systematic investigations of friendship maintenance that can more readily be compared across studies. Although research is still limited, investigations using the FMS have offered additional insight into the role of maintenance behaviors in friendships. Across three samples of college students, Oswald and colleagues (2004) found that maintenance behaviors were positively correlated with both satisfaction and commitment in friendships. In a study examining friendship maintenance and problem-solving styles in SS college student dyads, Oswald and Clark (2006) also found that

friendship maintenance behaviors were positively correlated with the use of adaptive problem-solving styles (e.g., voice and loyalty) and negatively correlated with the use of negative problem-solving styles (e.g., neglect and exit) with friends. Furthermore, maintenance behaviors predicted friendship satisfaction and commitment for both members of the dyad. Additionally, in a series of four studies with college students, Demir and colleagues (2011) found that self-reported maintenance behaviors were consistently and positively associated with happiness. Taken together, these results suggest that, like findings with romantic relationships, maintenance behaviors are also important in friendships and are associated with both positive outcomes in the friendship, as well as with individual adjustment.

The FMS was originally developed and validated over a series of studies with college students (Oswald et al., 2004). To develop the scale, Oswald and colleagues (2004) identified all relevant maintenance behaviors found in previous literature. Based on this review, they developed a total of 45 items that represented these behaviors. Two samples of undergraduate students were instructed to complete the measure based on a specific friendship and to report how often they and their friend engaged in the behaviors assessed in each item. Participants were informed that the friend could be male or female, but could not be a romantic partner or relative. Initial and confirmatory factor analyses resulted in a 20-item scale comprised of four scales: Positivity, Support, Openness, and Interaction. The positivity scale included behaviors that make a friendship rewarding and enjoyable, such as trying to make each other laugh. Support included items that deal with providing assurances to the friend, such as letting them know they are accepted for who they are. Openness reflected behaviors of self-disclosure and general conversation, such

as engaging in intellectually stimulating conversations with the friend. Lastly, behaviors on the interaction scale consisted of activities and behaviors friends do together, such as going to social gatherings.

As part of the same series of validation studies, Oswald and colleagues (2004) also examined variations in the stem of the scale items on the FMS. In the initial study to develop the measure, the stem asked participants to indicate how often they or their friend engaged in each behavior in order to capture the overall frequency of maintenance behaviors in the relationship. In the second study, the stem was modified to ask how often the participant engaged in the behaviors on each item. This change was made in order to allow for the possibility that both individuals in a friendship may not engage in the same levels of behaviors. An additional confirmatory analysis was conducted based on the modified instructions and indicated that the original four-factor structure remained appropriate. In the third study in the series, participants included SS friendship dyads. In this study, each participant completed two versions of the FMS. In one version they reported on their own maintenance behaviors, as had been done in a previous study, and on the second version the root was modified to ask how often their friend engaged in each behavior, reflecting their perception of received maintenance behaviors. This approach allowed for examination of agreement between dyad members and found that there were no significant differences between participants' self-reported behaviors and their partners' perception of their behaviors, suggesting that participants were largely in agreement regarding the types of maintenance behaviors provided by both members of the dyad (Oswald et al., 2004). This finding also lends confidence to the accuracy of participants' perceptions of their friends' behaviors in absence of the partners' self-report.

In addition to differences based on reporters, researchers have found differences in maintenance based on the status of the friendship. For example, when asked how often they and their friend engage in behaviors on the FMS, Oswald and colleagues (2004) found that participants reported significantly higher levels of all maintenance behaviors in their friendships with their best friends compared to participants who reported on close or casual friends. Additionally, participants reported significantly more supportiveness, openness, and interaction in their close friendships than their casual friendships, but reported similar levels of positivity in these friendships. Similar results were found by Demir and colleagues (2011) using a composite score of the FMS that included all four subscales. Results showed that college students reported engaging in significantly more maintenance behaviors with their best friend than their next closest friend. Based on interviews with undergraduate and graduate students, Rose and Serafica (1986) found that SS close and best friendships required similar amounts of affection and interaction to maintain. SS casual friendships, in contrast, required significantly less affection and interaction, but significantly more proximity to maintain as compared to SS close and best friendships. Overall, these results indicate that closer friendships likely involve more maintenance behaviors than more casual relationships. As such, it is important to consider closeness when comparing friendship maintenance across different friendships.

Although gender differences have been consistently observed in investigations of maintenance in romantic relationships, mixed findings have been reported in research on friendships. For example, Oswald and colleagues (2004) found that females reported greater supportiveness, openness, and interaction and similar amounts of positivity in their SS friendships compared to males. Using a composite score of the FMS, Demir and

colleagues (2011) did not find any significant differences between males and females in the amount of maintenance they engaged in with either their best or closest friends. Similarly, Rose and Serafica (1986) did not find any sex differences in mean responses for any category of friendship maintenance. It is possible that some of this variation may be due to differences in methodology. For example, Oswald and colleagues (2004) and Rose and Serafica (1986) both asked participants to report on the overall presence of these behaviors in the relationship, whereas Demir and colleagues (2011) asked participants to report on only the behaviors that they engaged in. Additionally, Rose and Serafica (1986) utilized a qualitative approach and although both Demir and colleagues (2011) and Oswald and colleagues (2004) utilized the FMS, the two studies applied different methods of scoring the measure. Consequently, the current literature offers little insight into potential gender differences in mean levels of maintenance behaviors in friendships.

There has been limited research on the role of friendship maintenance in CS friendships. In a sample of college students, Messman and colleagues (2000) developed a measure of maintenance behaviors specific to CS friendships that included six subscales: Support, No flirting, Share activity, Openness, Avoidance, and Positivity. In a second sample, males and females endorsed positivity and support as the most frequently utilized types of behaviors in their CS friendships and also agreed that avoidance and no flirting were the least utilized behaviors. Compared to males, females reported engaging in more support, positivity, and shared activities and engaging in less avoidance in their CS friendships. Although these results are interesting, there is an important flaw in the development of this measure. In the initial development of the measure, participants were

asked to list the types of behaviors they engage in in their CS friendship in order to keep the relationship platonic. As a result, the items derived from these reports do not necessarily represent the types of interactions that occur to maintain the relationship, but rather those that are used to make sure the relationship does not become romantic or sexual. It is likely that different items would have been developed if participants had been asked to report on how they maintain their CS friendships. Scales such as “no flirting” appear to be particularly influenced by this wording. It seems clear that not flirting with a CS friend would be important for keeping the relationship platonic, rather than developing into a romantic or sexual relationship, but it is less clear how not flirting would be relevant for maintaining a friendship in general. These limitations may also explain why items on the no flirting and avoidance scales were endorsed the least by the second sample of participants who were simply asked to report on the behaviors that they engage in with their CS friends. Consequently, it is unlikely that the maintenance behaviors identified by Messman and colleagues (2000) accurately portray how CS friendships are maintained.

The FMS was developed and validated using samples of both SS and CS friends and is therefore a promising tool for investigating maintenance in CS friendships. Although research with CS friendships is limited at this time, initial findings from Oswald and colleagues (2004) suggest that there may be some differences in the maintenance of CS and SS friendships. When asked to report on the overall presence of behaviors in their friendships, participants reported the highest levels of supportiveness, followed by openness, interaction, and lastly, positivity in their CS friendships. Similar levels of positivity were reported across males’ SS friendships, females’ SS friendships,

and CS friendships. Similar levels of openness were reported in females' SS friendships and CS friendships, with significantly less openness reported in males' SS friendships. Male SS friendships and CS friendships endorsed similar levels of interaction, though interaction was reported significantly more often in females' SS friendships. Lastly, supportiveness was reported significantly more often in CS friendships than males' SS friendships, though females reported more supportiveness in their SS friendships than either of the other two relationship types. Although these results provide initial evidence for differences in friendship maintenance across SS and CS friendships, it is important to note that results related to SS friendships were separated by males and females whereas results for CS friendships included reports from both sexes. Therefore, conclusions regarding the role of gender in CS friendships cannot be determined.

In piloting for the current study, however, Ford and Nangle (2013) examined received maintenance in the SS and CS friendships of both males and females. Results showed that both males and females reported receiving the highest amounts of positivity, followed by support, openness, and lastly, interaction in their CS friendships. Compared to SS friendships, both males and females reported receiving significantly less maintenance in their CS friendships. In terms of gender differences, females reported receiving significantly greater maintenance in both types of friendships compared to males. Overall, the results of Oswald and colleagues (2004) and Ford and Nangle (2013) provide initial support for the notion that friendship maintenance differs across SS and CS friendships. Furthermore, pilot results illustrate the importance of considering gender differences within CS friendships, as females were found to report receiving more maintenance in their CS friendships than males.

Overall, there has been limited research regarding relational maintenance in friendships; however, the FMS is a promising tool for future research with both SS and CS friendships. Currently, investigations with the FMS have been limited to mean-level comparisons across gender and friendship type; however, it is possible to apply methods utilized in the romantic relationship research to research on friendship maintenance as well. The current study extends the research on friendship maintenance by evaluating both received and desired (i.e., the comparison level) maintenance in SS and CS friendships. By incorporating interdependence theory, the present study moves beyond mean-level comparisons across sex or relationship type to examine how processes within specific relationships impact satisfaction in that relationship. This approach allows for variation in the types and amount of behaviors desired both within and across relationships and posits that fulfillment of desired behaviors, rather than sheer quantity of behaviors, is a more appropriate predictor of satisfaction.

The Current Study

Cross-sex friendships are both common and important relationships in the social networks of late adolescents and young adults. Despite this, existing research has generally found these relationships to be of lower quality than SS friendships, leading to questions of why these relationships are maintained. The current study addresses this issue by examining positive and negative friendship quality across SS and CS friendships, as well as by looking within relationships and considering how fulfillment of desire maintenance contributes to satisfaction in a given relationship. Participants were asked to identify their closest SS and CS friends. As the present study is interested in platonic CS friendships, participants were asked to identify a CS friend who was not a

current or former romantic partner and that they did not currently have romantic feelings for. After identifying a CS and SS friend, participants were asked to complete self-report measures of relationship quality, friendship maintenance, and relationship satisfaction specific to each of the identified friendships. Separate assessments of received and desired maintenance were completed to allow for the operationalization of a comparison level in both relationships in order to examine the contribution of expectancy fulfillment to satisfaction. This dual approach extends the current literature in several ways and hopefully results in a more accurate understanding of the contribution of CS friendships in the lives of late adolescents.

The current study also adds to the existing literature on friendship quality in CS friendships by examining both positive and negative dimensions of friendship quality in participants' closest SS and CS friendships. To date, researchers have overwhelmingly focused on the positive features of friendships, with results indicating that SS friendships are higher in positive quality than CS friendships, especially for females. Although there has been limited research investigating the negative features of SS and CS friendships, some evidence suggests that CS friendships may be lower in negative features compared to SS friendships (Furman & Buhrmester, 2009; Lempers & Clark-Lempers, 1993). Furthermore, qualitative studies with college students have found that CS friendships are "less work and worry" and less competitive than other peer relationships (Horner, 1996; Reeder, 1996). Although these findings lend some tentative support to the notion that CS friendships may be lower in negative features for college students as well, more systematic research is needed.

Social exchange perspectives argue that relationships are likely to be maintained if they contain more benefits than costs (Thibaut & Kelley, 1959). In terms of friendship quality, positive quality can be conceptualized as benefits in relationships, whereas negative quality would indicate costs. Therefore, individuals are more likely to maintain relationships in which positive quality exceeds negative quality. In line with perspectives from social exchange theory, it is possible that one reason CS friendships may continue to be maintained despite being of comparatively lower positive quality, is that these friendships also include lower costs relative to other relationships. If so, the lower negative quality in CS friendships might, in a sense, “compensate” for the simultaneously lower positive quality found in these friendships. The current study seeks to investigate this possibility by having participants report on both the positive and negative dimensions of quality in their SS and CS friendships using the NRI-RQV.

In addition, the current study supplements traditional mean-level comparisons of quality across relationships by investigating how processes within specific relationships impact satisfaction. In accordance with interdependency theory, the current study evaluates how fulfillment of desired maintenance behaviors (i.e., the comparison level) in each friendship contributes to satisfaction in that friendship. This approach was selected to address some of the limitations in the use of traditional friendship quality measures to examine CS friendships that have been identified previously. Specifically, evaluation of the comparison level allows participants to determine the types and amount of interactions that they would like from their relationships partners, rather than relying on pre-determined notions of quality. Furthermore, the use of maintenance behaviors offers advantages because they are consistently assessed at the behavioral level and are less

vulnerable to the structural issues identified with higher-order constructs, such as intimacy and companionship. Overall, this approach was believed to be a more balanced assessment of SS and CS friendships than previous assessments of friendship quality that have dominated the literature.

In order to examine hypotheses related to interdependence theory, the current study utilized an innovative statistical approach, polynomial regression with response surface analysis, which has become increasingly popular in business and organizational research (Marmarosh & Kivlighan, 2012). The use of polynomial regression with response surface analysis involves graphing and interpreting the results of a polynomial regression in a three-dimensional space (Edwards & Parry, 1993). Although perhaps more complex than the use of traditional discrepancy scores, polynomial regression and response surface analysis allows for the testing of more complicated hypotheses and a provides a more nuanced view of the relationships between combinations of two predictor variables and an outcome variable (Shanock, Baran, Gentry, Pattison, Heggestad, 2010; Weeks, 2013). To date, polynomial regression with response surface analysis has primarily been used to examine questions in organizational research, such as how different sources of feedback may influence characteristics related to job performance; however, this technique can be used in any situation where a researcher is interested in the extent to which combinations of two related predictor variables are associated with an outcome variable, especially in situations when the discrepancy between the two predictor variables is a primary consideration (Shanock et al., 2010).

Prior research examining the effects of differences between received and desired maintenance or similar relationship expectations has generally relied on the calculation of

discrepancy scores (e.g., Demir et al., 2011); however, there has been significant criticism of the use of discrepancy scores to examine the effects of congruence between two variables (Edwards, 2001, 2002; Edwards & Parry, 1993; Shanock et al., 2010). In a review of these issues, Shanock and colleagues (2010) argued that by combining two distinct measures into one score, discrepancy scores confound the effects of the individual measures on the outcome and can be difficult to interpret. Furthermore, these scores do not provide any additional information beyond that provided by the two individual measures. Lastly, the psychometric properties of a single discrepancy score tend to be poorer than the properties of the two individual measures used to create the difference score. Consequently, Edwards and Parry (1993) argued that difference scores should not be utilized and have instead advocated for the use of polynomial regression and response surface analysis to examine the effects of congruence between two measures.

Polynomial regression and response surface analysis can overcome many of the issues identified with the use of discrepancy scores. For example, polynomial regression retains the independent effect of both individual measures, making it possible to examine the extent to which each measure contributes to variance in the outcome, thereby eliminating issues with ambiguous interpretation. Furthermore, graphing results of the polynomial regression in a three-dimensional format provides greater information about how combinations of the two predictor variables impact the outcome (Marmarosh & Kivlighan, 2012; Shanock et al., 2010). Once the response surface has been graphed, the slope and curvature of lines of interest can be examined to test hypotheses regarding the joint effect of the predictor variables on the outcome. Using polynomial regression

followed by response surface analysis it is possible to examine how agreement between two predictor variables relates to an outcome, how the degree of discrepancy between the two variables relates to an outcome, and how the direction of the discrepancy between the two variables impacts the outcome (Shanock et al., 2010).

Hypotheses for the current study.

Relationship quality. As with previous studies, the present study examines mean-level differences in friendship quality across SS and CS friendships. In line with findings from previous studies, it is hypothesized that males and females will report significantly greater positive friendship quality in their SS friendships as compared to their CS friendships (Hypothesis 1). In terms of gender differences, it is hypothesized that females will report higher positive quality in both relationships than males (Hypothesis 2). For negative quality, it is hypothesized that both males and females will report significantly lower levels of negative quality in their CS friendships compared to their SS friendships (Hypothesis 3). Lastly, as some studies have found evidence for higher levels of negative features in male friendships (e.g., La Greca & Harrison, 2005), it is hypothesized that males will report greater negative quality in their friendships than females (Hypothesis 4).

Friendship maintenance. To date, no published research has examined friendship maintenance in both SS and CS friendships separately for males and females. Given the minimal research precedent, hypotheses regarding differences in maintenance across SS and CS friendships and by gender are largely exploratory. Based on pilot findings, it is expected that both males and females will report receiving greater maintenance from their SS friends as compared to their CS friends (Hypothesis 5). Furthermore, it is expected

that females will report receiving greater maintenance in both their SS and CS friendships than males (Hypothesis 6). The current study also examined mean-level differences in desired maintenance across SS and CS friendships and gender; however, as no known published research has examined desired maintenance in either SS or CS friendships, no specific hypotheses are offered.

The final set of hypotheses investigate the role of received and desired maintenance in satisfaction. In accordance with interdependence theory, it is hypothesized that participants will report lower friendship satisfaction as desired and received maintenance became more discrepant (Hypothesis 7). Furthermore, it is expected that the direction of discrepancies will impact satisfaction, such that lower levels of satisfaction will be reported when received maintenance is less than desired maintenance (Hypothesis 8). Lastly, it is predicted that fulfillment of desired maintenance will be associated with similar levels of satisfaction for all levels of desired and received maintenance (e.g., fulfillment of high desires is associated with similar levels of satisfaction as fulfillment of low desires; Hypothesis 9). It is expected that these hypotheses will be true for males and females in both SS and CS friendships.

CHAPTER II:

METHOD

Participants

Participants were 309 University of Maine students between the ages of 18 and 25 years old recruited through the University of Maine Department of Psychology's subject pool (SONA) and email announcements posted to the University email client (FirstClass; see Appendices B, C, and D). Subject pool participants received two research credits and non-subject pool participants received a \$25 Target gift card.

Sample characteristics. The sample consisted of 161 male (52.1%) and 148 female participants (47.9%). Of these participants, 250 (80.9%) were recruited through the Psychology Department's subject pool and 59 (19.1%) were students recruited from the University of Maine community. Participants ranged in age from 18 to 25 years ($M = 19.18$, $SD = 1.33$). Participants were primarily Caucasian (85.4%), with the remainder of the sample identifying as African-American (5.5%), Asian (2.9%), Latino/a (2.3%), American Indian/Native American (1.3%), and Other (2.6%).

The socioeconomic status (SES) of participant households was calculated using the Hollingshead (1975) four-factor index, and ranged from 13 to 60 ($M = 40.4$, $SD = 10.7$). This indicated a wide range of SES. The majority of participants came from homes with two caregivers. Most parents had at least some college education (76.7%), 17.8% completed high school, and the remainder of parents had less than a high school education.

Regarding sexual orientation, 88.7% of participants identified as "heterosexual," 7.8% as "mostly heterosexual," 2.3% as "bisexual," .6% as "gay or lesbian," .3% as

“other,” and .3% indicated they were “not sure.” Regarding participants’ perception of their CS friends’ sexual orientation, 84.7% described their CS friend as “heterosexual,” 6.3% as “mostly heterosexual,” 2.7% as “bisexual,” 5.0% as “gay or lesbian,” and 1.3% reported they were “not sure” of their friends’ sexual orientation.¹

Measures

Primary measures.

Demographic information.

Demographic Questionnaire. (see Appendix E). Information about participant characteristics (e.g., age, sex, ethnicity, sexual orientation) was collected using a self-report questionnaire. The demographic and friendship characteristics information was used to describe the sample and examine possible group differences to be controlled in the data analysis procedures if necessary. Sexual orientation was assessed because some research has suggested that sexual minority youth tend to view CS friendships differently from their heterosexual peers (Diamond, 2000) and sexual orientation may influence the types of interactions that occur in CS and SS friendships (Guerrero & Chavez, 2005; Messman, Canary, & Hause, 2000; Monsour, 1992; Nardi, 1992). The questions concerning sexual orientation appeared on a separate page and participants were reminded that they could skip any item that they did not wish to answer.

Friendship characteristics.

Target friendship identification. In order to identify the SS and CS friends that they reported on in the survey, participants completed the Friendship Identification Form

¹ T-Tests were conducted to examine group differences between individuals who self-identified as heterosexual or not and those who reported their perception of their friends’ sexual orientation as heterosexual or not. No significant group differences were found for any of the primary study variables.

piloted in a previous version of this study (Ford & Nangle, 2013; See Appendices F and G). This form included definitions of a CS friend and a SS friend and asked participants to write the first name of their closest CS friend and SS friend that matched the provided descriptions. As a check of whether the instructions were understood, participants responded yes or no to a series of questions asking whether they had ever been in an exclusive dating relationship with their CS friend, they were currently dating their CS friend, and they currently had romantic feelings for their CS friend. This additional check of romantic involvement has been recommended in the literature because previous research has found that as many as a quarter of individuals identified their romantic partners as their CS friends, despite specific instructions stating not to select a romantic partner (Baumgarte & Nelson, 2009). If participants answered yes to any of these questions, they would be asked to select different CS friends that met the definition. Ultimately, no participants answered yes to any of the items, and therefore, no participants were asked to select an alternative friend. This form was completed with the trained research assistant and participants were encouraged to ask any questions about whether or not their identified friendships met the provided definitions. Participants were informed that they would be asked to answer questions about their relationships with the friends they identified in remaining portions of the study.

Cross-sex friendship characteristics. Information about the CS friendship identified by the participant was collected using a self-report questionnaire that contained items adapted from other studies of CS friendships and was piloted in a related study (Ford & Nangle, 2013; see Appendix H). Participants were asked to report on general characteristics of their friend (e.g., perceived sexual orientation, perceived romantic

relationship status) and features of their CS friendship (e.g., length of friendship, frequency of contact, romantic and sexual history, and current romantic interest; Furman & Shaffer, 2011, Guerrero & Chavez, 2005, Weaver, MacKeigan, & MacDonald, 2011). Participants were reminded that the last names of their friends would not be assessed and any information they provided about their friends would remain anonymous. Additionally, they were reminded that they were reporting on their own *perception* of the sexual orientation and relationship status of their friends and they could skip any items they did not wish to answer.

Friendship network. Information about the gender composition of participants' friendship network was assessed using the Peer Relationships Questionnaire (PRQ; Connolly & Konarski, 1994; See Appendix I). Participants were asked to list the first names of their friends (excluding family members or dating/marital partners). For each identified friend, participants indicated the gender of the friend and whether they considered the friend a close friend (yes or no). The original version of the PRQ also asks participants to indicate whether each friend was about the same age, older, or younger than the participant. In the current study, this item was removed from the PRQ as this information was not relevant to the focus of the study. The PRQ was used as a validity check of the CS and SS friends that participants identified to report on for the remainder of the study. Participants who identified target CS or SS friends that were not also identified on the PRQ were compared to those who identified target friends on the PRQ on outcome variables of relationship quality and satisfaction to determine whether there were any group differences.

Friendship maintenance behaviors.

Received maintenance behaviors. Several versions of the Friendship Maintenance Scale (FMS; Oswald et al., 2004; see Appendices J and K) were used to assess the frequency of maintenance behaviors in a specific friendship. The FMS consists of 20 maintenance behaviors and asks participants to indicate on an 11-point Likert scale, ranging from 1 (*never*) to 11 (*frequently*), how often the behavior occurred. The FMS includes four scales: Positivity (e.g., “How often do you try to make your friend laugh?”), Supportiveness (e.g., “How often do you provide your friend with emotional support?”), Openness (e.g., “How often do you share your private thoughts with your friend?”), and Interaction (e.g., “How often do you celebrate special occasions together?”). Scale scores are calculated by taking the mean of the items and can range from 1 to 11 with higher scores indicating more maintenance behaviors. Negatively worded items are reverse scored. Scales on the FMS can be interpreted individually or combined to create a single composite score, which can range from 4 to 11. The composite score was utilized in the current study. In a college student sample, all four scales of the FMS demonstrated adequate internal consistency (α 's ranging from .75 to .95; Oswald et al., 2004). In that study, all four scales were significantly correlated with one another (p 's < .001) and were also positively associated with satisfaction, commitment, rewards, and investments in friendships (r 's ranging from .06 to .60; Oswald et al., 2004).

The original version of the FMS used the broad stem, “How often do you and your friend...” However, Oswald and colleagues (2004) have developed a version that modifies this stem to be source specific (e.g., “How often do *you*...”). The current study used the source-specific version of the FMS that references the specific CS and SS

friends the participant previously identified. On the “received” version of the FMS (see Appendix J), items assess how often the friend engaged in each behavior (e.g., “How often does *Joe* try to make you laugh?”). Participants completed the FMS-received version in reference to both identified friends. Internal consistency was excellent across both relationship types (Same-Sex Friends $\alpha = .913$; Cross-Sex Friends $\alpha = .925$).

Desired maintenance behaviors. A parallel version of the FMS was used that asked participants to report how frequently they wanted their friend to provide specific maintenance behaviors (e.g., How often did you *want* Joe to try to make you laugh?”). Participants completed the FMS-desired version in reference to both identified friends (See Appendix K). Previous research using the FMS has not modified the scale in this way; however, similar measures of maintenance behaviors in romantic couples (e.g., The Relationship Maintenance Scale; Stafford & Canary, 1991) have been modified to assess desired maintenance behaviors in romantic relationships in order to establish a comparison level (e.g., Dainton, 2000). As with the FMS-received version, the composite scale was used in the present study and showed excellent internal consistency across both relationship types (Same-Sex Friends $\alpha = .93$; Cross-Sex Friends $\alpha = .94$).

Relationship outcomes.

Relationship quality. Relationship quality was assessed using the Network of Relationships Inventory—Relationship Quality Version (NRI-RQV; Buhrmester & Furman, 2008; See Appendix L), a self-report questionnaire designed to measure positive and negative features of social relationships. For the purpose of this study, participants were asked to report on the quality of their relationships with their identified SS friend and CS friend. The NRI-RQV consists of 30 items and participants are asked to rate on a

5-point scale ranging from 1 (*never or hardly at all*) to 5 (*always or extremely much*) how much each statement describes their relationships with their SS and CS friends (e.g., “How often do you depend on this person for help, advice, or sympathy?”). Items are summed to compute the following 10 subscales: Companionship, Disclosure, Emotional Support, Approval, Satisfaction, Conflict, Criticism, Pressure, Exclusion, and Dominance. For this version of the NRI, items load onto the two broadband factors of Closeness and Discord. Scores on each scale are derived by taking the mean of the items and can range from 1 to 5. Scores on the two broadband factors can range from 1 to 5. Higher scores are indicative of greater levels of closeness or discord within a particular relationship. The current study used the broadband factor scores. Although originally developed for use with children, the NRI-RQV has also been used with adolescent populations and has demonstrated acceptable psychometric properties (Buhrmester & Furman, 2008; Furman & Buhrmester, 2009; Hibbard & Buhrmester, 2010). Although no known published studies have utilized the NRI-RQV with college students, the NRI-RQV was used in a pilot of the current study, and the scale scores were found to be internally consistent in a university sample (α 's = .90-.94; Ford & Nangle, 2013). In the current study, Cronbach's α 's ranged from .86-.89 for same-sex friends and .86-.89 for cross-sex friends, indicating good internal consistency.

Relationship satisfaction. Relationship satisfaction was assessed using the Friendship Satisfaction Scale (FSS; See Appendix M), which consists of two items adapted from the measure described in Parker and Asher (1993). These items were used in a previous study (Weeks, 2013) to assess satisfaction in a specific friendship and were selected in order to reduce the content overlap between measures of relationship quality

and satisfaction noted in the earlier review. Participants were asked to respond on a 15-point scale to the items, “How is this friendship going?” and “How happy are you in this friendship?” in relation to their identified SS and CS friends. Responses to the items are summed to create a total score, which can range from 2 to 30 with higher scores indicating greater satisfaction in the relationship. Participants receive separate total satisfaction scores for each of their identified friendships. In a previous study with college students, the two items were highly correlated ($p < .001$) and were averaged together to create a single friendship satisfaction composite score ($\alpha = .93$), which was found to be negatively correlated with self-reported loneliness (Weeks, 2013). In the present sample, the FSS showed excellent internal consistency across both relationship types (Same-Sex Friends $\alpha = .95$; Cross-Sex Friends $\alpha = .94$).

Procedure

Screening. Subject pool participants signed up for the study through SONA, a web-based scheduling program. A brief summary of the study, including eligibility requirements, was posted on this website and if an individual was interested in participating he/she could select an available laboratory appointment slot. University community members who were interested in participating in the study contacted the research coordinator directly using an e-mail address included on the email posting to the University-wide “Announcements” folder. Participants were contacted by email to determine whether they were eligible to participate in this study (i.e., between the ages of 18 and 25, willing to come to the laboratory, and having a platonic CS friendship and a SS friendship that they would be willing to report on). If participants were eligible, a laboratory appointment was scheduled.

Laboratory session. Upon arriving at the laboratory session, participants were greeted by a trained research assistant who outlined the study procedures for them in more detail and completed the informed consent process. The research assistant then introduced the Friendship Identification Form, which was completed with the researcher to ensure that the friendships identified by the participant met the intended criteria and to allow the participants to ask any questions about whether or not a particular relationship was appropriate. After identifying their target relationships, participants completed the battery of questionnaires via Qualtrics, a secure website used to facilitate data collection. Upon completion of the surveys, participants were thanked for their time and provided with an extra copy of their consent form, which included contact information for the University Counseling Center should they have experienced distress from participating in the study. Subject pool participants earned two research credits and community participants received a \$25 gift card.

CHAPTER III:

RESULTS

Preliminary Data Preparation and Analyses

Independent samples *t*-tests revealed that non-subject pool University of Maine students were more likely to be older [$t(307) = -8.61, p < .01$], with a mean age of 20.5 ($SD = 1.2$) compared to the subject pool students who had a mean age of 18.9 ($SD = 1.7$). No significant differences were found between the subject pool and non-subject pool participants in terms of friendship quality, maintenance, or satisfaction.

In terms of nominated friendships, 100% of participants were able to identify a SS and a CS friend for the study. Of these participants, three later reported at least “some” romantic interest in their identified CS friend. Therefore, these participants were excluded from further CS friendship analyses. Additionally, one participant reported being friends with their SS friend for only one month. Consequently, this participant was excluded from SS friendship analyses. Finally, in order to ensure that members of the friendship dyads were at similar developmental periods, only identified friends between the ages of 17 and 26 and within five years of the participant’s age were included in the analyses. Overall, this resulted in a total of 295 participants with two eligible friends, six participants with only an eligible CS friend, seven participants with only an eligible SS friend, and one participant with no eligible friends. Of these eligible friends, CS friends ranged in age from 17 to 26 ($M = 19.41, SD = 1.65$) and SS friends ranged in age from 17 to 25 ($M = 19.26, SD = 1.35$). The length of CS friendships ranged from .25 years to 20.25 years, with a mean length of 4.21 years ($SD = 3.99$). For SS friendships, the length

of friendships ranged from .25 years to 19.08 years, with a mean length of 6.26 years ($SD = 4.96$).

Nominated CS and SS friends were compared with the list of identified friendship networks using the PRQ. Results indicated that 16 participants nominated a CS friend that was not included on the PRQ. All nominated SS friends were included on the PRQ. In order to determine if there were significant differences in relationship quality or friendship maintenance between participants who identified their nominated friends on the PRQ and those who did not, a series of independent samples t -tests was conducted. Regarding relationship quality in CS friendships, results revealed that individuals who did not identify their nominated CS friend on the PRQ reported lower positive quality on the NRI as compared to those who did identify their CS friend on the PRQ [$t(299) = -2.48, p < .05$]. No group differences were found for negative relationship quality [$t(299) = -.03, p = .97$]. Regarding friendship maintenance, no group differences were identified on the received [$t(299) = -.09, p = .93$] or desired [$t(298) = -.32, p = .75$] versions of the FMS.

Descriptive statistics and preliminary correlations. Means, standard deviations, and correlations were calculated separately for males and females for all primary measures (see Table 1). Relationships among specific variables will be reviewed in more detail in the sections covering specific hypotheses; however, results showed that correlations between variables were in the expected directions. For each respective relationship type, received maintenance and positive quality were positively correlated with satisfaction in that relationship for males and females. Negative quality was significantly negatively associated with satisfaction for SS friendships across both

genders and for females in CS friendships. Correlations for males were in the expected direction, but did not reach significance.

Table 1. Correlations Among Primary Variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. FMS CS Received	--	.68**	.18*	.22**	.76**	.12	.11	-.00	.47**	.01
2. FMS CS Desired	.80**	--	.36**	.53**	.54**	.31**	.23**	.07	.19*	-.02
3. FMS SS Received	.25**	.27**	--	.74**	.11	.05	.68**	-.06	-.03	.34**
4. FMS SS Desired	.37**	.52**	.60**	--	.16	.12	.53**	.11	-.05	.15
5. NRI CS Pos Quality	.77**	.66**	.11	.22**	--	.20*	.13	-.01	.63**	.10
6. NRI CS Neg Quality	.07	.22**	.00	.08	.05	--	.07	.39**	-.06	-.02
7. NRI SS Pos Quality	.07	.04	.61**	.42**	.12	-.06	--	-.09	-.06	.43**
8. NRI SS Neg Quality	.14	.14	-.07	.24**	.17*	.22**	-.02	--	-.14	-.28**
9. CS Satisfaction	.53**	.38**	.08	.13	.63**	.28**	.14	.05	--	.23**
10. SS Satisfaction	.06	-.02	.53**	.13	.03	-.20	.56**	.28**	.23**	--
<i>Mean (SD)</i>	6.46 _a	6.17 _a	7.21 _a	6.68 _a	3.16 _a	1.92 _a	3.58 _a	2.04 _a	22.75 _a	26.59 _a
Male	(1.78)	(1.86)	(1.57)	(1.74)	(.65)	(.59)	(.54)	(.54)	(5.58)	(3.80)
<i>Mean (SD)</i>	7.14 _b	7.00 _b	8.85 _b	8.39 _b	3.40 _b	1.68 _b	4.18 _b	1.82 _b	25.10 _b	27.83 _b
Female	(1.66)	(1.69)	(1.15)	(1.29)	(.64)	(.45)	(.46)	(.53)	(5.01)	(3.56)

Note. Correlations presented above the diagonal are for males and those below the diagonal are for females. Means containing different subscripts within the same column are significantly different from one another. CS = Cross Sex; SS = Same Sex; FMS = Friendship Maintenance Scale; NRI = Network of Relationships Inventory

** $p < .01$

* $p < .05$

Major Study Hypotheses

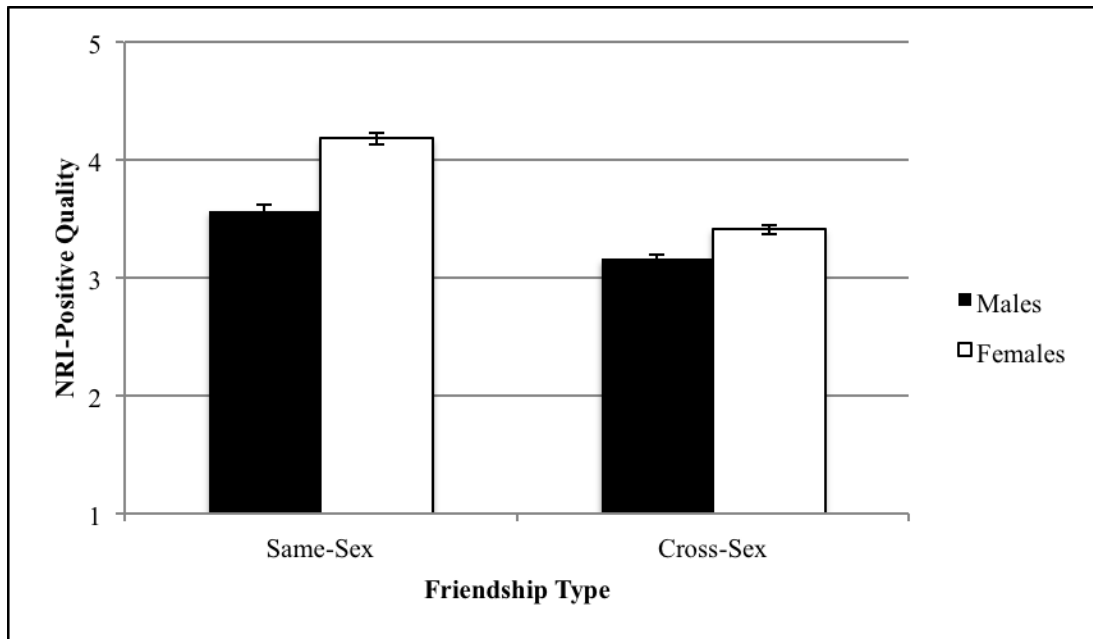
Group differences in relationship quality. According to hypotheses 1-4, it was expected that males and females would report higher positive quality in their SS friendships than CS friendships, and that females would report higher positive quality overall compared to males in both friendships. Additionally, it was hypothesized that males and females would both report lower negative quality in their CS friendships than their SS friendships, and that males would report higher negative quality in both friendship types compared to females.

Data analytic strategy. For analyses examining group differences in relationship quality² the assumptions of normality and homogeneity of variance were assessed prior to conducting analyses. Normality was assessed using a criterion of value/SE less than +/- 3.29 for skewness and kurtosis, respectively, for each group separately (Tabachnick & Fidell, 2013). Following the suggestion of Tabachnick and Fidell (2013), a square root transformation was applied first, followed by a logarithmic transformation, and finally an inverse transformation if necessary. A logarithmic transformation was applied to transform the Network of Relationships Inventory Discord subscales for all groups to correct for substantial positive skewness. Homogeneity of variance was assessed using Hartley's F_{\max} test, which compares the ratio of variance on measures between groups. Due to relatively equivalent sample sizes between groups, a criterion of $F_{\max} < 10$ was used to establish homogeneity of variance (Tabachnick & Fidell, 2013). The assumption of homogeneity of variance was met across all groups.

² All analyses were run with and without the 16 participants who did not identify their nominated CS friend on the PRQ. Results were virtually identical, so these participants were retained in the final analyses.

Differences in positive relationship quality. A 2 (Sex: Male, Female; Between Subjects) x 2 (Friendship Type: Same Sex, Cross Sex; Within Subjects) mixed-model factorial ANOVA was conducted to determine differences in positive relationship quality. Results showed that hypotheses 1 and 2 were both supported. There was a significant interaction between Friendship Type and Sex $F(1,290) = 15.75, p < .001, \eta_p^2 = .05$, qualifying the significant main effects of Friendship Type $F(1, 290) = 182.23, p < .001, \eta_p^2 = .39$ and Sex $F(1, 290) = 72.88, p < .001, \eta_p^2 = .20$. Post hoc pairwise comparisons using Sidak adjustments were conducted to further examine the significant interaction term. Results showed that females reported higher positive quality in their same-sex friendships than in their cross-sex friendships (Mean Difference = .769, $SE = .06, F(1,290) = 146.53, p < .001, \eta_p^2 = .34$). Males also reported greater positive quality in their same-sex friendships compared to their cross-sex friendships (Mean Difference = .420, $SE = .06, F(1,290) = 47.37, p < .001, \eta_p^2 = .14$). The significant interaction term is likely due to the finding that while females reported greater positive quality than males overall, this was especially true for same-sex friendships (See Figure 1). Regarding the main effect for Sex, females reported higher positive quality ($M = 3.80, SD = .43$) than males ($M = 3.37, SD = .43$), overall. In addition, higher positive quality was reported in same-sex friendships ($M = 3.88, SD = .50$) than cross-sex friendships ($M = 3.29, SD = .63$).

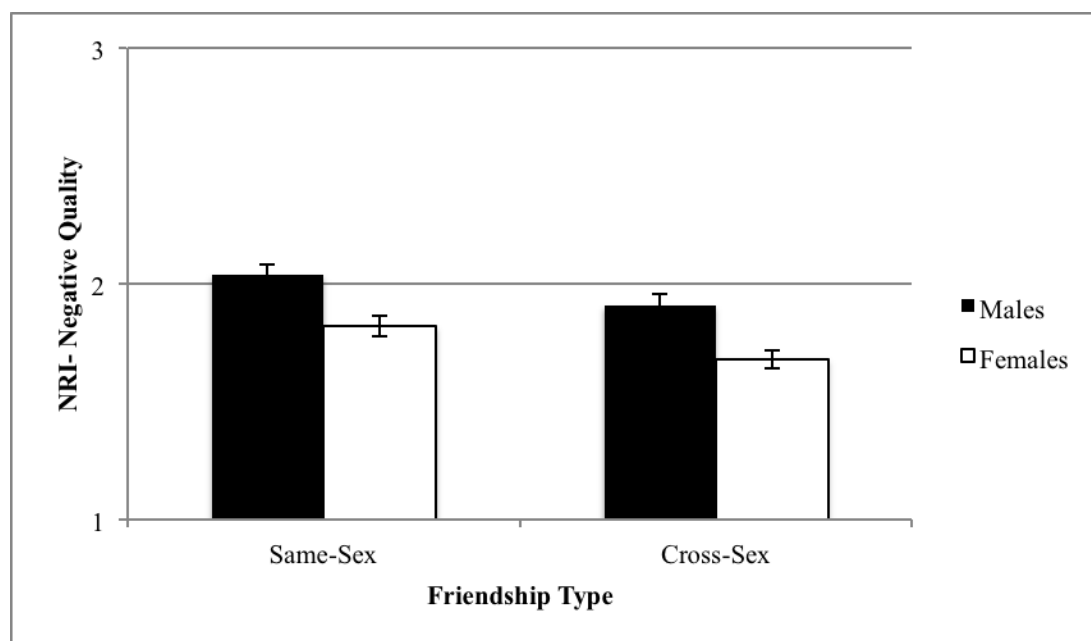
Figure 1. Group Differences in Positive Relationship Quality



Note. Error bars represent standard error of the mean.

Differences in negative relationship quality. A 2 (Sex: Male, Female; Between Subjects) x 2 (Friendship Type: Same Sex, Cross Sex; Within Subjects) mixed-model factorial ANOVA was conducted to determine differences in negative relationship quality. Both hypotheses 3 and 4 were supported. Results showed a significant main effect for Sex $F(1, 293) = 20.54, p < .001, \eta_p^2 = .07$ and Friend Type $F(1, 293) = 16.65, p < .001, \eta_p^2 = .05$. Regarding the effect for sex, males ($M = 1.98, SD = .53$) reported greater negative quality than females ($M = 1.75, SD = .43$) overall. In addition, higher negative quality was reported in same-sex friendships ($M = 1.93, SD = .53$) than cross-sex friendships ($M = 1.80, SD = .53$). See Figure 2. There was not a Sex x Friend Type interaction.

Figure 2. Group Differences in Negative Relationship Quality.



Note. Error bars represent standard error of the mean. Y-axis scale reduced to view group differences (actual scores range to 5).

Group differences in friendship maintenance. According to hypotheses 5 and 6, it was expected that both males and females would report receiving lower levels of maintenance behaviors in their CS friendships compared to their SS friendships and that females would report receiving more maintenance across both types of friendships than males. Due to the lack of research regarding desired maintenance in SS or CS friendships, no specific hypotheses were given regarding group differences in desired maintenance.

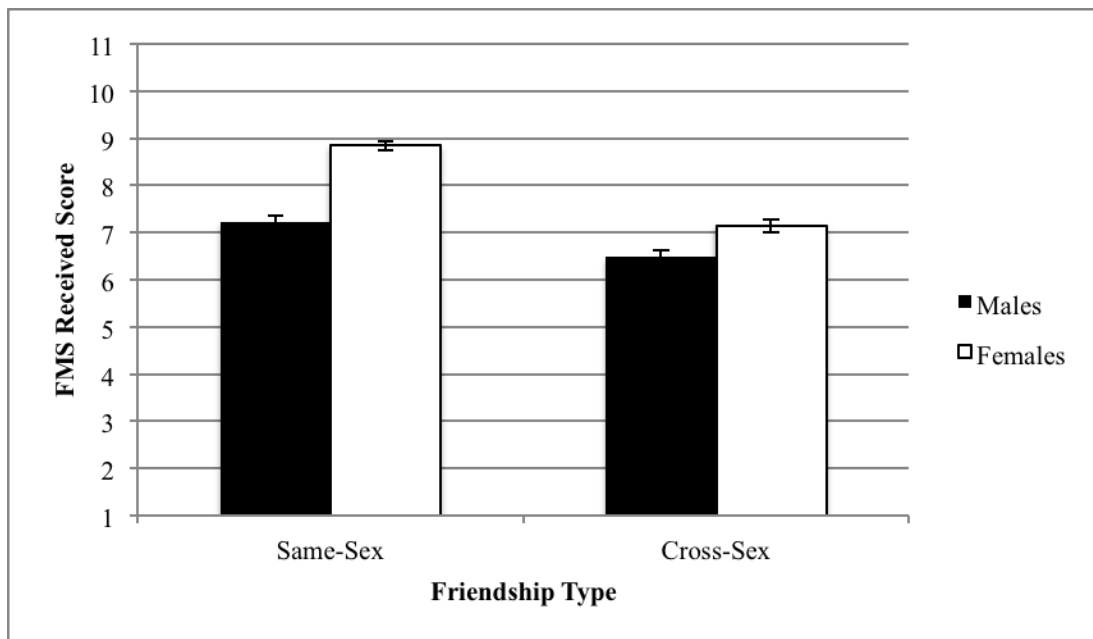
Data analytic strategy. For analyses examining group differences in friendship maintenance the assumptions of normality and homogeneity of variance were assessed prior to conducting analyses. Outliers were defined as z-scores exceeding ± 3.29 (see Tabachnick & Fidell, 2013, p.73) for measures when examining each group separately. Outliers were winsorized, a process that preserves the data while reducing the undue influence of extreme values in the dataset, and were moved to the next most extreme

value (see Tabachnick & Fidell, 2007; 2013, p. 77). Winsorized variables in the data included the same-sex friend received version of the Friendship Maintenance Scale for females ($n = 2$). Normality was assessed using a criterion of value/SE less than ± 3.29 for skewness and kurtosis, respectively, for each group separately (Tabachnick & Fidell, 2013). Inspection of the data did not reveal any violations of normality. Homogeneity of variance was assessed using Hartley's F_{\max} test, which compares the ratio of variance on measures between groups. Due to relatively equivalent sample sizes between groups, a criterion of $F_{\max} < 10$ was used to establish homogeneity of variance (Tabachnick & Fidell, 2013). The assumption of homogeneity of variance was met across all groups.

Differences in received friendship maintenance. A 2 (Sex: Male, Female; Between Subjects) \times 2 (Friendship Type: Same Sex, Cross Sex; Within Subjects) mixed-model factorial ANOVA was conducted to determine differences in received friendship maintenance. Results showed that hypotheses 5 and 6 were supported. There was a significant interaction between Friendship Type and Sex $F(1,293) = 17.12, p < .001, \eta_p^2 = .06$, qualifying the significant main effects of Friendship Type $F(1, 293) = 115.12, p < .001, \eta_p^2 = .28$ and Sex $F(1, 293) = 67.12, p < .001, \eta_p^2 = .19$. Post hoc pairwise comparisons using Sidak adjustments were conducted to further examine the significant interaction term. Results showed that females reported receiving more maintenance behaviors in their same-sex friendships than in their cross-sex friendships (Mean Difference = 1.708, $SE = .17, F(1,293) = 107.24, p < .001, \eta_p^2 = .27$). Males also reported receiving more maintenance behaviors in their same-sex friendships compared to their cross-sex friendships (Mean Difference = .757, $SE = .16, F(1,293) = 22.41, p < .001, \eta_p^2 = .07$). The significant interaction term is likely due to the finding that while

females reported receiving more maintenance in their friendships than males overall, this was especially true for same-sex friendships (See Figure 3). Regarding the main effect for Sex, females reported more maintenance behaviors ($M = 7.99, SD = 1.21$) than males ($M = 6.84, SD = 1.21$), overall. In addition, more maintenance was received in same-sex friendships ($M = 8.03, SD = 1.37$) than cross-sex friendships ($M = 6.80, SD = 1.72$).

Figure 3. Group Differences in Received Friendship Maintenance Behaviors

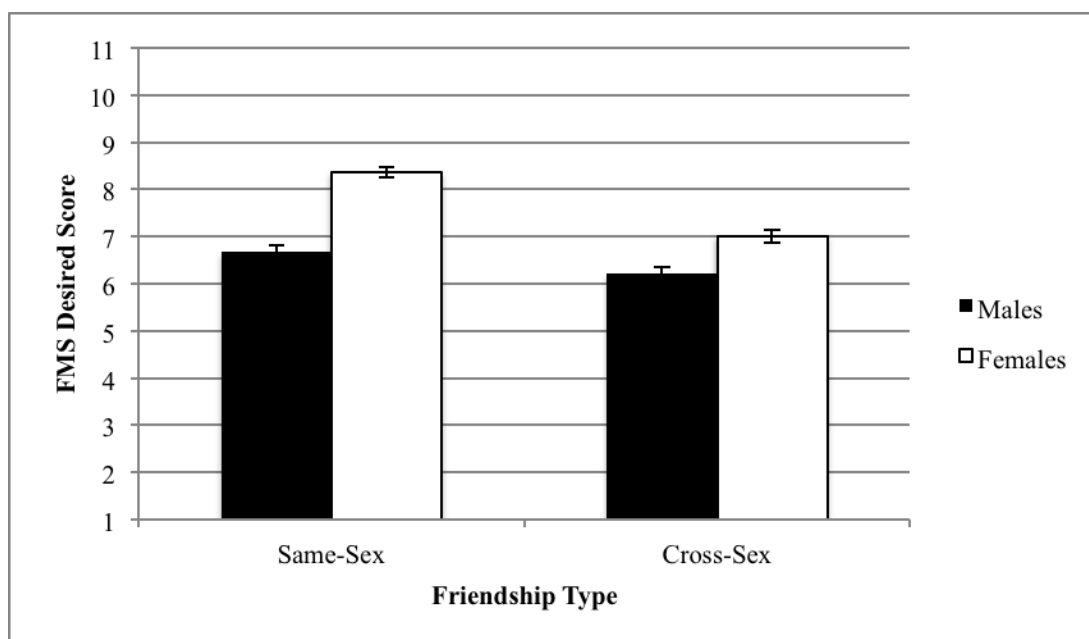


Note. Error bars represent standard error of the mean.

Differences in desired friendship maintenance. A 2 (Sex: Male, Female; Between Subjects) x 2 (Friendship Type: Same Sex, Cross Sex; Within Subjects) mixed-model factorial ANOVA was conducted to determine differences in desired friendship maintenance. There was a significant interaction between Friendship Type and Sex $F(1, 292) = 21.98, p < .001, \eta_p^2 = .07$, qualifying the significant main effects of Friendship Type $F(1, 292) = 100.13, p < .001, \eta_p^2 = .26$ and Sex $F(1, 292) = 56.24, p < .001, \eta_p^2 = .16$. Post Hoc pairwise comparisons using Sidak adjustments were conducted to further

examine the significant interaction term. Results showed that females reported desiring more maintenance behaviors in their same-sex friendships than in their cross-sex friendships (Mean Difference = 1.401, $SE = .13$, $F(1,293) = 104.41$, $p = <.001$, $\eta_p^2 = .26$). Males also reported receiving more maintenance behaviors in their same-sex friendships compared to their cross-sex friendships (Mean Difference = .507, $SE = .13$, $F(1,293) = 14.64$, $p = <.001$, $\eta_p^2 = .05$). The significant interaction term is likely due to the finding that while females reported wanting more maintenance in their friendships than males overall, this was especially true for same-sex friendships (See Figure 4). Regarding the main effect for Sex, females reported desiring more maintenance behaviors ($M = 7.70$, $SD = 1.45$) than males ($M = 6.43$, $SD = 1.45$), overall. In addition, more maintenance was desired in same-sex friendships ($M = 7.54$, $SD = 1.54$) than cross-sex friendships ($M = 6.58$, $SD = 1.78$).

Figure 4. Group Differences in Desired Friendship Maintenance Behaviors



Note. Error bars represent standard error of the mean.

Polynomial regression with response surface analyses. According to hypotheses 7, 8, and 9, it was expected that larger discrepancies between desired and received maintenance in friendships would be associated with lower levels of satisfaction in the friendship. Additionally, it was hypothesized that participants would report lower levels of satisfaction in their friendships when desired maintenance exceeded received maintenance (i.e., underprovision) as compared to when received maintenance exceeded desired maintenance (i.e., overprovision). Finally, it was expected that fulfillment of desired maintenance would be associated with similar levels of satisfaction across all levels of received and desired maintenance. It was expected that these hypotheses would hold true for all four groups: Male cross-sex friendships, female cross-sex friendships, male same-sex friendships, and female same-sex friendships.

Data analytic strategy. Prior to conducting the polynomial regression analyses³, data were examined to determine if enough discrepant values existed between the two predictor variables to justify examining discrepancies. Following the directions of Fleenor and colleagues (1996), scores for each predictor variable were standardized and any standardized score on one predictor variable that was half a standard deviation above or below the standardized score on the other predictor variable was categorized as discrepant. Percentages of “in agreement” values and discrepant values in either direction were calculated separately for each set of regressions (See Table 4). For each group, at least 30% of individuals were characterized as discrepant, indicating enough discrepant values to justify further examination (Shanock et al., 2010).

³ All analyses were run with and without the 16 participants who did not identify their nominated CS friend on the PRQ. Results were virtually identical, so these participants were retained in the final analyses.

Table 2. Agreement Across Maintenance Groups

Agreement Groups	Percentage	Mean CS Received	Mean CS Desired
<i>CS Male Maintenance</i>			
Des more than Rec	25.0	5.61	7.01
In agreement	54.5	6.52	6.28
Rec more than Des	20.5	7.41	5.01
<i>CS Female Maintenance</i>			
Des more than Rec	19.4	6.31	7.65
In agreement	63.2	7.23	7.01
Rec more than Des	17.4	7.79	6.07
<i>SS Male Maintenance</i>			
Des more than Rec	21.8	6.45	7.44
In agreement	55.8	7.25	6.76
Rec more than Des	22.4	7.89	5.72
<i>SS Female Maintenance</i>			
Des more than Rec	23.3	7.89	8.71
In agreement	52.7	9.04	8.63
Rec more than Des	24.0	9.36	7.44

Note. CS Male Maintenance $N = 156$; CS Female Maintenance $N = 145$; SS Male Maintenance $N = 156$; SS Female Maintenance $N = 146$.

Prior to analysis, variables were centered around the mid-point of the scale to reduce potential problems with multicollinearity. Data were screened for outliers and influential cases, using leverage, Cook's D statistic, and standardized residuals from polynomial regression equations (Tabachnick & Fidell, 2013) as criteria. Standardized residuals greater than 2, leverage exceeding $2(k+1)/n$, and Cook's D statistics of more than $4/n$ were established as minimum cutoffs (Hoaglin & Welsch, 1978; Stevens, 2002; Tabachnick & Fidell, 2013). Data that exceeded the minimum cutoff on all three criteria were dropped (Edwards, 2002). On the basis of outlier analyses, one participant was dropped from the Male CS analysis and two were dropped from the Female SS analysis.

In order to examine hypotheses 7, 8, and 9, four polynomial regressions were conducted predicting (separately) CS friendship satisfaction and SS friendship

satisfaction for males and females from reports of desired friendship maintenance and received friendship maintenance. Following the recommendations outlined in Edwards (2002), each polynomial regression took the general form:

$$Z = b_0 + b_1X + b_2Y + b_3X^2 + b_4XY + b_5Y^2$$

In this equation, X represents received friendship maintenance behaviors, Y represents desired friendship maintenance behaviors, and Z represents satisfaction in the friendship. Additionally, b_1 captures the linear effect of received maintenance on satisfaction, b_2 captures the linear effect of desired maintenance on satisfaction, b_3 captures the nonlinear effect of received maintenance on satisfaction, b_4 captures the interactive effect of received and desired maintenance on satisfaction, and b_5 captures the nonlinear effect of desired maintenance on satisfaction. When polynomial regression results are interpreted, less emphasis is placed on the significance of the specific regression weights than on the response surface pattern the regression equation yields (Edwards, 1994). If the overall model explains a statistically significant proportion of variance in the outcome, the regression coefficients can be used to create a response surface that captures the joint effect of received and desired maintenance on satisfaction at different levels of received maintenance and desired maintenance.

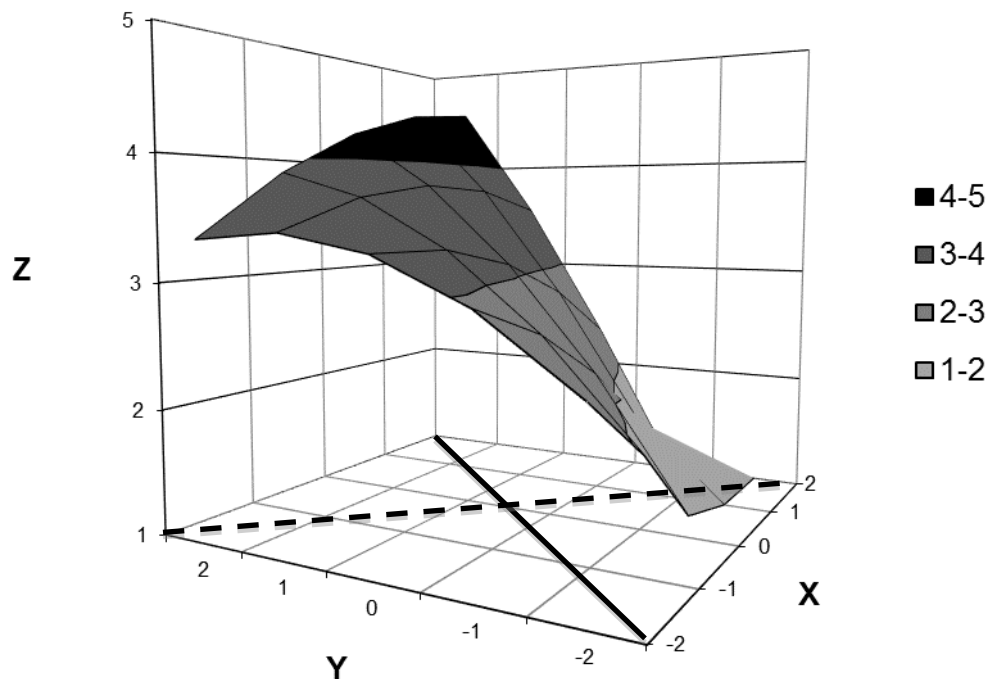
Once the response surface has been characterized, salient features of the surface can be examined to aid interpretation. In the current study, one line of particular interest is the $X = Y$ line, or the line of perfect agreement along which desired friendship maintenance is equal to received friendship maintenance. The slope of the line of perfect agreement is given by the equation $a_1 = b_1 + b_2$. The slope of this line illustrates whether different levels of satisfaction are associated with met expectations at different degrees

(e.g., are high met maintenance desires associated with the same degree of satisfaction as low met maintenance desires). The curvature along the line is determined by the equation $a_2 = b_3 + b_4 + b_5$ and is used to examine whether satisfaction increases or decreases more sharply at different levels of agreement. The second line of interest is the $X = -Y$ line, or the line of incongruence along which received and desired maintenance are not in agreement. Curvature along this line is given by the equation $a_4 = b_3 - b_4 + b_5$. Significant curvature along the line of incongruence (as related to friendship satisfaction) illustrates how the degree of discrepancy between received and desired maintenance influences the variable (e.g., does satisfaction decrease as received and desired maintenance become more discrepant). The slope along this line is determined by the equation $a_3 = b_1 - b_2$. The slope along this line indicates the direction of the discrepancy (received is higher than desired or vice versa).

Figure 5 provides an example of a hypothetical response surface. The solid line on the floor of the graph depicts the line of perfect agreement ($X = Y$). In this example, the line of perfect agreement has a linear positive slope (significant positive a_1 and nonsignificant a_2), indicating that higher levels of the outcome variable (Z) are found when X and Y are both high and lower levels are found when X and Y are both low. The dashed line on the floor of the graph illustrates the line of incongruence ($X = -Y$). Moving along the line of incongruence from the center of the graph to either the right or left depicts how the degree of discrepancy between the predictors (X and Y) relates to the outcome variable (Z). In this example, the graph shows that Z decreases as X and Y become more discrepant to either the right or left of the graph (significant negative a_4). The slope along the line of incongruence illustrates how the direction of the discrepancy

between X and Y (i.e., when X is greater than Y or Y is greater than X) impacts the outcome variable. In this example, Z is lowest when high levels of X are combined with low levels of Y (bottom right corner of graph). Examination of the top left corner of the graph shows that the outcome variable, Z, remains relatively high when Y exceeds Z (significant negative a_3). Therefore, in this example, the degree of the discrepancy mattered somewhat, but the direction of the discrepancy was particularly important.

Figure 5. Example Response Surface Graph Using Hypothetical Data



Male cross-sex friendships. In order to assess the joint impact of received and desired maintenance on satisfaction in males' CS friendships a polynomial regression was conducted. Hypothesis 7 posited that males would report lower levels of satisfaction in their CS friendships as desired and received maintenance became more discrepant (i.e.,

significant negative a_4). Furthermore, hypothesis 8 proposed that the direction of the discrepancy would impact satisfaction (i.e., significant a_3), such that lower levels of satisfaction would be reported when received maintenance was less than desired maintenance (underprovision) as compared to when received maintenance exceeded desired (overprovision). Finally, hypothesis 9 proposed that a match between received and desired maintenance would be associated with similar levels of satisfaction across all levels of received and desired maintenance (non-significant a_1 and a_2). Table 4 shows that received and desired maintenance in CS friendships explained a significant amount of variance in CS friendship satisfaction ($R^2 = .237, p < .01$), which allows for the examination of the response surface (Edwards, 2002). Following the procedure described above, the unstandardized betas from the results of the polynomial regression were used to calculate the surface test values. These surface test values were evaluated with a series of t -tests to determine if each value was significantly different from zero (See Table 3).

Table 3. Received-Desired Maintenance Discrepancy as Predictor of Male CS Friendship Satisfaction

Variable	<i>b</i> (<i>se</i>)
Constant	22.19 (.58)**
Received CS maintenance (X)	1.95 (.34)**
Desired CS maintenance (Y)	-.64 (.33) [†]
Received CS maintenance squared (X^2)	-.16 (.16)
Received CS maintenance x desired CS maintenance (XY)	.12 (.24)
Desired CS maintenance squared (Y^2)	.01 (.15)
R^2	.237**
Surface Tests	
$a_1 (b_1 + b_2)$	1.32**
$a_2 (b_3 + b_4 + b_5)$	-.03
$a_3 (b_1 - b_2)$	2.59**
$a_4 (b_3 - b_4 + b_5)$	-.027

Note. $N = 155$

** $p < .01$

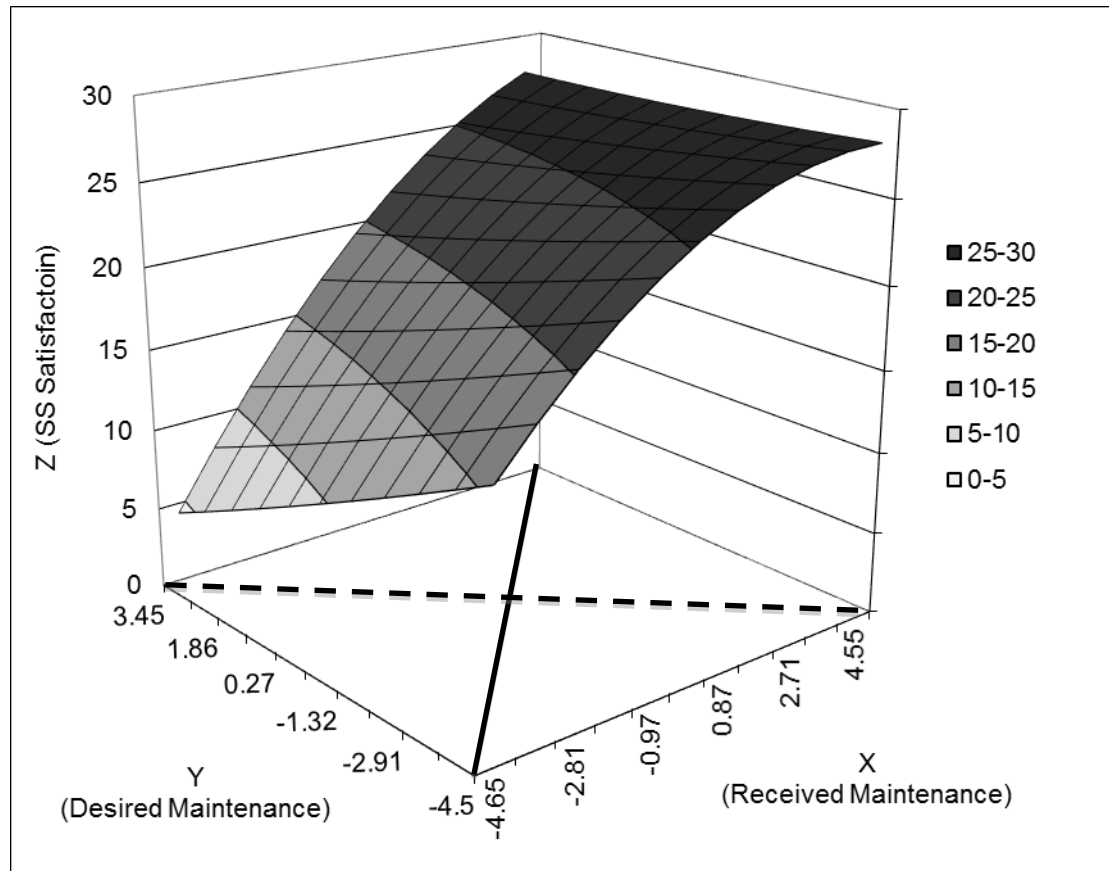
* $p < .05$

[†] $p < .06$

Results indicated that a match between received and desired maintenance was significantly related to satisfaction in CS friendships for males (see Table 4 and Figure 5). Examination of the surface features revealed a significant positive slope ($a_1 = 1.32$, $p < .01$) with no significant curvature ($a_2 = -.03$, $p = .82$) along the line of perfect agreement. This finding provides partial support for hypothesis 9 and illustrates that when received and desired maintenance were in agreement, CS friendship satisfaction increased as received and desired maintenance increased. Along the line of incongruence, results indicated a significant positive slope ($a_3 = 2.59$, $p < .01$), with no significant curvature ($a_4 = -.27$, $p = .57$). This result indicates that hypothesis 7 was not supported because as the degree of discrepancy increased, CS friendship satisfaction did not change significantly. However, hypothesis 8 was supported because the significant positive slope indicates that CS satisfaction was higher when the discrepancy was such that received

maintenance exceeded desired maintenance. In other words, for males in CS friendships, underprovision of maintenance was associated with sharper decreases in satisfaction, while overprovision of maintenance had little impact on satisfaction.

Figure 6. Response Surface Graph of Received and Desired Maintenance with CS Friendship Satisfaction for Males



Female cross-sex friendships. In order to assess the joint impact of received and desired maintenance on satisfaction in females' CS friendships a polynomial regression was conducted. Hypothesis 7 posited that females would report lower levels of satisfaction in their CS friendships as desired and received maintenance became more discrepant (i.e., significant negative a_4). Hypothesis 8 argued that the direction of the discrepancy would impact satisfaction (significant a_3), such that lower levels of

satisfaction would be reported when received maintenance was less than desired maintenance (underprovision) as compared to when received maintenance exceeded desired (overprovision). Finally, hypothesis 9 stated that a match between received and desired maintenance would be associated with similar levels of satisfaction in female's CS friendships across all levels of received and desired maintenance (non-significant a_1 and a_2). Results indicated that received and desired maintenance in CS friendships explained a significant amount of variance in CS friendship satisfaction (see Table 5; $R^2 = .237, p < .01$). Given this significant finding, a response surface was created based on the results of the polynomial regression (Edwards, 2002). Following the procedure described previously, the unstandardized betas from the results of the polynomial regression were used to calculate the surface test values. These surface test values were evaluated with a series of t -tests to determine if each value was significantly different from zero (See Table 4).

Table 4. Received-Desired Maintenance Discrepancy as Predictor of Female CS Friendship Satisfaction

Variable	b (se)
Constant	23.56 (.55)**
Received CS maintenance (X)	2.30 (.43)**
Desired CS maintenance (Y)	-.59 (.43)
Received CS maintenance squared (X^2)	-.28 (.24)
Received CS maintenance x desired CS maintenance (XY)	.26 (.37)
Desired CS maintenance squared (Y^2)	.05 (.23)
R^2	.275**
Surface Tests	
a_1 ($b_1 + b_2$)	1.71**
a_2 ($b_3 + b_4 + b_5$)	-.07
a_3 ($b_1 - b_2$)	2.89**
a_4 ($b_3 - b_4 + b_5$)	-.59

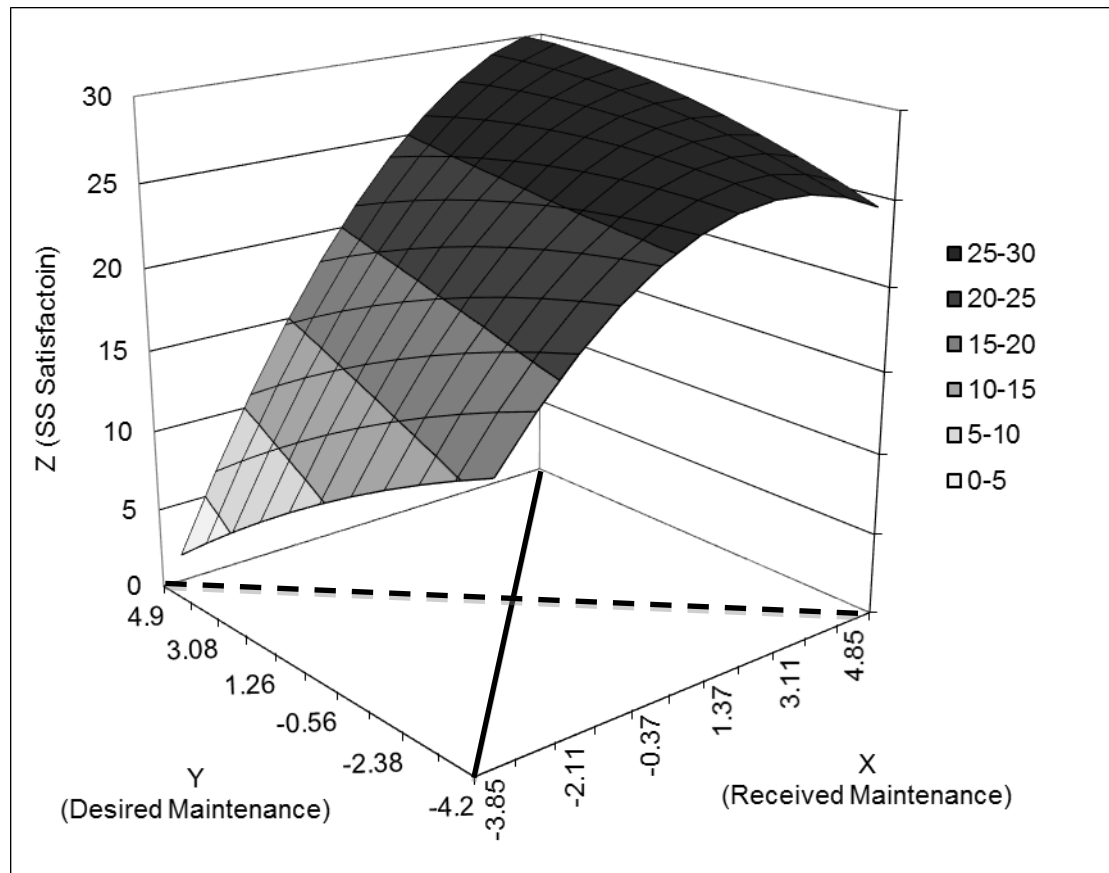
Note. $N = 144$

** $p < .01$

* $p < .05$

Results indicated that a match between received and desired maintenance was significantly related to satisfaction in CS friendships for females (see Table 5 and Figure 6). Examination of the surface features revealed a significant positive slope ($a_1 = 1.71, p < .01$) with no significant curvature ($a_2 = -.07, p = .45$) along the line of perfect agreement. This finding provides partial support for hypothesis 9 and indicates that when received and desired maintenance were in agreement, CS friendship satisfaction increased as received and desired maintenance increased. Along the line of incongruence, results indicated a significant positive slope ($a_3 = 2.89, p < .01$), with no significant curvature ($a_4 = -.59, p = .44$). Hypothesis 7 was not supported. Specifically, results showed that, for females, as the degree of discrepancy increased, CS friendship satisfaction did not change significantly. Hypothesis 8, however, was supported. The significant positive slope indicates that CS satisfaction was higher when the discrepancy was such that received maintenance exceeded desired maintenance. These results indicate that, for females in CS friendships, underprovision was associated with greater reduction in satisfaction as compared to overprovision. Examination of the response surface, however, suggests that as the degree of overprovision increased, there was some decrease in satisfaction, though this result did not reach significance.

Figure 7. Response Surface Graph of Received and Desired Maintenance with CS Friendship Satisfaction for Females



Male same-sex friendships. A third polynomial regression was conducted to assess the joint role of received and desired maintenance in SS friendships on satisfaction in those relationships. It was hypothesized that males would report lower levels of satisfaction in their SS friendships as desired and received maintenance became more discrepant (Hypothesis 7; significant negative a_4). Furthermore, hypothesis 8 posited that the direction of the discrepancy would impact satisfaction (significant a_3) such that lower levels of satisfaction would be reported when received maintenance was less than desired maintenance (underprovision) as compared to when received maintenance exceeded desired (overprovision). Finally, hypothesis 9 argued that a match between received and

desired maintenance would be associated with similar levels of satisfaction across all levels of received and desired maintenance (non-significant a_1 and a_2). Results from the overall regression revealed that for males, received and desired maintenance in SS friendships explained a significant amount of variance in SS friendship satisfaction (see Table 6; $R^2 = .171$, $p < .01$). Given that the overall model was significant, a response surface was created based on the results of the polynomial regression (Edwards, 2002). Following the procedure described previously, the unstandardized betas from the results of the polynomial regression were used to calculate the surface test values. These surface test values were evaluated with a series of t -tests to determine if each value was significantly different from zero (See Table 5).

Table 5. Received-Desired Maintenance Discrepancy as Predictor of Male SS Friendship Satisfaction

Variable	b (se)
Constant	25.13 (.46)**
Received SS maintenance (X)	1.99 (.44)**
Desired SS maintenance (Y)	-1.02 (.33)**
Received SS maintenance squared (X^2)	-.42 (.20)*
Received SS maintenance x desired CS maintenance (XY)	.45 (.26) [†]
Desired SS maintenance squared (Y^2)	.01 (.14)
R^2	.171**
Surface Tests	
$a_1 (b_1 + b_2)$.97**
$a_2 (b_3 + b_4 + b_5)$.04
$a_3 (b_1 - b_2)$	3.01**
$a_4 (b_3 - b_4 + b_5)$	-.86

Note. $N = 156$

** $p < .01$

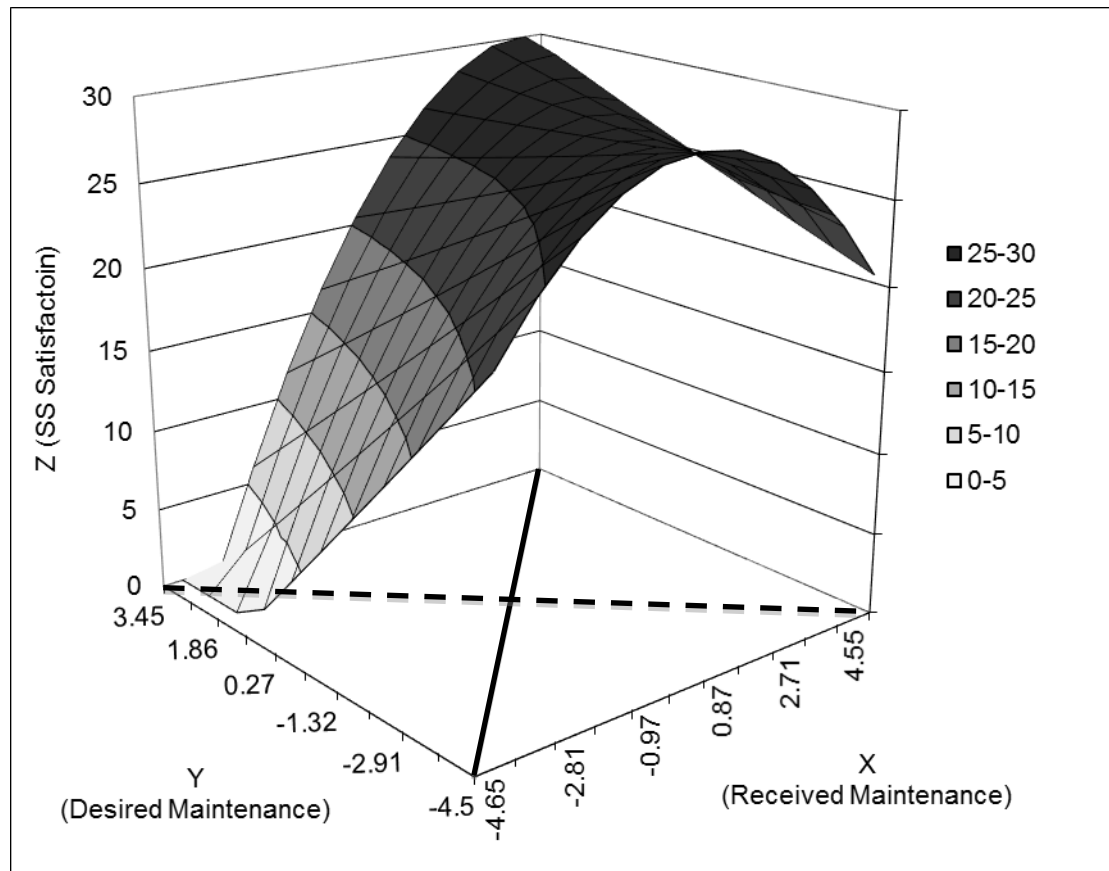
* $p < .05$

[†] $p < .1$

Examination of the response surface and surface test results indicated that a match between received and desired maintenance was significantly related to satisfaction in SS

friendships for males (see Table 6 and Figure 7). Results revealed a significant positive slope ($a_1 = 1.71, p < .01$) along the line of perfect agreement with no significant curvature ($a_2 = -.07, p = .45$), providing partial support for hypothesis 9. This finding indicates that when received and desired maintenance were in agreement, SS friendship satisfaction increased as received and desired maintenance increased. Along the line of incongruence, results indicated a significant positive slope ($a_3 = 2.89, p < .01$), which provided support for hypothesis 8. Examination of the response surface suggested some curvature, however this curvature was not significantly different from zero ($a_4 = -.59, p = .44$). Therefore, hypothesis 7 was not supported. These findings indicate that, for males, as the degree of discrepancy increased, CS friendship satisfaction decreased, though not enough to reach significance; however, the significant positive slope along the line of incongruence indicates that SS satisfaction is higher when the discrepancy is such that received maintenance exceeds desired maintenance. Overall, these results suggest that, for males in SS friendships, when received and desired maintenance were in agreement, higher levels of satisfaction were found at higher levels of received and desired maintenance compared to lower levels. In addition, underprovision of maintenance was associated with sharper decreases in satisfaction than overprovision; however, examination of the response surface suggests that as overprovision of maintenance also begins to negatively impact satisfaction at higher levels.

Figure 8. Response Surface Graph of Received and Desired Maintenance with SS Friendship Satisfaction for Males



Note. Portions of the surface that extend beyond the scale are extrapolations that should be disregarded (see Edwards, 2002).

Female same-sex friendships. In order to assess the joint impact of received and desired maintenance on satisfaction in females' SS friendships a fourth polynomial regression was conducted. It was hypothesized that females would report lower levels of satisfaction in their SS friendships as desired and received maintenance became more discrepant (Hypothesis 7; significant negative a_4). In addition, hypothesis 8 argued that the direction of the discrepancy would impact satisfaction (significant a_3) such that lower levels of satisfaction would be reported when received maintenance was less than desired maintenance (underprovision) as compared to when received maintenance exceeded

desired (overprovision). Finally, according to hypothesis 9, it was expected that a match between received and desired maintenance would be associated with similar levels of satisfaction across all levels of received and desired maintenance (non-significant a_1 and a_2). Results indicated that received and desired maintenance in SS friendships explained a significant amount of variance in females' SS friendship satisfaction (see Table 7; $R^2 = .401, p < .01$). Given this significant finding, a response surface was created based on the results of the polynomial regression (Edwards, 2002). Following the procedure described previously, the unstandardized betas from the results of the polynomial regression were used to calculate the surface test values. These surface test values were evaluated with a series of t -tests to determine if each value was significantly different from zero (See Table 6).

Table 6. Received-Desired Maintenance Discrepancy as Predictor of Female SS Friendship Satisfaction

Variable	b (se)
Constant	22.41 (1.04)**
Received SS maintenance (X)	4.28 (.67)**
Desired SS maintenance (Y)	-1.61 (.59)**
Received SS maintenance squared (X^2)	-.591 (.18)**
Received SS maintenance x desired CS maintenance (XY)	.41 (.27)
Desired SS maintenance squared (Y^2)	-.07 (.15)
R^2	.275**
Surface Tests	
$a_1 (b_1 + b_2)$	2.08**
$a_2 (b_3 + b_4 + b_5)$	-.15
$a_3 (b_1 - b_2)$	6.56**
$a_4 (b_3 - b_4 + b_5)$	-1.66**

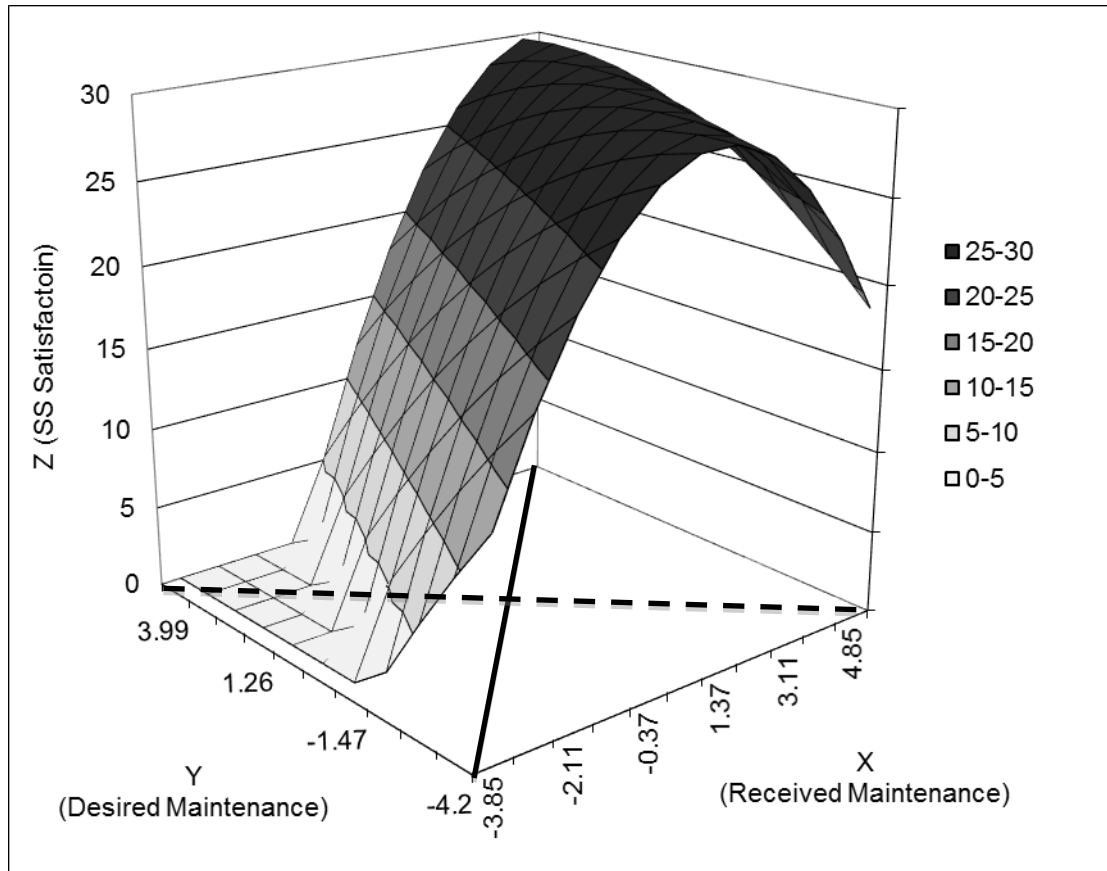
Note. $N = 144$

** $p < .01$

* $p < .05$

Results indicated that a match between received and desired maintenance was significantly related to satisfaction in SS friendships for females (see Table 7 and Figure 8). Examination of the surface features revealed a significant positive slope ($a_1 = 2.08$, $p < .01$) with no significant curvature ($a_2 = -.15$, $p = .28$) along the line of perfect agreement. This finding provides partial support for hypothesis 9 and indicates that when received and desired maintenance were in agreement, SS friendship satisfaction increased as received and desired maintenance increased. Along the line of incongruence, results indicated a significant positive slope ($a_3 = 6.56$, $p < .01$) and significant negative curvature ($a_4 = -1.66$, $p < .01$). These findings provide support for hypotheses 7 and 8, indicating that, for females, as the degree of discrepancy increased, SS friendship satisfaction also decreased significantly, and this was particularly pronounced when the amount of maintenance desired in friendships exceeded the amount of maintenance that was received.

Figure 9. Response Surface Graph of Received and Desired Maintenance with SS Friendship Satisfaction for Females



Note. Portions of the surface that extend beyond the scale are extrapolations that should be disregarded (see Edwards, 2002).

CHAPTER IV:

DISCUSSION

The overall goal of the current study was to better understand the role of CS friendships in late adolescence. To date, the majority of research on CS (and SS) friendships has focused on examination of mean-level differences in their positive features (e.g., intimacy, support). Some researchers have criticized this reliance on mean-level differences in positive quality, arguing that these assessments typically include constructs that favor more stereotypically feminine aspects of friendships (e.g., intimacy; Bagwell & Schmidt, 2000; Camarena et al., 1990; Fehr, 1995; Hussong, 2000) and also fail to account for negative features of friendships (e.g., jealousy; Furman, 1996). As a result, these traditional approaches may obscure the identification of possible contributions of CS friendships during this developmental period.

To address this concern, the current study used two separate approaches to examine CS and SS friendships. First, this study investigated CS and SS friendships using a more traditional, mean-level differences approach. It expanded on previous work by including both positive and negative dimensions of friendship quality. In addition, given that previous research has suggested that there may be structural differences in the way males and females define constructs such as intimacy (Horner, 1996; Hussong, 2000; Monsour, 1992), the current study also used a more behaviorally-based assessment of friendship features: friendship maintenance behaviors. Rather than asking about global features (e.g., how much support does your friend provide), the FMS asks about specific behaviors (e.g., how often does your friend express thanks when you do something nice for him), which may reduce some variation in the way constructs are defined across

participants. Second, this study incorporated perspectives from interdependence and social exchange theories as an alternative approach to examining friendships that may better elucidate the contribution of CS friendships. Previous research has suggested that individuals may want or expect different things from different relationship partners (Dainton, 2000; Hand & Furman, 2009; Horner, 1996). Traditional examinations of mean-level differences, however, consider only what individuals receive in their relationships and take a “more is better” approach that views higher levels of positive features as always being better. This fails to account for individual differences in what individuals may want from their friendship partners. Therefore, an interdependence theory approach, which takes into account what individuals want in particular relationships, may be more appropriate when comparing CS and SS friendships.

In line with interdependence theory, it was posited that when individuals receive the amount of maintenance they want in their friendship, they will be satisfied. This approach allows for the possibility that individuals may report similar levels of satisfaction when they receive very different levels of maintenance in their friendships, depending on what they wanted from their friendship partner. This study used a novel statistical technique, polynomial regression with response surface analysis, to allow for a more thorough investigation of how expectations of maintenance behaviors impact satisfaction. Overall, the use of these two approaches was thought to provide a more balanced understanding of the role of CS friendships in late adolescence than previous investigations that have focused primarily on mean-level differences in positive quality.

Overview of Findings

Examination of mean-level differences.

Mean-level differences in relationship quality. Regarding mean-level differences in relationship quality, the hypotheses that females would report more positive quality in their SS friendships than their CS friendships and that females would report greater positive quality across both relationships compared to males were fully supported. The highest levels of positive quality were found for females in SS friendships. Higher levels of positive quality were also found in SS friendships compared to CS friendships overall, and females reported higher levels of positive quality than males across both relationship types. This finding is consistent with those of past studies reporting greater positive quality in SS friendships compared to CS friendships for females (Johnson, 2004; Kuttler et al., 1999; Reeder, 2003). As expected, in terms of overall gender differences, females reported greater positive quality in friendships compared to males across both relationships and this was particularly true for SS friendships. These findings are in line with previous studies that have consistently found that females report more positive quality in their SS friendships and their CS friendships compared to males (Brendgen et al., 2001; Furman & Buhrmester, 1992; Hussong, 2000; Johnson, 2004; Kuttler et al., 1999; La Greca & Harrison, 2005; Monsour, 1988; Reeder, 2003).

Regarding males specifically, some previous studies have found evidence of higher quality in CS friendships compared to SS friendships for males, leading some to argue that CS friendships may provide unique benefits for males (Kuttler et al., 1999; Monsour, 1988; Reeder, 2003). For example, in a sample of college students, Reeder (2003) found that males reported more closeness in their CS friendships compared to

their SS friendships. Additionally, in an observational study of college students, males reported similar levels of intimacy in their SS and CS friendships, but were rated as displaying more intimacy in their CS friendships by observers (Monsour, 1988). In the current study, however, males reported receiving greater positive quality in their SS friendships. Of note, previous studies that found unique benefits in favor of CS friendships focused on only one feature of friendships in isolation (e.g., closeness, intimacy), whereas the current study utilized the NRI, a composite measure that included a wider range of positive features (i.e., companionship, disclosure, emotional support, approval, satisfaction). It is possible that use of a more expanded measure allowed for the inclusion of features that were more salient to male SS friendships.

In order to better understand the role of CS friendships, some researchers have suggested the negative features of friendships be examined as well. Although the existing research in this area is limited, some findings have suggested that a benefit of CS friendships may be the lack of negative features relative to other relationships (Horner, 1996; Rawlins, 1992; Reeder, 1996). For example, in one qualitative investigation, participants reported that the benefits of CS friendships included the ability to “be blunt” and “be self” and also noted that CS friendships were “less work and worry” compared to other peer relationships (Reeder, 1996). Using the behavioral systems version of the NRI, Furman and Buhrmester (2009) also found higher levels of negative quality in SS friendships compared to CS friendships in a sample of 10th grade students. Consistent with these previous findings, results of the current study showed that greater negative quality was reported in SS friendships compared to CS friendships across both genders. These results lend additional support to the notion that a benefit of CS friendships may lie

in their relatively lower levels of negative features compared to SS friendships. With respect to gender, males in the current study reported higher negative quality overall compared to females. This finding is consistent with previous research on SS friendships that has demonstrated greater negative quality in male SS friendships compared to female SS friendships (Hussong, 2000; La Greca & Harrison, 2005). However, to date, no other studies have examined gender differences in negative quality in CS friendships.

Taken together, these findings suggest that one of the benefits of CS friendships is that they may be comparatively “easier” than SS friendships. That is, individuals continue to receive some of the positive benefits of friendship, but combined with fewer of the negative features that typically accompany these relationships. It is also possible that the lower levels of positive quality indicate that individuals have to put forth less effort, potentially further reducing the costs of being in the relationship. This finding provides some initial empirical support for previous qualitative studies that have found that CS friendships are “less work and worry” compared to other peer relationships.

Mean-level differences in friendship maintenance. In addition to relationship quality, the current study examined mean level group differences in maintenance behaviors. As a more behaviorally-based construct, it was thought that examination of friendship maintenance may result in a more accurate picture of the types of interactions that occur in CS friendships. Furthermore, a significant limitation of traditional relationship quality approaches is that they make the assumption that the more of a feature is present in a relationship, the better. However, this approach fails to consider the possibility that different individuals may want different qualities from their friendships overall or that they may look to different relationships to provide different qualities. For

example, an individual may turn to one friend when he or she needs someone to talk to, but turn to a different friend when he or she wants to go out to a fun activity. The current study examined the types of maintenance behaviors individuals actually received in their SS and CS friendships, as well as how much of these behaviors they wanted in these friendships. Regarding received maintenance, it was expected that both males and females would report receiving more maintenance in their SS friendships than their CS friendships and that females would report receiving greater maintenance overall than males. As no previous studies have examined what maintenance behaviors individuals want from their friendships, no specific hypotheses regarding desired maintenance were offered.

Results revealed a similar pattern across received and desired maintenance, with individuals reporting both receiving and desiring more maintenance in their SS friendships than their CS friendships overall, and this was particularly true for females. By taking into account what individuals are looking for in their friendships, these results further suggest that traditional approaches relying on examinations of mean-level differences in positive quality may not be sufficient. Consistent with findings in the relationship quality literature, these results continue to exhibit the pattern of the highest levels of positive features being found in female friendships, particularly SS female friendships. However, these friendships simultaneously also show the highest levels of desired behaviors. That is, females also report wanting more maintenance behaviors from their female friendship partners. Consequently, it is possible that one reason female friendships are consistently found to be higher in positive friendship features may be due to the fact that females want or expect more of these behaviors from their friendship

partners. Additionally, regarding CS friendships specifically, this finding lends additional support for the notion that CS friendships may require less effort to maintain. Although individuals may receive fewer positive maintenance behaviors from their CS friends, this matches what they are wanting from their CS friends. As such, the traditional assumption that “more is better” may not be consistent with what individuals are actually looking for in their friendships.

Interdependence theory approach. Although examining differences in the amount of maintenance individuals want from their SS and CS friendships is important, interdependence theory suggests that it is the match between the behaviors that are desired and the behaviors that are received that leads to satisfaction in a relationship. Interdependence theory posits that the larger the discrepancy between received and desired, the less satisfied an individual will be in a relationship (Kelly & Thibaut, 1978; Stafford & Canary, 2006). Previous studies have utilized interdependence theory to examine discrepancies in romantic relationships (e.g., Dainton, 2000; Stafford & Canary, 2006), but the current study is the first to incorporate this theory into the investigation of SS and CS friendships. Furthermore, one of the strengths of the current study was its use of a novel statistical approach, polynomial regression with response surface analysis, to examine the relationship between received and desired maintenance on satisfaction. Past studies evaluating interdependence theory hypotheses have most frequently relied on the calculation of discrepancy scores (e.g., Demir et al., 2011). As reviewed, however, the use of discrepancy scores has several important limitations, including reducing reliability, confounding the effects of each of the component measures on the outcome, and reducing a three dimensional relationship to two dimensions (Edwards, 2001, 2002; Edwards &

Parry, 1993). Polynomial regression with response surface techniques not only avoid these limitations, but also allow for the examination of additional questions, such as the extent to which each component measure contributes to the variance in the outcome (Shanock et al., 2010).

In accordance with interdependence theory, it was hypothesized that a match between received and desired maintenance would be associated with similar levels of satisfaction across all levels of desired maintenance. In other words, it was expected that similar levels of satisfaction would be found when there was a match between received and desired maintenance, regardless of whether received and desired maintenance were high or low. Additionally, it was expected that larger discrepancies between received and desired maintenance would be associated with lower satisfaction. Finally, it was hypothesized that the direction of the discrepancy would impact satisfaction, such that lower satisfaction would be found when received maintenance was lower than desired maintenance (underprovision) compared to when received maintenance exceeded desired maintenance (overprovision). Consistent with interdependence theory, it was expected that these hypotheses would hold true across all four relationship types: male CS friendships, female CS friendships, male SS friendships, and female SS friendships.

The match hypothesis was partially supported, with similar results found across all relationship types. Although, as expected, the highest levels of satisfaction were found when received and desired maintenance were in agreement, results showed that the level of satisfaction varied based on the levels of received and desired maintenance such that higher levels were found when received and desired maintenance were both high compared to when received and desired maintenance were both low. This is consistent

with the results reported by Dainton (2000), who, using a discrepancy score approach, found that the combination of fulfillment of desired maintenance in conjunction with high levels of received behaviors was the strongest predictor of satisfaction in romantic relationships.

It is important to note, however, that examination of the response surfaces shows that even the lowest levels of received and desired maintenance agreement were still associated with more satisfaction than when high levels of underprovision were present. Although no other studies to date have utilized an interdependence theory approach to evaluate CS friendships, these results are in line with some findings in the romantic relationships literature (e.g., Dainton, 2000; Fletcher, Simpson, Thomas, & Giles, 1999; Le & Agnew, 2001). For example, Fletcher and colleagues (1999) asked a sample of adults to rank the importance of several ideal attributes in a romantic partner and then rate their perception of their partner on those same attributes. Results showed that individuals who reported smaller discrepancies between their ideal and their actual perception of their partner reported greater satisfaction in their relationship. In a sample of college students, Le and Agnew (2001) found that fulfillment of relationship needs in romantic relationships predicted more positive emotions about the relationship. Importantly, however, this study utilized a measure of need fulfillment where participants rated their needs on a scale ranging from 0 (*not fulfilled*) to 6 (*totally fulfilled*), which does not allow for the consideration of underprovision or overprovision of resources. Overall, results from the current study are consistent with research on other relationship types and suggest that agreement between what individuals want from their friendship

partner and what they receive is an important factor in determining how satisfied they are in the relationship.

Regarding discrepancy between received and desired maintenance, results indicated that the direction of the discrepancy had a significant impact on satisfaction, with particularly low levels of satisfaction being found at high levels of underprovision (i.e., when desired exceeded received maintenance). This was true across all relationship types. Interestingly, this pattern was particularly pronounced in SS friendships, with even moderate levels of underprovision being associated with the lowest possible levels of satisfaction for females. Given that higher mean levels of desired and received maintenance were also found in these relationships, it is possible that individuals may hold higher expectations for receiving maintenance behaviors in these relationships, and, therefore, when these expectations are not met, it has a particularly strong impact on satisfaction. Regarding degree of discrepancy, results indicated that for females in SS friendships, as the discrepancy between received and desired maintenance increased (in either direction), satisfaction decreased. Although this result did not reach statistical significance for the other three relationship types, results were trending in this direction for males in SS friendships. Despite the fact that previous studies of relationship maintenance have not examined separate effects of overprovision and underprovision, these findings are in line with some research on social support in romantic relationships that has found that receiving more support than desired and not receiving enough support are both associated with poorer relationship outcomes (Bar-Kalifa & Rafaeli, 2013; Brock & Lawrence, 2009). Overall, results of the current study have important implications for the understanding of friendships and question the traditional “more is

better” approach to conceptualizing positive features of friendships. Indeed, examination of the response surfaces suggests that overprovision can, in fact, begin to negatively impact satisfaction in friendships. Interestingly, this finding was particularly pronounced in female SS friendships, which have traditionally been lauded for their high levels of positive friendship features.

Regarding CS friendships in particular, visual inspection of the response surfaces reveals flatter slopes and less curvature along the line of incongruence in these relationships compared to SS friendships, indicating that discrepancies between received and desired maintenance are associated with less variability in satisfaction in these relationships. It is possible that for CS friendships, other features of these friendships may be more salient to satisfaction than friendship maintenance. Researchers have noted that CS friendships offer several unique features not found in SS friendships, such as the ability to learn about the opposite sex (Hand & Furman, 2009; McDougal & Hymel, 2007; Monsour, 1988; Reeder, 1996; Sapadin, 1988; Werking, 1997). It is possible that some of these unique features of CS friendships that are not captured in the current assessment of friendship maintenance may also contribute significantly to CS friendship satisfaction.

Summary

Overall, these findings have important implications for our understanding of the role of CS friendships in late adolescence. Results of the current study provide further support for the notion that CS friendships are both common and valued relationships during this developmental period. The current study utilized a fairly narrow definition of CS friendships that specifically excluded the nomination of any friends who were prior

romantic partners or for whom the participant had romantic feelings. Despite this relatively narrow definition, all participants were able to nominate a CS friend matching this definition, suggesting non-romantic CS friendships are a ubiquitous relationship in late adolescence. Prior to nominating a CS friend, participants were also asked to list the names of all the individuals they consider part of their “group of friends.” Results showed that 95% of participants included their nominated CS friend in this list, indicating that the vast majority of participants were able to identify a CS friend that matched the provided definition and was truly part of their friend group. These findings dispute the common belief that CS friendships simply represent unrealized romantic relationships (O’Meara, 1989), and instead suggest that non-romantic CS friendships are actually a normative relationship type in late adolescence.

In addition, the current study provides empirical support for the notion that an important benefit of CS friendships may be that they are comparatively easier and less stressful than other peer relationships. Indeed, previous qualitative studies have found that participants report CS friendships are less work and worry (Horner, 1996). Although the current study did not directly assess this notion, results showed that participants reported lower levels of both positive and negative quality in their CS friendships compared to their SS friendships, suggesting that although these relationships may include fewer positive features, they also have fewer negative and potentially stressful features as well. Additionally, examinations of friendship maintenance behaviors showed that although participants received fewer positive maintenance behaviors in their CS friendships, they also reported wanting less maintenance in these relationships. Taken together, these findings provide additional, indirect evidence that CS friendships may be

comparatively easier and less stressful relationships. These friendships may require individuals to put in less effort to maintain and may not be accompanied by as many of the negative aspects of friendships.

Finally, the findings of this study provide further evidence of the need to move beyond examination of mean-level differences in investigations of friendships and suggest that interdependence theory may provide a promising alternative approach to investigating friendship features. Traditional measures of relationship features ascribe to the notion that “more is better.” On these measures, the greater the amount of a positive feature that is present, the higher quality the relationship is assumed to be (Bagwell & Schmidt, 2011). However, in the current study, it was found that individuals reported desiring different levels of behaviors across different types of relationships, suggesting that a “one size fits all” approach to assessing friendship features may not be appropriate. Furthermore, it was found that the highest levels of friendship satisfaction actually occurred when there was a match between participants wanting high levels of maintenance from their friends and actually receiving that same amount of maintenance. Additionally, results indicated that as levels of received maintenance began to significantly exceed the amount of maintenance individuals wanted from their friends, levels of reported satisfaction began to decrease. This finding directly refutes traditional “more is better” conceptions of friendship features and instead suggests that some individuals may experience “too much of a good thing.” Overall, these findings indicate that it is the combination of high levels of maintenance and the match between received and desired maintenance that results in the greatest satisfaction. Therefore, when

evaluating features of friendships, it is important to consider what the individual wants from the relationship.

Limitations

Despite the strengths of this study, there were several limitations that should be considered in the interpretation of the results. First, participants were comprised of primarily Caucasian college students recruited from a rural university. Although there is a dearth of research regarding cultural differences in friendships, some evidence suggests that important cultural distinctions do exist (Cingoz-Ulu & Lalonde, 2007; French et al., 2006; Gupta et al., 2013; Kito, 2005; Lin & Rusbult, 1995). For example, one study found that Japanese college students reported lower levels of self-disclosure in their SS and CS friendships compared to American college students (Kito, 2005). Additionally, in an examination of conflict styles, Cingoz-Ulu & Lalonde (2007) found that Turkish college students were more likely to use the strategies of refraining, postponing, and persuading during conflict with CS friends or romantic partners compared to Canadian college students. More research is needed to understand how cultural differences may impact friendship variables. In addition, the focus of the current study was on the SS and CS friendships of college students. Less research has examined the peer relationships of late adolescents that do not attend college, and it is possible that there may be important differences in the nature of CS and SS friendships outside of college settings (Bagwell & Schmidt, 2011).

As is the case with most research on SS and CS friendships, the current study focused on the friendships of primarily heterosexual individuals. The limited research examining SS and CS friendship processes in sexual minority samples has suggested

there may be some important differences in friendship processes (Baiocco, Pomponio, & Nigito, 2012; Guerrero & Chavez, 2005; Messman et al., 2000; Monsour, 1992; Nardi, 1992; Nardi & Sherrod, 1994). For example, in a sample of lesbian and gay adolescents, Baiocco and colleagues (2012) found that internalized sexual stigma was an important predictor of behaviors such as self-disclosure and conflict. In addition, Nardi and Sherrod (1994) sought to investigate whether gender differences in self-disclosure and support typically found in heterosexual friendships were also found in the SS friendships of sexual-minority adults. Unlike findings for heterosexual friendships, no significant gender differences in self-disclosure or social support were found across males and females who identified as gay or lesbian. Consequently, Nardi and Sherrod (1994) posited that sexual orientation might be an important mediator of the influence of gender on some dimensions of friendship. Although a small portion of participants in the current study identified themselves or their CS friend as non-heterosexual, this number did not reach the frequency necessary to allow for separate analyses. As such, the current study cannot offer any conclusions regarding the role of sexual orientation in predicting friendship satisfaction. Overall, more research is necessary regarding the role of sexual orientation in both SS and CS friendships.

Another limitation of the current study is the reliance on participant self-reports. Although widely used in the literature, the use of self-report measures introduces the potential for reporter bias (Furman, 1996). For example, participants' perspectives of a relationship may be impacted by their internalized working models, which are a set of internalized rules and expectations for friendships (Bagwell & Schmidt, 2013; Furman, 1996), as well as other characteristics, such as personality variables or response styles

(e.g., defensiveness). In the current study, efforts were made to reduce bias by utilizing the FMS, a behaviorally-anchored measure of the frequency of maintenance behaviors. Nonetheless, the FMS is still a self-report measure, and therefore, is not a truly “objective” measure of friendship maintenance behaviors. As a result, it is certainly possible that participant reports of the frequency of behaviors were influenced by other factors.

In addition, no information was gathered from the identified friends in this study. As a result, all information regarding characteristics of the friend (e.g., sexual orientation) and his or her behaviors was based on the perception of the participant. Of note, in a study by Oswald and colleagues (2004), participants were asked to complete the FMS based on the behaviors they received from their friend and the friends completed the FMS based on their own behaviors. Results showed that participants’ perceptions of their friends’ behaviors were in agreement with the friends’ self-reported behavior. Although both friends were still technically providing self-report, these results do lend some confidence that participants can provide an accurate report of their friends’ behaviors. Despite these limitations, it is important to note that the outcome variable of satisfaction is a subjective assessment of the relationship. Therefore, participant perception of the presence of behaviors is likely an important factor for predicting satisfaction (Furman, 1996).

Furthermore, exclusive reliance on self-report methods likely results in some degree of common method variance. That is, some variability in participants’ responses may be due to the mode of assessment, rather than the content of the measure. Foster and Cone (1995) note that if the pattern of relationships corresponds with theoretical

expectations, shared method variance is unlikely to be a significant factor. Although a greater variety of assessment methods would have been beneficial, the resulting pattern of relationship likely was not due to common method variance.

Finally, data in the current study are cross-sectional in nature. Consequently, no conclusions can be drawn regarding causality. Whether, for instance, receipt of maintenance behaviors impacts expectations for maintenance in a relationship or vice versa remains unclear. It could be that as individuals continually receive less maintenance than they desire in their friendship, they adjust their expectations over time and begin to desire less maintenance from their friendship partner. Longitudinal data would allow for greater understanding of how desired and received maintenance influence satisfaction over time. For example, it is possible overprovision or underprovision of maintenance may become less tolerable as time goes on and result in greater decreases in satisfaction over time.

Future Directions

One of the strengths of the current study is the use of a clear definition of CS friends. The use of operational definitions allows for comparisons of results to be made across research studies. However, it is also clear that there is a wide diversity of CS relationships during this developmental period, including friends with benefits, friends with a history of romantic involvement, and friends with a history of sexual involvement, among others (Rawlins, 1982). Currently, it is unclear whether these relationships are similar to more platonic CS friendships, or whether they represent their own, unique types of relationships. More research is needed to determine the nature of these

relationships in order to facilitate the development of an operational definition of CS friendships that can then be applied consistently across the literature.

In the current study, participants were asked to report on their closest CS and SS friends. It may be beneficial for future studies to consider other friendships as well. Previous studies examining friendship maintenance have found higher levels of maintenance behaviors in best friendships as compared to close or casual friendships (Demir, 2011; Oswald et al., 2004; Rose & Serafica, 1986). Similar results have been found for examinations of quality (Demir & Weitekamp, 2007). It is likely that if participants are encouraged to report on their closest or best friend, they are likely to select a relationship that is of reasonably high quality and that they are satisfied with. As such, some ceiling effect was found in the current study, particularly for females. Similarly, fairly low levels of negative quality were reported across relationships. It may be interesting for future investigations to consider a range of friends to determine how varying levels of closeness may impact satisfaction.

One of the biggest strengths of the current study is the emphasis on the consideration of individual differences. This study does not take a “one size fits all” approach to examining friendship, but instead acknowledges that individuals may want different things from their friendships in general, but also from different friendship partners. Although the results clearly illustrate that desires vary across relationships, the current study does not provide any insight into why these different desires may be present. Examination of individual characteristics (e.g., personality variables, gender socialization, gender typicality) may provide further insight into the reasons for these differences. For example, in an examination of personality differences in SS friendship

needs, Zabatany and colleagues (2004) found that personality variables (i.e., communion and agency) predicted differences in the amount of agentic and communal provisions that participants desired in their close friendships. It is possible that examination of individual characteristics may provide further insight into why individuals look to different friends for different provisions.

Finally, methodological changes could also help address some of the limitations of the current study. An observational study (e.g., Brendgen et al., 2001; Furman & Shomaker, 2008; Monsour, 1992) could be utilized to provide a more objective and accurate measurement of the frequency of behaviors. In observational methods (e.g., videotaped interactions), trained researchers can be used to code the types of interactions and offer a more objective, outsider's perspective of the relationship (Monsour, 1992). A diary study could also provide additional benefits. Although a diary study may still be susceptible to personal biases, frequent recording of behaviors may reduce some errors related to recall (Iida et al., 2012). Furthermore, such a study could allow for the monitoring of behaviors over a longer span of time, providing valuable longitudinal data.

Conclusions

The current study illustrates that CS friendships are an integral component of peer networks in late adolescence and suggests that researchers interested in the peer relationships of this age group should provide greater attention to the contribution of CS friendships. Using two distinct approaches, the current study also illustrated that reliance on a "more is better" approach may not provide an accurate understanding of these relationships. The results of this study provide further support for the notion that one benefit of CS friendships may lie in the comparatively lower levels of negative quality

found in these relationships. Furthermore, the current study introduced interdependence theory as a potential framework for assessing CS and SS friendships. This approach allows for the examination of individual differences in what participants want or desire in their various relationships and predicts that the highest levels of satisfaction will be found when desires are fulfilled. The current study was the first to use polynomial regression with response surface analysis to evaluate this hypothesis in CS and SS friendships and provided further evidence that fit between what an individual wants and what he or she actually receives from a friendship partner is an important factor in predicting satisfaction in the relationship. Furthermore, results indicated that overprovision of maintenance was associated with decreases in satisfaction, further calling into question traditional “more is better” approaches to understanding friendships.

REFERENCES

- Afifi, W. A., & Faulkner, S. L. (2000). On being just friends: The frequency and impact of sexual activity in cross-sex friendships. *Journal of Social and Personal Relationships*, 17(2), 205-222.
- Arndorfer, C. & Stormshak, E. (2008). Same-sex versus other-sex best friendship in early adolescence: Longitudinal predictors of antisocial behavior throughout adolescence. *Journal of Youth and Adolescence*, 37, 1059-1070.
- Aylor, B., & Dainton, M. (2004). Biological sex and psychological gender as predictors of routine and strategic relational maintenance. *Sex Roles*, 50, 689-697.
- Baiocco, R., Laghi, F., Di Pomponio, I., & Nigito, C. S. (2012). Self-disclosure to the best friend: Friendship quality and internalized sexual stigma in Italian lesbian and gay adolescents. *Journal of Adolescence*, 35(2), 381-387.
- Bagwell, C. L., Bender, S. E., Andreassi, C. L., Kinoshita, T. L., Montarello, S. A., & Muller, J. G. (2005). Friendship quality and perceived relationship changes predict psychosocial adjustment in early adulthood. *Journal of Social and Personal Relationships*, 22(2), 235-254.
- Bagwell, C.L. & Schmidt, M.E. (2011). *Friendship in childhood and adolescence*. New York, NY: The Guilford Press.
- Baumgarte, R., & Nelson, D. W. (2009). Preference for same- versus cross-sex friendships. *Journal of Applied Social Psychology*, 39(4), 901-917.
- Bem, S.L. (1974). The measurement of psychological androgyny. *Journal of Counseling and Clinical Psychology*, 42, 155-162.
- Bem, S. L. (1977). On the utility of alternative procedures for assessing psychological androgyny. *Journal of Consulting and Clinical Psychology*, 45(2), 196-205.
- Bem, S.L. (1981). Gender schema theory: A cognitive account of sex typing. *Psychological Review*, 88, 354-364.
- Berndt, T.J. (1996). Exploring the effects of friendship quality on social development. In W.M. Bukowski, A.F. Newcomb, & W.W. Hartup (Eds.), *The company they keep: Friendship in childhood and adolescence* (pp. 346-365). Cambridge, UK: Cambridge University Press.
- Berndt, T. J. (2002). Friendship quality and social development. *Current Directions in Psychological Science*, 11(1), 7-10.

- Berndt, T. J., & Keefe, K. (1995). Friends' influence on adolescents' adjustment to school. *Child Development*, 66(5), 1312-1329.
- Brendgen, M., Markiewicz, D., Doyle, A. B., & Bukowski, W. M. (2001). The relations between friendship quality, ranked-friendship preference, and adolescents' behavior with their friends. *Merrill-Palmer Quarterly*, 47(3), 395-415.
- Brock, R. L., & Lawrence, E. (2009). Too much of a good thing: Underprovision versus overprovision of partner support. *Journal of Family Psychology*, 23(2), 181-192.
- Buhrmester, D. (1996). Need fulfillment, interpersonal competence, and the developmental contexts of early adolescent friendship. In W.M. Bukowski, A.F. Newcomb, & W.W. Hartup (Eds.), *The company they keep: Friendship in childhood and adolescence* (pp. 158-185). Cambridge, UK: Cambridge University Press.
- Buhrmester, D. & Furman, W. (1987). The development of companionship and intimacy. *Child Development*, 58, 1101-1113.
- Buhrmester, D. & Furman, W. (2008). *The Network of Relationships Inventory: Relationship Qualities Version*. Unpublished measure, University of Texas, Dallas, TX.
- Bukowski, W., Gauze, C., Hoza, B., & Newcomb, A. (1993). Differences and consistency between same-sex and other-sex peer relationships during early adolescence. *Developmental Psychology*, 29(2), 255-263.
- Bukowski, W. M., Hoza, B., & Boivin, M. (1994). Measuring friendship quality during pre-and early adolescence: The development and psychometric properties of the Friendship Qualities Scale. *Journal of Social and Personal Relationships*, 11(3), 471-484.
- Bukowski, W.M., Newcomb, A.F., & Hartup, W.W. (1996). Friendship and its significance in childhood and adolescence: Introduction and comment. In W.M. Bukowski, A.F. Newcomb, & W.W. Hartup (Eds.), *The company they keep: Friendship in childhood and adolescence* (pp. 1-15). Cambridge, UK: Cambridge University Press.
- Buote, V. M., Pancer, S. M., Pratt, M. W., Adams, G., Birnie-Lefcovitch, S., Polivy, J., & Wintre, M. G. (2007). The importance of friends: Friendship and adjustment among 1st-year university students. *Journal of Adolescent Research*, 22(6), 665-689.
- Burk, W., & Laursen, B. (2005). Adolescent perceptions of friendship and their associations with individual adjustment. *International Journal of Behavioral Development*, 29(2), 156-164.

- Caldwell, M. A., & Peplau, L. A. (1982). Sex differences in same-sex friendship. *Sex Roles*, 8(7), 721-732.
- Camarena, P. M., Sarigiani, P. A., & Petersen, A. C. (1990). Gender-specific pathways to intimacy in early adolescence. *Journal of Youth and Adolescence*, 19(1), 19-32.
- Campbell, T., Gillaspay, J. A., & Thompson, B. (1997). The factor structure of the Bem Sex-Role Inventory (BSRI): Confirmatory analysis of long and short forms. *Educational and Psychological measurement*, 57(1), 118-124.
- Canary, D. J., & Stafford, L. (1992). Relational maintenance strategies and equity in marriage. *Communications Monographs*, 59(3), 243-267.
- Carbery, J., & Buhrmester, D. (1998). Friendship and need fulfillment during three phases of young adulthood. *Journal of Social and Personal Relationships*, 15(3), 393-409.
- Choi, N., & Fuqua, D. R. (2003). The structure of the Bem Sex Role Inventory: A summary report of 23 validation studies. *Educational and Psychological Measurement*, 63(5), 872-887.
- Choi, N., Fuqua, D. R., & Newman, J. L. (2009). Exploratory and confirmatory studies of the structure of the Bem Sex role Inventory short form with two divergent samples. *Educational and Psychological Measurement*, 69(4), 696-705.
- Chow, C., Roelse, H., Buhrmester, D., & Underwood, M. (2012). Transformations in friends relationships across the transition into adulthood. In B. Laursen & W.A. Collins (Eds.), *Relationship pathways from adolescence to young adulthood* (pp. 91-112). Thousand Oaks, CA: Sage Publications, Inc.
- Cingöz-Ulu, B., & Lalonde, R. (2007). The role of culture and relational context in interpersonal conflict: Do Turks and Canadians use different conflict management strategies? *International Journal of Intercultural Relations*, 31(4), 443-458.
- Connolly, J., Craig, W., Goldberg, A., Pepler, D. (1999). Conceptions of cross-sex friendships and romantic relationships in early adolescence. *Journal of Youth and Adolescence*, 28(4), 481-494.
- Connolly, J., Craig, W., Goldberg, A., & Pepler, D. (2004). Mixed-gender groups, dating, and romantic relationships in early adolescence. *Journal of Research on Adolescence*, 14(2), 185-207.
- Connolly, J., Furman, W., & Konarski, R. (2000). The role of peers in the emergence of heterosexual romantic relationships in adolescence. *Child Development*, 71(5), 1359-1408.

- Connolly, J. A., & Johnson, A. M. (1996). Adolescents' romantic relationships and the structure and quality of their close interpersonal ties. *Personal Relationships*, 3(2), 185-195.
- Connolly, J. A., & Konarski, R. (1994). Peer self-concept in adolescence: Analysis of factor structure and of associations with peer experience. *Journal of Research on Adolescence*, 4(3), 385-403.
- Crockett, L., Losoff, M., & Petersen, A. C. (1984). Perceptions of the peer group and friendship in early adolescence. *The Journal of Early Adolescence*, 4(2), 155-181.
- Dainton, M. (2000). Maintenance behaviors, expectations for maintenance, and satisfaction: Linking comparison levels to relational maintenance strategies. *Journal of Social and Personal Relationships*, 17(6), 827-842.
- Dainton, M., Stafford, L., & Canary, D. J. (1994). Maintenance strategies and physical affection as predictors of love, liking, and satisfaction in marriage. *Communication Reports*, 7(2), 88-98.
- Demir, M., Özdemir, M., & Marum, K. P. (2011). Perceived autonomy support, friendship maintenance, and happiness. *The Journal of Psychology*, 145(6), 537-571.
- Demir, M., & Urberg, K. A. (2004). Friendship and adjustment among adolescents. *Journal of Experimental Child Psychology*, 88(1), 68-82.
- Demir, M., & Weitekamp, L. (2007). I am so happy 'cause today I found my friend: Friendship and personality as predictors of happiness. *Journal of Happiness Studies*, 8(2), 181-211.
- Diamond, L. (2000). Passionate friendships among adolescent sexual-minority women. *Journal of Research in Adolescence*, 10, 191-209.
- Dindia, K. & Canary, D.J. (1993). Definitions and theoretical perspectives on maintaining relationships. *Journal of Social and Personal Relationships*, 10, 163-173.
- Dunphy, D. C. (1963). The social structure of urban adolescent peer groups. *Sociometry*, 26(2), 230-246.
- Edwards, J. R. (2001). Ten difference score myths. *Organizational Research Methods*, 4, 265-287.

- Edwards, J. R. (2002). Alternatives to difference scores: Polynomial regression analysis and response surface methodology. In F. Drasgow & N. Schmitt (Eds.) *Measuring and analyzing behavior in organizations: Advances in measurement and data analysis* (pp. 350-400). San Francisco, CA: Jossey-Bass.
- Edwards, J. R. & Parry, M. E. (1993). On the use of polynomial regression equations as an alternative to difference scores in organizational research. *Academy of Management Journal*, 36, 1577-1613.
- Fehr, B. (1995). *Friendship processes*. Thousand Oaks, CA: Sage.
- Feiring, C. (1999). Other-Sex Friendship Networks and the Development of Romantic Relationships in Adolescence. *Journal of Youth and Adolescence*, 28(4), 495-512.
- Feldman, S. S., Rubenstein, J. L., & Rubin, C. (1988). Depressive affect and restraint in early adolescents: Relationships with family structure, family process and friendship support. *The Journal of Early Adolescence*, 8(3), 279-296.
- Felmlee, D. H. (1999). Social norms in same-and cross-gender friendships. *Social Psychology Quarterly*, 62(1), 53-67.
- Festa, C. C., McNamara Barry, C., Sherman, M. F., & Grover, R. L. (2012). Quality of college students' same-sex friendships as a function of personality and interpersonal competence. *Psychological Reports*, 110(1), 283-296.
- Ford, H. A. & Nangle, D. W. (2013). Predictors of Relationship Quality and Satisfaction in the Same- and Cross-Sex Friendships of College Students and Implications for Adjustment. University of Maine.
- Foster, S. L., & Cone, J. D. (1995). Validity issues in clinical assessment. *Psychological Assessment*, 7(3), 248-260.
- French, D., Bae, A., Pidada, S., & Okhwa, L. (2006). Friendships of Indonesian, South Korean, and U.S. college students. *Personal Relationships*, 13(1), 69-81.
- Fuhrman, R. W., Flannagan, D., & Matamoros, M. (2009). Behavior expectations in cross-sex friendships, same-sex friendships, and romantic relationships. *Personal Relationships*, 16(4), 575-596.
- Furman, W. (1996). The measurement of friendship perceptions: Conceptual and methodological issues. In W.M. Bukowski, A.F. Newcomb, & W.W. Hartup (Eds.), *The company they keep: Friendship in childhood and adolescence* (pp. 41-65). Cambridge, UK: Cambridge University Press.
- Furman, W. (2002). The emerging field of adolescent romantic relationships. *Current Directions in Psychological Science*, 11, 177-180.

- Furman, W., & Buhrmester, D. (1985). Children's perceptions of the personal relationships in their social networks. *Developmental Psychology*, 21(6), 1016-1024.
- Furman, W. & Buhrmester, D. (1992). Age and sex differences in perceptions of networks of personal relationships. *Child Development*, 63, 103-115.
- Furman, W., & Buhrmester, D. (2009). Methods and measures: The network of relationships inventory: Behavioral systems version. *International Journal of Behavioral Development*, 33(5), 470-478.
- Furman, W., & Shaffer, L. (2011). Romantic partners, friends, friends with benefits, and casual acquaintances as sexual partners. *Journal of Sex Research*, 48(6), 554-564.
- Furman, W., & Shomaker, L.B. (2008). Patterns of interaction in adolescent romantic relationships: Distinct features and links to other close relationships. *Journal of Adolescence*, 31(6), 771-788.
- Furman, W. & Wehner, E. A. (1997). Adolescent romantic relationships: A developmental perspective. In S. Shulman & W.A. Collins (Eds.), *New directions for child development* (No. 78). Romantic relationships in adolescence: Developmental perspectives (pp. 21-36). San Francisco, CA: Jossey-Bass.
- Guerrero, L. K., & Chavez, A. M. (2005). Relational maintenance in cross-sex friendships characterized by different types of romantic intent: An exploratory study. *Western Journal of Communication*, 69(4), 339-358.
- Guerrero, L. K., Eloy, S. V., & Wabnik, A. I. (1993). Linking maintenance strategies to relationship development and disengagement: A reconceptualization. *Journal of Social and Personal Relationships*, 10(2), 273-283.
- Gupta, T., Way, N., McGill, R., Hughes, D., Santos, C., Jia, Y., Yoshikawa, X., & Deng, H. (2013). Gender-typed behaviors in friendships and well-being: A cross-cultural study of Chinese and American boys. *Journal of Research on Adolescence*, 23(1), 57-68.
- Hafen, C. A., Laursen, B., & DeLay, D. (2012). Transformations in friend relationships across the transition into adolescence. In B. Laursen & W.A. Collins (Eds.), *Relationship pathways from adolescence to young adulthood* (pp. 69-90). Thousand Oaks, CA: Sage Publications, Inc.
- Hall, J. A., Larson, K. A., & Watts, A. (2011). Satisfying friendship maintenance expectations: The role of friendship standards and biological sex. *Human Communication Research*, 37(4), 529-552.

- Hand, L., & Furman, W. (2009). Rewards and costs in adolescent other-sex friendships: Comparisons to same-sex friendships and romantic relationships. *Adolescent Development, 18*(2), 270-287.
- Hartup, W. W. (1989). Social relationships and their developmental significance. *American Psychologist, 44*(2), 120-126.
- Hartup, W. W. (1996). The company they keep: Friendships and their developmental significance. *Child Development, 67*, 1-13.
- Hartup, W. W., & Stevens, N. (1997). Friendships and adaptation in the life course. *Psychological bulletin, 121*(3), 355.
- Hartup, W. W., & Stevens, N. (1999). Friendships and adaptation across the life span. *Current Directions in Psychological Science, 8*(3), 76-79.
- Hays, R. B. (1984). The development and maintenance of friendship. *Journal of Social and Personal Relationships, 1*(1), 75-98.
- Hibbard, D. R., & Buhrmester, D. (2010). Competitiveness, gender, and adjustment among adolescents. *Sex Roles, 63*, 412-424.
- Holmbeck, G. N., & Bale, P. (1988). Relations between instrumental and expressive personality characteristics and behaviors: A test of Spence and Helmreich's theory. *Journal of Research in Personality, 22*(1), 37-59.
- Horner, C. (1995). *We're just friends: Comparison of same-gender and platonic cross gender friendships*. (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses. (Order No. 9541596).
- Hussong, A. M. (2000). Distinguishing mean and structural sex differences in adolescent friendship quality. *Journal of Social and Personal Relationships, 17*(2), 223-243.
- Iida, M., Shrout, P., Laurenceau, J., & Bolger, N. (2012). Using diary methods in psychological research. In C. Harris, P. Camic, D. Long, A. Panter, D. Rindskopf, & K. Sher (Eds.), *APA handbook of research methods in psychology, Vol 1: Foundations, planning, measures, and psychometrics* (277-305). Washington, DC: American Psychological Association.
- Johnson, H. D. (2004). Gender, grade, and relationship differences in emotional closeness within adolescent friendships. *Adolescence, 39*(154), 243-255.
- Johnson, M. P., & Leslie, L. (1982). Couple involvement and network structure: A test of the dyadic withdrawal hypothesis. *Social Psychology Quarterly, 34*-43.

- Jones, D. C. (1991). Friendship satisfaction and gender: An examination of sex differences in contributors to friendship satisfaction. *Journal of Social and Personal Relationships*, 8(2), 167-185.
- Kaplan, D. L., & Keys, C. B. (1997). Sex and relationship variables as predictors of sexual attraction in cross-sex platonic friendships between young heterosexual adults. *Journal of Social and Personal Relationships*, 14(2), 191-206.
- Keefe, K., & Berndt, T. J. (1996). Relations of friendship quality to self-esteem in early adolescence. *The Journal of Early Adolescence*, 16(1), 110-129.
- Kelley, H. H., & Thibaut, J. W. (1978). *Interpersonal relations: A Theory of Interdependence*. New York: Wiley.
- Kito, M. (2005). Self-disclosure in romantic relationships and friendships among American and Japanese college students. *The Journal of Social Psychology*, 145(2), 127-140.
- Koenig, B. L., Kirkpatrick, L. A., & Ketelaar, T. (2007). Misperception of sexual and romantic interests in opposite-sex friendships: Four hypotheses. *Personal Relationships*, 14, 411-429.
- Kuiper, N. A., & McHale, N. (2009). Humor styles as mediators between self-evaluative standards and psychological well-being. *The Journal of Psychology*, 143(4), 359-376.
- Kuttler, A. F., La Greca, A. M., & Prinstein, M. J. (1999). Friendship qualities and social-emotional functioning of adolescents with close, cross-sex friendships. *Journal of Research on Adolescence*, 9(3), 339-366.
- Ladd, G. W., & Kochenderfer, B. L. (1996). Linkages between friendship and adjustment during early school transitions. In W.M. Bukowski, A.F. Newcomb, & W.W. Hartup (Eds.), *The company they keep: Friendship in childhood and adolescence* (pp. 322-345). Cambridge, UK: Cambridge University Press.
- La Greca, A. M., & Harrison, H. M. (2005). Adolescent peer relations, friendships, and romantic relationships: Do they predict social anxiety and depression? *Journal of Clinical Child and Adolescent Psychology*, 34(1), 49-61.
- La Greca, A. M., & Lopez, N. (1998). Social anxiety among adolescents: Linkages with peer relations and friendships. *Journal of Abnormal Child Psychology*, 26(2), 83-94.

- Laursen, B., Furman, W., & Mooney, K. S. (2006). Predicting interpersonal competence and self-worth from adolescent relationships and relationship networks: Variable-centered and person-centered perspectives. *Merrill-Palmer Quarterly*, 52(3), 572-600.
- Lawson, J. S., Marshall, W. L., & McGrath, P. (1979). The social self-esteem inventory. *Educational and Psychological Measurement*, 39(4), 803-811.
- Leaper, C., & Anderson, K. J. (1997). Gender development and heterosexual romantic relationships during adolescence. *New Directions for Child and Adolescent Development*, (78), 85-103.
- Lempers, J. D., & Clark-Lempers, D. S. (1993). A functional comparison of same-sex and opposite-sex friendships during adolescence. *Journal of Adolescent Research*, 8(1), 89-108.
- Lenton, A. & Webber, L. (2006). Cross-sex friendships: Who has more? *Sex Roles*, 54, 809-820.
- Lin, Y., & Rusbult, C. (1995). Commitment to dating relationships and cross-sex friendships in America and China. *Journal of Social and Personal Relationships*, 12(1), 7-26.
- Maccoby, E. E. (1990). Gender and relationships: A developmental account. *American Psychologist*, 45(4), 513-520.
- Marmarosh, C. L., & Kivlighan, D. M. (2012). Relationships among client and counselor agreement about the working alliance, session evaluations, and change in client symptoms using response surface analysis. *Journal of Counseling Psychology*, 59(3), 352-367.
- Mathur, R., & Berndt, T. J. (2006). Relations of friends' activities to friendship quality. *The Journal of Early Adolescence*, 26(3), 365-388.
- McDougall, P. & Hymel, S. (2007). Same-gender versus cross-gender friendships conceptions: Similar or different? *Merrill-Palmer Quarterly*, 53(3), 347-380.
- Messman, S. J., Canary, D. J., & Hause, K. S. (2000). Motives to remain platonic, equity, and the use of maintenance strategies in opposite-sex friendships. *Journal of Social and Personal Relationships*, 17(1), 67-94.
- Monsour, M. (1988). *Cross-sex friendships in a changing society: A comparative analysis of cross-sex friendships, same-sex friendships, and romantic relationships*. (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses. (Order No. 8908784).

- Monsour, M. (1992). Meanings of intimacy in cross- and same-sex friendships. *Journal of Social and Personal Relationships*, 9(2), 277-295.
- Monsour, M. (1994). Challenges confronting cross-sex friendships: 'Much ado about nothing?' *Sex Roles*, 31(1-2), 55-77.
- Monsour, M. (2002). *Women and men as friends: Relationships across the life span in the 21st century*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Mounts, N. S. (2004). Adolescents' perceptions of parental management of peer relationships in an ethnically diverse sample. *Journal of Adolescent Research*, 19(4), 446-467.
- Nardi, P. M. (1992). *Men's Friendships*. Thousand Oaks, CA: Sage.
- Nardi, P. M., & Sherrod, D. (1994). Friendship in the lives of gay men and lesbians. *Journal of Social and Personal relationships*, 11(2), 185-199.
- Ogolsky, B. G. & Bowers, J. R. (2012). A meta-analytic review of relationship maintenance and its correlates. *Journal of Social and Personal Relationships*, 30, 343-367.
- Oswald, D. L., Clark, E. M., & Kelly, C. M. (2004). Friendship maintenance: An analysis of individual and dyad behaviors. *Journal of Social and Clinical Psychology*, 23(3), 413-441.
- Oswald, D. L., & Clark, E. M. (2006). How do friendship maintenance behaviors and Problem-solving styles function at the individual and dyadic levels? *Personal Relationships*, 13(3), 333-348.
- O'Meara, J. D. (1989). Cross-sex friendship: Four basic challenges of an ignored relationship. *Sex Roles*, 21(7-8), 525-543.
- Parker, J. G., & Asher, S. R. (1993). Friendship and friendship quality in middle childhood: Links with peer group acceptance and feelings of loneliness and social dissatisfaction. *Developmental Psychology*, 29(4), 611-621.
- Patterson, C. J., Kupersmidt, J. B., & Griesler, P. C. (1990). Children's perceptions of self and of relationships with others as a function of sociometric status. *Child Development*, 61(5), 1335-1349.
- Pittman, L. D., & Richmond, A. (2008). University belonging, friendship quality, and psychological adjustment during the transition to college. *The Journal of Experimental Education*, 76(4), 343-362.

- Poulin, F. & Pederson, S. (2007). Developmental changes in gender composition of friendship networks in adolescent girls and boys. *Developmental Psychology*, 43(6), 1484-1496.
- Rawlins, W. K. (1982). Cross-sex friendship and the communicative management of sex role expectations. *Communication Quarterly*, 30(4), 343-352.
- Rawlins, W. K. (1992). *Friendship matters: Communication, dialectics, and the life course*. New York: Aldine de Gruyter.
- Reeder, H. M. (1996). *What Harry and Sally didn't tell you: The subjective experience of heterosexual cross-sex friendship*. (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses. (Order No. 9637440).
- Reeder, H. M. (2000). 'I like you... as a friend': The role of attraction in cross-sex friendship. *Journal of Social and Personal Relationships*, 17(3), 329-348.
- Reeder, H. M. (2003). The effect of gender role orientation on same- and cross-sex friendship formation. *Sex Roles*, 49 (3-4), 143-152.
- Robins, R. W., Hendin, H. M., & Trzesniewski, K. H. (2001). Measuring global self-esteem: Construct validation of a single-item measure and the Rosenberg Self-Esteem Scale. *Personality and Social Psychology Bulletin*, 27(2), 151-161.
- Rose, A. J., & Rudolph, K. D. (2006). A review of sex differences in peer relationship processes: potential trade-offs for the emotional and behavioral development of girls and boys. *Psychological Bulletin*, 132(1), 98.
- Rose, S., & Serafica, F. C. (1986). Keeping and ending casual, close and best friendships. *Journal of Social and Personal Relationships*, 3(3), 275-288.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Russell, D. (1996). UCLA Loneliness Scale (version 3): Reliability, validity, and factor structure. *Journal of Personality Assessment*, 66, 20-40.
- Russell, D., Kao, C., & Cutrona, C. (1987, June). *Loneliness and social support: Same or different constructs?* Paper presented at the Iowa Conference on Personal Relationships, Iowa City.
- Sapadin, L. A. (1988). Friendship and gender: Perspectives of professional men and women. *Journal of Social and Personal Relationships*, 5, 387-403.

- Schneider, C. & Kenny, D. (2000). Cross-sex friends who were once romantic partners: Are they platonic friends now? *Journal of Social and Personal Relationships*, 17(3), 451-466.
- Seiffge-Krenke, I. & Shulman, S. (2012). Transformations in heterosexual romantic relationships across the transition into adolescence. In B. Laursen & W.A. Collins (Eds.), *Relationship pathways: From adolescence to young adulthood*. New York: Oxford University Press.
- Shanock, L., Baran, B., Gentry, W., Pattison, S., & Heggstad, E. (2010). Polynomial regression with response surface analysis: A powerful approach for examining moderation and overcoming limitations of difference scores. *Journal of Business Psychology*, 25, 543-554.
- Sippola, L. K. (1999). Getting to know the "other": The characteristics and developmental significance of other-sex relationships in adolescence. *Journal of Youth and Adolescence*, 28(4), 407-418.
- Sharabany, R., Gershoni, R., & Hofman, J. E. (1981). Girlfriend, boyfriend: Age and sex differences in intimate friendship. *Developmental Psychology*, 17(6), 800-808.
- Stafford, L., & Canary, D. J. (1991). Maintenance strategies and romantic relationship type, gender and relational characteristics. *Journal of Social and Personal Relationships*, 8(2), 217-242.
- Stafford, L., & Canary, D. J. (2006). Equity and interdependence as predictors of relational maintenance strategies. *The Journal of Family Communication*, 6(4), 227-254.
- Sullivan, H. S. (1953). *The interpersonal theory of psychiatry*. New York: Norton.
- Thibaut, J. W. & Kelley, H. H. (1959). *The social psychology of groups*. Oxford, UK: JohnWiley.
- Updegraff, K. A., McHale, S. M., & Crouter, A. C. (2002). Adolescents' sibling relationship and friendship experiences: Developmental patterns and relationship linkages. *Social Development*, 11(2), 182-204.
- Wang, X. (2007). A model of the relationship of sex-role orientation to social problem solving. *Sex Roles*, 57, 397-408.
- Weaver, A. D., MacKeigan, K. L., & MacDonald, H. A. (2011). Experiences and perceptions of young adults in friends with benefits relationships: A qualitative study. *Canadian Journal of Human Sexuality*, 20, 41-53.

- Weeks, M. (2013). *Gender, loneliness, and friendship satisfaction in early adulthood: The role of friendship features and friendship expectations* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses. (Order No. 3591023).
- Werking, K. J. (1997) *We're just good friends: Women and men in nonromantic relationships*. New York, NY: Guilford Press.
- Wheless, V. E., & Dierks-Stewart, K. (1981). The psychometric properties of the Bem Sex-Role Inventory: Questions concerning reliability and validity. *Communication Quarterly*, 29(3), 173-186.
- Wright, P. H. (1982). Men's friendships, women's friendships and the alleged inferiority of the latter. *Sex Roles*, 8(1), 1-20.
- Zarbatany, L., Conley, R., & Pepper, S. (2004). Personality and gender differences in friendship needs and experiences in preadolescence and young adulthood. *International Journal of Behavioral Development*, 28(4), 299-310.

APPENDIX A

Informed Consent

Dear Participant,

You are being asked to participate in a University of Maine research project. The study is being conducted by Hannah Ford, M.A., a graduate student in the Department of Psychology and Dr. Douglas W. Nangle, a Professor in the Department of Psychology. The purpose of this research is to learn more about college students' friendships with individuals of the same and opposite sex. You must be between 18 and 25 years of age to participate in this study. Your participation will help further the understanding of the friendship experiences of college students with regard to social and personal adjustment.

What will you be asked to do during this study?

- You will be asked to come into the laboratory for approximately 1.5 hours.
- In the laboratory, you will be asked to identify a close friend of the same sex as yourself and a close friend of the opposite sex (who is not someone you have dated in the past, are currently dating, or would like to date in the future) and answer questions about these two friendships. You will only be asked to answer questions about these friendships; we will not contact these friends in any way.
- After identifying two friends, you will be asked to answer questions about these two friendships. The questionnaires will ask you a variety of questions about aspects of these two friendships (e.g., how often do you share your secrets and private feelings with your same-sex friend? How often do you and your cross-sex friend argue with each other?) and interactions you have with these friends (e.g., how often do you give advice to your cross-sex friend? How often do you celebrate special occasions with your same-sex friend?). You will also be asked questions about the nature of your relationship with your cross-sex friend (e.g., frequency and type of previous sexual contact).
- You will also be asked for information so that we can describe you (e.g., age, race, gender, sexual orientation).
- You will also be asked to answer questions about your feelings (e.g., How often do you feel shy).

What are the Risks?

Some questions may make you feel uncomfortable or distressed. You may skip any question that you would rather not answer, and can choose to end your participation in the study at any time. If you would like to speak with a professional about your experiences, you are encouraged to contact the University of Maine Counseling Center (581-1392), which provides free services to UMaine students. Information about the Counseling Center, including their hours of operation, can be found at <http://umaine.edu/counseling/contact-us/>

The risks associated with completing the online questionnaires at Qualtrics are thought to be no greater than the risks encountered during routine internet access.

Qualtrics has enhanced security and safety measures in place to protect the website and its users from fraud, and states that customers' information will not be used for any other purposes. You can find out more information about their security by clicking on the privacy statement found at www.qualtrics.com.

What are the Benefits?

Although there may be no direct benefit to you for participating in this research, your responses will tell us more about the same- and cross-sex friendships of college students with regard to personal and social adjustment. This knowledge could help psychologists design more effective intervention programs for individuals who engage in less adaptive social behaviors.

Is there Compensation?

If you are in the subject pool, you will receive two research credits for participating in the laboratory session. In other classes, instructors may approve extra credit for participating if arranged ahead of time. If you are not part of the subject pool (and not receiving class credit), you will receive a \$25 gift card for your time. Even if you choose to skip some questions, you will still receive two credits for participating.

Will my Answers be Private?

Names will not be attached to the data collected and the information will only be used for research purposes. A code number (e.g., 101) will be used on the information that you provide in this study to protect your identity. Only advanced and trained research assistants and graduate students will have access to a list that links your name to your assigned code number. The list that links your name to your ID number is maintained in a separate locked laboratory room on a separate computer and will be kept indefinitely. The Psychology Department's Qualtrics account has enhanced security features that help keep your information private. All data will be stored in a locked laboratory room that is only available to the principal investigators and research assistants. You will be asked to provide only the first names of your same-sex and cross-sex friends to protect their anonymity. We will not request any contact information for these friends and will not contact them in any way.

Is this Voluntary?

Your participation in this study is voluntary. You may choose to withdraw from the study at any point and skip any questions that you do not want to answer and still receive your compensation.

Questions or Concerns?

If you have any questions about your rights as a research participant, please contact Gayle Jones, Assistant to the University of Maine's Protection of Human Subjects Review Board, at (207) 581-1498, or email at Gayle.Jones@umit.maine.edu. If you have questions about this project, you may contact Hannah.Ford@umit.maine.edu or Doug.Nangle@umit.maine.edu.

Sincerely,

Hannah Ford, M.A.
Doctoral Candidate, Developmental-Clinical Psychology

I have read and understood the above information and I understand that signing the form indicates my consent to participate in the project. I understand that I have the right to end my participation at any time.

Participant Signature

Date

APPENDIX B

Sona Recruitment Summary for Males

You must be a male between the ages of 18 and 25 to participate in this study. This study will ask you to attend an approximately 1.5 hour laboratory session and answer questions about your relationship with a close friend of the same sex as yourself and a close friend of the opposite sex. Opposite-sex friends should not be someone you are currently dating, have dated in the past, or would like to date in the future. If you have an opposite-sex friend that meets the above description and a same-sex friend you are invited to participate in this study. You will earn two research credits for your participation. If you have questions about participating in this project, please contact Hannah Ford on FirstClass.

APPENDIX C

Sona Recruitment Summary for Females

You must be a female between the ages of 18 and 25 to participate in this study. This study will ask you to attend an approximately 1.5 hour laboratory session and answer questions about your relationship with a close friend of the same sex as yourself and a close friend of the opposite sex. Opposite-sex friends should not be someone you are currently dating, have dated in the past, or would like to date in the future. If you have an opposite-sex friend that meets the above description and a same-sex friend you are invited to participate in this study. You will earn two research credits for your participation. If you have questions about participating in this project, please contact Hannah Ford on FirstClass.

APPENDIX D

Community Recruitment Email Posting

Researchers at the University of Maine are looking for UMaine students between the ages of 18 and 25 to come to the University campus for approximately one and a half hours to answer questions about your relationship with a friend of the same sex as yourself and a friend of the opposite sex. At this stage in our research, we are interested in the same-sex and opposite-sex friendships of heterosexual individuals. Opposite-sex friends should not be someone you are currently dating, have dated in the past, or would like to date in the future. Identified friends will remain anonymous and will not be contacted in any way. If you have an opposite-sex friend that meets the above description and a friend of the same sex and would like to participate, or if you would like more information, please contact Hannah Ford on FirstClass.

APPENDIX E

Demographic Questionnaire

1. **Age**_____
2. **Sex:** (check one):
 ____ Male ____ Female
3. **Race** (check one):
 ____ White ____ Black ____ American Indian/Native American
 ____ Latino/a ____ Asian ____ other (please specify):_____
4. **How many adults are there in your household of origin (where you grew up)?**

5. **Adult #1**
 - a. **Relationship to you** (check one):
 ____ Biological parent
 ____ Adoptive parent
 ____ Stepparent
 ____ other (please explain): _____
 - b. **Sex** (check one):
 ____ Male ____ Female
 - c. **Current occupation (job-please be specific):**

 - d. **Does he/she work:**
 ____ full time ____ part time?
 - e. **Highest level of education completed?** (check one only)
 ____ Less than 7th grade
 ____ Junior high school (9th grade)
 ____ Partial high school (10th or 11th grade)
 ____ High school graduate
 ____ Partial college or specialized training
 ____ University or college graduate
 ____ Graduate professional training (graduate degree)
 ____ other (please specify):_____
6. **Adult #2 (if applicable)**
 - a. **Relationship to you** (check one):
 ____ Biological parent

☐ Adoptive parent
☐ Stepparent
☐ other (please explain): _____

b. **Sex** (check one):

☐ Male ☐ Female

c. **Current occupation (job- please be specific):**

d. **Does he/she work:**

☐ full time ☐ part time?

e. **Highest level of education completed?** (check one only)

☐ Less than 7th grade
☐ Junior high school (9th grade)
☐ Partial high school (10th or 11th grade)
☐ High school graduate
☐ Partial college or specialized training
☐ University or college graduate
☐ Graduate professional training (graduate degree)
☐ other (please specify): _____

8. **Are you currently dating someone?** (check one) _____ YES _____ NO

9. **How long has your current romantic relationship lasted?**

_____ years _____ months

10. **Do you live with this person?** (check one) _____ YES _____ NO

11. **Are you:** (check one)

☐ Casually dating (you also date other people)
☐ Exclusively dating (you only date each other)
☐ Engaged
☐ Married

The next series of items (Questions 12-18) ask about your friendship with _____. Please answer the following questions with this person in mind.

12. **Age?** _____

13. **Sex?** _____ Male _____ Female (check one)

14. **How long have you been friends with this person?** _____ years _____ months
(please fill in numbers)

15. How frequently do you have contact with this person (e.g., in person, phone, texting, internet, etc.)? (choose one)

- a. About every day
- b. Several times a week
- c. About once a week
- d. Every few weeks
- e. About once a month
- f. Every few months

16. When you are at UMaine, how far away (driving time) are you from this person? (choose one)

- a. He/she also goes to UMaine
- b. Less than 1 hour
- c. 1-3 hours
- d. 3-5 hours
- e. More than 5 hours

17. Relative to all of your other relationships (including friendships, family relationships, romantic relationships, etc.), how would you characterize your friendship with _____?

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Least close														Closest of
all my														all my
relationships														relationships

18. Relative to what you know about other people's relationships, how would you characterize your relationship with _____?

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Not at all														Really
close														close

The next series of items (Questions 19-25) ask about your friendship with _____. Please answer the following questions with this person in mind.

19. Age? _____

20. Sex? _____ Male _____ Female (check one)

21. How long have you been friends with this person? _____ years _____ months
(please fill in numbers)

22. How frequently do you have contact with this person (e.g., in person, phone, texting, internet, etc.)? (choose one)

- a. About every day
- b. Several times a week

- c. About once a week
- d. Every few weeks
- e. About once a month
- f. Every few months

23. When you are at UMaine, how far away (driving time) are you from this person?
(choose one)

- a. He/she also goes to UMaine
- b. Less than 1 hour
- c. 1-3 hours
- d. 3-5 hours
- e. More than 5 hours

24. Relative to all of your other relationships (including friendships, family relationships, romantic relationships, etc.), how would you characterize your friendship with _____?

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Least close														Closest of
all my														all my
relationships														relationships

25. Relative to what you know about other people's relationships, how would you characterize your relationship with _____?

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Not at all														Really
close														close

The next series of items (Questions 26-30) ask about your sexual orientation. If these items make you uncomfortable, please skip them and move on to the next page.

The items on this page (Questions 26-30) ask about your sexual orientation. If these items make you uncomfortable, please skip them and move on to the next page.

26. Who are you sexually attracted to?
☐ Males
☐ Females
☐ Both males and females
☐ I am not sexually attracted to anyone
27. How many different males have you had sexual experiences with in your life?
☐ None
☐ 1 person
☐ 2 people
☐ 3 or more
28. How many different females have you had sexual experiences with in your life?
☐ None
☐ 1 person
☐ 2 people
☐ 3 or more
29. How would you describe your sexual orientation?
☐ Heterosexual (sexually attracted to the opposite sex)
☐ Mostly heterosexual
☐ Bisexual (attracted to both men and women)
☐ Gay or lesbian (attracted to the same sex)
☐ Other _____
☐ I am not sure
☐ I don't understand this question
30. When you think or daydream about sex, do you dream about:
☐ Males
☐ Females
☐ Both
☐ I don't daydream about sex

APPENDIX F

Friendship Identification Form—Participant Version

Instructions: This study asks you to report on your relationship with two specific friends. Please read the definitions below and choose a same-sex friend and a friend of the opposite-sex that meet the descriptions. Please remember which friends you selected, as you will be asked to answer questions about your friendship with these individuals for the remainder of the study.

Please identify a **cross-sex friend** that meets the following definition:

“A cross-sex friend is a friend of the opposite sex that you have regular social contact with, have been friends with for at least 3 months, and is not your sibling. For this study, please choose a friend that you have *never* dated exclusively in the past, do not currently date, and have no intentions of dating in the future.”

Here are some questions to make sure you understand the definition:

- Beth has been friends with Charlie for about a year. Beth had a crush on Charlie for about a month when they first met, but they never dated and now she does not have a crush on Charlie and only thinks of him as a friend.
 - Is Charlie a cross-sex friend?
- John and Emily have been friends for 2 years. They have engaged in sexual contact on a few occasions in the past. Although John finds Emily attractive, he does not have romantic feelings for her and does not want to date her.
 - Is Emily a cross-sex friend?
- Jenna and Gregg have been friends for 3 years. Jenna and Gregg were boyfriend and girlfriend for approximately three months a few years ago, but decided they are better off as friends and broke up. Jenna does not have romantic feelings for Gregg anymore.
 - Is Gregg a cross-sex friend?

Using the definition above, please select a cross-sex friend that matches this description. If you have more than one friend that meets this description, please select the friend with whom you feel the closest and write their first name in the space below.

Cross-sex friend: _____ (first name only)

Please identify a **same-sex friend** that meets the following definition:

“A same-sex friend is a friend who is the same sex that you have regular social contact with, have been friends with for at least 3 months, and is not your sibling. If you have more than one friend that meets this description, please select the friend with whom you feel the closest and write their first name in the space below.”

Same-sex friend: _____ (first name only)

For the remainder of the survey, when you are asked about your cross-sex friend, please think of your friendship with the person you listed as your cross-sex friend above. When you are asked about your same-sex friend, please think of your friendship with the person you listed as your same-sex friend above. Please do **not** change the friend you are thinking of at any point during the survey.

APPENDIX G

Friendship Identification Form—Experimenter Version

Participant ID Number _____

Please identify a **cross-sex friend** that meets the following definition:

A cross-sex friend is a friend of the opposite sex that you have regular social contact with, have been friends with for at least 3 months, and is not your sibling. For this study, please choose a friend that you have *never* dated exclusively in the past, do not currently date, and have no intentions of dating in the future.

Definition Examples:

- Beth has been friends with Charlie for about a year. Beth had a crush on Charlie for about a month when they first met, but they never dated and now she does not have a crush on Charlie and only thinks of him as a friend.
 - **Is Charlie a cross-sex friend?** ____ Yes ____ No (record participant response)
 - Explanation: Charlie **IS** a cross-sex friend. Even though Beth had romantic feelings for Charlie in the past, they never dated and Beth does not have romantic feelings for Charlie now.
- John and Emily have been friends for 2 years. They have engaged in sexual contact on a few occasions in the past. Although John finds Emily attractive, he does not have romantic feelings for her and does not want to date her.
 - **Is Emily a cross-sex friend?** ____ Yes ____ No (record participant response)
 - Explanation: Emily **IS** a cross-sex friend because even though they have engaged in sexual contact, John has never dated Emily and does not currently have romantic feelings for her.
- Jenna and Gregg have been friends for 3 years. Jenna and Gregg were boyfriend and girlfriend for approximately three months a few years ago, but decided they are better off as friends and broke up. Jenna does not have romantic feelings for Gregg anymore.
 - **Is Gregg a cross-sex friend?** ____ Yes ____ No (record participant response)
 - Gregg is **NOT** a cross-sex friend. Even though Jenna does not have romantic feelings for Gregg and would not like to date him anymore, she cannot choose Gregg as her cross-sex friend because they dated in the past.

Do you have any questions about the definition of a cross-sex friend? (please record participant response) ____ Yes ____ No

If yes, were you able to resolve the question? ____ Yes ____ No

Cross-sex friend: _____ (first name only)

Follow-up questions: (please record participant response)

1. Are you currently dating this person? ____NO ____YES
2. Have you ever been in an exclusive dating relationship with this person (i.e., you were only dating each other)? ____NO ____YES
3. Do you currently have romantic feelings for this person? ____NO ____YES

If the participant answered yes to *any* of the three follow-up questions, please ask them to select a difference cross-sex friend that matches the definition.

If necessary:

Alternate CS friend: _____ (first name only- if necessary)

Alternate CS friend follow-up questions: (please record participant response)

1. Are you currently dating this person? ____NO ____YES
2. Have you ever been in an exclusive dating relationship with this person (i.e., you were only dating each other)? ____NO ____YES
3. Do you currently have romantic feelings for this person? ____NO ____YES

Please identify a **same-sex friend** that meets the following definition:

A same-sex friend is a friend who is the same sex that you have regular social contact with, have been friends with for at least 3 months, and is not your sibling. If you have more than one friend that meets this description, please select the friend with whom you feel the closest and write their first name in the space below.

Same-sex friend: _____ (first name only)

APPENDIX H

Cross-Sex Friendship Questionnaire

The items on this page ask about your **cross-sex** friendship with _____ including questions about your romantic and/or sexual involvement with this friend and your *perception* of your friend's sexual orientation and current dating status. Please remember that the information you provide is anonymous and your friend cannot be identified because you will only be asked to provide their first name. If these items make you uncomfortable, you may skip them and move on to the next page.

Please answer the following two questions about your perception of _____. Please remember these questions are asking only for your *perception* of your friend, meaning your opinion, which may or may not be accurate.

1. How would you describe _____'s sexual orientation?
 - _____ Heterosexual (sexually attracted to the opposite sex)
 - _____ Mostly heterosexual
 - _____ Bisexual (attracted to both men and women)
 - _____ Gay or lesbian (attracted to the same sex)
 - _____ Other _____
 - _____ I am not sure
 - _____ I don't understand this question

2. How would you describe _____'s romantic relationship status? (choose one)
 - _____ Single
 - _____ Dating someone, but not exclusively (they are also dating other people)
 - _____ Exclusively dating someone (they are only dating each other)
 - _____ Engaged
 - _____ Married
 - _____ I'm not sure
 - _____ Other (please specify)

3. Approximately how long would you say _____'s current romantic relationship has lasted? _____ years _____ months

Questions 4-6 ask about things that have happened in your cross-sex friendship *in the past*.

For the two statements below, please choose the number that best describes your relationship with _____, in the past.

4. I began my friendship with _____ hoping that a romance between us might develop.
 1 ----- 2 ----- 3 ----- 4 ----- 5

not at all true a little true somewhat true pretty true really true

5. There was a time when I wanted to be more than just friends with _____.

1 ----- 2 ----- 3 ----- 4 ----- 5
not at all true a little true somewhat true pretty true really true

6. Below is a list of sexual behaviors some people may engage in with their friends. For each behavior, please indicate how many times you and _____ have engaged in this behavior (Never, 1 time only, 1-5 times, 5-10 times, 10 or more times) and when the last time was that you and _____ engaged in this behavior (Less than one week ago, Between one week and one month ago, Between one month and six months ago, Between six months and one year ago, More than one year ago, Never)

- a. Kissing on the lips
- b. Cuddling
- c. Making out
- d. Light petting (i.e., over clothes)
- e. Heavy petting (i.e., under clothes)
- f. Dry sex
- g. Oral sex
- h. Intercourse

Questions 7-13 ask about your friendship with _____ *in the present* (i.e., now).

For the following statements, please choose the number that best describes your relationship with _____ now.

7. I have romantic feelings for _____.

1 ----- 2 ----- 3 ----- 4 ----- 5
not at all true a little true somewhat true pretty true really true

8. I think _____ has romantic feelings for me.

1 ----- 2 ----- 3 ----- 4 ----- 5
not at all true a little true somewhat true pretty true really true

9. I am sexually attracted to _____.

1 ----- 2 ----- 3 ----- 4 ----- 5
not at all true a little true somewhat true pretty true really true

10. I think _____ is sexually attracted to me.

1 ----- 2 ----- 3 ----- 4 ----- 5
not at all true a little true somewhat true pretty true really true

11. I would like to engage in sexual activities with _____.

1 ----- 2 ----- 3 ----- 4 ----- 5
not at all true a little true somewhat true pretty true really true

12. I think _____ would like to engage in sexual activities with me.

1 ----- 2 ----- 3 ----- 4 ----- 5
 not at all true a little true somewhat true pretty true really true

13. From the following statements, please select the statement that best describes your relationship with _____:

a. I would like to escalate our friendship to a romantic relationship, but my friend probably does not.

b. My friend would like to escalate our friendship to a romantic relationship, but I would not.

c. Both of us wants to escalate our friendship into a romantic relationship.

d. Neither of us wants to escalate our friendship into a romantic relationship.

APPENDIX J

Friendship Maintenance Scale—Received Version

Instructions: The following statements describe some things that people may do in their friendships. For each statement, please indicate how often _____ does this in your friendship using the scale provided below.

1	2	3	4	5	6	7	8	9	10	11
Never										Frequently

In your friendship with _____, how often does _____...

- 1) _____ Let you know he/she wants the relationship to last in the future?
- 2) _____ Share his/her private thoughts with you?
- 3) _____ Reminisce about things you did together in the past?
- 4) _____ Express thanks when you do something nice for him/her?
- 5) _____ Let you know he/she accepts you for who you are?
- 6) _____ Make an effort to spend time with you even when he/she is busy?
- 7) _____ Support you when you are going through a difficult time?
- 8) _____ Celebrate special occasions with you?
- 9) _____ Have intellectually stimulating conversations with you?
- 10) _____ Provide you with emotional support?
- 11) _____ Repair misunderstandings with you?
- 12) _____ Try to be upbeat and cheerful when he/she is with you?
- 13) _____ Not return your messages?
- 14) _____ Try to make you “feel good” about who you are?
- 15) _____ Visit your home?
- 16) _____ Give advice to you?
- 17) _____ Work with you on jobs or tasks?
- 18) _____ Show signs of affection toward you?
- 19) _____ Try to make you laugh?
- 20) _____ Do favors for you?

APPENDIX K

Friendship Maintenance Scale—Desired Version

Instructions: Everyone has slightly different expectations for friendships. The next set of questions is concerned with your expectations for what friendships should be like, regardless of what your current friendship is actually like. Think about your expectations, and indicate how often you **WANT or EXPECT** _____ to do this in your friendship, using the scale provided below.

1	2	3	4	5	6	7	8	9	10	11
Never										Frequently

*In your friendship with _____, how often do you **WANT/EXPECT** _____ to...*

- 1) _____ Let you know he/she wants the relationship to last in the future?
- 2) _____ Share his/her private thoughts with you?
- 3) _____ Reminisce about things you did together in the past?
- 4) _____ Express thanks when you do something nice for him/her?
- 5) _____ Let you know he/she accepts you for who you are?
- 6) _____ Make an effort to spend time with you even when he/she is busy?
- 7) _____ Support you when you are going through a difficult time?
- 8) _____ Celebrate special occasions with you?
- 9) _____ Have intellectually stimulating conversations with you?
- 10) _____ Provide you with emotional support?
- 11) _____ Repair misunderstandings with you?
- 12) _____ Try to be upbeat and cheerful when he/she is with you?
- 13) _____ Not return your messages?
- 14) _____ Try to make you “feel good” about who you are?
- 15) _____ Visit your home?
- 16) _____ Give advice to you?
- 17) _____ Work with you on jobs or tasks?
- 18) _____ Show signs of affection toward you?
- 19) _____ Try to make you laugh?
- 20) _____ Do favors for you?

APPENDIX L

Network of Relationships Inventory—Relationship Quality Version

Instructions: The questions below ask about your relationship with your same/cross-sex friend. Using the scale below, please choose the number that best describes your friendship with ____.

- 1= Never or hardly at all**
2= Seldom or not too much
3= Sometimes or somewhat
4= Often or very much
5= Always or extremely much

1. How often do you spend fun time with ____?
2. How often do you tell ____ things that you don't want others to know?
3. How often does ____ push you to do things that you don't want to do?
4. How happy are you with your relationship with ____?
5. How often do you and ____ disagree and quarrel with each other?
6. How often do you turn to ____ for support with personal problems?
7. How often does ____ point out your faults or put you down?
8. How often does ____ praise you for the kind of person you are?
9. How often does ____ get his/her way when you two do not agree about what to do?
10. How often does ____ not include you in activities?
11. How often do you and ____ go places and do things together?
12. How often do you tell ____ everything that you are going through?
13. How often does ____ try to get you to do things that you don't like?
14. How much do you like the way things are between you and ____?
15. How often do you and ____ get mad at or get in fights with each other?
16. How often do you depend on ____ for help, advice, or sympathy?
17. How often does ____ criticize you?
18. How often does ____ seem really proud of you?
19. How often does ____ end up being the one who makes the decisions for both of you?
20. How often does it seem like ____ ignores you?
21. How often do you play around and have fun with ____?

22. How often do you share secrets and private feelings with _____?
23. How often does _____ pressure you to do the things that he/she wants?
24. How satisfied are you with your relationship with _____?
25. How often do you and _____ argue with each other?
26. When you are feeling down or upset, how often do you depend on _____ to cheer things up?
27. How often does _____ say mean or harsh things to you?
28. How much does _____ like or approve of the things you do?
29. How often does _____ get you to do things their way?
30. How often does it seem like _____ does not give you the amount of attention that you want?

APPENDIX M

Friendship Satisfaction

Instructions: Please answer the following questions about your relationship with ____.

1. How is this friendship going?

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Very poorly														Very well

2. How happy are you with this friendship?

[illegible]

BIOGRAPHY OF THE AUTHOR

Hannah Alden Ford was born in Massachusetts on April 10, 1987. She was raised in Appleton, Maine and graduated from Camden Hills Regional High School in 2005. She received her Bachelor's degree in Psychology from Clark University in 2009. Hannah began her doctoral studies at the University of Maine in 2010 and was a member of Dr. Nangle's laboratory in the specialized developmental-clinical psychology program. During her time at the University of Maine, Hannah conducted two independent research projects (including her dissertation study) and assisted with five other research projects in her laboratory. She was the first author on one peer-reviewed publication and is co-author on another manuscript currently under review. She was first or co-author on 27 research presentations at local and national conferences. She is a student member of Society of Pediatric Psychology and Society of Clinical Child and Adolescent Psychology.

Hannah will complete her pre-doctoral internship in child clinical psychology at Indiana University School of Medicine in August 2016. She will begin her post-doctoral fellowship in pediatric behavioral psychology at Children's Hospital Pittsburgh of UPMC in September 2016. She is a candidate for the Doctor of Philosophy degree in Psychology with a concentration in Developmental-Clinical Psychology from the University of Maine in August 2016.