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Development And Validation Of The Partners' Approval Of Nonsexual Extradyadic Behaviors Scale

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DEVELOPMENT AND VALIDATION OF THE PARTNERS' APPROVAL OF NONSEXUAL EXTRADYADIC BEHAVIORS SCALE

by

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ABSTRACT

Despite the emergent norm in U.S. society for partnered individuals across all sexual orientations to possess both same-sex and cross-sex friends (Weis & Felton, 1987), and the relative complexity that comes with having friends who belong to the sex to which one is sexually attracted, the field is lagging in its ability to measure and better understand individuals' attitudes about their partners' engagement in the various behaviors of which these friendships are comprised. The existing scales of extradyadic behaviors are largely measuring individuals' attitudes about engagement in sexual behaviors with cross-sex friends within the heterosexual population; therefore, they are inadequate for measuring attitudes about nonsexual extradyadic behaviors, especially across sexual orientations. For this reason, the purpose of this study was to develop the Partners' Approval of Nonsexual Extradyadic Behaviors Scale (PANEBS), which measures individuals' attitudes about the acceptability of their partners engaging in nonsexual extradyadic behaviors across three norming groups; those with heterosexual identified partners, those with gay or lesbian identified partners, and those with bisexual identified partners. This research endeavor is comprised of three different studies, including the Pilot Study, Confirmation Study, and Test-Retest Study. The PANEBS was subjected to exploratory factor analysis, confirmatory factor analysis, and test-retest analysis with three different national samples, totaling 1,298 participants all together. Results across studies suggest that the PANEBS is a psychometrically robust instrument, as evidenced by its comprehensive though brief composition, high internal consistency,

empirically and theoretically sound higher-order factor structure, strong validity, and established test-retest reliability. Not only has the development and validation of the PANEBS provided the field with an improved way to research and clinically examine attitudes about nonsexual extradyadic behaviors within the heterosexual population, but also it has finally opened this area of study to sexual minority populations.

CHAPTER I

INTRODUCTION

The vast majority of individuals who have romantic partners also have a network of individuals with whom they socialize and exchange support (Weis & Felton, 1987). Despite this, little is known about the attitudes that romantic partners hold about their significant others' social networks. It is, however, known that it is not uncommon for people in monogamous romantic relationships to expect to have their emotional needs fulfilled solely by their primary romantic partner (Boekhout, Hendrick, & Hendrick 2003). Romantic relationships can have varying degrees of exclusiveness or non-exclusiveness, which determines the experiences partnered people have with individuals outside of their primary romantic relationship (Weis & Felton, 1987). According to Weis and Felton (1987), an important defining characteristic of a monogamous romantic relationship is that certain behaviors, particularly sexual behaviors, are regarded as acceptable only for the two individuals involved in the relationship.

Several researchers have offered definitions of these behaviors, with no adequate scales available to measure people's attitudes about these behaviors. Extradyadic behaviors (EBs) were originally defined as the illicit behaviors that people engage in with others outside of their primary intimate relationships (Thompson, 1984). Due to the constricted nature of this definition, Weis and Felton (1987) expanded the definition of EBs to include all behaviors that people engage in outside of their primary intimate

relationship, including both acceptable and unacceptable behaviors. Defined in this way, EBs are comprised of behaviors that are both sexual and nonsexual in nature.

For the purposes of the present study, behaviors that people engage in with others outside of their monogamous romantic relationships are broadly referred to as EBs. Those behaviors that are sexual in nature are referred to as sexual extradyadic behaviors (SEBs), and behaviors that are not sexual in nature are referred to as nonsexual extradyadic behaviors (NEBs). Based on this definition, the array of NEBs that one could engage in with others, in both cross-sex and same-sex friendships, is seemingly infinite. This presents a barrier in measuring attitudes about NEBs, understanding how attitudes affect well-being, and understanding how NEBs affect intimate relationships for individuals who identify as heterosexual, gay, lesbian, and bisexual. Consequently, the purpose of the present study is to address these barriers by creating a psychometrically sound measure of individual attitudes regarding NEBs that can be used across sexual orientations.

Nonsexual Extradyadic Relationships and Well-Being

Nonsexual extradyadic relationships (i.e., friendships) have been found to provide numerous benefits to individuals. Friendships have been defined as voluntary, cooperative personal relationships that generally do not belong to the social category of blood relative or marital partner (Fehr, 1996). Friendships contribute to positive well-being throughout life in that they provide social support, which reduces stress (Stevens, 1997). Further, friendships are an important source of happiness (Argyle, 2001; Myers, 2000; Reis, Collins, & Berscheid, 2000). This is likely, in part, due to the physical and mental health benefits that accompany the social connectedness one gains from

friendships (Cohen & Syme, 1985). For instance, women with positive friendships endorsed lower levels of depressive symptoms and higher levels of life satisfaction (Antonucci, Lansford, & Akiyama, 2001). Moreover, the social support received from friendships has been linked to recovery from chronic diseases, enhanced ability to cope with life stressors, reduced mental health symptoms, and an ability to function in life roles (Cohen, Underwood, & Gottlieb, 2000). Surprisingly, some research has even shown that friends contribute more to well-being than family members (Blau, Oser, & Miller, 1978; Lee, 1980; Stephens, Blau, Oser, & Millar, 1979). The literature clearly suggests that although the primary romantic relationship is a close, intimate, and unique source of support, friends also provide an important source of social support (Stevens, 1997; Antonucci et al., 2001; Cohen et al., 2000).

In order to maintain these important friendships and the benefits that accompany them, individuals must engage in behaviors that serve to keep their friendships positive and healthy. Dindia and Canary (1993) identified four common features of relationship maintenance: keeping a relationship in existence, keeping a relationship in a specified state or stable condition, keeping a relationship satisfying, and keeping a relationship in repair. Guerrero and Chavez (2007) define friendship maintenance as a dynamic process that involves adapting to the changing needs and goals that characterize a relationship. If individuals are unsuccessful at adapting to the changing needs of their relationship, the relationship is more likely to become dissatisfying or to end, leaving the individuals with less social support (Oswald, Clark, & Kelly, 2004).

According to Oswald et al. (2004), the goal of friendship maintenance is to keep the relationship at a committed and satisfying level. To do so, various specific friendship

maintenance behaviors have been identified by several authors (e.g., Fuhrman, Flannagan, & Matamoros, 2009; Guerrero & Chavez, 2007; Oswald et al., 2004; Weger & Emmett, 2009). Maintenance behaviors that have been found to be common to friendships include those that convey emotional closeness, loyalty, and respect (Hendrick & Hendrick, 1993). Stafford and Canary (1991) identified five categories of behaviors that people use to maintain their relationships: positivity, openness, assurances, social networks, and task sharing. Positivity includes behaviors that create positive and pleasant interactions between individuals. Openness refers to the action of expressing thoughts and feelings about each other or the relationship. Assurances are those behaviors that imply commitment to the relationship. Social networks refer to mutually spending time with friends and family, and finally, task sharing involves helping one another with everyday tasks (Stafford & Canary, 1991). Between the initiation and termination of a relationship, friends must engage in such behaviors to develop and maintain the relationship (Oswald et al., 2004). Therefore, these friendship maintenance behaviors form our current understanding of the types of NEBs that occur within friendships.

Nonsexual Extradyadic Relationships and the Primary Romantic Relationship

In addition to the benefits and satisfaction one personally gains from friendships, there are indications that individuals' relationships with their romantic partners benefit from these nonsexual friendships as well. In one study, couples that reported the greatest involvement with friends also report the highest romantic relationship satisfaction (Brim, 1974). Therefore, it appears that engagement in NEBs will not only lead to friendship satisfaction but will also increase relationship satisfaction within romantic relationships.

Despite the benefits of friendships, partnered individuals' engagement in EBs adds potential complexity and threat to monogamous romantic relationships, whether the EBs are sexual or nonsexual in nature. Friendship dyads in which the gender expression and or biological sex of the members of the dyad allow one or more members of that dyad to perceive the possibility of sexual attraction are thought to be more at risk than friendships where the possibility of sexual attraction is not considered a risk. For example, in the case of a heterosexual individual, this would be a cross-sex friendship. In the case of gay or lesbian identified individual, this would be a same-sex friendship. In the case of a bisexual individual, this may be both same sex-sex and cross-sex friendships. In the context of this paper, the gender identity or biological sex to which someone is attracted will be referred to as "the sex-attracted group".

Results of previous research have suggested that friendships, especially friendships made up of dyads that fall within the sex-attracted group, present opportunities for acquiring more sexual partners (Luo, Cartun, & Snider, 2010; Nardi & Sherrod, 1994; Weis & Felton, 1987). Consequently, the possibility of friendships becoming sexual in nature may produce some degree of discomfort among partners in monogamous romantic relationships. Boekhout et al.'s (2003) study suggests that the potential for friendships to become sexual also likely affects romantic relationship satisfaction. For instance, in monogamous relationships where partners engage in SEBs with others outside of their primary intimate relationship, the relationships tend to be less satisfying than those relationships where both partners remain sexually exclusive to their primary intimate partners (Boekhout et al., 2003). These results may not be generalizable to NEBs or relationships that are not monogamous. However, Boekhout et al. (2003)

suggest that the ways in which people manage their SEBs and NEBs has a significant affect on relationship satisfaction.

Research suggests that the majority of individuals in monogamous romantic relationships are more opposed to engagement in SEBs than NEBs (Weis & Felton, 1987). In other words, behaviors that are more sexually suggestive are perceived as less acceptable. However, little is known about from where these varying attitudes derive. If one factor for guiding attitudes about NEBs is the fear that they might lead to sexually intimate relationships (Luo et al., 2010), then NEBs may be perceived as being threatening to the monogamous romantic relationship and thus potentially unacceptable.

If the threat of infidelity is indeed a factor in deciphering the acceptability of engagement in NEBs, then trust within the monogamous intimate relationship seems like a factor worthy of mention. According to Lusterman (1998), an expectation of mutual trust within an intimate relationship is the foundation of commitment. One significant component of this trust is the oath that the monogamous couple will remain sexually exclusive and refrain from engagement in SEBs (Lusterman, 1998). Taking this one step further, Boekhout et al. (2003) questioned whether people in monogamous romantic relationships violate their commitment to their partners and risk breaking trust by having friends in the sex-attracted group. For instance, Kenrick, Neuberg, Zierk, and Krones, (1994) found that individuals tend to downgrade their current romantic relationship commitment after exposure to sexually desirable friends.

Since the breaking of one's agreements is one of the most common ways for trust to be broken in intimate relationships (Lusterman, 1998), it appears imperative that coupled individuals have a clear understanding of their own and their partners' attitudes

and expectations about NEBs. Some individuals may hold more extreme attitudes toward the acceptability of NEBs and these beliefs may be in conflict with their partners who do not hold similar views (Weis & Felton, 1987). Without this understanding, couples can experience conflict over NEBs (Weis & Felton, 1987).

Further, some individuals in monogamous relationships have been found to employ relationship exclusivity efforts to "guard" against rivals and to reduce the negative feelings associated with jealousy. Mate guarding has been defined as one's attempts to secure one's romantic partner (Bringle & Boebinger, 1990). Shackelford and Buss (1997) found that relationship satisfaction was negatively affected by partners' efforts to guard their partners from others. In summary, it seems clear that the ways in which people perceive and manage NEBs are important to protect trust and relationship satisfaction in monogamous romantic relationships, as well as to minimize jealousy, conflict, and excessive guarding behaviors.

Despite the complexities that NEBs can bring to monogamous romantic relationships, little effort has been devoted to measuring and better understanding coupled individuals' attitudes about these behaviors. These benefits and complexities likely face most primary romantic relationship, regardless of sexual orientation. For years, heterosexual relationship research has dominated the EB research literature, bringing to light the complexities of perceptions of acceptable versus unacceptable behaviors (Weis & Felton, 1987; Weis & Slosnerick, 1981). While this information has helped shape the field and our understanding of EBs, the study of only heterosexual monogamous romantic relationships is inadequate. Nardi and Sherrod (1994) caution against generalizing the beliefs of individuals in cross-sex relationships to the beliefs of

individuals in same-sex relationships. Therefore, it is presumptuous to assume that sexual minorities' attitudes about EBs can be inferred from research on heterosexual friendships without further investigation.

Nonsexual Extradyadic Behaviors across Sexual Orientations

The field of counseling psychology needs to start examining, with more intensity, the romantic relationships of individuals who identify as gay, lesbian, and bisexual. Werking (1997) criticized the heteronormative bias in cross-sex friendship research, noting how researchers normalize heterosexuality by frequently excluding lesbian, gay and bisexual people in their studies. Certainly, similarities might exist across sexual orientations in regards to attitudes toward NEBs. However, no research to date has compared attitudes toward NEBs across sexual orientations, and therefore, generalizability from research on heterosexual populations to the gay, lesbian, and bisexual populations cannot be assumed. The following sections discuss some of the known and theorized similarities and differences that exist in nonsexual extradyadic relationships across sexual orientations, as well as the importance of advancing our understanding of attitudes about NEBs across sexual orientations.

Heterosexual Nonsexual Extradyadic Relationships

The majority of heterosexual individuals' friendships consist of same-sex and mutual couple friendships (Weis & Felton, 1987). However, cross-sex friendships are becoming more commonplace in the heterosexual population. Similar to heterosexual same-sex friendships, heterosexual cross-sex friendships are frequently a source of emotional support, instrumental support, and camaraderie (Weis & Felton, 1987). Despite the benefits, these relationships do not come without complications. According to

Werking (1997), cross-sex friendships are more complex than both same-sex friendships and romantic partnerships, which have a more apparent place in heterosexist society.

It has been suggested that cross-sex friendships among heterosexual individuals tend to have different dynamics than romantic relationships, with friends having the added undertaking of avoiding sexual dynamics within the relationship (Monsour & Harris, 1994). However, Bleske-Rechek, Somers, Micke, Erickson, Matteson, Stocco, & Ritchie (2012) found that some heterosexual individuals do become attracted to their cross-sex friends and possess a desire to become romantically involved with them, regardless of their own current romantic involvement or their friends' current romantic involvement. Guerrero and Chavez (2005) found that heterosexual same-sex friends reported little or no romantic or sexual desire for each other, whereas they found that one or both friends in cross-sex friendships frequently reported at least some sexual interest in the other. O'Meara (1989) also proposed that heterosexual cross-sex friends may confront the major challenge of facing attraction and sexuality in the relationship. Moreover, some people view sexual attraction as an important reason for initiating heterosexual cross-sex friendships (Bleske-Rechek & Buss, 2001). Afifi and Faulkner (2000) reported that approximately half of heterosexual young men and women in their study had sexual intercourse with a cross-sex friend.

These authors suggest that heterosexual cross-sex friendships are complicated due to the potential for sexual interest and possibly even sexual encounters. Further, Bleske-Rechek et al. (2012) found that attraction for a cross-sex friend were associated with lower levels of satisfaction with one's romantic partner, as well as increased desire to maintain their cross-sex friendship. Therefore, it has been concluded that attraction to

cross-sex friends might jeopardize romantic relationships (Bleske-Rechek et al., 2012).

Accordingly, heterosexual cross-sex friendships have been regarded negatively due to the perception that they compete with the primary monogamous relationship and run the risk of leading to SEBs (Weis & Slosnerick, 1981). In these and other studies (Monsour, 2002; Werking, 1997), sexuality is constructed as a key social barrier to cross-sex friendships, one that stems from societal norms and expectations about the organization and purpose of friendships between men and women. Heteronormative society tends to treat romance as the 'natural' endpoint of cross-sex friendships (Werking, 1997).

This view of heterosexual cross-sex friendships has been associated with increased jealousy among individuals who have romantic partners with cross-sex friendships (Weis & Felton, 1987). O'Meara (1989) suggested that cross-sex friendships elicit jealousy in romantic partners, requiring individuals to reassure their romantic partners that their friendships are not a threat. In one study, approximately one-third of heterosexual individuals of varying ages identified jealousy from their romantic partner as a primary cost of maintaining their cross-sex friendships (Bleske-Rechek et al., 2012). Given this, the potential threat of sexual engagement accompanying heterosexual cross-sex friendships likely influences individuals' levels of approval of their partners' engaging in NEBs with cross-sex friends.

Gay, Lesbian, and Bisexual Nonsexual Extradyadic Relationships

Indeed, same-sex friendships are typical of both heterosexual individuals and lesbian, gay, and bisexual (LGB) individuals. However, Gulupo (2007) found that individuals who identify as LGB reported having more same-sex friendships than cross-

sex friendships. This means that sexual minorities are most often engaging in NEBs with individuals whom belong to a sex-attracted group. This likely has interesting implications for the partners of these individuals, especially in regards to their approval of their partners' engagement in NEBs with friends.

It has been argued that cross-sex friendships among heterosexual individuals share some of the same features as same-sex friendships among gay and lesbian individuals due to the possibility of sexual attraction and behavior (Galupo, 2007). Therefore, if heterosexual cross-sex friendships are complicated by the possibility of sexual attraction, it is likely that gay and lesbian same-sex friendships also face these complications. Rose and Zand (2000) found that the most prevalent dating script among lesbian women was a friendship gradually growing into a sexual relationship. Therefore, partners' attitudes about the NEBs that their lesbian and gay partners engage in with same-sex friends may be complex and similar to individuals' attitudes about the NEBs that their heterosexual partners engage in with cross-sex friends.

Despite the lack of attention devoted to the friendships of bisexual women and men in the literature, Galupo (2007) discussed the possibility for bisexual individuals to experience sexual attraction toward both their same-sex and cross-sex friends. Therefore, just as individuals can become jealous and threatened as a result of their heterosexual partners' cross-sex friendships and individuals can become jealous and threatened as a result of their gay and lesbian partners' same-sex friendships, both same-sex and cross-sex friendships among bisexual individuals may have an impact on their primary intimate partners, who may feel jealous and threatened by their bisexual partners' friends, regardless of their sex.

Further, in studies comparing gay, lesbian, bisexual, and heterosexual couples (Blumstein & Schwartz, 1983; Bryant & Demian, 1994), gay men have been significantly more likely to be in romantic relationships that allowed SEBs. Although some bisexual individuals and gay men desire and sustain monogamous relationships, Peplau (1991) found that non-monogamous relationships tend to be more common and more acceptable for bisexual individuals and gay men in comparison to lesbians or heterosexual individuals. Further, the APA guidelines speak to the normative expectations of monogamy in many heterosexual relationships not necessarily being the norm among gay male couples (APA, 2011). This speaks to the importance of considering couples' expectations for their relationships to be monogamous versus open when seeking a better understanding of attitudes about NEBs across sexual orientations. All existing measures of EBs appear to assume monogamy in relationships. However, it is clear that partnered individuals have varying attitudes about what types of behaviors are acceptable to engage in with others outside of the primary romantic relationship.

Due to the exceptional importance of friendships among the LGB community, there is undoubtedly a need to consider the degree to which individuals approve of their sexual minority partners' engagement in NEBs with friends. Friendships within the LGB community are sometimes thought to provide a substitute for and/or supplement to family ties (APA, 2011, Kurdek, 1988; Weston, 1991). These friendships often provide social connections and familial context for LGB individuals (Green, 2004). Further, friendships within the LGB community provide an opportunity to support others with shared experiences (Weston, 1991).

A partner's support of these valuable friendships and approval of engagement in friendship behaviors might influence an LGB individual's ability to receive the supportive experiences that come from these friendships. Therefore, there is a need to measure the unique differences across sexual orientations in relation to individuals' acceptability of their partners' engagement in NEBs. Because of the differences in romantic relationship exclusivity and monogamy within the LGB population, there might be added complexities about what types of behaviors might be acceptable and not acceptable to engage in with others. Given the aforementioned theories on NEBs across sexual orientations, it appears that any attempts to measure and understand an individual's attitudes about their partner's engagement in NEBs would warrant the consideration of their partner's sexual orientation identity, the sex of the partners' friend, as well as the degree of sexual exclusivity in the primary intimate relationship.

Measuring Nonsexual Extradyadic Behaviors

Over the past 40 years, a small number of researchers have developed scales that measure EBs (Boekhout et al., 2003; Johnson, 1970). Each of these existing scales focuses on extradyadic behaviors that are mostly sexual in nature (i.e., SEBs). Therefore, these scales are not appropriate for gaining information about NEBs. Further, the existing scales primarily measure the prevalence of EBs, rather than attitudes about EBs. Moreover, the scales are normed solely on white, college-aged, heterosexual, monogamous, populations. Therefore, none of these scales are appropriate for measuring attitudes about NEBs in more diverse populations across sexual orientations.

In sum, despite the normality, utility, and complexity of nonsexual extradyadic relationships (i.e., friendships) among partnered individuals and the tendency for these

friendships to be under the close scrutiny of third parties (Rawlins, 2008), little consideration has been dedicated to the analysis of people's attitudes about the NEBs that occur outside of their romantic relationships, especially across sexual orientations. Research suggests that third parties that surround friendships, to include people's partners, invest effort into making sense of the friendships by interpreting what the relationship is and is not (Rawlins, 2008). This suggests that individuals appear curious as to whether friendships of others are strictly platonic. Further, there is considerable ambiguity among couples about which behaviors are perceived as acceptable and which are perceived as unacceptable to engage in outside of the monogamous romantic relationship (Boekhout et al., 2003). There is a sizeable gap in the literature with regard to people's attitudes about the acceptability of their partners' engagement in such behaviors, with few and inadequate measures available to assess these attitudes within the heterosexual population, and no measures available to assess these attitudes within the gay, lesbian, and bisexual populations. Due to the inadequacy of the current EBs scales, it was determined that the development of a new scale to measure NEBs is warranted.

Purpose

The goal of this study was to develop a scale that assesses people's approval of their partners engagement in nonsexual extradyadic behaviors (NEBs). The purpose of the scale was to measure individuals' attitudes about their partners' engagement in NEBs with their same-sex (SS) and cross-sex (CS) friends across heterosexual, gay and lesbian, and bisexual populations. The next chapter, the literature review, provides a more in-depth exploration of EBs research. In addition, the existing scales of EBs are reviewed and critiqued, as are research and scales of theoretically relevant constructs.

CHAPTER II

LITERATURE REVIEW

In light of the purpose of the present study, which was to develop a scale that measures individuals' attitudes about their partners' engagement in various nonsexual extradyadic behaviors (NEBs), this chapter presents a review of the literature in the following areas: extradyadic behaviors (EBs); existing measures of EBs; friendship maintenance behaviors (FMBs); measures of FMBs; and other conceptually relevant constructs, such as jealousy, trust, and nonexclusive friendship expectations. Throughout the literature review, discussion is provided on the limited research that has been conducted in this area of study, particularly with lesbian, gay, and bisexual (LGB) friendships.

Given the importance of inclusion and examination of understudied populations (e.g., LGB individuals) to better understand their unique experiences (Moradi, Mohr, Worthington, & Fassinger, 2009), the scale in the present study was normed on individuals from various sexual orientations who had romantic partners who were gay/lesbian, bisexual, and heterosexual. In doing so, some important definitions are noteworthy. According to the American Psychological Association's (APA, 2011) Guidelines, *sexual orientation* refers to the sex of those to whom one is sexually and romantically attracted. Categories of sexual orientation include gay men, lesbians, heterosexuals, and bisexuals. They define *gay men* and *lesbians* as individuals who are

attracted to members of their own sex, *heterosexuals* as individuals who are attracted to members of the opposite sex, and *bisexuals* as individuals who are attracted to members of both sexes (APA, 2011). For the purposes of this study, these categorical terms were utilized, though research has indicated that sexual orientation does not always appear in such rigid categories, but rather along a continuum (Klein, 1993; Klein, Sepekoff, & Wolff, 1985).

With these definitions in mind, the following literature review attempts to shed light on the gaps in the current literature that the present study seeks to address. The first section of this literature review covers the existing research on EBs, including the existing scale that measures attitudes about these behaviors. In reviewing the literature and existing scales of EBs, it is recognized that the existing research on these areas and constructs has been limited and is now relatively outdated. Furthermore, the research that does exist has been conducted primarily with heterosexual individuals and couples; therefore, generalizability of the results of the following studies to LGB populations is limited.

Extradyadic Behaviors

The various definitions and theories of EBs were reviewed in Chapter I (see Introduction). Recall that the present study broadly defines EBs as behaviors that people engage in with others outside of their monogamous romantic relationships. More specifically, sexual extradyadic behaviors (SEBs) refer to behaviors that are sexual in nature, and nonsexual extradyadic behaviors (NEBs) refer to behaviors that are not sexual in nature.

Researchers have found that coupled individuals who value monogamy typically view engagement in SEBs as less acceptable than engagement in NEBs (Weis & Slosnerick, 1981), though there are theories that purport that engagement in NEBs can lead to engagement in SEBs (Luo et al., 2010; Nardi & Sherrod, 1994; Weis & Felton, 1987). This is thought to most often occur in heterosexual cross-sex friendships (Guerrero & Chavez, 2005; O'Meara, 1989; Weis & Slosnerick, 1981) and gay and lesbian same-sex friendships (Galupo, 2007; Rose & Zand, 2000). In terms of bisexual friendships, it has been theorized that sexual encounters are possible within both cross- and same-sex friendships (Galupo, 2007).

Due to the potential threat that these outside friendships have on romantic relationships, romantic partners have been found to experience jealousy (Bleske-Rechek et al., 2012; O'Meara, 1989; Weis & Felton, 1987). Further, conflict has been found to be associated with partners' differences in what they feel constitutes acceptable and unacceptable behaviors to engage in with friends (Weis & Fenton, 1987). A more thorough review of the research on EBs is provided later in this literature review (see the Extradyadic Behaviors Research section). The next section reviews the attempts of authors within the field to operationalize and measure attitudes about EBs.

Measures of Extradyadic Behaviors

Several scales have been developed that measure prevalence rates of EBs; however, little information about attitudes can be directly gleaned from them. In the current literature, there are only two scales that measure people's attitudes about engaging in EBs. These two scales are reviewed in this section.

The first and most widely used scale to measure attitudes about EBs was

developed by Johnson (1970). This seven-item likert format scale measures participants' willingness to engage in hypothetical situations with individuals other than their primary intimate partners. The items were intended to convey situations in which infidelity could presumably occur. They were comprised of both blatantly sexual items and more subtle items intended to be perceived as precursors to sexual encounters. Sample items are "spending a couple of days in a secluded cabin with him (her) near a beautiful lake where no one would find out", "harmless necking or petting", and "becoming sexually involved" (p.450). The items appear in an order from least sexually suggestive to most sexually suggestive. This scale has a reliability ranging from .81 to .87 and has correlated significantly with separate measures of attitudes toward extradyadic sex (Weis & Felton, 1987; Weis & Slosnerick, 1981). The scale was normed on 200 middle class, middle-aged individuals. No other demographic information was reported in the development article.

In light of the goals of the present study regarding NEBs, Johnson's (1970) scale was found to be inadequate for several reasons. Specifically, the wording of the items is outdated (e.g., "necking"), the scale is very short and the items are not comprehensive of the behaviors one may regularly engage in with nonsexual friends, the items are fairly sexually suggestive, and the items are worded so that participants are reporting on their attitudes about their own engagement in each behavior with another person, not their attitudes about the acceptability of their partners' engagement in these behaviors with other people. Getting partners' perspectives is the goal of the present study. Furthermore, the factor structure of Johnson's (1970) scale was never investigated, nor was the content

or construct validity. Also, the demographic make-up of the norming group is unknown, and therefore, generalizations become precarious.

The second scale, the Relationship Issues Scale (RIS), was developed by Boekhout et al. (2003) to explore attitudes/values and expectations/behaviors regarding relationship exclusivity and nonexclusivity, where the degree of exclusivity determines what partnered individuals decide is appropriate or not appropriate to experience with persons outside of their primary romantic relationship. The measure is a 37-item likert format scale that measures eight dimensions of relationship exclusivity/nonexclusivity. More specifically, the RIS measures one's own attitudes about extradyadic relationships, defined in terms of both sexual and nonsexual relationship behaviors that people engage in outside of their primary intimate relationship. It was normed on 318 heterosexual college students in monogamous relationships, who identified primarily as White. The eight subscales, their standardized alphas, and example items within each subscale are as follows: Sexual Nonexclusivity (alpha = .73; "Casual sex with a variety of partners can be as satisfying as sex that is limited to an established partnership"), General Nonexclusivity (alpha = .59; "Other friendships can be very stimulating/strengthening for the primary relationship"), Nonexclusive Friendship Expectations (alpha = .84; "I expect to have opposite-sex friendships while in my primary relationship"), Exclusive Relationship Expectations (alpha = .73; "I share all aspects of my life with my partner"), Benefits of Other Relationships (alpha = .88; "An opportunity for personal growth"), Drawbacks of Other Relationships (alpha = .55; "Detracting from my primary relationship"), Benefits of Exclusive Relationships (alpha = .82; "Feel like I always had someone there for me"), and Drawbacks of Exclusive Relationships (alpha = .71; "Not

like having to tell my partner everything") (Boekhout et al., 2003). Confirmatory factor analysis of the scale produced the following values: GFI = .9532, AGFI = .9162, RMSEA = .0483, CFI = .97, and $\chi^2 = (76, N = 318) = 132.30$, $p<.0001$, indicating adequate fit.

In taking a critical look the psychometrics of this scale, several of the subscales' alphas are below acceptable levels (DeVellis, 2011), and the Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) procedures reported in the development article were limited. Specifically, the authors did not report how they handled missing data; if and how they checked for multivariate normality; what software program and estimation methods were used; and a priori specifications of the cutoff criteria for fit measures. Knowledge of these important elements of the scale development process is vital to understanding the authors' decision-making processes and evaluating the validity of the results (Jackson, Gillaspy Jr, & Purc-Stephenson, 2009).

Furthermore, as the subscale names suggest, the RIS mainly measures people's attitudes about exclusivity/nonexclusivity and extradyadic relationships rather than attitudes about specific EBs, the latter of which is the intent of the present study. Therefore, the scale does not offer a comprehensive list of behaviors in which individuals can rate their attitudes. Further, it has been normed solely on White individuals who are in heterosexual monogamous relationships, limiting the generalizability of the scale to more diverse populations.

In general, the existing research and scales of attitudes about EBs are not comprehensive, conducted on primarily white, heterosexual, and monogamous individuals, and focus too greatly on sexual behaviors with individuals of the opposite-sex. The present study sought to measure people's attitudes about their partners'

engagement in specific NEBs. Rather than assessing attitudes about relatively scarce behaviors within friendships (i.e., sexual behaviors) within a demographically narrow population, the present study seeks to measure more diverse attitudes about behaviors that are relatively common within friendships (i.e., nonsexual behaviors).

It is noteworthy to mention that no measures of EBs have been normed on sexual minority samples, which unfortunately is not uncommon among established measures within psychology (Moradi et al., 2009). However, Moradi et al. (2009) contend that the more the content of a scale relates to issues to which sexual minority people may have unique reactions (e.g., relationships), the more likely it seems that participants from various sexual orientations may affect validity, reliability, or factor structure of scale scores. This points to a grave limitation of these scales, in that they are unable to measure attitudes about NEBs across sexual orientations, leaving no existing scales that are able to measure this construct in LGB populations. Due to the inadequacy of the existing scales for measuring attitudes about NEBs across diverse populations, it seems apparent that a new measure becomes available for use in clinical and research realms.

Due to the existing measures' inability to be utilized with LGB individuals, much of the existing research on EBs is biased toward monogamous heterosexual relationships and couples. Therefore, the majority of the studies reviewed in the next section focus solely on heterosexual monogamous relationships. However, researchers have proposed some preliminary generalizations of heterosexual relationships to LGB relationships, though investigations of these generalizations have not been conducted. Therefore, caution should be exercised when making generalizations from the following studies.

Extradyadic Behaviors Research

As mentioned earlier in the literature review, EBs that are perceived to be more sexual in nature (i.e., SEBs) are considered less acceptable than EBs that are perceived to be nonsexual in nature (NEBs) in monogamous relationships. Weis and Slosnerick (1981) found this phenomenon in their investigation of internalized scripts for engagement in EBs, both sexual and nonsexual, with cross-sex friends. They collected data by administering a questionnaire to 321 heterosexual undergraduate college students in monogamous romantic relationships. Attitudes toward EBs were measured by Johnson's (1970) seven-item scale (reviewed earlier). The results of the Weis and Slosnerick (1981) study indicated that the majority of the heterosexual sample was opposed to SEBs. Moreover, as behaviors became increasingly suggestive of sexual behavior, the proportion of individuals who rated each situation as acceptable decreased. Behaviors that were clearly sexual in nature were acceptable to only 15 percent of the respondents. Alternatively, a majority of the individuals reported that they viewed the nonsexual behaviors as acceptable. Therefore, EBs that were perceived as more sexually suggestive were less acceptable. It was apparent that the majority of the heterosexual sample found NEBs acceptable if such situations were perceived as unlikely to lead to sexual behavior, and therefore, nonthreatening to their monogamous romantic relationship.

Weis and Slosnerick's (1981) study provides valuable insight into the acceptability of EBs; however, the scale utilized to attain these findings contains items that are mainly sexually suggestive in nature. Therefore, the degree to which the authors are actually measuring participants' attitudes toward NEBs is debatable. Therefore, their

findings about the acceptability of NEBs become questionable. Further, this research sheds no light on the acceptability of EBs across sexual orientations or in non-monogamous relationships, limiting generalizability of these findings to the monogamous heterosexual population.

In a similar study, Weis and Felton (1987) examined participants' attitudes toward engaging in both SEBs and NEBs with cross-sex friends. The sample consisted of 379 heterosexual female undergraduate college students. Once again, attitudes on EBs were measured with Johnson's (1970) seven-item scale. In this study, 85 percent of participants endorsed at least one of the seven behaviors in the scale as acceptable. Approximately half of the heterosexual participants reported that their partners "going to dinner at a secluded place" with a cross-sex friend would be acceptable. Due to this, the authors concluded that no overall opposition of NEBs among their heterosexual sample existed.

However, it is once again questionable the degree to which one can accurately distinguish between SEBs and NEBs when using Johnson's (1970) scale, since the behaviors that are not blatantly sexual can still be viewed as sexual in nature or leading to potential sexual activity. However, they did find that there was a high degree of agreement among monogamous heterosexual females that the more sexually suggestive behaviors were unacceptable. This finding is similar to that found by Weis and Slosnerick (1981). This indicates the complexity of determining the acceptability of NEBs, since individuals vastly vary in their levels of acceptance of certain behaviors

It is noteworthy that Weis and Slosnerick's (1981) and Weis and Felton's (1987) studies were conducted approximately 30 years ago, and the possibility of generational

differences in attitudes toward NEBs cannot be ignored. Therefore, their findings may not be generalizable to younger generations today. In general, studies examining attitudes about EBs are not only limited but are also largely outdated. This is a limitation of the literature in this area of study.

In a more recent article that reported on three separate but related studies, Boekhout et al. (2003) examined individuals' experiences in exclusive and nonexclusive relationships, as well as the impact of having exclusive and nonexclusive relationships. Their sample in the first study consisted of 202 heterosexual college students who completed a 10-item scale that was adapted from Johnson's (1970) seven-item scale. Similar to Weis and Slosnerick (1981) and Weis and Felton (1987), the researchers found that more sexually suggestive items, such as "spending a few days at a secluded cabin with an opposite-sex friend where nobody will find out", were not acceptable to engage in with cross-sex friends.

In the follow-up (second) study, Boekhout et al. (2003) investigated gender differences in attitudes about EBs using their Relationship Issues Scale (RIS). The second study sample consisted of 394 heterosexual college students, who identified primarily as White. The researchers found that male participants reported more acceptance of sexual nonexclusivity and thought there were more drawbacks from being in a sexually exclusive relationship than did female participants. The study concluded that heterosexual men are more accepting of SEBs than women, which indicates a possible difference in attitudes across sexes.

In their third study, Boekhout et al. (2003) examined the exclusivity attitudes of 318 heterosexual college students. Racial identity of the participants was mainly White

(81%). They found similar gender comparison results as in their second study. Male participants appeared to favor more sexual nonexclusivity (e.g., sexual friendships) than females; however, men anticipated potential problems with having relationships (i.e., same-sex and cross-sex friendships) outside of the primary romantic relationship. The types of problems perceived were not investigated. Female participants appeared to favor general nonexclusivity (i.e., nonsexual cross-sex friendships) more than the males. Boekhout et al. (2003) suggests that these results could be due to women viewing extradyadic relationships in less sexual terms, and therefore, viewing them as less threatening and problematic than men do. However, the authors did not test this theory. While their findings are intriguing, limitations of Boekhout et al.'s (2003) studies are that the samples were entirely heterosexual, and mainly White.

Luo et al. (2010) also found trends during their investigation of engagement in EBs with cross-sex friends among 342 heterosexual college students. All participants were involved in a committed, monogamous dating relationship at the time of participation. To measure engagement in EBs, the researchers used items from their Extradyadic Behavior Inventory (EBI), which measures prevalence rates of participants' engagement in various EBs both in-person and online. They found that heterosexual male participants outnumbered heterosexual female participants in having engaged in a myriad of EBs, both sexual and nonsexual in nature, with cross-sex friends. They did not empirically seek out a rationale for this finding; however, they offered the preliminary theory that NEBs may serve as a pathway to sexual behaviors (SEBs) within heterosexual cross-sex friendships. More specifically, the authors theorized from their results that heterosexual men might be more inclined to engage in a wider range of EBs in cross-sex

friendships in order to seek more sexual partners. Further, the authors postulated that men might engage in such behaviors in order to get better access to SEBs. The researchers did not directly test this preliminary theory; this is only one possible explanation out of many to explain the gender phenomena in this study. Therefore, these conclusions are theoretical only and should be interpreted with caution. However, the authors' explanation highlights the importance of considering people's motivations for engaging in NEBs with individuals in a sex-attracted group, and how this affects individuals' acceptance of their partners engaging NEBs. Although exploring motivations is not the purpose of the present study, it is important to note that the development of a scale that measures approval of NEBs would allow the field to explore how motivations and other factors affect approval.

Nardi and Sherrod (1994) suggested a similar explanation for gender differences in the engagement of EBs. They suggested that heterosexual men are more likely than women to use NEBs as a gateway to sexual intimacy in cross-sex friendships. In other words, men more often viewed friendships as an opportunity for intimate relationships. Applying this preliminary theory to sexual minorities, Nardi and Sherrod (1994) hypothesized that SEBs were more likely to occur in the same-sex friendships of gay men than in the friendships of lesbian women, which is in line with established research findings on gender differences in heterosexual cross-sex friendships. Participants were 161 gay men and 122 lesbians who were predominantly White, educated, and in their thirties and forties. Participants were asked to answer whether or not they have had sex with a friend and whether or not they have a friend who was a past lover. Gay males were almost twice as likely to have had sex with their friends. This finding could

partially support the authors' hypothesis that heterosexual men are more likely than women to use sex as a gateway to intimacy in cross-sex friendships. However, in the gay community, it is less taboo to have open relationships where sexual encounters are acceptable with people outside of the romantic relationship (Pawlicki & Larson, 2012; Worth, Reid, & McMillan, 2002), and this may alter the interpretations of the outcome of the study. Another significant finding was that lesbians were twice as likely to say that they have a best friend who was once their romantic partner. This finding has potential significant implications for the partners of these women, who may feel threatened by their partners' past romantic partners and experience potential difficulty accepting a wider array of the NEBs their partners engage in with past lovers.

Within these empirical studies, several authors found that the majority of participants believed that SEBs should be exclusive to the primary relationship, but they were less certain about which NEBs were acceptable versus unacceptable (Boekhout et al., 2003; Weis & Felton, 1987; Weis & Slosnerick, 1981). Further, Luo et al. (2010) and Nardi and Sherrod (1994) suggested the potential for NEBs to lead to sexual encounters within certain friendships. More specifically, the friendships that have the most potential to turn intimate were theorized to be heterosexual cross-sex friendships and gay and lesbian same-sex friendships. However, this theory has not been empirically tested. Although it has not been studied, if the theorized trends for heterosexual-identified and gay and lesbian identified individuals have any merit, both bisexual same-sex and cross-sex friendships may have potential to evolve into intimate relationships because of bisexual individuals' sexual attraction to both the male and female sexes. This potential may affect the degree to which individuals across sexual orientations approve of their

partners' engagement in NEBs with same-sex and cross-sex friends, which is one phenomenon the present study sought to explore.

In addition to not addressing issues of bisexuality, the literature related to NEBs also has several other common limitations. For example, each of these studies' samples were largely heterosexual, White, and college-aged. Therefore, the findings of these studies may not be generalizable to sexual minorities, ethnically and racially diverse individuals, people outside of the average college age range, and people who have not attended college or higher education. This lack of generalizability is likely, at least in part, due to the lack and inadequacy of existing EBs scales that have been normed with diverse populations.

Operationalizing Nonsexual Extradyadic Behaviors

Given the importance of understanding attitudes NEB's, researchers need to both be able to define NEBs and measure them, though this is dfficult to do given the limited empirical attention to this area. Due to unclear definitions and a lack of empirical research and measures of attitudes about NEBs, it becomes difficult but essential to operationalize what NEBs are and what they are not. Better understanding of NEBs requires exploration of the ways in which NEBs and individuals' attitudes about them are similar, different, and related to other constructs. This section presents definitions, research, and ways of measuring various constructs in an attempt to clearly operationalize attitudes about NEBS, including the actual behaviors that make up NEBs.

Friendship Maintenance Behaviors

Relationship maintenance behaviors are defined as the behaviors that people engage in between the beginning and termination of a relationship to maintain the

relationship (Dindia & Canary, 1993). Stafford and Canary (1991) conceptualize relationship maintenance as interactions or activities that help a relationship remain satisfying, stable, and at a desired level of intimacy. While some similarities exist, the maintenance of friendships is different from the maintenance of intimate relationships in that intimate relationship maintenance may require utilization of a larger variety of maintenance strategies, including maintenance of more sexual aspects of intimacy. Specific to heterosexual friendships, maintenance behaviors may also be used differently depending on whether individuals are interacting with someone who is a same-sex or cross-sex friend (Oswald et al., 2004).

Several measures have been developed that measure the various behaviors that individuals engage in with friends to develop, maintain, and repair their friendships. The most comprehensive of these scales are reviewed in the next section, as they provide valuable insight into the range of behaviors that individuals are engaging in with same-sex and cross-sex friends. Due to this, the construct of FMBs appears to be closely related to NEBs; and therefore, the item content of these scales were considered for the development of the present study's scale.

Friendship maintenance behavior measures. Three friendship maintenance behavior (FMB) scales were reviewed for potential use in this study. Importantly, all three scales reviewed were adapted from a scale developed by Stafford and Canary's (1991) scale that measured intimate relationship maintenance behaviors. There are some differences and some overlap between friendship and intimate relationship maintenance behaviors. The influence of Stafford and Canary's (1991) categories of intimate partner relationship maintenance can be seen in each of these scales, though they have been

adapted to measure the maintenance behaviors of friendships. A thorough review of each scale is provided next.

Fuhrman et al. (2009) developed two 14-item likert format scales, one for measuring cross-sex friendship behavior expectations and the other for measuring same-sex friendship behavior expectations. Both scales contained the same items. The purpose of the scale is to assess the importance participants attribute to behavior expectations within friendships. The authors define behavior expectations as behaviors that people do and do not prefer in relationship partners. Therefore, participants are reporting on a variety of behaviors that were thought to be relevant to personal relationships. Subgroups of the scale were Emotional Closeness (e.g., "Be emotionally supportive"), Social Companionship (e.g., "Be able to visit one another socially, unannounced"), and Relationship Positivity (e.g., "Present themselves to the other in the best possible light"). With a heterosexual sample, Fuhrman et al. (2009) found that reliability for the subscales for both same-sex and cross-sex friendships ranged from .75 to .86 for Emotional Closeness, .65 to.84 for Social Companionship, and .59 to.67 for Relationship Positivity. With only 14-items, the items are not a comprehensive list of behaviors within cross-sex and same-sex friendships.

Similar to Fuhrman et al.'s (2009) scale, Oswald et al. (2004) identified positivity, supportiveness, openness, and interaction as key factors in the development of their 37-item likert formatted Friendship Maintenance Scale (FMS). The alphas for positivity, supportiveness, openness, and interaction were .92, .90, .84, and .74, respectively. These four subscales were all positively intercorrelated, ranging from .17 to .64. The authors define FMBs as behaviors that individuals engage in to maintain acceptable levels of

satisfaction and commitment in the friendship. The FMS was designed to measure participants' rate of engagement in FMBs, rather than participants' attitudes about FMBs. Items were based on the question "How often do you and your friend...", followed by a specific FMB (e.g., "Plan specific activities to do together," "Provide each other with emotional support," "Show signs of affection toward each other," and "Get together just to hang–out"). Although the FMS contains a more comprehensive list of FMBs than Fuhrman et al.'s (2009) scale, it is less comprehensive than the scale reviewed next.

Guerrero and Chavez's (2007) scale was developed to measure the frequency of FMBs within heterosexual cross-sex friendships. The items were developed based on the items from Stafford and Canary's (1991) scale, which measures romantic maintenance behaviors. After a review of cross-sex friendship research, additional items were included that reflect the context of cross-sex friendships. These items represented additional FMBs not identified in other existing relationship maintenance scales, including, activity sharing, humor, flirting, avoidance, and antisocial behaviors such as acting jealous or trying to change the friend. They administered this item pool to 436 heterosexual college students. They conducted a factor analysis with an oblique rotation, thereby assuming that the subscales would correlate with one another. Items were retained if they had primary loadings of at least .60 and secondary loadings of at least .20 less than their primary loading. After removing 21 items that did not meet criteria, ten factors were left, which accounted for 68.16% of the variance. These factors became subscales of the measure. The final scale included 37 items, which asked participants to estimate the frequency with which (1 = Never; 5 = Always) they engage in particular behaviors in order to maintain their friendships. The ten subscales, along with a sample

item and alpha are as follows: Routine Contact and Activity (e.g., "I call my friend on a regular basis"; alpha = .82), Emotional Support and Positivity (e.g., "I try hard to listen to my friend's problems"; alpha = .81), Relationship Talk (e.g., "I tell my friend how I feel about the friendship"; alpha = .82), Instrumental Support (e.g., "I give my friend advice"; alpha = .75), Social Networking (e.g., "We spend time with mutual friends"; alpha = .79), Anti-social Behavior (e.g., "I often complain to my friend"; alpha = .82), Humor and Gossip (e.g., "I joke around a lot with my friend"; alpha = .71), Talk About Outside Romance (e.g., "I tell my friend about my romantic encounters"; alpha = .67), Flirtation (e.g., "I avoid flirting with my friend"; alpha = .74), and Avoidance of Negativity (e.g., "I avoid conflict with my friend"; alpha = .71). These alphas indicate that the internal consistency of every scale is adequate or better.

Despite the strong alphas, the scale has some limitations. First, sexual minorities were excluded from the norming group. Further, the sample was comprised of only college students. The developers also opted to not conduct an expert review to establish content validity. They also did not include measures of convergent and discriminant validity.

Despite these limitations, this scale contains the most comprehensive list of FMBs out of all of the scales designed to measure maintenance behaviors that individuals engage in with their friends. Further, the items are characteristic of both same-sex and cross-sex friendships. Since the present study examined differences between participants' attitudes based on the sex of their partners' friends, the generalization of items to both same-sex and cross-sex friendships was essential. Lastly, because the present study aimed to explore partners' perspectives, the majority of this scale's items

could be effectively adapted to measure a partner's approval of their partner's engagement in the NEBs. Therefore, it was the unnamed scale developed by Guerrero and Chavez (2007) that inspired the item development of the present study's scale.

In light of the close relatedness of FMBs and NEBs, the following section reviews the research on FMBs. Like the literature on EBs, the research on FMBs is largely biased toward heterosexual individuals' cross-sex and same-sex friendships. Therefore, the results of the following studies might not be generalizable to sexual minority populations.

Friendship maintenance behavior research. In relation to heterosexual cross-sex friendships, Guerrero and Chavez (2007) conducted a study aimed at determining how FMBs function in the context of cross-sex friendships that vary in terms of romantic intent. Participants were 440 heterosexual college students. Sixteen participants, who identified as gay and lesbian, were excluded from the study because the issue of romantic interest would be different for these participants than for those who identified themselves as heterosexual or bisexual. Participants completed their unnamed FMB scale (reviewed earlier). Overall, the results suggest that perceptions related to both romantic intent and the degree of mutuality of that intent make a difference in the engagement of FMBs. For instance, individuals self-identified into one of four categories (mutual romance, strictly platonic, desires romance, and rejects romance conditions), and significant differences in FMBs were reported by category.

Guerrero and Chavez (2007) results suggested that reports of maintenance behavior vary based on an individual's own perception of the friendship. The findings also demonstrate that biological sex and relational uncertainty play a role in predicting how much maintenance behaviors are utilized in cross-sex friendships. However,

because data from participants who classified themselves as gay and lesbian were excluded, these findings on FMBs cannot be confidently generalized to gay and lesbian populations. Further, the study is limited to one individual's perceptions of the nature of a friendship and the FMBs engaged therein. In some situations, the other half of the friendship dyad might have very different perceptions of the friendship. Therefore, in a study of this sort, not collecting data from both individuals in the friendship is a noteworthy limitation.

Oswald et al. (2004) conducted a study with 666 heterosexual individuals. Eighty-five percent of participants reported on a same-sex friendship and the remaining fifteen-percent reported on cross-sex friendships. The purpose of the study was to test the authors' hypothesis that FMBs predict friendship satisfaction. The authors predicted that FMBs would be positively correlated with rewards and investments, since both address the positive aspects of friendships. The Friendship Maintenance Scale (FMS) (reviewed earlier) was utilized to measure participants' engagement in FMBs. As predicted, all of the FMBs on the scale were significant for predicting friendship satisfaction.

Friendship maintenance behaviors appear to differ depending on each individual's perceptions of the friendships' situation, as well as the biological sex and relational uncertainty of individuals in the friendships (Guerrero & Chavez, 2007). Further, engagement in FMBs appears to be predictive of friendship satisfaction (Oswald et al., 2004). Therefore, the willingness and ability of individuals to engage in behaviors aimed to maintain their relationships is very important to preserve satisfying friendships.

In sum, friendship maintenance is defined as an active process that involves adapting to the changing needs and goals of friendships (Guerrero & Chavez, 2007). Friendship maintenance behaviors, then, are the specific behaviors that go into maintaining friendships. Essentially, FMBs are comprised of the most common NEBs that people engage in outside of their primary romantic relationships, and are therefore, the closest construct to the actual behaviors that make up NEBs. However, other noteworthy constructs are also theoretically related to attitudes about NEBs.

Theoretically Relevant Constructs

This section explores literature on five constructs, comparing them conceptually to the construct under investigation (i.e., attitudes about NEBs). Specifically, a synopsis of the literature on constructs of trust, jealousy, relationship exclusivity expectations, optimism, and social desirability are provided. These constructs may have some conceptual overlap with attitudes about NEBs, though they are not necessarily equivalent.

Trust. Trust in relationships refers to the confidence an individual has in their partner's willingness to be responsive to their needs, even when they conflict with the partner's own preferences. They contend that the construct of trust includes the expectation that a partner can reliably be responsive to one's needs both in the present and future (Rempel et al., 1985). Thus far, theories and empirical research on EBs and trust have been reviewed separately. However, it is unlikely that these two constructs are completely independent of one another within intimate relationships. The following section reviews existing theories of trust and explores the intersection of trust and EBs.

The existing research on trust and EBs in the heterosexual population comes largely from studies examining sexual infidelity. The destructive nature of sexual

infidelity in monogamous relationships and the loss of trust that results from it are well known (Weis & Felton, 1987). Therefore, the literature is largely biased toward investigating SEBs. The majority of research on EBs and trust with sexual minorities has focused on the negotiation of SEBs within open, non-monogamous intimate relationships. However, limited research with non-monogamous couples does exist. In these studies, participants in open relationships identified trust as a necessary component in the relationship (Pawlicki & Larson, 2012; Worth et al., 2002). Trust is likely also related to behaviors that are not sexual in nature, due to the threat of nonsexual relationships becoming sexual (Lou, Cartun, & Snider, 2010), especially when individuals' friends belong to a sex-attracted group.

According to Rempel, Ross, and Holmes (1985), dependability is an important component of trust. Dependability refers to the qualities of the partner that warrant confidence in the face of risk and potential hurt. In terms of dependability, these authors contend that an individual is trusting of their partner when they believe that their partner would not commit an act of infidelity, break promises, or lie (Rempel et al., 1985).

According to Lusterman (1998), an expectation of mutual trust within an intimate relationship is the foundation of commitment. Similar to Rempel et al.'s (1985) position, one significant element of this trust is the vow that the monogamous couple will remain sexually exclusive and refrain from engaging in SEBs outside of the romantic relationship (Lusterman, 1998, p. 3). Boekhout et al. (2003) questioned whether heterosexual people in monogamous intimate relationships violate their commitment to their partners and risk breaking trust by engaging in NEBs with cross-sex friends. Though these authors did not test this quandary, it is an intriguing concept nonetheless. It

suggests that one's attitudes about trust might be captured via their attitudes about their partners' engagement in NEBs. Since the breaking of one's agreements is one of the most common ways for trust to be broken in intimate relationships (Lusterman, 1998), it appears imperative that individuals have awareness of their attitudes, as well as their partners'.

In light of Weis and Slosnerick's (1981) study, where most of the individuals found NEBs acceptable if such behaviors were perceived as unlikely to lead to sexual encounters, it is possible that the degree to which a person trusts their partner might inform their decision as to where the line is drawn between acceptable and unacceptable NEBs. For instance, if individuals' trust in their partners is low, it is likely that they will be less accepting of their partners engaging in NEBs with individuals to a sex-attracted group.

Based on the aforementioned research on trust and NEBs, it appears that in measuring someone's attitudes about their partner engaging in NEBs with friends, it is plausible that one might also be measuring, at least in part, the degree to which that person trusts their partner. Therefore, trust and attitudes about NEBs are likely conceptually linked. However, there are also some key differences between the two constructs, in that trust is determined by one's confidence in a partner (Rempel et al., 1985), whereas attitudes about NEBs might well be determined by many other factors beyond a partners' trustworthiness. Therefore, trust may only be a partial component of attitudes toward NEBs, which suggests that attitudes toward NEBs and trust are not entirely equivalent constructs.

Jealousy. Similar to the literature on trust, little empirical research has been conducted on the intersection between jealousy and people's attitudes about their partners' engagement in NEBs with friends. However, these constructs appear to be conceptually similar. Jealousy is defined as the response to a threat to a valued sexual relationship with another person, due to an actual or imagined rival for one's partner's attention (Dijkstra & Buunk, 1998).

Hansen (1985) found that heterosexual people have the strongest jealous reactions to their partners having a hypothetical sexual relationship with another person and the least jealous reactions to their partners hanging out with same-sex friends. Therefore, jealousy emerges when the threat of their partner being sexual unfaithful is great, and jealousy is least likely to occur when partners are engaging in activities with others who are not sexually attractive to them. Weis and Felton (1987) also found that jealousy was significantly related to attitudes toward EBs (both SEBs and NEBs). Specifically, participants who opposed a higher number of various EBs were most likely to score high on a measure of jealousy. The authors concluded that this finding provides insight into jealousy as a potential contributor to opposition of NEBs.

One potential reason for this relationship between jealousy and attitudes toward EBs could be that individuals might view their partners' friends as rivals, especially when the friend belongs to a sex-attracted group. According to Dijkstra and Buunk (2002), certain characteristics of rivals influence jealousy. The characteristics that most strongly influence jealousy differ across genders and sexual orientations. However, it is evident that all individuals find some characteristics of others to be threatening to their primary intimate relationships. Due to this, it might be very difficult for individuals to not

consider these characteristics when determining how they feel about their partners' engagement in behaviors with others. Therefore, it seems plausible that individuals might experience jealousy when their partners engage in certain behaviors with friends, especially if the friends are viewed as rivals.

The perception of threat among rivals (e.g., the friends of one's partner), can bring about possessive jealousy, which is defined by Barelds and Dijkstra (2006) as degree to which individuals try to keep their partners away from potential rivals. Possessive jealousy emerges in response to a partner's engagement in EBs, especially when there is perceived threat to the monogamous romantic relationship (Barelds & Dijkstra, 2006). These authors posit that possessively jealous heterosexual individuals may find it unacceptable that their partners have cross-sex friends. If this is the case, jealousy and attitudes about NEBs are interrelated. Bevan and Lannutti (2002) found that individuals across all orientations and genders utilize restriction tactics when jealous. Gay and lesbian individuals were more likely to utilize this method in comparison to heterosexual individuals.

It appears that jealousy, specifically possessive jealousy, can lead individuals to restrict the access that their partners have to others outside of the primary intimate relationship (Barelds & Dijkstra, 2006; Guerrero et al., 2005). If possessive jealousy affects the behaviors that they are willing to permit their partners to engage in, it is most certain that their jealousy would also affect the attitudes that they have about their partners' engagement in NEBs with friends. Therefore, in measuring someone's attitudes about their partner engaging in NEBs with friends, information is also gleaned about the degree to which that person experiences jealousy. Therefore, jealousy and attitudes about

NEBs are conceptually connected. However, because jealousy is considered an emotional reaction, and individuals' levels of approval of NEBs are considered attitudes, these two constructs are also conceptually different. Like trust, jealousy may only be a partial component of attitudes toward NEBs.

Nonexclusive friendship expectations. Shackelford and Buss (1997) found that relationship exclusivity is employed by people to guard against rivals and to reduce the negative feelings associated with jealousy. Exclusivity is a concept that determines what partnered people can and cannot share or experience with persons outside of their primary intimate relationship (Weis & Felton, 1987). Nonexclusive friendship expectations are the expectations that coupled individuals have about the experiences that they and their partners can share with friends. For instance, individuals can have expectations about whether or not they and their partners can have friends whom belong to a sex-attracted group. Further, one's expectations about nonexclusive friendships can be gleaned from the amount of satisfaction that they get from interacting with others (Boekhout et al., 2003).

Boekhout et al. (2003) examined participants' experiences in exclusive and nonexclusive relationships, as well as the consequences of having exclusive and nonexclusive relationships. In their examination of nonexclusive friendship expectations among heterosexual individuals, they found that female participants had higher expectations about having relationships in addition to their primary intimate relationships than did men. Boekhout et al. (2003) concluded that this might indicate that women view extradyadic relationships in less sexual terms, and therefore, view them as less threatening and problematic. However, this theory was not empirically tested and only

offers one potential explanation out of many for the finding. Recall that Lou et al. (2010) also suggested that cross-sex relationships among heterosexual individuals might provide opportunities for acquiring more sexual partners. They found that men, more so than women, held this expectation of their cross-sex friendships. These gender differences suggest that people will differ in the amount of expectations that they have about having nonsexual extradyadic relationships, possibly due to their beliefs about the utility of those relationships and the motivations of their partners' and their partners' friends.

Boekhout et al. (2003) found that nonexclusive friendship expectations were moderately related to the degree to which heterosexual individuals in monogamous relationships gave their partners approval to engage in nonsexual relationships with cross-sex friends outside of the primary relationship. If one's expectations of friendship nonexclusivity are related to the amount of approval that partners have to engage in friendship behaviors, it is likely that one's attitudes about their partner's engagement in NEBs would also be related to one's nonexclusivity friendship expectations. For instance, if individuals hold the expectation that they and their partners will have friendships outside of the primary romantic relationship, they are likely approving of their partners' engagement in various NEBs with friends.

Accordingly, it appears that in measuring someone's attitudes about their partner engaging in NEBs with friends, one might also be measuring the degree to which they expect that they and their partner can have friends outside of the primary intimate relationship. Therefore, nonexclusivity friendship expectations and attitudes about NEBs are conceptually similar. However, the key difference between the two constructs is that one is an attitude, whereas the other is a belief or expectation. According to the theory of

planned behavior, beliefs are antecedents of attitudes (Ajzen, 1985). More specifically, this theory would consider nonexclusive friendship expectations behavioral beliefs that individuals hold, which in turn influences their attitudes about the acceptability of those relationships, and vicariously the behaviors individuals engage in throughout those friendships. This suggests that nonexclusive friendship expectations and attitudes about NEBs are conceptually related, but distinctive.

Optimism. Optimism is considered a general expectation for the future (Lucas, Diener, & Suh, 1996). More specifically, optimism is a generalized positive expectancy that facilitates efforts to attain goals in the face of adversity (Scheier, Carver, Bridges, 1994). It has been recently measured in relation to romantic relationships. Assad, Donnellan, and Conger (2007) suggest that optimism serves as an enduring resource for romantic relationships. They found that individuals who are optimistic engage in better problem solving with their partners when confronted with negative emotions, which could potentially include but not be limited to jealousy or disagreements about engagement in NEBs. Further, they suggest that optimism is related to healthy and satisfying romantic relationships (Assad et al., 2007).

Despite the expansion of research on optimism to romantic relationships, no research has been conducted on the relationship between optimism and attitudes about NEBs. Therefore, the conceptual link to attitudes about NEBs is unclear. However, it appears that little relationship would be present, since the theoretical underpinnings of the two concepts are fairly distant. Optimism refers to expectations about the future, where the level of approval a person has about the engagement of their partners in NEBs is measuring an attitude about the present. Further, attitudes about NEBs is a fairly specific

construct, whereas optimism is very general in nature. Therefore, it appears to be an appropriate construct to utilize in establishing discriminant validity of a measure of attitudes about NEBs.

Social desirability. One aspect of scale validity is the potential threat of contamination of data due to social-desirability response bias. Social-desirability bias is the tendency of participants to respond to scale items in such a way as to present themselves in socially acceptable ways (King & Bruner, 2000). It is considered to be one of the most common sources of bias affecting the validity of survey research findings in psychology (Nederhof, 1985). The pervasive tendency of individuals to present themselves in a favorable light in order to gain the approval of others has threatened to compromise research findings that utilize self-report methods (King & Bruner, 2000). Therefore, it is imperative to identify situations in which data may be biased toward participants' perceptions of what is socially acceptable and to determine the extent to which the bias represents contamination of the data (King & Bruner, 2000). Due to the pervasiveness and catastrophic consequences of data being spoiled by social desirability bias, a measure of social desirability appears to be an appropriate construct to utilize in establishing discriminant validity of a measure of attitudes about NEBs.

In sum, the alternative constructs being examined here have some degree of conceptual as well as empirical overlap with attitudes about NEBs. Each, however, differs from attitudes about NEBs in at least one important way. In the case of optimism, there may be several such ways in which they differ. In the case of social desirability, the question is less about the conceptual relationship between the constructs and more about the extent to which a measure of attitudes about NEBS would be susceptible to biased

responding. However, the similarities and differences between the remaining constructs (e.g., trust, emotional jealousy, and nonexclusive friendship expectations) and attitudes about NEBs is essential in better understanding NEBs and the degree to which individuals approve of their partners engaging in NEBs with friends.

Because it is believed that each of the aforementioned constructs differ in important ways from attitudes about NEBs, and therefore, cannot serve as measures of attitudes toward NEBs, it is imperative to consider how we can adequately measure one's attitudes about NEBs. According to Moradi et al. (2009), it is evident that new instrumentation is a critical need in many areas of sexual minority research. The area of NEBs is no exception to this need. Because none of the existing EB scales are appropriate for the purposes of measuring attitudes about NEBs, especially across sexual orientations, it appears that the development of a new scale is warranted.

Purpose and Hypotheses

Despite the emergent norm in our society for partnered individuals across all sexual orientations to possess both same-sex and cross-sex friends (Weis & Felton, 1987), and the relative complexity that comes with having friends who belong to a sex-attracted group, the field is lagging in it's ability to measure and better understand individuals' attitudes about their partners' engagement in the various behaviors of which these friendships are comprised. Such complexities that have been found to accompany friendships with potentials for sexual attraction are perceived threat to the romantic relationship (Barelds & Dijkstra, 2006), partner jealousy (Bleske-Rechek et al., 2012; O'Meara, 1989; Weis & Felton, 1987) and conflict among romantic partners (Weis & Fenton, 1987). The existing scales of EBs are largely measuring individuals' attitudes

about engagement in sexual behaviors with cross-sex friends within the heterosexual population; therefore, they are inadequate for measuring attitudes about NEBs specifically, especially across sexual orientations.

For this reason, the purpose of this study was to develop the Partners' Approval of Nonsexual Extradyadic Behaviors Scale (PANEBS), which measures individuals' attitudes about the acceptability of their partners engaging in NEBs across three norming groups; those with heterosexual identified partners, those with gay or lesbian identified partners, and those with bisexual identified partners. The purpose of having three norming groups based on the sexual orientation of participants' partners is due to the empirical and theoretical conclusions that heterosexual partners' cross-sex friendships are threatening to the primary romantic relationship, due to the potential for sexual attraction and sexual encounters within the friendship (Guerrero & Chavez, 2005; O'Meara, 1989; Weis & Slosnerick, 1981). For these reasons, it is also theorized that gay and lesbian same-sex friendships are threatening to the primary romantic relationship (Galupo, 2007; Rose & Zand, 2000), as are bisexual same-sex and cross-sex friendships (Galupo, 2007). For this reason, the partners' sexual orientation is paramount in understanding individuals' approval of their partners' engaging in NEBs with same-sex and cross-sex friendships.

The difficulty in creating a new scale that measures attitudes about NEBs is the lack of operationalization of the construct within the field. Attitudes about NEBs appear to be conceptually linked to trust (Lusterman, 1998), jealousy (Barelds & Dijkstra, 2006; Boekhout et al., 2003; Weis & Felton, 1987; Guerrero & Chavez, 2005; O'Meara, 1989), and nonexclusive friendship expectations (Boekhout et al., 2003). However, in reviewing

the literature on friendships, it appears that friendship maintenance behaviors (FMBs) are the closest understanding that our field has of the various behaviors that individuals engage in with both same-sex and cross-sex friends. Due to this, FMBs appear to best capture the NEBs that individuals across sexual orientations engage in within both same-sex and cross-sex friends. As a result, the PANEBS was developed with FMBs in close consideration.

This project consists of three different studies, including the Pilot Study, Confirmation Study, and Test-Retest Study. The Method and Results sections of the Pilot Study are found in Chapter III, as are the Method sections of the Confirmation and Test-Retest studies. The results of the Confirmation and Test-Retest studies can be found in Chapter IV.

Pilot Study

The purpose of the pilot study was to provide initial information about the factor structure via exploratory factor analysis (EFA), scale reliability and validity, and item strength of the newly developed scales. According to Worthington and Whitaker (2006), an EFA should be conducted before conducting a CFA. The hypotheses for the pilot study were as follows:

Hypothesis one. It was predicted that the scale undergoing development (i.e., PANEBS) would consist of two related factors, one measuring approval with cross-sex (CS) friends and the other with same-sex (SS) friends. The factor structure of the PANEBS was predicted to have the same factor structure across norming groups, which are based on the sexual orientation of participants' partners. This was conducted via an EFA.

Hypothesis two. It was hypothesized that the PANEBS would demonstrate a strong internal consistency, as evidenced by an alpha coefficient of .80 or higher (DeVellis, 2011).

Hypothesis three. The Dependability Subscale of the Trust Scale (TS-D; Rempel & Holmes, 1986) is a measure of the degree to which individuals find their partners dependable and trustworthy. It was predicted that individuals endorsing more approval of NEBs would report higher levels of trust for their partners. This measure served as a measure of convergent validity. Specifically, it was predicted that there would be a moderate to strong, positive correlation with $r \geq .30$.

Hypothesis four. The Nonexclusive Friendship Expectations subscale of the Relationship Issues Scale (RIS-NFE; Boekhout et al., 2003), is a measure used to determine individuals' expectations about nonexclusive friendships. It was predicted that individuals endorsing more approval of NEBs would report higher expectations for nonexclusivity. This measure served as another measure of convergent validity. Specifically, it was predicted that there would be a moderate to strong, positive correlation with $r \geq .30$.

Hypothesis five. The Emotional Jealousy subscale of the Multidimensional Jealousy Scale (MJS-E; Pfeiffer & Wong, 1989) is a measure of the degree to which individuals experience emotional jealousy in their romantic relationships. It was predicted that individuals endorsing more emotional jealousy would report less approval of NEBs. It was specifically predicted that there would be a moderate to strong negative correlation with $r \geq .30$, and the MJS-E would serve as a measure of convergent validity.

Hypothesis six. A scale used to measure general optimism, the Life Orientation Test – Revised (LOT-R; Scheier et al., 1994), was utilized as a measure of discriminant validity. It was predicted that there would be no significant correlations between the PANEBS and the LOT-R, $-.20 < r < .20$.

Hypothesis seven. Finally, it was hypothesized that (a) individuals with heterosexual partners and partners would be significantly more approving of NEBs with same-sex friends, (b) individuals with gay and lesbian partners would be significantly more approving of NEBs with cross-sex friends, and (c) individuals with bisexual partners would not significantly differ in their levels of approval for their partners' engagements in NEBS with same-sex and cross-sex friends.

Confirmation Study

The Confirmation Study built upon the obtained preliminary evidence for the PANEBS' validity and factor structure obtained in the pilot study. More specifically, the evidence for the convergent and discriminant validity of the scales were replicated. In addition, the factor structure of PANEBS, initially established in the pilot study via EFA was reevaluated through the use of CFA. On the basis of the pilot study's findings, the following hypothese were made for the Confirmation Study:

Hypothesis one. In terms of the factor structure, it was hypothesized that the PANEBS would consist of two related factors across all three norming groups: 1) attitudes about partners' engagement in NEBs with same-sex (SS) friends; and 2) attitudes about partners' engagement in NEBs with cross-sex (CS) friends.

Hypothesis two. It was hypothesized that the scales undergoing evaluation will demonstrate a strong internal consistency, as evidenced by an alpha coefficient of .80 or higher (DeVellis, 2011).

Hypothesis three. Trust, as measured by the TS-D (Rempel & Holmes, 1986), was utilized as a measure of convergent validity. As in the pilot study, it was predicted that there would be a moderate, positive correlation with $r \geq .30$.

Hypothesis four. As in the pilot study, the RIS-NFE (Boekhout et al., 2003) served as a measure of convergent validity. It was predicted that there would be a moderate, positive correlation with $r \geq .30$.

Hypothesis five. Similar to the pilot study, the MJS-E (Pfeiffer & Wong, 1989) served as a measure of convergent validity. It was predicted that individuals endorsing more emotional jealousy would report less approval of NEBs. Specifically, there would be a moderate, negative correlation with $r \geq .30$.

Hypothesis six. General optimism, as measured by the LOT-R (Scheier et al., 1994), was utilized to measure discriminant validity. Similar to the pilot study, it was predicted that there would be no significant correlations between the scales undergoing evaluation and the LOT-R, $-.20 < r < .20$.

Hypothesis seven. Social desirability, as measured by the MC-C (Reynolds, 1982), was utilized as a measure of discriminant validity. It was predicted that there would be no significant correlations between the scales undergoing evaluation and the MC-C, $-.20 < r < .20$.

Hypothesis eight. In terms of norming group comparisons, it was hypothesized that individuals with heterosexual and bisexual partners would be significantly more

approving of NEBs with same-sex friends and individuals with lesbian and gay partners would be significantly more approving of NEBs with cross-sex friends.

Test-Retest Study

The Test-Retest Study focused on analyses to determine how stable the PANEBS is in measuring attitudes about parterns' engagement in NEBs across time. The following hypothsis was made for the Test-Retest Study:

Hypothesis one. It was hyptothesized that the PANEBS would have strong test-retest reliability across norming groups, as evidenced by a Pearson's *r* correlation greater than .80 across Time 1 and Time 2.

CHAPTER III

PILOT STUDY METHOD AND RESULTS, CONFIRMATION STUDY METHOD, AND TEST-RETEST STUDY METHOD

DeVellis (2011) scale construction procedures were followed to create the pilot measure, including determining clearly what is to be measured, generating an item pool, determining the format for measurement, having item pool reviewed by experts, considering the inclusion of validation items, administering items to a development sample, evaluating the items, and optimizing scale length. The first section of this chapter describes the methods used in the pilot process, as well as results of the pilot study.

Pilot Study Methods

Pilot Participants

Respondent recruitment. The PANEBS was distributed online through Amazon Mechanical Turk (AMT). Participants were workers recruited via AMT website. This site allows researchers to post their research surveys for AMT workers to view and complete for compensation. Workers on AMT consist of individuals who sign up on the AMT website to complete online tasks, or Human Intelligence Tasks (HITs), for compensation. Anyone with access to the Internet is eligible to become an AMT worker, regardless of his or her geographical location. Three HITs were created to recruit the sample's participants. One HIT advertised for individuals with bisexual romantic

partners, the second advertised for individuals with heterosexual partners, and the third advertised for individuals with gay and lesbian partners.

Pilot demographics. Participants included 592 individuals of 18 years of age or older who identified as currently being in a romantic relationship. These individuals made up the three norming groups based on the sexual identity of their partners: heterosexual partner group, gay partner group, and bisexual partner group. The perceived sexual orientation of the participants' partners was chosen to comprise the norming groups because it was theorized that the perceived orientation would provide the most valuable information about the role of sexual orientation in the participants' attitudes about their partners' engagement in NEBs. Of the 592 participants, 214 reported having heterosexual partners. The gay partner norming group consisted of 212 individuals, and the bisexual partner norming group consisted of 166 individuals. See Table 1 for participant demographic information.

Table 1

Pilot Sample Demographic Information

	Heterosexual Partner Group		Bisexual Partner Group		Lesbian/Gay Partner Group	
Demographic Category	N	%	N	%	N	%
Participant Age						
18-20	20	9.35	19	11.45	24	11.32
21-23	28	13.08	31	18.67	33	15.57
24-29	63	29.44	54	32.53	65	30.66
30-34	40	18.69	31	18.67	38	17.92
35-44	34	15.89	20	12.05	25	11.79
45-54	16	7.47	8	4.82	12	5.66
55-64	10	4.67	3	1.81	5	2.36
65 and over	3	1.40	0	0.0	0	0.0
Total	214	100.0	166	100.0	212	100.0
Participant Gender						
Female	130	60.75	71	42.77	112	52.83
Male	84	39.25	90	54.22	95	44.81
Transgender	0	0.0	4	2.41	5	2.36
Total	214	100.0	166	100.0	212	100.0
Participant Ethnicity						
African American/Black	13	6.1	14	8.43	20	9.43

Table 1 cont.

Demographic Category	Heterosexual Partner Group N	Heterosexual Partner Group %	Bisexual Partner Group N	Bisexual Partner Group %	Lesbian/Gay Partner Group N	Lesbian/Gay Partner Group %
Asian American/Asian/ Pacific Islander	17	7.94	15	9.04	21	9.91
Caucasian American/White	162	75.70	114	68.67	149	70.28
Foreign National	2	0.93	3	1.81	0	0.0
Hispanic/Latino American	11	5.14	10	6.02	11	5.19
Native American/American Indian	3	1.40	5	3.01	7	3.30
Mixed Race/Bi-Racial	5	2.33	5	3.01	3	1.42
Total	214	100.0	166	100.0	212	100.0
Participant Sexual Orientation						
Heterosexual	198	92.52	41	24.70	1	0.47
Gay/Lesbian	0	0.0	17	10.24	178	83.96
Bisexual	16	7.48	108	65.06	31	14.62
Total	214	100.0	166	100.0	212	100.0
Relationship Status						
Dating, but no commitment	2	0.93	32	19.28	29	13.68
Committed relationship, but no engagement, marriage, domestic partnership, or commitment ceremony	95	44.39	92	55.42	140	66.04
Engaged	16	7.48	16	9.64	16	7.55
Married, domestic partnership, or commitment ceremony	101	47.20	26	15.66	26	12.26
Total	214	100.0	166	100.0	212	100.0
Length of Relationship						
Less than 6 months	15	7.01	16	9.64	15	7.08
6 months – 1 year	62	28.97	49	29.52	62	39.25
1 year – 2 years	58	27.10	34	20.48	58	27.36
2 years – 5 years	45	21.03	41	24.70	45	21.23
5 years – 10 years	19	8.88	17	10.24	19	8.96
10 years – 20 years	13	6.07	7	4.21	13	6.13
Greater than 20 years	0	0.0	2	1.20	0	0.0
Total	214	100.0	166	100.0	212	100.0
Participant Highest Level of Education						
Less than High School	0	0.0	3	1.81	1	0.47
High School/GED	70	32.71	35	21.08	37	17.45
2-year College Degree	37	17.29	58	34.94	75	35.38
4-year College Degree	76	35.51	31	18.67	31	14.62
Masters Degree	28	13.08	29	17.47	58	27.36
Doctoral/Professional Degree	3	1.40	9	5.42	10	4.72
Total	214	100.0	166	100.0	212	100.0
Partner Gender						
Female	132	61.68	100	60.24	114	53.77
Male	82	38.32	54	32.53	97	45.76
Transgender	0	0.0	7	4.22	1	0.47
Other	0	0.0	5	3.01	0	0.0
Total	214	100.0	166	100.0	212	100.0
Cohabitation with Partner						
Cohabitating		71.96	114	68.67	123	58.02
Not Cohabitating	60	28.04	52	31.33	89	41.98
Total	214	100.0	166	100.0	212	100.0

Pilot Measures

In addition to completing the Partner's Approval of Nonsexual Extradyadic Behaviors Scale (PANEBS) developed in the present study, participants also completed a demographics questionnaire, the Life Orientation Test – Revised (LOT-R; Scheier et al., 1994), the Relationship Issues Scale – Nonexclusive Friendship Expectations Subscale (RIS-NFE; Boekhout et al., 2003), Multidimensional Jealousy Scale – Emotional Subscale (MJS-E; Pfeiffer & Wong, 1989), and the Trust Scale - Dependency Subscale (TS-D; Rempel & Holmes, 1986).

Demographics questionnaire. Participants were asked to provide demographic information relevant to themselves, their partners, and their romantic relationships. Items on the demographic questionnaire included the following: age, ethnicity, gender, sexual orientation, income level, relationship status, relationship length, partner's gender, partner's sexual orientation, and cohabitation status.

Interpersonal trust in romantic relationships. The level of interpersonal trust present in participants' romantic relationships was measured by Rempel and Holmes' (1986) shortened version of the Trust Scale (TS). The TS has three subscales: Predictability (TS-P), Dependability (TS-D), and Faith (TS-F). The TS-D subscale was the only subscale of the TS utilized in the present study because the subscale items are related to fidelity. The other subscales conceptualize trust differently than would be appropriate for this research with intimate partners. The TS-D was used to provide information about the convergent validity of the PANEBS. The TS-D's five items are most relevant to the present study's convergent analysis, due to their concern with fidelity. Items on this subscale concentrate on the dispositional qualities of the partner,

which warrant confidence in the face of risk and potential hurt (Rempel & Holmes, 1986). Examples items include "My partner has proven to be trustworthy and I am willing to let him/her engage in activities which other partners find too threatening", "I am certain that my partner would not cheat on me, even if the opportunity arose and there was no chance that he/she would get caught", and "Even when my partner makes excuses which sound rather unlikely, I am confident that he/she is telling the truth". Participants rate their agreement with items on a 7-point likert scale ranging from 1 *(strongly agree)* to 7 *(strongly disagree).* High scores indicate high trust for the partner, while low scores indicate low trust. Construct validity is strong, as evidenced by the strong relationship between the TS-D and a measure of beliefs about partner's motivations. The reliability of the subscale was .72 (Rempel & Holmes, 1986). The alpha in the pilot study for the TS-D was .79.

Emotional jealousy. The Emotional Jealousy subscale of the Multidimensional Jealousy Scale (MJS-E; Pfeiffer & Wong, 1989) was utilized in the present study to provide information about the convergent validity of the PANEBS. The MJS-E contains eight items and asks participants to respond to them with their current partner in mind. The MJS-E subscale asks participants to consider their emotional reactions to various situations, such as "My partner shows a great deal of interest or excitement in talking to someone of the cross/same sex", "My partner hugs and kisses someone of the cross sex", and "My partner works very closely with a member of the cross/same sex (in school or office)." The response format ranged from 1 *(very pleased)* to 7 *(very upset)*. Items for each subscale are summed, with higher scores indicating higher levels of emotional jealousy. Construct validity was established, in that the MJS-E was negatively related to

happiness. Pfeiffer and Wong (1989) found that the MJS-E had a coefficient alpha of .81. In the pilot study, Cronbach's alpha for the subscale was .86.

Nonexclusive friendship expectations. A subscale of Boekhout et al.'s (2003) Relationship Issues Scale (RIS), named the Nonexclusive Friendship Expectations subscale (RIS-NFE), was utilized in the present study to measure individuals' expectations about nonexclusive friendships. The purpose of the inclusion of this subscale was to further determine convergent validity for the PANEBS. The subscale measures individuals' expectations of the friendships that they and their partners can have outside of the primary romantic relationship. The subscale has five items in a 5-point likert format ranging from 1 *(strongly agree)* to 5 *(strongly disagree)*. Examples of items include "I expect to have same-sex friendships while in my primary relationship", "I expect my partner to have cross-sex friendships", and "I get satisfaction from interacting with many people." Construct validity of the RIS-NFE was established by examining the relationships between the NFE subscale and permissive sexuality and idealistic sexuality. The RIS-NFE has a standardized alpha of .84 (Boekhout et al., 2003). In the pilot study, Cronbach's alpha for the subscale was .83.

Optimism. The Life Orientation Test – Revised (LOT-R; Scheier et al., 1994). The LOT-R was used in the present study as a measure of discriminant validity. It is a 10-item scale, of which four items are filler items and six measure an individual's level of general optimism. Examples of items include "In uncertain times, I usually expect the best", "If something can go wrong for me it will", and "Overall, I expect more good things to happen to me than bad." Construct validity of the LOT-R was established by examining the relationships between dispositional optimism and psychological well-

being, sense of mastery, and sense of coherence (Chiesi, Galli, Primi, Innocenti Borgi, & Bonacchi, 2013). Scheier et al. (1994) reported an alpha reliability coefficient of .78 and test–retest reliability coefficients ranging from .56 to .79 from four to 28 months. In the pilot study, Cronbach's alpha for the LOT-R was .79.

Pilot Procedures

Survey development procedure. Institutional Review Board (IRB) approval from the University of North Dakota (UND) was attained for this study and the creation of a survey for recruiting participants. An online survey was created that included the informed consent, questionnaires, and demographic questions. The informed consent appeared prior to the survey measures. Participants were required to agree to the contents of the informed consent prior to proceeding with the survey. Demographics questions constituted the first two pages of the survey. The first page asked participants to answer demographic questions about themselves, while the second part asked participants to answer demographics questions about their romantic partners and relationships. The PANEBS, TS-D, MJS-E, LOT-R, and RIS-NFE followed, each on a separate page. The last page of the survey provided the participants with a completion code prior to submitting their surveys. All questions required a response prior to submitting the survey to ensure that participants were compensated for work that was complete.

Amazon Mechanical Turk procedures. In the pilot study, a HIT was created on AMT that contained a brief description of the study and a link to the online informed consent form and survey. The brief description included the title of the research, goal of the research, directions for completing the HIT, length of the survey, and requirements to participate in the study. The requirement was that all participants had to be in a romantic

relationship of at least six months to participate. Further, workers were able to view the HIT and complete it only if they lived in the United States and had an approval rating of 75% or higher. This approval rating ensured that participation was only offered to workers who had satisfactorily completed 75% or more of the HITs they have participated in throughout their history as an AMT worker.

Workers had the option to view the HITs description, described above, prior to participating. This allowed them the opportunity to opt out of the study after viewing the details of the research. Further, participants could stop the survey at any time during their participation. After the survey was completed, a completion code was presented to the participant. In order for the participant to receive compensation, he or she had to enter the completion code on the AMT website. The AMT website provides an administrative page that reveals submission statistics and completion codes. Once a completion code had been entered, the researcher reviewed and approved the code, thus automatically sending compensation to the participant's account. This method ensured that identifying information connected to their worker ID was not connected to their responses.

Participants were compensated US $0.50 each for their participation. This level of compensation was chosen in an attempt to be close to the median pay rate for HITs requiring similar time commitments available at the time of data collection. The survey had an average time commitment of nine minutes. The survey remained posted on AMT until the requested number of workers completed the survey, which took approximately three weeks. Of those who started taking it, 88% submitted a completed the survey.

A benefit of this sampling method is the ability to draw participants from diverse geographic locations. Online sampling has been shown to be an acceptable way to collect externally valid responses from populations that are small and otherwise potentially difficult to contact for participation (Gosling, Vazire, Srivastava, & John, 2004). The intended population was adults (18 and older) in the United States who have partners who identify as lesbian and gay, bisexual, and heterosexual.

The data was examined for patterns of responses to identify cases that were removed from analysis because of instances where participants gave the same response for all of the items across scales, which could indicate lack of cognitive engagement while taking the survey (Krosnick, 1991). Further, those who had duplicate IP addresses and those who took less than four minutes to complete the survey were omitted from the study because they were determined to have been completed without genuine effort or engagement. Missing data was not an issue, as survey items were all forced choice responses, resulting in all completed surveys having answers for all items.

Pilot Study Results

The purpose of the pilot study was to develop and test the initial psychometric properties of a scale that measures individuals' approval of their partners' engagement in nonsexual extradyadic behaviors (NEBs) with cross-sex (CS) and same-sex (SS) friends. After development of scale items, experts subsequently reviewed the items of the PANEBS to establish content validity. Further, various analyses were conducted to evaluate the psychometric performance of the scale items, as well as the factor structure of the scale. Scale reliability was also assessed, in addition to construct validity via convergent, divergent, and discriminant validity analyses. Scales utilized in the pilot

study to assess construct validity were the Life Orientation Test – Revised (LOT-R; Scheier et al., 1994), the Relationship Issues Scale – Nonexclusive Friendship Expectations Subscale (RIS-NFE; Boekhout et al., 2003), Multidimensional Jealousy Scale – Emotional Subscale (MJS-E; Pfeiffer & Wong, 1989), and the Trust Scale - Dependency Subscale (TS-D; Rempel & Holmes, 1986).

Scale Construction

The Partner's Approval of Nonsexual Extradyadic Behaviors Scale was initially a 36-item scale developed to measure individuals' level of approval of their partners engaging in NEBs with same-sex and cross-sex friends. Kujawa (2012) and Kujawa, Stufflebeam, Martin, Hagan, and Wettersten (2012) developed the PANEBS scales utilizing DeVellis' (2011) eight steps of scale development.

The first step of scale development is to clearly determine the construct to be measured. According to DeVellis (2011), having a well-formulated definition of the construct is paramount. The construct measured by the PANEBS scale was defined as an attitude one holds about the acceptableness of one's partner engaging in nonsexual behaviors with others outside of their primary intimate relationships (i.e., NEBs). Because the construct definition is specific, the PANEBS scale would likely be utilized to answer research questions that are in line with the scale's purpose (DeVellis, 2011).

The second step of scale construction is the development of potential scale items. Kujawa (2012) adapted an unnamed friendship maintenance behaviors scale created by Guerrero and Chavez (2007) to specifically measure individuals' attitudes about the acceptability of their partners' engaging in NEBs. The unnamed FMB scale was chosen for adaptation in developing the PANEBS because it contained the most comprehensive

list of behaviors that individuals commonly engage in with individuals outside of the primary romantic relationship. Further, items were characteristic of both same-sex and cross-sex friendships. Since one intention of the scale is to measure differences between individuals' attitudes based on the sex of their partners' friends, the generalization of items to both same-sex and cross-sex friendships was paramount.

Because the present study was interested in exploring individuals' attitudes about their partners' engagement in NEBs, not participants' attitudes about their own engagement, the instructions of the instrument were modified with the scale author's permission (Guerrero, L., personal communication, January, 2012). The instructions of the instrument were modified in such a way that the participants' were instructed to answer the questions about their partners instead of about themselves. Specifically, the new directions were changed to read, "Please rate the degree to which you approve/disapprove of your partner engaging in each of the following behaviors." Further, instead of the original items, which were designed to measure the rate of participants' own engagements in FMBs (e.g., "I call my friend on a regular basis"), items were reworded to measure participants' attitudes about their partners' engagements in FMBs (e.g., "Calling their friend on a regular basis").

Four graduate students in the Counseling Psychology Ph.D. program at the University of North Dakota worked as a team to decipher which items from the unnamed FMBs would be retained and omitted for consideration in the PANEBS. Based on consensus among team members, subscales of the unnamed FMB scale that were omitted from the PANEBS were Relationship Talk, Social Networking, Anti-social Behavior, Talk About Outside Romance, and Avoidance of Negativity. Two of the subscales

omitted from the present study (i.e., Anti-social Behavior $\alpha = .41$, and Avoidance of Negativity $\alpha = .49$) did not meet conventional levels of reliability in an evaluation study conducted by Weger and Emmett (2009). Further, the subscale Talk About Outside Romance were not chosen for the PANEBS because it had the lowest reliability of all the subscales in Guerrero and Chavez's (2005) study. The subscales Relationship Talk and Social Networking were not included in the PANEBS because the items consisted of behaviors that partners' would likely find confusing and have a difficult time reporting on (e.g., "Talking with their friend about the quality of the friendship" and "Showing that they are willing to do things with their friend's circle of friends").

All other items from the unnamed FMB scale were retained and reworded as previously described. The team of graduate students noted some redundancy in items, though decided to retain redundant items in order to later decipher which of the items perform well during data analyses. According to DeVellis (2011), item redundancy is acceptable and even preferable in the early stages of scale development, in that it allows scale developers to determine which of the redundant items is superior and should be retained for the final version of the scale.

After modification of the unnamed FMB scale, the PANEBS consisted of 18 items worded to measure attitudes about one's partner engaging in various behaviors with a same-sex friend and another 18 items to measure attitudes about one's partner engaging in the same behaviors with a cross-sex friend, for a total of 36 items.

Consistent with DeVellis' (2012) recommended third step of scale construction, the format for measurement was determined. Consistent with the unnamed FMB scale that was adapted in the creation of the PANEBS scale, the respondents responded to the

items using a seven-point likert scale, delineating their level of approval of their partners engaging in each of the NEBs represented in the items (1 = Strongly Disapprove; 2 = Disapprove; 3 = Somewhat Disagree; 4 = Neutral; 4 = Somewhat Approve; 5 = Approve; 6 = Strongly Approve). According to DeVellis (2011), attitudes, opinions, and beliefs are best captured utilizing a likert response format. There are no reversed scored items on the PANEBS scale. Higher total scores on the PANEBS scale are more indicative of an overall approving attitude of partner engagement in NEBs.

The fourth step of the PANEBS' construction was to have the scale evaluated by experts (DeVellis, 2011). Individuals who are knowledgeable of romantic relationship dynamics and extradyadic behaviors were invited to rate the 36 initial items of the PANEBS scale. Specifically, three academic and clinical experts in the field were asked to provide feedback on the definition of the construct, as well as the relevance and clarity of each individual item. The experts first reviewed the pool of items for inclusive language, clarity, and phrasing and then rated the essentialness of each item. They were also invited to comment on each individual item and the entire scale in general. According to DeVellis (2011), this process establishes content and construct validity. The feedback from the expert reviewers serves to influence the adjustment and exclusion of items that are not clear or relevant.

The first expert reviewer was Joseph Miller, Ph.D., an associate professor and director of clinical training for the clinical psychology Ph.D. program at the University of North Dakota. He received a Ph.D. in clinical psychology from the University of South Dakota. He is knowledgeable of couples work and has experience in scale development. The second reviewer was Brock Boekhout, Ph.D., a previous professor of psychology at

Lamar University in Texas and current clinician in Pittsburg, Kansas. Dr. Boekhout has conducted research on extradyadic behaviors and developed a scale that measures different aspects of extradyadic behaviors (e.g., RIS; Boekhout, et a., 2003). The third reviewer was Darcie Sell, Ph.D., an assistant professor of psychology at Concordia College in Moorhead, MN. Broadly, she studies young adults' romantic relationships.

The fifth step of scale construction was to consider the inclusion of validation items (DeVellis, 2011) to determine convergent and discriminant validity. Measures of emotional jealousy, trust, relationship nonexclusivity expectations, and optimism were included in the pilot study to establish construct validity.

The sixth step was to administer the scale to a development sample (DeVellis, 2011), which was done with 592 individuals with approximately 200 individuals in each of the three norming groups, which meets the 200 participant criteria recommended by DeVellis (2011).

The seventh step in scale construction was item evaluation and factor analysis, which informed the eighth and final step of optimizing the scale length (DeVellis, 2011). Optimizing the scale length involved eliminating items that perform poorly based on the item-correlation information obtained from the seventh step. More detail about the seventh and eight steps are offered later in this chapter.

Preliminary Analyses

Sampling adequacy. It is recommended that the sample's correlation matrix be assessed prior to a factor analysis of sample data in order to prevent the supposition of a factor structure, which may be based largely on sampling error (Knapp & Swoyer, 1967). The Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) assesses whether the

partial correlations among variables are small. Bartlett's test of sphericity tests whether the correlation matrix is an identity matrix, which would indicate that the factor model is inappropriate (Dziuban & Shirkey, 1974). The KMO was measured at .919 for the gay/lesbian norming group, .934 for the heterosexual partner group, and .936 for the bisexual partner norming group, which surpasses the minimum value of .50 suggested for proceeding with factor analysis (Kaiser, 1974). The Bartlett's Test of Sphericity (Bartlett, 1954) revealed a χ^2 of 4690.685 (*df = 325, p>.000*) for the gay/lesbian partner norming group, a χ^2 of 8489.569 (*df = 325, p>.000*) for the heterosexual partner group, and a χ^2 of 5677.487 (*df = 325, p>.000*) for the bisexual partner norming group, also providing evidence for sampling adequacy across norming groups and the appropriateness of proceeding with factor analysis (Norman & Streiner, 2007).

Data distribution. An assessment of the normality of data is a prerequisite for conducting factor analysis, since normal data is an underlying assumption in parametric testing. To begin assessing the distribution of the data, the means and standard deviations of the item responses were examined. This determines the variability of the responses, as well as the average response to each scale item. Analysis demonstrated individual item means falling between 1.8 and 6.1 for items on the PANEBS across norming groups, with an average item mean of 5.0 within the gay/lesbian partner norming group, 4.9 within the heterosexual partner group, and 5.2 within the bisexual partner norming groups. These means indicate that the average response was relatively close to the center of the 7-point likert range, though slightly positively skewed.

Data distribution was further assessed via the Kilmogorov-Smirnov (KS) test for normality. It is a paired-sample nonparametric statistical test which provides a means of

testing whether a set of observations are from a specified continuous distribution (Massey, 1951). The KS statistic was significant for the PANEBS across all three norming groups. Specifically, the bisexual partner group revealed a $D(185) = .953$, $p < .05$, the gay/lesbian partner group a $D(159) = .973$, $p < .05$, and the heterosexual group a $D(237) = .975$, $p < .05$. Therefore, the distributions were determined to be non-normal in the Confirmation Study sample (Massey, 1951). The standard deviations ranged from 1.1 to 2.0 across norming groups, indicating some variability. According to DeVellis (2011), means near the center of the response range and considerable variability are desirable. In sum, the preliminary analyses resulted in initial evidence for the appropriateness of conducting EFA with the PANEBS, though suggested the need for a statistic that does not assume normality when conducting the CFA in the Confirmation Study.

Item Analysis

According to DeVellis (2011), item analysis is a component of the seventh step of scale development, and the first step of conducting item analysis is to investigate the intercorrelation between the items to determine whether or not individual items are representative of the entire scale. For the heterosexual partner norming group, the item-total correlations ranged from .27 to .79 for PANEBS, with the lowest item-total correlations being the items that referred to flirting. In the gay norming group, item-total correlations ranged from .19 to .81. In the bisexual norming group, item-total correlations ranged from .35 to .83. Accoring to DeVellis (2011), items with high values for these item-total correlations are more desirable than items with low values. It is noteworth to mention that the lowest item-total correlation was the flirting items, across all norming groups.

Exploratory Factor Analysis

Guidelines for conducting factor analysis. The purpose of the EFA is to reveal how many latent variables a set of items is comprised of (DeVellis, 2011). The first step is the extraction of factors, which is commonly conducted with Principal Component Analysis (PCA) (Abdi & Williams, 2010). The extraction process allows scale developers to determine whether or not there is one broad category that encompasses all items, or several categories (i.e., factors). Principal component analysis determines the correlation of each item with each factor and the eigenvalue of each factor. The eigenvalue represents the amount of information encapsulated within each factor (DeVellis, 2011).

Next, it is necessary to rotate the factors before trying to interpret them. Rotation is a procedure in which the factors are rotated to achieve simple structure (Bryant & Yarnold, 1995). According to Vogt (1993), the method utilized to rotate the factors depends on whether the factors are believed to be related (oblique) or unrelated (orthogonal). Gorsuch (1983) recommended form of rotation for oblique rotation is Promax and Varimax for orthogonal rotation, though Kim and Mueller (1978) concluded that Direct Oblimin is the best choice for beginners wishing to conduct oblique rotations. According to Hendrickson and White (1964), Promax is a computationally fast rotation that first rotates items to an orthogonal Varimax solution and then relaxing the orthogonality of the factors to better fit simple structure. Despite the different rotations and beliefs about the relatedness of the factors, the literature indicates that the choice of rotation (i.e., orthogonal or oblique) may not make much difference (Kim & Mueller, 1978). However, examining the factor structure from EFA for the purposes of later utilizing CFA, an oblique rotation is more likely to generalize to CFA and provide a more

realistic representation of how factors are intercorrelated (Brown, 2006). Another component to consider in factor analysis is achieving simple structure and utilizing the rotation that best provides this (Cattell, 1978; Gorsuch, 1983; Kline, 2002). According to Thurston (1947), simple structure consists of the following: each pair of factors having variables with significant loadings on one and near zero loadings on the other; and each pair of factors having only a few complex (i.e., cross-loading) variables. As Gorsuch (1983, p. 205) put it, "If the simple structure is clear, any of the more popular procedures can be expected to lead to the same interpretations." According to Tabachnick and Fidell,

> the best way to decide between orthogonal and oblique rotation is to request oblique rotation with the desired number of factors and look at the correlations among factors…if factor correlations are not driven by the data, the solution remains nearly orthogonal. Look at the factor correlation matrix for correlations around .32 and above. If correlations exceed .32, then there is 10% (or more) overlap in variance among factors, enough variance to warrant oblique rotation unless there are compelling reasons for orthogonal rotation (2007, p. 646).

The final step of factor analysis is to determine the number of factors. This decision is based on the extraction and factor rotation output. With PCA, an eigenvalue exceeding 1.0 for any particular factor indicates that the factor is a variable that is capturing sufficient information about the items, while values under 1.0 indicate factors that should not be retained (Costello & Osborne, 2005; Kaiser, 1960; Tabachnick & Fidell, 2001). However, according to DeVillis (2011), scale developers might also choose not to retain factors with eigenvalues slightly over 1.0, since they do not provide

the condensed information that factor analysis is oriented toward.

Reviewing a scree plot is one way to determine whether to retain eigenvalues that are only slightly above 1.0 (Catell, 1966). This method looks for the sudden drop in factor eigenvalues. In the scree plot, eignevalues are plotted to form an "elbow" shape. According to Catell (1966), factors beneath the elbow should be eliminated and those above retained, though this has been found to be difficult if the elbow is gradual (DeVellis, 2011).

Yet another method in determining factors is to examine how individual items load within a particular factor. It is suggested that a minimum value of .32 constitutes sufficient loading of an item to a factor (Tabachnick & Fidell, 2001). However, for PCA, it is suggested to utilize a minimum loading value of .40 (Clark & Watson, 1995). Items that do not meet this criterion should be considered first for removal since their loadings suggest only a modest correlation with other items (Clark & Watson, 1995). Factors with fewer than three items that load at .40 or higher are generally considered too weak and unstable to be retained. To be retained, a factor must consist of at least 5 factors with loadings of .40 or higher, which would suggest its stability (Clark & Watson, 1995; Hatcher, 1994). Due to the difficulty in determining factors via a single method, it is recommended that a scale developer utilize multiple methods and criteria when determining the number of factors to retain (Gorsuch, 1983; Tinsley & Tinsely, 1987).

Factor structure (hypothesis one). A pilot factor analysis was conducted on the 36-items that make up the PANEBS utilizing the Statistical Package for the Social Sciences (SPSS) version 20.0.0. Utilizing PCA, oblique rotations were conducted first, as suggested by Tabachnick and Fidell (2007). Specifically, the PANEBS underwent

PCA utilizing an oblique Promax rotation, as recommended by (Gorsuch, 1983), as a means of identifying potential variable solutions. The default Kappa value of four was utilized, as it is recommended by its developers, Hendrickson and White (1964), as generally providing optimal solutions. The rotation was forced to generate two factors across each norming group, with one factor theorized to capture items that measure approval of NEBs with cross-sex (CS) friends and the second with same-sex (SS) friends.

The factor analysis of the PANEBS yielded two main factors across norming groups, as evidenced by the scree plots revealing an elbow indicating two main factors. The first factor in the heterosexual partner norming group had an eigenvalue of 16.64, accounting for 46% of the variance, and the second factor had an eigenvalue of 8.8, accounting for 24% of the variance. Similarly, the factor analysis of the gay/lesbian partner norming group yielded two main factors. Factor 1 had an eigenvalue of 19.30, accounting for 53.6% of the variance. Factor 2 had an eigenvalue of 4.19, accounting for 12% of the variance. The factor analysis of the bisexual partner norming group also yielded two factors. The first factor had an eigenvalue of 20.89, accounting for 58% of the variance, and the second factor had an eigenvalue of 4.78, accounting for 13.28% of the variance.

After analyzing the items that loaded onto each factor within the pattern matrix, it was determined that one factor included the CS items and the other consisted of the SS items. The the CS and SS items factors correlated at .329 within the heterosexual partner norming group, .622 within the gay/lesbian parnter norming group, and .599 within the bisexual partner norming group. This indicates a considerable range of relatedness between the CS and SS items across norming groups. According to Tabachnick and

Fidell (2007), a correlation between factors that excedes .32 warrants oblique rotation, which indicates the appropriateness of concluding a relation between the CS and SS items within the PANEBS. Table 2 provides detail of the initial item level results of this analysis from the pattern matrix. To ensure the simplest structure, Varimax orthogonal rotations, as well as Direct Oblimin oblique rotations, were conducted with the PANEBS items across norming groups; however, they did not provide a simpler structure than was provided by the Promax oblique rotation.

As originally hypothesized the PANEBS yielded two main related factors across all three norming groups. One factor consisted of the CS-worded items and another of the SS-worded items. Therefore, the PANEBS scale appears to have a CS subscale (PANEBS-CS) and SS subscale (PANEBS-SS) (see Table 2).

Table 2

Original PANEBS Principle Component Analysis with Promax Rotation

	Gay/Lesbian Partner Group (N = 212)		Bisexual Partner Group (N = 166)		Heterosexual Partner Group (N = 214)	
	F1 (SS)	F2 (CS)	F1 (SS)	F2 (CS)	F1 (SS)	F2 (CS)
PANEBS-SS Items						
Going places with a same-sex friend on a regular basis	.140	.750	.949	-.102	.854	-.040
Calling a same-sex friend on a regular basis	.046	.793	.929	-.097	.909	-.084
Visiting a same-sex friend's home on a regular basis	-.006	.832	.896	-.047	.887	-.099
Initiating phone calls with a same-sex friend	-.017	.873	.914	-.057	.941	-.104
Acting cheerful and positive when with a same-sex friend	.106	.795	.955	-.096	.889	.035
Trying hard to listen to a same-sex friend's problems	.169	.766	.914	-.067	.931	-.014
Trying to be supportive and caring of a same-sex friend	.084	.787	.900	-.083	.910	-.009
Comforting a same-sex friend in times of trouble	.094	.759	.943	-.083	.898	.028
Appearing cheerful and optimistic when with a same-sex friend	.032	.811	.925	-.036	.884	.072
Giving a same-sex friend advice	.179	.667	.926	-.086	.897	-.012
Letting a same-sex friend know that they are available to help with tasks/chores	-.043	.845	.731	.147	.842	.077
Helping a same-sex friend solve problems	.110	.742	.915	-.053	.903	-.028
Helping a same-sex friend accomplish tasks and get things done	.095	.784	.866	.039	.868	.009

Table 2 cont.

	Gay/Lesbian Partner Group (N = 212)		Bisexual Partner Group (N = 166)		Heterosexual Partner Group (N = 214)	
	F1 (SS)	F2 (CS)	F1 (SS)	F2 (CS)	F1 (SS)	F2 (CS)
Teasing a same-sex friend good-naturedly	.014	.821	.713	.172	.819	.043
Sharing 'inside jokes' with a same-sex friend	-.029	.790	.655	.142	.840	-.002
Joking around a lot with a same-sex friend	-.101	.883	.834	.045	.826	.022
Frequently 'gossiping' with a same-sex friend	-.095	.783	.629	.148	.551	.052
Acting flirtatious with a same-sex friend	-.377	.583	.102	.362	.155	.217
PANEBS-CS Items						
Going places with an opposite-sex friend on a regular basis	.906	-.082	.104	.757	-.093	.842
Calling an opposite-sex friend on a regular basis	.914	-.087	-.030	.862	-.134	.875
Visiting an opposite-sex friend's home on a regular basis	.888	-.049	-.134	.901	-.223	.854
Initiating phone calls with an opposite-sex friend	.927	-.046	.050	.855	-.059	.852
Acting cheerful and positive when with an opposite-sex friend	.846	.024	.264	.686	.138	.811
Trying hard to listen to an opposite-sex friend's problems	.777	.074	.254	.690	.092	.857
Trying to be supportive and caring of an opposite-sex friend	.837	.020	.373	.568	.128	.833
Comforting an opposite- friend in times of trouble	.863	-.002	.371	.590	.061	.848
Appearing cheerful and optimistic when with an opposite-friend	.831	.049	.299	.630	.135	.819
Giving an opposite-sex friend advice	.831	-.006	.409	.524	.215	.734
Letting an opposite-sex friend know that they are available to help with tasks/chores	.695	.081	-.019	.885	-.038	.871
Helping an opposite-sex friend solve problems	.835	-.029	.318	.602	.127	.823
Helping an opposite-sex friend accomplish tasks and get things done	.909	-.069	.176	.728	.034	.883
Teasing an opposite-sex friend good-naturedly	.749	.065	-.011	.885	.091	.796
Sharing 'inside jokes' with an opposite-sex friend	.686	.126	-.235	.991	-.070	.870
Joking around a lot with an opposite-sex friend	.797	-.006	-.017	.908	.007	.857
'Gossiping' with an opposite-sex friend	.572	.036	-.145	.907	-.081	.768
Acting flirtatious with an opposite-sex friend	.194	.277	-.456	.864	-.344	.580

Reliability Analyses

Internal consistency (hypothesis two). It was hypothesized that the PANEBS would demonstrate strong internal consistency, as evidenced by a Cronbach's alpha coefficient of .80 or higher. Cronbach's alpha coefficients were calculated for the full PANEBS scale, as well as both of the subscales (i.e., PANEBS-SS and PANEBS-CS), across all three norming groups. In regards to the heterosexual partner norming group,

Cronbach's alpha was .96 for the full PANEBS, with alphas for the PANEBS-CS and PANEBS-SS subscales both equalling .97 and .97. Cronbach's alpha for the gay/lesbian partner norming group was .97 for the PANEBS, with alphas for the the PANEBS-SS and PANEBS-CS being .96 and .97, respectively. In regards to the bisexual partner norming group, Cronbach's alpha for the PANEBS was .97. In terms of subscales, alpha was .97 for both the PANEBS-SS and PANEBS-CS subscales. The reliability analyses indicate that the PANEBS has very high internal consistency across norming groups (DeVellis, 2011).

Validity Analyses

Content validity. Content validity for the PANEBS was established through an expert review, in which three previously described experts in romantic relationships provided ratings on the items of the scale. The experts utilized in this review had 75% agreement on the clarity and essentialness of items.

Construct validity. To test the hypotheses about convergent, divergent, and discriminant validity of the PANEBS, several Pearson's *r* correlations were conducted across measures. Evidence for convergent and discriminant validity was partially established, in that the PANEBS was moderately correlated with jealousy, relationship expectations, and trust, and it was weakly correlated with optimism.

Convergent validity with trust (hypothesis three). It was hypothesized that the RIS-NFE would have a moderate to strong positive correlation with the PANEBS scale with $r \geq .30$. This hypothesis was partially substantiated, in that there were moderate correlations between the TS-D and PANEBS in two of the three norming groups. Specifically, in the heterosexual partner norming group, the TS-D correlated with the

PANEBS at .38. In the gay/lesbian partner norming group, the TS-D correlated with the PANEBS at .47. Lastly, in regards to the bisexual partner norming group, the TS-D correlated with the PANEBS at .23.

Convergent validity with exclusivity expectations (hypothesis four). It was hypothesized that the RIS-NFE would have a moderate to strong positive correlation with the PANEBS scale with $r \geq .30$. As with Hypothesis two, this hypothesis was substantiated across norming groups. In the heterosexual partner norming group, the RIS-NFE correlated with the PANEBS at .40. In the gay/lesbian partner norming group, the RIS-NFE correlated with the PANEBS at .35. Finally, in regards to the bisexual partner norming group, the RIS-NFE correlated with the PANEBS at .38.

Convergent validity with emotional jealousy (hypothesis five). It was hypothesized that the MJS-E would have a moderate to strong negative correlation with the PANEBS scale with $r \geq .30$. This hypothesis was substantiated across norming groups. Specifically, in the heterosexual partner norming group, the MJS-E correlated with the PANEBS at -.38. The MJS-E correlated with the PANEBS at -.32 for the gay/lesbian norming group. In terms of the bisexual partner norming group, the MJS-E correlated with the PANEBS at -.36.

Discriminant validity with optimism (hypothesis six). It was hypothesized that the LOT-R scale of general optimism would not correlate with the PANEBS scales. This hypothesis was supported across norming groups. Optimism was not correlated with the PANEBS, yielding non-significant results utilizing a correlation analysis. Specifically, in the heterosexual partner norming group, the LOT-R correlated with the PANEBS at .29. In the gay/lesbian partner norming group, the LOT-R correlated with the PANEBS at .13.

Lastly, in regards to the bisexual partner norming group, the LOT-R correlated with the PANEBS at .15.

Comparison of the Norming Groups

Norming group comparison (hypothesis seven). Three paired-samples *t*-tests were conducted to test the hypothesis that 1) individuals with heterosexual partners will be significantly more approving of NEBs with same-sex friends; 2) individuals with gay and lesbian partners will be significantly more approving of NEBs with cross-sex friends; 3) and individuals with bisexual partners will not significantly differ in their levels of approval for their partners' engagements in NEBS with same-sex and cross-sex friends.

Heterosexual partner norming group. As expected, those with heterosexual partners were less approving of partner's interaction with cross sex friends. Specifically, there was a significant difference in the scores for PANEBS-CS (M = 73.28, SD = 27.25) and PANEBS-SS (M = 102.90, SD = 16.52) conditions; $t(213) = 16.61$, $p = <.01$.

Lesbian/Gay partner norming group. Those with gay partners were less approving of their partner's interacting with same sex friends. The paired-samples *t*-test demonstrated a significant difference in the scores for PANEBS-CS (M = 95.94, SD = 22.09) and PANEBS-SS (M = 89.49, SD = 21.38) conditions; $t(211) = 5.36$, $p = <.01$.

Bisexual partner norming group. Contrary to what was hypothesized, the group with bisexual partners followed the same pattern as the heterosexual group in that they were less approving of their partners engaging in NEBs with cross-sex friends than same-sex friends. Specifically, there was a significant difference in the scores for PANEBS-CS (M = 90.88, SD = 25.54) and PANEBS-SS (M = 102.70, SD = 21.30) conditions; $t(185) = 4.65$, $p < .01$.

Pilot Study Implications and Conclusions

Through factor analysis, it has been concluded that for each norming group, the PANEBS is measuring two related factors (i.e., PANEBS-CS and PANEBS-SS), each of which will be identified as a subscale of the PANEBS. In addition, the PANEBS generally performed as expected with the validity measures. Further, as predicted, those with gay and lesbian partners were significantly less approving of their partners interacting with same-sex friends, and those with heterosexual partners were significantly less approving of partners interacting with cross-sex friends. The group with bisexual partners followed the same pattern as the heterosexual group, despite our hypothesis that there would be no significant difference between same-sex and cross-sex friends. These results indicate that there are indeed some important differences in individuals' approval of NEBs depending on their partners' sexual orientations and the sex of their partners' friends.

In light of the pilot results, several changes were made to the PANEBS to improve the psychometric quality. Five item pairs (ten items total) were chosen for removal – five from the PANEBS-SS subscale and five from the PANEBS-CS subscale. One of the items was removed due to its poor performance during factor analysis. Specifically, the item "Acting flirtatious with a [same/opposite-sex] friend" did not load highly enough on either factor at times and also cross-loaded on both factors for some norming groups. Further, the item had item-total correlations below the .40. According to DeVellis (2011), this item's failure to correlate with other items above .40 warrants removal of the item. In addition, the items "Initiating a phone call with a [same/opposite-sex] friend" and "Appearing cheerful and optimistic when with a

[same/opposite-sex] friend" were removed due to a suggestion from expert reviewers that they were worded too similarly to other items on the scale and were, therefore, redundant. In addition to the experts' suggestions to delete these specific items, their removal was confirmed because they had lower item-total correlations than their counterparts. Further, two items were reworded to omit the words "Trying to" from the item stem, as suggested by two expert reviewers. The items now read, "Listening to a [same/opposite-sex] friend's problems" and "Being supportive and caring of a [same/opposite-sex] friend."

After removal of the three item pairs, the revised PANEBS consisted of 30 items, with 15 items in each subscale. The Kilmogorov-Smirnov statistic remained significant for the PANEBS across all three norming groups; therefore, the distributions maintained non-normality (Massey, 1951) after the removal of the six items. Item-to-item correlations for the revised scale range from .43 to .84 across norming groups. Cronbach's alpha for the heterosexual partner group is .96, with alphas for both the PANEBS-SS and PANEBS-CS subscales being .97. In terms of the gay/lesbian partner norming group, Cronbach's alpha was .97 for the PANEBS, with alphas for the PANEBS-SS and PANEBS-CS subscales being .97 and .96, respectively. Cronbach's alpha for the revised PANEBS in the bisexual partner group is .97, with alphas of .97 for both the PANEBS-SS and PANEBS-CS subscales.

In terms of factor analysis, after re-conducting oblique factor analyses rotations with each norming group's dataset, it was determined that the revised PANEBS retained its simple structure, with two factors delineating PANEBS-SS and PANEBS-CS across all three norming groups. No significant cross-loadings were present in the pattern

matrix (see Table 3). The two factors in the heterosexual norming group accounted for 73.2% of the total variance. In the bisexual partner group, 73.5% of variance was accounted for by the two factors. The factors accounted for 67.4% of variance in the gay/lesbian partner group. In terms of correlations between the factors (i.e., CS and SS items), the heterosexual, bisexual, and gay/lesbian partner group factors correlated at .32, .61, and .63, respectively. In sum, the revisions to the PANEBS appear to have improved simple structure, factor (i.e., subscale) correlations, item-total correlations, and scale length, while maintaining high reliability.

Table 3

Modified PANEBS Principle Component Analysis with Promax Rotation

	Gay/Lesbian Partner Group (N = 212)		Bisexual Partner Group (N = 166)		Heterosexual Partner Group (N = 214)	
	F1 (SS)	F2 (CS)	F1 (SS)	F2 (CS)	F1 (SS)	F2 (CS)
PANEBS-SS Items						
Going places with a same-sex friend on a regular basis	.800	.081	.931	-.079	.855	-.048
Calling a same-sex friend on a regular basis	.804	.023	.927	-.099	.910	-.090
Visiting a same-sex friend's home on a regular basis	.820	-.011	.895	-.051	.893	-.113
Acting cheerful and positive when with a same-sex friend	.817	.071	.948	-.092	.887	.027
Trying hard to listen to a same-sex friend's problems	.818	.116	.918	-.066	.929	-.011
Trying to be supportive and caring of a same-sex friend	.837	.029	.900	-.080	.907	-.008
Comforting a same-sex friend in times of trouble	.807	.038	.946	-.082	.895	.029
Giving a same-sex friend advice	.719	.123	.909	-.065	.891	-.005
Letting a same-sex friend know that they are available to help with tasks/chores	.874	-.086	.733	.148	.843	.080
Helping a same-sex friend solve problems	.808	.044	.913	-.043	.904	-.027
Helping a same-sex friend accomplish tasks and get things done	.842	.033	.869	.046	.873	.007
Teasing a same-sex friend good-naturedly	.811	.013	.704	.190	.825	.044
Sharing 'inside jokes' with a same-sex friend	.774	-.019	.660	.139	.847	-.004
Joking around a lot with a same-sex friend	.877	-.106	.853	.027	.834	.017
'Gossiping' with a same-sex friend	.746	-.074	.657	.119	.564	.045

Table 3 cont.

	Gay/Lesbian Partner Group (N = 212)		Bisexual Partner Group (N = 166)		Heterosexual Partner Group (N = 214)	
	F1 (SS)	F2 (CS)	F1 (SS)	F2 (CS)	F1 (SS)	F2 (CS)
PANEBS-CS Items						
Going places with an opposite-sex friend on a regular basis	-.044	.881	.054	.799	-.095	.829
Calling an opposite-sex friend on a regular basis	-.072	.906	-.076	.894	-.136	.862
Visiting an opposite-sex friend's home on a regular basis	-.052	.893	-.167	.914	-.223	.842
Acting cheerful and positive when with an opposite-sex friend	.033	.838	.229	.710	.126	.810
Trying hard to listen to an opposite-sex friend's problems	.124	.740	.221	.719	.077	.865
Trying to be supportive and caring of an opposite-sex friend	.075	.794	.347	.592	.110	.840
Comforting an opposite-sex friend in times of trouble	.040	.828	.360	.597	.043	.860
Giving an opposite-sex friend advice	.044	.788	.381	.557	.198	.746
Letting an opposite-sex friend know that they are available to help with tasks/chores	.080	.697	-.055	.909	-.051	.883
Helping an opposite-sex friend solve problems	-.017	.830	.279	.648	.109	.839
Helping an opposite-sex friend accomplish tasks and get things done	-.059	.908	.146	.754	.019	.896
Teasing an opposite-sex friend good-naturedly	.040	.776	-.044	.912	.077	.806
Sharing 'inside jokes' with an opposite-sex friend	.089	.721	-.266	1.000	-.079	.880
Joking around a lot with an opposite-sex friend	-.022	.824	-.052	.936	-.005	.869
'Gossiping' with an opposite-sex friend	-.016	.632	-.151	.899	-.089	.777

Confirmation Study Method

In scale development, the next logical step following Exploratory Factor Analysis (EFA) is Confirmatory Factor Analysis (CFA). The purpose of CFA is to further determine whether the psychometric properties, particularly the scale structure, will remain consistent across a new sample of participants (Costello & Osborne, 2005). This section outlines the demographic make-up of the Confirmation Study participant pool, the measures utilized, as well as the procedures implemented throughout the Confirmation Study. A rationale for the procedures is also provided.

Confirmation Study Participants

Individuals with heterosexual, bisexual, and gay partners who are 18 years of age or older were recruited for participation in the present study. Further inclusion criteria involved being in a romantic relationship with their current partner for at least six months. These inclusion criteria were selected in order to best generalize the results of this study to and norm the PANEBS on adults in committed long-term relationships across sexual orientations.

Exclusion criteria consisted of those who completed the PANEBS as part of the pilot study. These individuals were excluded to ensure an independent sample. Amazon Mechanical Turk tracks all those who have completed researchers' previous HITs. As a result, researchers are able to identify those individuals and make decisions about whether or not to include them in future samples. Furthermore, those who answered Random Response Items incorrectly (see Confirmation Study Measures) were excluded from the study, as were those with responses that had little or no variability. Specifically, if participants selected the same likert scale rating for every question across several scales, their responses were determined invalid. Further, those who had duplicate IP addresses and those who took less than four minutes to complete the survey were omitted from the study. These surveys were excluded from the study because they were determined to have been completed without genuine effort or engagement. Further, all participants who did not report being in a romantic relationship for at least six months were removed from the study. As in the pilot study, missing data was not an issue, as survey items were all forced choice responses, resulting in all completed surveys having answers for all items.

All remaining participants were included in the present study for a total of 631 participants. Participants were recruited using similar methods as in the pilot procedures—online sampling through AMT. The PANEBS scales were administered on Qualtrics through the University of North Dakota's subscription (See the Methods Procedures section for more details). Of those who started taking the survey, 95% completed it.

Participant demographics. Of the 631 participants, 294 were male and 328 were female, all of who had completed high school. The respondents were 77% Caucasian Americans/White. The next largest racial/ethnic groups represented in the sample were African American/Black (6%) and Asian American/Asian/Pacific Islander (6%). Three hundred respondents identified as heterosexual, 197 identified as gay or lesbian, and 132 identified as bisexual. The sample was geographically well balanced with the inclusion of participants from all areas of the United States. All of the participants reported being in a committed relationship with their partner for greater than six months and the vast majority reported cohabitating with their partners. Most participants (65%) reported being in monogamous and faithful relationships. Table 6 provides more detail of the participants' demographic information.

Partner demographics. Participants provided information related to their partners' demographics. Partners consisted of 292 males and 329 females. A total of 210 partners were identified as bisexual, 207 were identified as lesbian or gay, and the remaining 214 had been identified as heterosexual. Participants were assigned to one of the three norming groups based on their partners' identified sexual orientation. The sample sizes for these norming groups are consistent with general practices in scale

development (DeVellis, 2011) that recommend a minimum sample size of 200 for continued factor analysis. For the purposes of the Confirmation Study, the overall scale (combination of the norming groups) will be examined in addition to the individual norming groups to determine the overall performance of the PANEBS, as well as the demographic make-up of the overall sample. Table 6 provides more detail of the partners' demographic information.

Table 4

Confirmation Sample Demographic Information

Demographic Category	Heterosexual Partner Group (N = 214)		Bisexual Partner Group (N = 210)		Lesbian/Gay Partner Group (N = 207)		Entire Sample (N = 631)	
	N	%		%	N	%	N	%
Participant Age								
18-20	6	2.80	9	4.29	15	7.25	30	4.75
21-23	21	9.81	38	18.10	37	17.87	96	15.21
24-29	57	26.63	77	36.67	66	31.88	200	31.70
30-34	49	22.89	38	18.10	40	19.32	127	20.13
35-44	45	21.02	36	17.14	27	13.04	108	17.12
45-54	18	8.41	6	2.86	17	8.21	41	6.50
55-64	16	7.47	6	2.86	5	2.42	81	12.84
65 and over	2	0.93	0	0.00	0	0.00	2	0.32
Total	214	100.00	210	100.00	207	100.00	631	100.00
Participant Gender								
Female	135	63.08	84	40.00	109	52.66	328	51.98
Male	79	36.91	123	58.57	92	44.44	294	46.60
Transgender	0	0.00	3	1.43	6	2.90	9	1.42
Total	210	100.00	210	100.00	207	100.00	631	100.00
Participant Ethnicity								
African American/ Black	12	5.60	14	6.67	23	11.11	49	7.77
Asian American/Asian/ Pacific Islander	13	6.07	11	5.23	10	4.83	34	5.39
Caucasian American/ White	170	79.43	160	76.19	153	73.91	487	77.18
Foreign National	1	0.46	0	0.00	1	0.48	1	0.16
Hispanic/Latino American	9	4.20	16	7.62	15	7.25	40	6.33
Native American/ American Indian	1	0.46	3	1.42	1	0.48	4	0.63
Mixed Race/Bi-Racial	4	1.87	6	2.86	4	1.93	13	2.06
Total	210	100.00	210	100.00	207	100.00	631	100.00
Participant Sexual Orientation								
Heterosexual	207	96.72	103	49.05	1	0.48	300	47.54
Gay/Lesbian	0	0.00	15	7.14	182	87.92	197	31.22
Bisexual	7	3.27	92	43.81	24	11.59	132	20.91

Table 4 cont.

Demographic Category	Heterosexual Partner Group (N = 214)		Bisexual Partner Group (N = 210)		Lesbian/Gay Partner Group (N = 207)		Entire Sample (N = 631)	
	N	%		%	N	%	N	%
Total	214	100.00	210	100.00	207	100.00	631	100.00
Relationship Status								
Dating, but no commitment	13	6.07	28	13.33	36	17.39	77	12.20
Committed relationship, but no engagement, marriage, domestic partnership, or commitment ceremony	78	36.50	120	57.14	125	60.39	323	51.19
Engaged	12	5.60	15	7.14	15	7.24	42	6.66
Married, domestic partnership, or commitment ceremony	111	51.87	47	22.38	31	14.98	189	29.95
Total	214	100.00	210	100.00	207	100.00	631	100.00
Openness of Relationship								
Agreement to have sex with others outside of their relationship	4	1.87	38	18.10	24	11.59	66	10.46
Agreement to have outside sex only in threesomes or groups that include both partners	8	3.50	67	31.90	16	7.73	91	14.42
Agreement to be monogamous, and both partners have honored that agreement	177	82.71	83	39.52	153	73.91	413	65.45
Agreement to be monogamous, but participant has been unfaithful	11	5.14	5	2.38	6	2.90	22	3.49
Agreement to be monogamous, but partner has been unfaithful	6	3.00	10	5.00	2	0.97	18	2.85
Agreement to be monogamous, but both partners have been unfaithful	8	3.74	7	3.33	6	2.90	21	3.32
Total	214	100.00	210	100.00	207	100.00	631	100.00
Length of Relationship								
Less than 6 months	0	0.00	0	0.00	0	0.00	0	0.00
6 months – 1 year	33	15.42	61	29.05	68	32.85	162	25.67
1 year – 2 years	28	13.08	45	21.43	45	21.74	118	18.70
2 years – 5 years	54	25.23	58	27.62	54	26.09	166	26.31
5 years – 10 years	38	17.76	31	14.76	22	10.63	91	14.42
10 years – 20 years	38	17.76	10	4.76	16	7.72	64	10.14
Greater than 20 years	23	10.75	5	2.38	2	0.97	30	4.75
Total	214	100.00	210	100.00	207	100.00	631	100.00
Participant Highest Level of Education								
Less than High School	0	0.00	0	0.00	0	0.00	0	0.00
High School/GED	64	29.90	60	28.57	59	28.50	183	29.00

Table 4 cont.

Demographic Category	Heterosexual Partner Group (N = 214)		Bisexual Partner Group (N = 210)		Lesbian/Gay Partner Group (N = 207)		Entire Sample (N = 631)	
	N	%		%	N	%	N	%
2-year College Degree	43	20.09	43	20.48	56	27.05	142	22.50
4-year College Degree	80	37.38	85	40.48	72	34.78	237	37.56
Master's Degree	25	11.68	18	8.57	19	9.18	62	9.51
Doctoral/Professional Degree	2	0.93	3	1.43	1	0.48	6	0.95
Total	214	100.00	210	100.00	207	100.00	631	100.00
Partner Gender								
Female	81	37.85	69	32.86	110	53.14	329	52.14
Male	131	61.21	138	65.71	92	44.44	292	46.28
Transgender	2	1.00	3	1.42	5	2.42	10	1.58
Other	0	0.93	0	0.00	0	0.00	0	0.00
Total	214	100.00	210	100.00	207	100.00	631	100.00
Cohabitation with Partner								
Cohabitating	158	73.83	145	69.05	138	66.66	441	69.89
Not Cohabitating	56	26.17	65	0.95	69	33.33	190	30.11
Total	214	100.00	210	100.00	207	100.00	631	100.00
Participant Children								
Children	109	50.93	44	20.95	27	13.04	180	28.53
No Children	105	49.07	166	79.05	180	86.96	451	71.32
Total	214	100.00	210	100.00	207	100.00	631	100.00
Participant Yearly Income								
Under $14,999	34	15.89	44	20.95	35	16.91	162	25.67
$15,000 - $24,999	34	15.89	35	16.67	44	21.26	118	18.70
$25,000 - $39,999	47	21.96	54	25.71	55	26.57	166	26.31
$40,000 - $59,999	49	22.90	41	19.52	40	19.32	91	14.42
$60,000 - $89,999	33	15.42	27	12.86	21	10.14	64	10.14
$90,000 - $119,999	12	5.60	4	1.90	8	3.86	30	4.75
$120,000 - $148,999	2	0.93	3	1.43	3	1.49	162	25.67
$150,000 +	3	1.40	2	0.95	1	0.48	118	18.70
Total	214	100.00	210	100.00	207	100.00	631	100.00
Participant Employment Status								
Employed	161	75.23	169	80.48	164	79.23	494	78.29
Unemployed	53	24.76	41	19.52	43	20.77	137	21.71
Total	214	100.00	210	100.00	207	100.00	631	100.00
Participant Geographic Location								
West (Pacific)	38	17.76	42	20.00	37	17.87	117	18.54
West (Mountain)	9	4.20	10	4.76	13	6.28	32	5.07
Midwest (West North Central)	16	7.47	22	10.48	19	9.18	57	9.03
Midwest (East North Central)	31	14.49	25	11.90	26	12.56	82	13.00
South (West South Central)	19	8.88	12	5.71	16	7.73	47	7.44
South (East South Central)	35	16.36	37	17.62	26	12.56	109	17.27
South (South Atlantic)	18	8.41	24	11.43	20	9.66	62	9.83
Northeast (Middle Atlantic)	34	15.89	23	10.95	23	11.11	80	12.68
Northeast (New England)	14	6.54	15	7.14	16	7.73	45	7.13
Total	214	100.00	210	100.00	207	100.00	631	100.00

Confirmation Study Measures

In addition to completing the Partners' Approval of Nonsexual Extradyadic Behaviors Scale (PANEBS) evaluated in the present study, participants also completed a demographics questionnaire, the Dependability Subscale of the Trust Scale, Nonexclusive Friendship Expectations subscale of the Relationship Issues Scale, Emotional Jealousy subscale of the Multidimensional Jealousy Scale, Life Orientation Test – Revised, the Marlowe-Crowne Social Desirability Scale – Short Form C, and items to detect random responding.

Demographics questionnaire. The same demographic information from the pilot study was asked of participants in the Confirmation Study (see Pilot Study Measures), with the addition of the degree to which the participants' relationships with their romantic partners were sexually exclusive (e.g., monogamous or sexually open). To measure this, a typology utilized in previous research by LaSala (2004) and recommended by Shernoff (1995) was used. The typology consists of four items, each serving to group individuals into three different categories. Participants are asked to describe their relationship by checking one of several categories: open/nonmonogamous ("We have agreed to have sex outside of the relationship"); threesome only ("We have agreed to have outside sex only in threesomes or groups that include my partner"); monogamous ("We have agreed to be monogamous; I have only had sex with my partner since our relationship began"); and broken monogamous agreement couples ("We have agreed to be monogamous but I have had sex outside the relationship" and "We have agreed to be monogamous but my partner has had sex outside the relationship"). On the basis of the participants' responses, the

degree of sexual exclusiveness in the relationship was categorized as strictly monogamous, monogamous with outside sex (i.e., broken agreement), and open.

Partners' Approval of Nonsexual Extradyadic Behaviors Scale (PANEBS; Kujawa, 2012). See Pilot Measures for a description of the development of this scale and its psychometric properties. In the present study, Cronbach's alpha for the PANEBS-SS and PANEBS-CS ranged from .96 to .97 across norming groups and subscales and .97 to .98 for the entire sample across subscales (see Table 5).

Dependability Subscale of the Trust Scale (TS-D; Rempel & Holmes, 1986). See Pilot Measures for reliability and validity information regarding this scale. It is expected that this scale will serve as a measure of convergent validity. Specifically it is hypothesized that this scale would have a moderate to strong, positive relationship with the PANEBS scale at ≥ .30. The alpha in the present study for the TS-D ranged from .87 to .90 across norming groups and was .88 for the entire sample (see Table 5).

Nonexclusive Friendship Expectations subscale of the Relationship Issues Scale (RIS-NFE; Boekhout et al., 2003). See Pilot Method for reliability and validity information regarding this scale. It is expected that this scale will serve as a measure of convergent validity. It is anticipated that this scale would have a moderate to strong, positive relationship with the PANEBS scale a ≥ .30. In the present study, Cronbach's alpha for the subscale ranged from .77 to .82 across norming groups and was .79 for the entire sample (see Table 5).

Emotional Jealousy subscale of the Multidimensional Jealousy Scale (MJS-E; Pfeiffer & Wong, 1989). See Pilot Measures for reliability and validity information regarding this scale. It is expected that this scale will serve as a measure of convergent

validity. Specifically it is hypothesized that the MJS-E will be moderately to strongly and negatively correlated with the PANEBS scale at ≥ -.30. In the present study, Cronbach's alpha ranged from .75 to .85 across norming groups and subscales and .69 to .82 for the entire sample across subscales (see Table 5).

Life Orientation Test – Revised (LOT-R; Scheier et al., 1994). See Pilot Measures for reliability and validity information regarding this scale. It is expected that this scale will serve as a measure of discriminant validity. Specifically it is hypothesized that the LOT-R will show little to no correlation (-.2 < *r* < .2.) with the PANEBS scale. In the current study, Cronbach's alpha for the LOT-R ranged from .85 to .86 across norming groups and was .78 for the entire sample .85 (see Table 5).

Marlowe-Crowne Social Desirability Scale – Short Form C (MC-C; Reynolds, 1982). The MC-C was utilized in the Confirmation Study to assess participants' levels of social desirability and as a measure of discriminant validity. While no validation items were included directly into the PANEBS scale, the MC-C was separately used as a measure of discriminant validity to ensure that the PANEBS did not inspire any socially desirable responses. The MC-C is a brief version of the Marlowe–Crowne Social Desirability Scale (Crowne & Marlowe, 1960) that has 13 items. Sample item are "It is sometimes hard for me to go on with my work if I am not encouraged" and "There have been occasions when I took advantage of someone." Response options include no, not sure, and yes. Higher scores represent greater social desirability. Concurrent validity was established via correlations between the Marlowe-Crowne short form and the standard version, as well as the Edwards Social Desirability Scale (Edwards, 1957). The 13-item MC-C has been determined to be the most viable short

form for use in the assessment of social desirability response tendencies (Andrews & Meyer, 2003; Loo, 2000; Reynolds, 1982) with the general population. Reynolds (1982) found that the Cronbach's alpha for the short form was .76. In the present study, the alpha for MC-C ranged from .75 to .79 across norming groups and was .78 for the entire sample (see Table 5).

Table 5

Confirmation Study Instrument Internal Consistencies

Instrument	Heterosexual Partner Group (N = 214)	Bisexual Partner Group (N = 210)	Lesbian/Gay Partner Group (N = 207)	Entire Sample (N = 631)
PANEBS-SS	.97	.97	.97	.97
PANEBS-CS	.97	.97	.96	.97
PANEBS Total	.97	.97	.97	.97
LOT-R	.85	.86	.86	.85
TS-D	.90	.87	.87	.88
RIS-NFE	.77	.79	.82	.79
MJS-SS	.64	.85	.74	.78
MJS-CS	.67	.70	.69	.69
MJS Total	.75	.85	.82	.82
MC-C	.75	.79	.78	.78

Random response items. To identify random responding, participants were asked three questions that detect random or careless responding. Specifically, three validity items were asked at various points throughout the survey that instruct participants to "Select the 'Strongly Agree' response for this item." According to Schmidt (1997), Internet-based surveys are susceptible to respondents who intentionally contribute erroneous survey data. According to Mead and Craig (2012), every Internet-based survey study would benefit by incorporating a data screening method, with inclusion of items to detect these random responses. These items were only used for the purposes of identifying surveys completed carelessly. They were not used in data analysis.

Confirmation Study Procedures

As in the pilot study, Amazon Mechanical Turk (AMT) was utilized to recruit participants for each norming group. Like the pilot study, participants filled out a survey that contained demographic questions, as well as the PANEBS, TS-D, MJS-E, LOT-R, and RIS-NFE via an online survey created on Qualtrics. Further, several items were added that served as a check for random responding (see Random Response Items in Confirmation Study Measures section). Also, the Marlowe-Crowne Social Desirability Scale – Short Form C (MC-C; Reynolds, 1982) was added as an additional check to measure if the PANEBS elicits socially desirable responses. See Pilot Study Methods section for a more detailed account of the Confirmation Study recruitment and participation procedures.

In terms of data analyses procedures, this study investigated the factor structure of participants' approval of their partners' engaging in nonsexual extradyadic behaviors, as measured by the PANEBS, across three norming groups based on the sexual orientation of partners. This was conducted utilizing a CFA. Specifically, a CFA was conducted using Mplus 6.11 and maximum likelihood estimation method with robust standard errors (MLR). It was hypothesized that the two-factor structure of the PANEBS from the pilot study would be replicated (i.e., PANEBS-CS and PANEBS-SS subscales) for each norming group. Therefore, a model was tested that examined the fit of the 30 items into two related subscales.

Confirmatory factor analysis followed the procedures recommended by Hatcher (1994). These procedures involved constructing the confirmatory factor model, identifying residual terms for endogenous variables, identifying all parameters to be

estimated, and verifying that the model is overidentified. Next was the reviewing of the chi square test, additional fit indices, significance tests for factor loadings, and the residual matrix and normalized residual matrix. The additional fit indices consisted of the standardized root-mean-square residual (SRMR), root-mean-square error of approximation (RMSEA), comparative fit index (CFI), and the chi-square. Finally, a modification of the measurement model with the use of modification indices (Byrne, 2001) was conducted if there is model misspecification.

Test-Retest Study Method

To establish the stability of a measure, test-retest procedures are recommended. The test-retest method involves administration of the scale to the same population over time to assess the scale's consistency and reliability. Theoretically, this serves to eliminate potential confounds due to heterogeneous participants (Adams, Nelson, & Todd, 1992). This section outlines the demographic make-up of the Test-Retest Study participant pool, the measures utilized, as well as the procedures implemented in the Test-Retest Study.

Test-Retest Study Participants

Individuals with heterosexual, bisexual, and gay partners who are 18 years of age or older were recruited for participation in the Test-Retest Study. These inclusion criteria were selected to match the norming groups of the Pilot Study and Confirmation Study. Those who identified as single and those who answered Random Response Items (see Test-Retest Study Measures) incorrectly were not included in the study. Further, if participants selected the same likert scale rating for every question on several scales, their responses were determined invalid. Further, those who had duplicate IP addresses and

those who took less than two minutes to complete the survey were omitted from the study. These surveys were excluded from the study because they were determined to have been completed without genuine effort or engagement. Missing data was not an issue, as survey items were all forced choice responses, resulting in all completed surveys having answers for all items. Of those who started taking the survey, 87% completed and submitted a survey.

Participant demographics. A total of 75 participants were included in the Test-Retest Study. They consisted of 39 males and 36 females, all of who had completed high school. The respondents were 60% Caucasian Americans/White with the next largest representation of race/ethnicity being African American/Black. Thirty-two respondents identified as heterosexual, 21 identified as gay or lesbian, and 22 identified as bisexual. The sample was geographically well balanced with the inclusion of participants from all areas of the United States. The vast majority of participants reported being in a committed relationship with their partner for greater than one year and cohabitating with their partners. Most participants reported being in monogamous and faithful relationships. Table 6 provides more detail of the participant's demographic information.

Partner demographics. Participants provided information related to their partners' demographics. Participants were assigned to one of the three norming groups based on the sexual orientation of their partner. A total of 22 partners had been identified as bisexual, 21 as lesbian or gay partners, and the remaining 31 were identified as heterosexual. Partners consisted of 40 males, 35 females, and 1 partner who had been identified as neither female nor male. Table 6 provides more detail of the partners' demographic information.

Table 6

Test-Retest Sample Demographic Information

Demographic Category	PANEBS Test-Retest Sample (N = 75)	
	N	%
Participant Age		
18-20	3	4.00
21-23	8	10.67
24-29	21	28.00
30-34	13	17.33
35-44	16	21.33
45-54	13	17.33
55-64	1	1.33
65 and over	0	0.00
Total	75	100.00
Participant Gender		
Male	39	52.00
Female	36	48.00
Transgender	0	0.00
Total	75	100.00
Partner Sexual Orientation		
Bisexual	22	29.33
Gay/Lesbian	21	28.00
Heterosexual	32	42.67
Total	75	100.00
Participant Ethnicity		
African American/Black	6	8.00
Asian American/Asian/Pacific Islander	4	5.33
Caucasian American/White	60	80.00
Foreign National	0	0.00
Hispanic/Latino American	3	4.00
Native American/American Indian	0	0.00
Mixed Race/Bi-Racial	1	1.33
Total	75	100.00
Participant Sexual Orientation		
Bisexual	9	12.00
Gay/Lesbian	22	29.33
Heterosexual (Straight)	44	58.77
Total	75	100.00
Relationship Status		
Dating, but no commitment	6	8.00
Committed relationship, but no engagement, marriage, domestic partnership, or commitment ceremony	26	34.67
Engaged	10	13.33
Married, domestic partnership, or commitment ceremony	33	44.00
Total	75	100.00
Openness of Relationship		
Agreement to have sex with others outside of their relationship	3	4.00
Agreement to have outside sex only in threesomes or groups that include both partners	8	10.67
Agreement to be monogamous, and both partners have honored that agreement	54	72.00
Agreement to be monogamous, but participant has been unfaithful	2	2.67

Table 6 cont.

Demographic Category	PANEBS Test-Retest Sample (N = 75)	
	N	%
Agreement to be monogamous, but partner has been unfaithful	5	6.67
Agreement to be monogamous, but both partners have been unfaithful	3	4.00
Total	75	100.00
Length of Relationship		
Less than 6 months	3	4.00
6 months – 1 year	10	13.33
1 year – 2 years	13	17.33
2 years – 5 years	15	20.00
5 years – 10 years	14	18.67
10 years – 20 years	15	20.00
Greater than 20 years	5	6.67
Total	75	100.00
Participant Highest Level of Education		
Less than High School	0	0.00
High School/GED	12	16.00
2-year College Degree	18	24.00
4-year College Degree	34	45.33
Master's Degree	10	13.33
Doctoral/Professional Degree	1	1.33
Total	75	100.00
Partner Gender		
Male	40	53.33
Female	34	45.33
Transgender	0	0.00
Other	1	1.33
Total	75	100.00
Cohabitation with Partner		
Cohabitating	56	74.67
Not Cohabitating	19	25.33
Total	75	100.00
Participant Children		
Children	30	40.00
No Children	45	60.00
Total	75	100.00
Participant Yearly Income		
Under $14,999	14	18.67
$15,000 - $24,999	11	14.67
$25,000 - $39,999	16	21.33
$40,000 - $59,999	14	18.67
$60,000 - $89,999	11	14.67
$90,000 - $119,999	5	6.67
$120,000 - $148,999	4	5.33
$150,000 +	0	0.00
Total	75	100.00
Participant Employment Status		
Employed	55	73.33
Unemployed	20	26.67
Total	75	100.00
Participant Geographic Location		
West (Pacific)	6	8.00
West (Mountain)	6	8.00
Midwest (West North Central)	1	1.33
Midwest (East North Central)	8	10.67
South (West South Central)	8	10.67
South (East South Central)	20	26.67
South (South Atlantic)	3	4.00

Table 6 cont.

Demographic Category	PANEBS Test-Retest Sample (N = 75)	
	N	%
Northeast (Middle Atlantic)	15	20.00
Northeast (New England)	8	10.67
Total	75	100.00

Test-Retest Study Measures

Participants in the Test-Retest Study completed a demographics questionnaire, the Partners' Approval of Nonsexual Extradyadic Behaviors Scale (PANEBS), and a couple items that served to detect random responding.

Demographics questionnaire. See Pilot Methods for demographic information asked of the participants. The same demographic information from the Confirmation Study was asked of participants in the Test-Retest Study.

Random response items. To identify random responding, participants were asked two questions that detect random or careless responding. Specifically, two validation check items were asked at two different points throughout the survey that instruct participants to "Select the 'Strongly Agree' response for this item." These items were only used for the purposes of identifying surveys completed carelessly. They were not used in data analysis.

Partners' Approval of Nonsexual Extradyadic Behaviors Scale (PANEBS; Kujawa, 2012). See Pilot Results for a description of the development of this scale and its psychometric properties. In Time 1 of the Test-Retest Study, Cronbach's alphas for the PANEBS-SS and PANEBS-CS were .97 and .96, respectively. The full scale alpha for Time 1 was .97. In Time 2 of the Test-Retest Study, Cronbach's alphas for the PANEBS-SS and PANEBS-CS were .97 and .94, respectively. The full scale alpha for Time 2 was .96.

Test-Retest Study Procedures

Participants were recruited using similar methods as in the Confirmation Study procedures—online sampling through AMT. The PANEBS scales were administered on Qualtrics through the University of North Dakota's subscription (See the Confirmation Study Procedures section for more details). However, the Test-Retest Study sample was recruited under the conditions that the participants would be able to complete the survey again after two weeks' time. An AMT HIT and Qualtrics survey were created for the participants to take the survey for the first time, at which point they submitted a unique identifier in Qualtrics that they were asked to reenter when they submitted the survey for the second time after two weeks' time. These identifiers were used to link each participant's initial survey with their second survey. All participants who completed the PANEBS as part of the pilot or Confirmation Study were excluded from the Test-Retest Study to ensure an independent sample. For their participation, participants were compensated through AMT $0.20 for the completion of the initial five minute survey and an additional $0.40 for the completion of the survey the second time. The percentage of those who completed both the initial survey and the second survey was 57%, making the attrition rate for the Test-Retest Study sample 43%.

Statistical analyses were performed using Pearson's correlations for test–retest reliability of the PANEBS global score and subscores. It was hypothesized that the PANEBS global and subscales would demonstrate high test-retest reliability, as evidenced by correlations above .70 across Time 1 and Time 2 (DeVellis, 2011).

CHAPTER IV

RESULTS

The purpose of this chapter is to review the results of the Confirmation Study, the primary focus of which was confirmatory factor analysis (CFA), as well as the results of the Test-Retest Study. More specifically, the Confirmation Study built on the preliminary evidence for the Partner's Approval of Nonsexual Extradyadic Behaviors Scale's (PANEBS) validity, reliability, and factor structure obtained in the Pilot Study. For the Confirmation Study, specific analyses were conducted to determined convergent and discriminant validity of the scales were replicated. In addition, the factor structure of the PANEBS, initially established in the Pilot Study via exploratory factor analysis (EFA), was reevaluated through the use of CFA. Norming group comparisons and internal consistency were also reexamined. Further, a series of post hoc analyses were conducted to identify the extent to which attitudes about NEBs are explained by the specific characteristics of the participants, their partners, and their romantic relationships. Additionally, the test-retest reliability of the PANEBS was examined for the first time.

Confirmation Study Preliminary Analyses

This section provides an overview of the preliminary analyses conducted in the Confirmation Study in order to establish evidence for the appropriateness of conducting CFA with the PANEBS. As in the Pilot Study, the adequacy of the Confirmation Study sample was evaluated in terms of the significance of its correlation matrix (i.e., Bartlett's

Test of Sphericity), whether the variables belong together psychometrically (i.e., Kaiser-Meyer-Olkin), item standard deviations and means, and the normality of the sample distribution (i.e., Kilmogorov-Smirnov).

Sampling Adequacy

In the present study, both the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) and Bartlett's Test of Sphericity were utilized to determine the adequacy of the sample for factor analysis. The KMO was measured at .925 for the gay/lesbian norming group, .937 for the heterosexual partner group, and .932 for the bisexual partner norming group, which exceeds the minimum value of .50 needed to proceed with factor analysis (Kaiser, 1974). The Bartlett's Test of Sphericity (Bartlett, 1954) revealed a χ^2 of 8174.225 (*df = 435, p>.000*) for the gay/lesbian partner norming group, a χ^2 of 9285.802 (*df =435, p>.000*) for the heterosexual partner group, and a χ^2 of 8579.495 (*df = 435, p>.000*) for the bisexual partner norming group, also providing evidence for sampling adequacy across norming groups and the appropriateness of proceeding with factor analysis (Norman & Streiner, 2007).

Data Distribution

Normal data is an underlying assumption in parametric testing. For instance, normal theory maximum likelihood (ML) estimation has been used to analyze the majority of CFA models. Maximum likelihood makes the assumption that the measured variables have a multivariate normal distribution in the population. However, the majority of data collected in behavioral research does not follow univariate normal distributions, let alone a multivariate normal distribution (Micceri, 1989), which is why

evaluation of the data's distribution is a standard in scale development. Therefore, an assessment of the normality of data is a prerequisite for conducting factor analysis.

To begin assessing the distribution of the data, the means and standard deviations of the item responses were examined to determine the variability of the responses, as well as the average response to each item. Analysis demonstrated individual item means falling between 3.04 and 6.16 for items on the PANEBS (7-point likert scale) across norming groups, with an average item mean of 5.5 within the gay/lesbian partner norming group, 5.1 within the heterosexual partner group, and 5.4 within the bisexual partner norming groups. These means indicate that the average response was relatively close to the center of the 7-point likert range, though slightly skewed toward an approving attitude. The standard deviations ranged from 0.93 to 3.77 across norming groups, indicating some variability. According to DeVellis (2011), means near the center of the response range and considerable variability are desirable.

Data distribution was further assessed via the Kilmogorov-Smirnov (KS) test for normality. Results were considered significant if the 95% probability level was exceeded. In line with the Pilot Study results, the KS statistic was significant for the PANEBS across all three norming groups. Specifically, the bisexual partner group revealed a $D(210) = .966$, $p < .05$, the gay/lesbian partner group a $D(207) = .207$, $p < .05$, and the heterosexual group a $D(214) = .972$, $p < .05$. Therefore, the distributions were determined to be non-normal in the Confirmation Study sample (Massey, 1951).

In sum, the preliminary analyses resulted in initial evidence for the appropriateness of conducting factor analysis with the PANEBS. However, due to the non-normality of the confirmatory sample data, estimates with standard errors and a chi-

square test statistic that are robust to non-normality were most appropriate. Therefore, Robust Maximum Liklihood (MLR) was used in lieu of ML. When using MLR, the model parameter estimates remain identical to those found under regular ML, though adjustments are made to the standard error and the chi-square, as well as the associated fit statistics that utilize it (e.g., RMSEA and CFI).

Confirmation Study Main Analyses

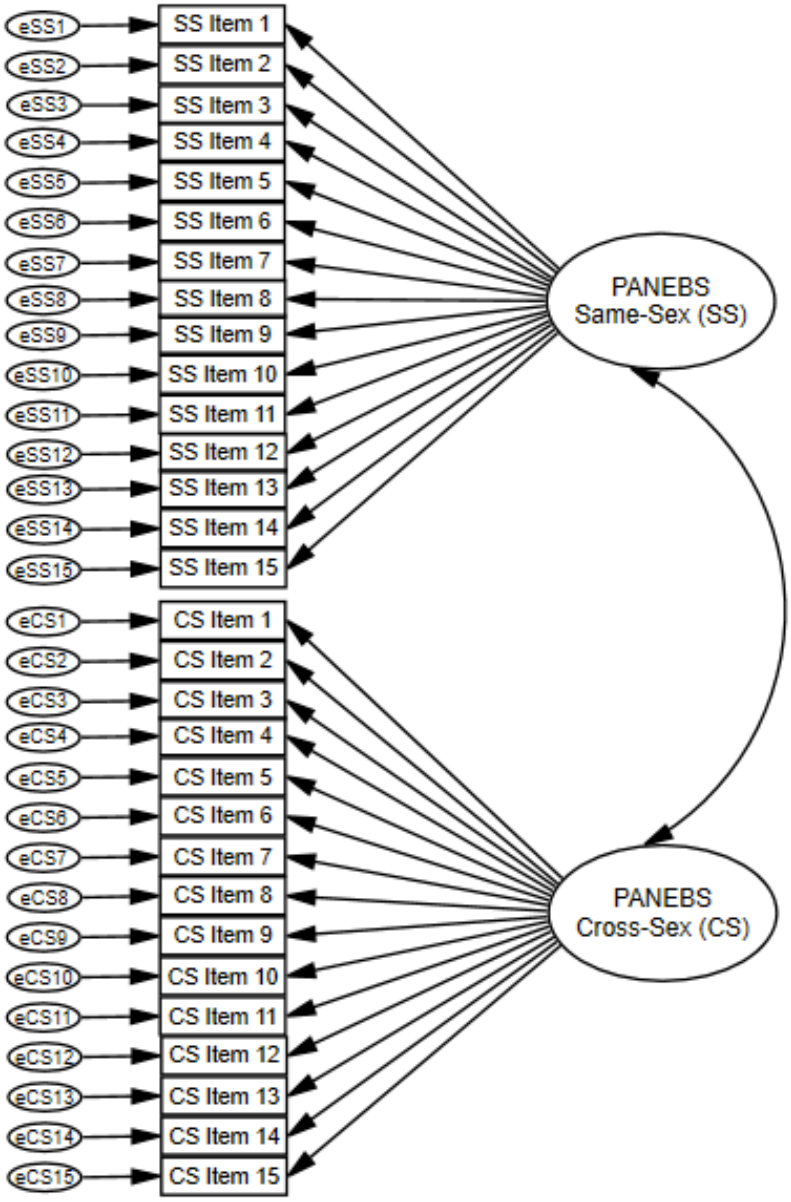
Main analyses of the Confirmation Study involved assessment of the factor structure via CFA, the construct validity via a series of Pearson's *r* correlations, and internal consistency by analyzing Cronbach's coefficient alphas. An additional main analysis was to examine differences in attitudes about NEBs across the three norming groups. Differences were assessed via a series of paired-samples *t*-tests.

Factor Structure (Hypothesis One)

In terms of the factor structure, it was hypothesized that the PANEBS would consist of two related factors across all three norming groups: 1) attitudes about partners' engagement in NEBs with same-sex (SS) friends; and 2) attitudes about partners' engagement in NEBs with cross-sex (CS) friends (see Figure 1). The factor structure of the PANEBS was analyzed across norming groups utilizing CFA.

Figure 1

Null Model of the Partners Approval of Nonsexual Extradyadic Behaviors Scale



The purpose of the CFA is to further determine whether the psychometric properties of the PANEBS, particularly the scale structure, hold true to the hypothesized two-factor model suggested by the EFA in the Pilot Study. To test the null hypothesis model, CFA was conducted with the use of Mplus 6.11 and maximum likelihood estimation method with robust standard errors (MLR). The most common and

recommended used estimator for non-normal data is MLR, which provides ML parameter estimates with standard errors and a mean adjusted χ^2 test statistic that are robust to non-normality. The mean adjusted χ^2 test statistic is often referred to as the Satorra-Bentler Scaled χ^2 (SBS$\Delta\chi^2$) (Brown, 2006).

As has been noted extensively in the literature, the chi-square statistic tends to be affected by large sample sizes and is almost always significant despite reasonable fit to the data (Byrne, 2001). To ensure more reliable and accurate decisions when choosing models and interpreting findings, we assessed model fit for each analysis with a series of fit indices, including the comparative fit index (CFI), standardized root-mean-square residual (SRMR), and root-mean-square error of approximation (RMSEA). An acceptable fit to the data is denoted when CFI > .90, SRMR < .08, and RMSEA ≤ .08 (e.g., Hu & Bentler, 1999).

We first fit the null hypothesized structural model of the PANEBS with the full sample of 631 participants. On the basis of the fit indices, the null hypothesis model was determined to be a poor fit to the data (see Table 7). While the SRMR was below .08, the CFI was less than .90 and the RMSEA was greater than .06, suggesting inadequate fit to the data (Hu & Bentler, 1999). If the model does not fit well, modification indices may be used to guide specification. Upon further examination of the scale and modification indices, it was apparent that there were misspecifications in the measurement portion of the null model. First, there was a large degree of shared method variance in that several indicators correlated for reasons other than the shared influence of the latent factor (e.g., method effects).

Specifically, it became apparent that the residuals of the same-sex items were correlating highly with the corresponding cross-sex item residuals (e.g., My partner calling a same sex friend on a regular basis and My partner calling an opposite-sex friend on a regular basis). Method effects (i.e., correlated residuals) across these items were not surprising, since items that have similar item stems and item content are likely to correlate with one another (Whittaker, 2012). In the case of these items, they are nearly identical in both stem and content. Correlated residuals enable researchers to control for shared method variance, as a certain number of theoretically justifiable correlated residuals assist in obtaining a well-fitting model (Brown, 2006). Therefore, it was determined that each item residual on the same-sex subscale would be correlated with the corresponding item residual on the cross-sex subscale.

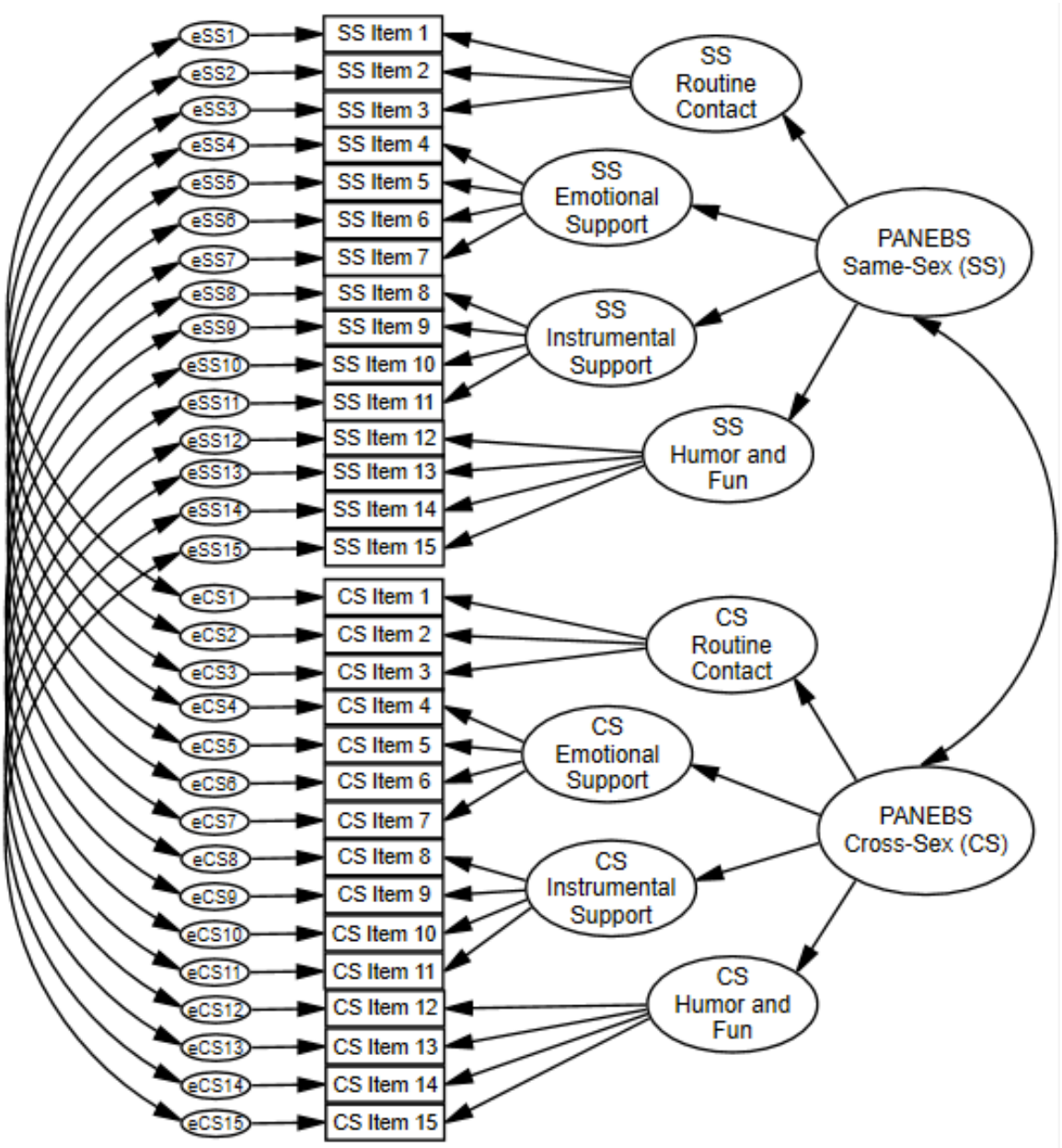
Furthermore, the misspecification in the null model indicated the potential of an underlying factor dimension beyond that hypothesized. It was determined that the multi-factor structure of the friendship maintenance behavior scale (i.e., Guerrero & Chavez, 2007), from which the PANEBS was adapted, could account for some of this variance. Specifically, items from four factors of Guerrero and Chavez's (2007) friendship maintenance behavior scale were adapted for the creation of the PANEBS. These factors include Regular Contact, Emotional Support, Instrumental Support, and Humor and Fun. Theoretically, would be plausible that these factors would exist even after the friendship maintenance scale was adapted into the PANEBS. Therefore, the null model was modified to reflect these four factors, in addition to justifiable correlated item residuals.

The modified higher-order model (see Figure 2) was analyzed with the same procedures as the null model. When the higher-order model was tested within the same

sample, it demonstrated a better fit to the data than the null model. Fit indices indicated an adequate to good fit to the data (see Table 7). Specifically, the CFI was .94, the SRMR was .05, and the RMSEA was .06, all suggesting close fit (Hu & Bentler, 1999).

Figure 2

Retained Higher-Order Model with Correlated Error Terms of the Partners Approval of Nonsexual Extradyadic Behaviors Scale



The comparison of competing models is a recommended practice, carrying more conviction than the testing of just a single model (Thompson, 2004). Therefore, the null model with correlated residuals and higher-order model with correlated residuals were compared to one another using chi-square tests of difference to determine which model to retain (Kline, 2005). Given the use of MLR, the Satorra–Bentler scaled chi-square tests of difference ($SBS\Delta\chi^2$) were calculated with an equation based on the chi-square values, scaling correction factors, and degrees of freedom of each constrained and unconstrained model (Satorra & Bentler, 2001). We also evaluated the change in the CFI estimate (i.e., CFI $\leq$ .01 indicating a non-substantial change in fit) between groups. Cheung and Rensvold (2000) suggest that reduction of CFI by .01 indicates you may reject the null. It was determined that the higher-order model was significantly different from the null model, as evidenced by $SBS\Delta\chi^2(8) = 434.73$, $p > .05$) and a change in CFI that was far greater than .01 (see Table 7).

A series of multiple group analyses were then conducted using Mplus and the MLR estimation method. Following the recommendations of Kline (2005), an unconstrained model (i.e., all paths were allowed to vary across groups) was compared to a constrained model (i.e., all factor loadings were constrained across groups) across norming groups to determine whether the model differed across these groupings. When comparing groups, the $SBS\Delta\chi^2$ was calculated between each of the unconstrained and fully constrained models (Kline, 2005), where significant differences would indicate that norming group moderated relations within the model.

No significant CFI or $SBS\Delta\chi^2$ differences between the unconstrained and constrained models were found (see Table 7 for model fit indices). According to these

analyses, the bisexual partner norming group did not significantly differ from heterosexual partner norming group (SBS$\Delta\chi^2(22) = 30.58$, $p < .05$), or the gay/lesbian partner norming group (SBS$\Delta\chi^2(22) = 16.63$, $p < .05$). Furthermore, the heterosexual partner norming group did not significantly differ from the gay/lesbian partner norming group (SBS$\Delta\chi^2(22) = 15.63$, $p < .05$). Therefore, it was determined that norming group did not moderate relations within the higher-order model. The model fit the data equally well across groups. Further, in comparing the constrained and unconstrained models, changes in CFI were equal or less than .01 (see Table 7), indicating a non-substantial change in fit across groups. Based on these findings, the higher-order model was retained for use in all three norming groups.

Table 7

Confirmatory Factor Analyses Fit Indices Across Models

Model	χ^2	*df*	CFI	RMSEA	SMSR
Null Model					
Full Sample	3064.21	404	0.78	0.10	0.07
Higher-Order Model					
Full Sample	1151.70	381	0.94	0.05	0.06
Heterosexual and Gay/Lesbian					
Constrained†	1924.42	812	0.89	0.08	0.07
Unconstrained†	1907.89	790	0.88	0.08	0.07
Heterosexual and Bisexual					
Constrained†	1987.96	812	0.88	0.08	0.07
Unconstrained†	1954.42	790	0.89	0.08	0.07
Bisexual and Gay/Lesbian					
Constrained†	1987.96	812	0.88	0.08	0.07
Unconstrained†	1746.25	790	0.89	0.07	0.06

Note. All chi-square values were significant at the p = .001 level. Full sample, n = 631. CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual. † Indicates multiple groups analysis for partner sexual orientation (bisexual, n = 210; gay/lesbian, n = 207; heterosexual, n = 214).

Taken together, estimation of the null hypotheses model in the entire sample resulted in poor fit. However, estimation of the higher-order model with correlated residuals resulted in good fit in the entire sample and fair to good fit across groups.

Correlations across first-order factors in the higher-order model demonstrate strong relationships (see Table 8). The relatively reduced values on the CFI in the multiple group analyses (.88 to .89) appear to be due to the added complexity of the analyses. According to Ding, Velicer, and Harlow (1995), added model complexity and higher number of constraints and parameters diminishes overall fit, particularly in the CFI index. They recommend utilizing the RMSEA as a standard for determining fit when conducting complex analyses, such as multigroup analysis. Values of RMSEA meet minimal fit indices standards across groups (e.g., Hu & Benter, 1999), indicating adequate fit.

Table 8

Correlation of PANEBS-SS and PANEBS-CS First-Order Factors for Entire Sample

Construct Name	First-Order Factor	SS.C1.	SS.C2.	SS.C3.	SS.C4.	CS.C1.	CS.C2.	CS.C3.
PANEBS-SS								
SS.C1.	Regular Contact	1						
SS.C2.	Emotional Support	.81	1					
SS.C3.	Instrumental Support	.78	.90	1				
SS.C4.	Humor and Fun	.78	.78	.80	1			
PANEBS-CS								
CS.C1.	Regular Contact	.22	.17	.19	.19	1		
CS.C2.	Emotional Support	.36	.44	.44	.36	.75	1	
CS.C3.	Instrumental Support	.34	.39	.45	.36	.76	.90	1
CS.C4.	Humor and Fun	.26	.24	.28	.39	.81	.78	.81

Note. All correlations were significant at the .01 level.

Internal Consistency (Hypothesis Two)

The internal consistency of the PANEBS was again determined utilizing coefficient alpha (Cronbach, 1951) as a measure of internal consistency. Coefficient alphas for the PANEBS second-order factors (i.e., PANEBS-SS and PANEBS-CS subscales), first-order factors (i.e., Regular Contact, Emotional Support, Instrumental Support, Humor and Fun), and entire scale were obtained across all three norming groups. According to DeVellis (2011), high internal consistency is denoted by an alpha above .80. It was hypothesized that all coefficient alphas obtained would be higher than

.80. Results support this hypothesis, in that that the alphas ranged from .96 to .97 across second-order factors, the full scale, all three norming groups, and the entire sample. Alphas across all first-order factors were .88 or higher (see Table 9 for first-order and second-order factor alphas). Reliability analysis indicate that the PANEBS has very high internal consistency across norming groups and across first-order and second-order factors (DeVellis, 2011).

Table 9

Cronbach's Alpha for First-Order and Second-Order (i.e., Subscale) Factors

First-Order and Second-Order Factors with Associated Items	Cronbach's α			
	Heterosexual Partner Group	Gay/Lesbian Partner Group	Bisexual Partner Group	Entire Sample
PANEBS-SS Subscale Overall Alphas	.97	.97	.97	.97
Regular Contact Alphas	.96	.96	.94	.96
1. Going places with an same-sex friend on a regular basis				
2. Calling an same-sex friend on a regular basis				
3. Visiting an same-sex friend's home on a regular basis				
Emotional Support Alphas	.97	.95	.94	.96
4. Acting cheerful and positive when with an same-sex friend				
5. Listening to an same-sex friend's problems				
6. Being supportive and caring of an same-sex friend				
7. Comforting an same-sex friend in times of trouble				
Instrumental Support Alphas	.95	.94	.92	.94
8. Giving an same sex friend advice				
9. Letting an same-sex friend know that they are available to help with tasks/chores				
10. Helping an same-sex friend solve problems				
11. Helping an same-sex friend accomplish tasks and get things done				
Humor and Fun Alphas				
12. Teasing an same-sex friend good-naturedly	.90	.92	.90	.91
13. Sharing 'inside jokes' with an same-sex friend				
14. Joking around a lot with an same-sex friend				
15. 'Gossiping' with an same-sex friend				
PANEBS-CS Subscale Overall Alphas	.97	.96	.97	.97
Regular Contact Alphas	.95	.94	.96	.96
1. Going places with an opposite-sex friend on a regular basis				
2. Calling an opposite-sex friend on a regular basis				
3. Visiting an opposite-sex friend's home on a regular basis				
Emotional Support Alphas	.96	.92	.93	.95
4. Acting cheerful and positive when with an opposite-sex friend				
5. Listening to an opposite-sex friend's problems				
6. Being supportive and caring of an opposite-sex friend				
7. Comforting an opposite-sex friend in times of trouble				
Instrumental Support Alphas	.94	.91	.92	.94
8. Giving an opposite-sex friend advice				
9. Letting an opposite-sex friend know that they are available to help with tasks/chores				
10. Helping an opposite-sex friend solve problems				

Table 9 cont.

First-Order and Second-Order Factors with Associated Items	Cronbach's α			
	Heterosexual Partner Group	Gay/Lesbian Partner Group	Bisexual Partner Group	Entire Sample
11. Helping an opposite-sex friend accomplish tasks and get things done				
Humor and Fun Alphas	.93	.88	.93	.93
12. Teasing an opposite-sex friend good-naturedly				
13. Sharing 'inside jokes' with an opposite-sex friend				
14. Joking around a lot with an opposite-sex friend				
15. 'Gossiping' with an opposite-sex friend				

Construct Validity (Hypotheses Three to Seven)

The construct validity of the PANEBS was again assessed with the use of the convergent and discriminant validity measures utilized in the Pilot Study, with the addition of social desirability. Similar correlation values amongst the validity measures obtained in the Pilot Study were expected to emerge in the Confirmation Study. To retest these hypotheses, several Pearson's *r* correlations were conducted across measures.

Convergent validity with trust (hypothesis three). It was hypothesized that the Dependency subscale of the Trust Scale (TS-D) would have a moderate to strong, positive correlation with the PANEBS scales with $r \geq .30$. This hypothesis was partially substantiated, in that there were moderate to strong correlations between the TS-D and PANEBS in across the three norming groups (see Table 10), with correlations ranging from .36 to .53 across norming groups and .39 for the entire sample.

Convergent validity with nonsexual exclusivity expectations (hypothesis four). It was hypothesized that the Nonsexual Friendship Expectations subscale of the Relationship Issues Scale (RIS-NFE) would have a moderate to strong, positive correlation with the PANEBS scale with $r \geq .30$. As with hypothesis two, this hypothesis was substantiated across norming groups (see Table 10), with correlations ranging from .53 to .69 across norming groups and .62 for the entire sample.

Convergent validity with emotional jealousy (hypothesis five). It was hypothesized that the Emotional Jealousy subscale of the Multidimensional Jealousy Scale (MJS-E) would have a moderate to strong, negative correlation with the PANEBS scale with $r \geq -.30$. This hypothesis was corroborated across norming groups (see Table 10), with correlations ranging from -.35 to -.40 across norming groups and .36 for the entire sample.

Discriminant validity with optimism (hypothesis six). It was hypothesized that the Life Orientation Test – Revised (LOT-R) scale of general optimism would not correlate with the PANEBS scales. This hypothesis was supported across norming groups (see Table 10), with correlations all at or below .17 across norming groups and .14 for the entire sample.

Discriminant validity with social desirability (hypothesis seven). It was hypothesized that the Marlowe-Crowne Form C (MC-C) scale of social desirability would not correlate with the PANEBS scales. This hypothesis was supported across norming groups (see Table 10), with correlations all at or below .05 across norming groups and .01 for the entire sample, suggesting the PANEBS did not evoke a socially desirable response set.

Table 10

Construct Validity Correlations

Construct Validity Measures	Heterosexual Partner Group (N = 214)	Bisexual Partner Group (N = 210)	Lesbian/Gay Partner Group (N = 207)	Entire Sample (N = 631)
LOT-R	.14*	.13	.17*	.14*
TS-D	.36*	.53*	.45*	.39*
RIS-NFE	.64*	.53*	.69*	.62*
MJS	-.38*	-.40*	-.35*	-.36*
MC-C	.01	.05	-.05	.01

Note. $*p < .05$

Norming Group Comparison (Hypothesis Eight)

Three paired-samples *t*-tests were conducted to test the hypothesis that individuals with heterosexual, gay/lesbian, and bisexual partners would be significantly more approving of NEBs with same-sex friends. The results of each group are reported below.

Heterosexual partner norming group. As hypothesised, those with heterosexual partners were less approving of partner's interaction with cross sex friends. Specifically, there was a significant difference in the subscale scores for PANEBS-CS (M = 63.31, SD = 23.24) and PANEBS-SS (M = 89.00, SD = 15.16); $t(213) = 17.58$, $p = <.01$.

Lesbian/gay partner norming group. Consistent with what was hypothesized, those with gay partners were less approving of their partner's interacting with same sex friends. The paired-samples t-test demonstrated a significant difference in the subscale scores for PANEBS-CS (M = 95.94, SD = 22.09) and PANEBS-SS (M = 79.76, SD = 19.47); $t(206) = -4.966$, $p = <.01$.

Bisexual partner norming group. As hypothesized, the group with bisexual partners followed the same pattern as the heterosexual group in that they were less approving of their partners engaging in NEBs with cross-sex friends than same-sex friends. Specifically, there was a significant difference in the subscale scores for PANEBS-CS (M = 77.42, SD = 19.49) and PANEBS-SS (M = 86.00, SD = 15.20); $t(209) = 7.816$, $p = <.01$.

Post Hoc Analyses

A series of post hoc analyses were conducted to determine any subgroup differences within each norming group. This was examined via descriptive statistics, Pearson's *r* correlations, and one-way ANOVAs. These analyses served to identify the

extent to which attitudes about NEBS are explained by various specific demographic characteristics of the participant, their partner, and their romantic relationship. See Table 11 for descriptive statistics, Table 12 for post hoc correlations, and Table 13 for results of one-way ANOVA analyses.

Table 11

PANEBS Standard Deviations and Means Across Demographic Categories

Demographic Category	Heterosexual Partner Group (N = 214)			Bisexual Partner Group (N = 210)			Lesbian/Gay Partner Group (N = 207)		
	N	M	SD	N	M	SD	N	M	SD
Openness of Relationships									
Sexually Open	12	172.12	21.24	105	169.96	29.75	40	167.84	32.69
Monogamous	177	152.35	32.06	83	159.85	31.58	153	163.78	31.22
Monogamous Relationship Fidelity									
Faithful	177	152.34	32.06	83	159.83	31.58	153	163.72	31.25
Unfaithful	25	142.78	39.94	22	146.12	28.11	14	171.25	24.77
Gender									
Male	79	148.56	39.13	123	166.08	28.71	92	164.38	32.48
Female	135	154.49	28.67	84	158.46	33.72	109	165.43	30.53
Transgender[a]	0			0			0		
Partner's Gender									
Male	131	153.85	28.55	69	155.85	33.96	92	164.47	32.54
Female	81	149.19	38.76	138	167.04	29.09	110	167.02	29.56
Transgender[a]	2	180.55	32.97	0			0		
Ethnicity									
African American	12	128.24	38.23	14	153.72	31.92	23	157.32	36.87
Asian American	13	155.99	24.24	11	150.20	19.75	10	163.41	26.03
Caucasian American	174	155.46	31.07	160	165.99	31.89	153	165.67	30.61
Foreign National[a]	1			0			1		
Latino American[a]	9			16	156.67	26.23	15	168.44	33.02
Native American[a]	1			3			1		
Bi-Racial[a]	4			6			4		
Sexual Orientation									
Heterosexual	207	152.52	33.16	92	165.46	30.05	0		
Gay/Lesbian[a]	0			15	157.64	36.08	182	164.09	34.99
Bisexual	7	145.08	25.70	103	162.08	31.63	22	165.46	30.58
Other[a]	0			0			0		
Relationship Status									
Dating, but no commitment	13	163.33	24.12	28	160.20	25.36	36	158.9	30.70
Committed, but no engagement	78	154.31	34.63	120	164.18	32.58	122	164.93	32.48
Engaged	12	151.38	30.44	15	158.63	33.39	15	167.38	24.75
Married,	111	149.78	32.86	47	164.85	30.44	31	172.57	26.73

Table 11 cont.

Demographic Category	Heterosexual Partner Group (N = 214)			Bisexual Partner Group (N = 210)			Lesbian/Gay Partner Group (N = 207)		
	N	M	SD	N	M	SD	N	M	SD
domestic partnership, or commitment ceremony									
Employment Status									
Employed	161	151.69	32.39	169	162.33	30.09	164	162.96	31.66
Unemployed	53	154.34	34.73	41	167.82	35.44	43	172.80	28.28
Cohabitation with Partner									
Cohabitating	158	149.56	33.06	145	161.01	32.17	138	164.35	30.44
Not Cohabitating	56	160.34	31.51	65	168.78	28.24	69	166.44	32.77
Children									
No	105	155.60	31.82	166	163.67	31.48	180	164.77	31.94
Yes	109	149.16	33.73	44	162.76	30.19	27	166.94	25.57
Geographic Location									
West (Pacific)	38	153.25	37.03	42	168.10	28.40	37	164.14	29.70
West (Mountain)	19	131.34	31.90	12	159.59	35.12	16	174.42	33.20
Midwest (West North Central)	9	152.09	30.26	10	164.46	31.532	13	164.8	27.08
Midwest (East North Central)	16	152.10	35.88	22	164.03	34.26	19	166.21	22.75
South (West South Central)	31	158.29	25.55	25	166.8	32.58	26	165.9	29.67
South (East South Central)	35	153.35	27.94	37	156.42	37.86	37	170.19	32.81
South (South Atlantic)	18	156.77	29.33	24	164.92	23.23	20	155.76	39.93
Northeast (Middle Atlantic)	34	155.83	36.54	23	161.44	28.85	23	165.94	34.48
Northeast (New England)	14	148.37	38.66	15	163.68	27.96	16	153.74	25.56

Note. [a] Blank spaces indicate less than 10 individuals identified with a particular option and were excluded from ANOVA analyses.

To determine the degree to which scores on the PANEBS correlate with various continuous demographic variables, a series of Pearson's *r* correlations were conducted. It was determined that no correlations were significant (see Table 12), indicating that attitudes about nonsexual extradyadic behaviors do not significantly differ based on these demographic variables.

Table 12

Correlations Between PANEBS and Various Demographic Categories

Demographic Category	PANEBS		
	Heterosexual Partner Group (N = 214)	Bisexual Partner Group (N = 210)	Lesbian/Gay Partner Group (N = 207)
Length of Relationship	-.14	-.02	.11
Highest Level of Education	.09	.13	.01
Age	-.10	.11	.01
Income	-.09	.04	-.03

A series of one-way ANOVAs were conducted to compare PANEBS scores cross various demographic variables. These variables were chosen for further post hoc analysis due to their potential theoretical connections to the construct measured by the PANEBS. These variables are listed in Table 13, with their respective *F* statistics and p-levels.

Three ANOVAs were statistically significant, indicating that attitudes about NEBs do significantly differ based on two variables in particular, the sexual openness of participants' relationships and their partners' genders. Specifically, there was a statistically significant difference in the heterosexual partner group between those in open (M = 172.12, SD = 21.24) versus monogamous (M = 152.35, SD = 32.06) relationships, as well as in the bisexual partner group between those in open (M = 169.96, SD = 29.75) versus monogamous (M = 159.85, SD = 31.58) relationships. In both groups, those in sexually open relationships were more accepting of their partners' engaging in NEBs when compared to those in monogamous relationships. No significant differences between open and monogamous relationships were supported in the lesbian/gay partner group. The third statistically significant difference was the gender of the partner, specifically and exclusively within the bisexual partner group. Those with male bisexual partners (M = 155.85, SD = 33.96) differed significantly in their scores on the PANEBS

from those with female bisexual partners (M = 167.04, SD = 29.09), with participants being more accepting of partners' engagement in NEBs when their partners' are female.

Table 13

F Values Across Demographic Categories

Demographic Category	PANEBS					
	Heterosexual Partner Group (N = 214)		Bisexual Partner Group (N = 210)		Lesbian/Gay Partner Group (N = 207)	
	F	p	*F*	p	*F*	p
Openness of Relationships	4.42	.04	5.06	.03	0.54	.46
Monogamous Relationship Fidelity	1.85	.80	3.40	.07	0.77	.38
Gender	1.61	.20	3.01	.08	0.06	.81
Partner's Gender	1.24	.29	6.12	.01	0.36	.55
Sexual Orientation	0.36	.55	0.56	.57	0.04	.85
Relationship Status	0.82	.48	0.27	.87	1.11	.35
Cohabitation	4.82	.17	2.80	.10	0.22	.64

Test-Retest Study Analyses

The PANEBS was administered to the same sample on two different occasions to provide assurance that the scale is capable of measuring attitudes about NEBS the same way, in the same participants, each time it is used. To determine the test-retest reliability of the PANEBS across norming groups, a series of Pearson's *r* correlations were conducted.

Test-Retest Reliability (Hypothesis One)

It was hyptothesized that the PANEBS would have strong test-retest reliability across norming groups, as evidenced by a Pearson's *r* correlation greater than .80 across Time 1 and Time 2. Hypothesis one was corroborated across norming groups. Specifically, the test-retest reliability for the heterosexual group was .86, both the bisexual and gay/lesbian norming groups had reliabilities of .89, and the entire sample reliability was .88.

CHAPTER V

DISCUSSION

This chapter of the dissertation reviews the interpretation, implications, and limitations of the Partners' Approval of Nonsexual Extradyadic Behaviors Scale's (PANEBS) construction. The purpose of the PANEBS' creation was to develop a psychometrically sound instrument to measure people's attitudes about the acceptability of their partners engaging in nonsexual extradyadic behaviors (NEBs). The PANEBS measures individuals' attitudes about their partners' engagement in NEBs with their same-sex (SS) and cross-sex (CS) friends across heterosexual, gay and lesbian, and bisexual populations. This is an important endeavor for research and clinical practice as there are no measures to date that measure attitudes about NEBs across both CS and SS friends and across sexual orientations.

The Confirmation Study built upon the obtained preliminary evidence for the Partners' Approval of Nonsexual Extradyadic Behaviors Scale's (PANEBS) validity, reliability, and factor structure obtained in the Pilot Study. Furthermore, the test-retest study established, for the first time, the ability of the PANEBS to consistently measure attitudes about NEBs across time. Hypotheses related to factor structure, various facets of validity, internal consistentcy, test-retest reliability were largely corroborated by the data. In addition, results concerning similarities and differences across norming groups were congruent with hypotheses.

This discussion chapter is organized by the various aspects of scale construction that were assessed and their respective hypotheses. More specifically, the factor structure of PANEBS, initially established in the Pilot Study via exploratory factor analysis (EFA) and reevaluated through the use of confirmatory factor analaysis (CFA), is reviewed. In addition, the strong internal consistency, test-retest reliability, and the evidence for the convergent and discriminant validity of the scales is discussed. Moreover, a discussion is offered of how the three norming groups compared in terms of their scores on the PANEBS, as well as a review of noteworthy post hoc analyses. Lastly, limitations, areas for future research, and implications of the three studies are amply discussed.

Factor Structure

In light of the factor structure suggested by EFA, it was hypothesized that the PANEBS would consist of two related factors across all three norming groups when submitted to CFA: 1) attitudes about partners' engagement in NEBs with same-sex (SS) friends; and 2) attitudes about partners' engagement in NEBs with cross-sex (CS) friends. Contrary to expectations, when this model was submitted to CFA, fit indices suggest that the null model was an unacceptable fit to the data. Rather, a theoretically based modification to the model demonstrated good fit.

According to Brown (2006), poor fit usually stems from misspecification in the measurement portion of the model (e.g., the manner in which the observed variables are related to the latent variable). In CFA, the primary sources of misspecification are the number of factors (i.e., too few or too many) and error theory (i.e., uncorrelated or correlated measurement errors). Given the commonality of these factors, the potential for both were explored with the outcome indicating that both sources of specification were

present. Specifically, it appeared that there were methods effects due to several measurement residuals being highly correlated. This indicated that differential covariance among items was due to the measurement approach rather than the substantive latent factors. In addition, the poor fit suggested that there were potentially more factors than originally hypothesized.

While it was theoretically reasonable, and therefore hypothesized, that the PANEBS would consist of only two factors (e.g., CS and SS), it would also be theoretically justifiable based on friendship maintenance behavior research that these factors be further broken down into additional sub-factors (i.e., first-order factors). To clarify, the PANEBS' CS and SS items were adapted from Guerrero and Chavez's (2007) friendship maintenance behaviors scale, which consisted of the following empirically supported factors: Routine Contact and Activity; Emotional Support and Positivity; Instrumental Support; and Humor and Gossip. Taking these into consideration, conducting a higher-order CFA with two second-order factors (i.e., CS and SS attitudes) and four first-order factors (i.e., Routine Contact, Emotional Support, Instrumental Support, and Humor and Fun) was theoretically justifiable.

Additionally, scholars have argued that it is best practice to test multiple plausible rival models when conducting CFA (Thompson, 2004). Therefore, the higher-order model was tested and compared to the null model. Brown (2006) noted that hierarchical factor models have been used to "rescue" a construct originally predicted to be one-dimensional when in fact multiple factors are required to explain the covariation among a set of indicators. The goal of higher-order CFA is to provide a more parsimonious account for the correlation among lower-order factors.

The sequence for creating a higher-order CFA, as suggested by Brown (2006), was followed in the present study. The first step consisted of developing a conceptually plausible first-order CFA (i.e., the null model), and then examining the magnitude and pattern of correlations among the factors in the null solution. Given the strong EFA results in the Pilot Study sample, it was expected that a first-order model would fit the data in the Confirmation Study sample. When evidence did not support a first-order model in the Confirmation Study sample, Brown's (2007) suggestion for creating a second-order solution was utilized to modify the factor structure of the PANEBS. It is recommended to fit a higher-order model as justified on conceptual and empirical grounds (Brown, 2007). After following these steps, the CFA in the present study again resulted in an inadequate fit, suggesting the need to attend to the misspecification related to method effects.

A method effect exists when some differential covariance among items is due to the measurement approach rather than the substantive latent factors. Specially, it can be due to similarly worded items as well as item proneness to social desirability (Brown, 2006). However, in the present study, the interference of social desirability was ruled out in that a measure a social desirability was weakly correlated with the PANEBS. Therefore, it is more likely that the method effects reflect an artifact of response styles associated with the similarity, particularly in regards to the wording, of the PANEBS' items.

Advantages of estimating method effects include source of covariation among indicators that are not accounted by latent factors. Brown (2006) suggested that correlated errors may be needed for self-report measures when the correlations can be

defended substantially. Brown (2006) argued that specification of correlated errors is justified on the basis of method effects that reflect additional indicators covariation that resulted from measurement methods (i.e., similarly worded items). In the case of the PANEBS, the wording of the items across the CS and SS subscales are virtually identical, with the only difference being the "same-sex" versus "opposite-sex" wording. Further, Brown (2006) argued the importance of being consistent in correlating errors for which the reasoning used applies. Therefore, in the present study, all error variances in the CS subscale were allowed to correlate with their corresponding error variance in the SS subscale to maintain consistency.

As suggested by Brown (2006) and Hatcher (1994), best practices were utilized in the present study with regards to model modification in order to maintain both statistical and theoretical justification of modifications. The higher-order model resulted in a close fit to the data when the justifiable item residuals were allowed to correlate. Nested models were then used to compare the fit of the null and this higher-order model, revealing the superiority of the higher-order model. Moreover, a multigroup analysis was conducted to assess the equivalence of the higher-order model across norming groups (i.e., partners' sexual orientations). The purpose of this analysis was to examine all the potential aspects of invariance, which determines whether the items of the PANEBS measure the same constructs in all groups of the population for whom the measure will be used (Brown, 2006). Results suggest that there were not differences based on the partners' sexual orientation that precluded any one group from responding to the PANEBS in similar ways. This speaks to the generalizability of the construct measured by the PANEBS across groups.

Based on these findings, the higher-order model was retained for use in all three norming groups. Taken together, estimation of the null model in the entire sample resulted in poor fit. However, estimation of the higher-order model with correlated error resulted in good fit in the entire sample and fair to good fit across groups. However, the decrease in the CFI values in the multiple group analyses (.88 to .89) indicated possible model misspecification. This may suggest a slight worsening of fit upon constraining variances across the groups.

In sum, the factor structure of the higher-order model was retained as it was a better fit to the data when compared to the null model, even after the null model was modified to decrease method effects by including the same correlated residuals. Confirmatory factory analysis confirmed that the two related factors within the null model (i.e., CS and SS subscales) were present, as originally hypothesized. As such, scores for the CS and SS subscales can be calculated. An analysis of modification indices suggested that these factors serve as second-order factors to underlying first-order factors not originally detected by the EFA. When conducting the EFA during the Pilot Study, the CS and SS items were not submitted to EFA separately. As a result, the potential for a higher-order model was not found by initial rotations in that the CS and SS items were not submitted to EFA separately. All CS and SS items were analyzed together, since theoretically they are considered related factors that together make up the latent variable. Because they were not explored separately, the existence of a higher-order structure went undetected. Further, EFA is incapable of estimating method effects (i.e., correlations between residuals) (Brown, 2006); therefore, the higher-order model with correlated residuals could not have been estimated via the EFA conducted in the Pilot Study.

Results of the CFA analyses suggest that not only is the sex of a partner's friend (i.e., SS or CS) an important factor to consider when measuring people's attitudes about their partners' engagement in NEBs, but the nature and purpose of the behaviors (e.g., to establish routine contact, to offer instrumental or emotional support, or to engage in humor and have fun) are important domains to measure as well. The inclusion of these first-order factors is supported substantially not only by the research conducted on Guerrero and Chavez's (2007) scale but also by previous research that has broken down friendship behaviors into specific domains (e.g., Fuhrman et al., 2009; Oswald et al., 2004; Stafford & Canary, 1991). The comprehensive domains identified by these scholars provide valuable insight into the range of behaviors that individuals may engage in with same-sex and cross-sex friends. It was for this reason that the items of the PANEBS were adapted from friendship maintenance behavior scale items, specifically from Guerrero and Chavez's (2007) scale, as they are conceptually the closest construct to NEBs.

Analysis of the PANEBS via CFA revealed that the friendship maintenance behaviors of routine contact, emotional support, instrumental support, and fun and humor do indeed provide a platform from which to understand the types of NEBs that occur within same-sex and cross-sex friendships. This is congruent with previous research that had identified these domains. For instance, the role of routine behavior has consistently been found to be a paramount component of friendships. Specifically, Furhman's (2009) scale consisted of a factor named Social Companionship, which referred to one's ability to visit a friend. Similarly, Oswald et al. (2004) identified a factor named Interaction to be imperative in friendships. Additionally, Guerrero and Chavez (2007) identified routine

contact to be a critical component of friendship, which was also found in the present study to be a component of the PANEBS.

Guerrero and Chavez (2007) also identified emotional support and instrumental support as friendship components, alongside Oswald et al. (2004), who identified Supportiveness as a primary factor. Further, Furhman (2009) too confirmed the presence of emotional closeness in friendships, and Stafford and Canary had long ago identified task sharing as a way to maintain friendships. Therefore, it is no surprise that both emotional and instrumental support would surface as facets of the PANEBS.

The importance of fun and humor in friendships, as suggested by Guerrero and Chavez (2007), has also been supported by research on positivity by Stafford and Canary (1991). Positivity in this context referred to behaviors that indicate one is cheerful when in the company of another (e.g., humor and fun). Therefore, the presence of the present study's first-order factors within friendships has been unanimously confirmed, and now it has been established that they are important factors in influencing individuals' attitudes about their partners' engagement in NEBs. Participants in the present study consistently responded to items in such a way that suggest the presence of these domains, which was further evidenced by measures of internal consistency.

Internal Consistency

Internal consistency refers to the ability of a scale to reliably measure an attribute and how well the items fit together conceptually (DeVon et al., 2007). Evaluating reliability is a first step in determining the accuracy of an instrument. In line with what was hypothesized with regard to internal consistency, as measured by Cronbach's alpha (Cronbach, 1951), the PANEBS across the Pilot Study sample (EFA) and Confirmation

Study sample (CFA) demonstrated an appropriately high level of reliability in all norming groups. Further, the alphas of the second-order and first-order factors all were suggestive of high internal consistency (DeVellis, 2011). In fact, the first-order factors consistently had higher alphas than the equivalent factors in Guerrero and Chavez's (2007) friendship maintenance scale development study. The PANEBS also outperformed all existing measures of extradyadic behaviors (EBs) with regards to its internal consistency. The strong internal consistency of the PANEBS indicates that the scale overall has both statistical and theoretical independence within a framework that addresses the same underlying construct – people's attitudes about their partners' engagement in NEBs.

Test-Retest Reliability

With the internal consistency of the PANEBS established, another way in which the reliability of the PANEBS was examined was through test–retest analysis. This technique allows researchers to evaluate if similar results are reproduced under the same methodological conditions at different times (DeVellis, 2011). It was hyptothesized that the PANEBS would have strong test-retest reliability across norming groups, as evidenced by a Pearson's *r* correlation greater than .80 across Time 1 and Time 2. The investigation of the test-retest reliability in attitudes towards partners' engagement in NEBs during a two-week period indicates a considerable level of stability in attitudes as measured with the PANEBS across norming groups. All of the previous studies that aimed at evaluating the reliability of tools for the investigation of attitudes about EBs neglected to examine the test-retest reliability of measures (e.g., Boekhout et al., 2003;

Johnson, 1970). The PANEBS appears to the first measure in this domain that has established reliability across time.

Content and Construct Validity

While reliability is necessary, is not sufficient to validate an instrument because an instrument may be reliable but not valid (DeVon et al., 2007). An additional principal goal of scale development is to create a valid measure of an underlying construct. To accomplish this it is essential to begin with a clear conceptualization of the target construct, which involves pretesting items for content adequacy (i.e., content validity). Further, it is imperative to assess the degree to which the scale measures what it claims, or purports, to measure (i.e., construct validity). Convergent validity and discriminant validity together demonstrate construct validity (DeVon et al., 2007). The validity of the PANEBS across these facets was assessed in the present study and is discussed next.

Content Validity

Content validity is an instrument's ability to represent all aspects of a particular construct (DeVon et al., 2007). There are numerous nonsexual behaviors in which individuals may engage with their friends. Developing a single scale that can measure all possible behavioral aspects of friendships is not necessarily feasible or useful. The more factors present in a scale, especially when they are closely related, make for an increasingly complicated scale construction project that may not yield a psychometrically sound instrument. Further, the time and energy of respondents would be taxed by a lengthy measure with a large number of items. The development of the PANEBS sought to result in a brief but relatively comprehensive measure that was supported by theory and psychomateric data.

In addition to the PANEBS being grounded in scientific and theortical literature, content validity for the PANEBS was established through an expert review. The fourth step of the scale's construction was to have the PANEBS evaluated by experts (DeVellis, 2011). In the Pilot Study, three previously described experts in romantic relationships and friendships provided ratings on the items of the scale. Specifically, they offered qualitative and quantitative feedback on the definition of the construct, as well as the relevance and clarity of each individual item. The experts utilized in this review had high agreement on the clarity and essentialness of items. Results of the expert review provided evidence that the items represent a reasonable measure of the construct under examination. According to DeVellis (2011), this process established both content and construct validity.

Overall, the PANEBS has demonstrated adequate content validity and internal consistency reliability, both of which provide initial supportive evidence of construct validity. Further evidence of construct validity can be achieved by examining the extent to which a scale correlates with other measures that were designed to assess similar constructs (i.e., convergent validity) and does not correlate with dissimilar measures (i.e., discriminant validity) (DeVellis, 2011).

Construct Validity

Construct validity, the overarching principle of validity, refers to the extent to which a psychological measure in fact measures the concept it purports to measure (Brown, 2006). To its benefit, the PANEBS was able to broadly address its construct validity through detailed and thorough scale construction procedures as informed by DeVellis (2011). DeVellis' (2011) fifth step of scale constuction was carried out to

determine the convergent and discriminant validity of the PANEBS. An examination of the correlations of the PANEBS with established measures revealed the degree to which the PANEBS is related to other constructs. Specifically, measures of emotional jealousy, trust, relationship nonexclusivity expectations, social desirability, and optimism were included to establish further evidence of construct validity. Evidence for convergent and discriminant validity was unanimously established, in that across norming groups the PANEBS was at least moderately correlated with jealousy, relationship expectations, and trust, and was weakly correlated with optimism and social desirability.

Trust. In regards to convergent validity, it was hypothesized that the PANEBS would moderately to strongly correlate with the Dependence subscale of the Trust Scale (TS-D; Rempel & Holmes, 1986), which measures relationship confidence in the face of risk and potential hurt (Rempel & Holmes, 1986). Findings supported the expected moderate conceptual overlap between the PANEBS and TS-D across all three norming groups, providing support for the convergent validity of the PANEBS. Although the relationship between extradyadic behaviors and trust had not been examined prior to the present study, there was reason to believe that these two constructs were not completely independent of one another. This corroborated hypothesis has important implications for theory.

For instance, individuals in sexually open relationships identified trust as a necessary component in the relationship (Pawlicki & Larson, 2012; Worth et al., 2002). Given this, it seemed that trust might also relate to behaviors that are not sexual in nature due to the threat of nonsexual relationships becoming sexual (Lou et al., 2010), especially when individuals' friends belong to the sex to which they are sexually attracted. The

present study's findings provide support for this preliminary theory, as evidenced by the corroborated hypothesis of a moderate relationship between these constructs.

Furthermore, the present study's findings make sense in light of Rempel et al.'s (1985) research, which demonstrated that individuals are less trusting of their partners when they do not feel they can depend on their partner to be faithful. If an individual does not trust their partner to be faithful, they also appear to be less accepting of them engaging in behaviors with friends who belong to a sex-attracted group, even if those behaviors are nonsexual in nature. The link between the TS-D and PANEBS indicates that individuals who are not willing to risk the potential hurt of infidelity are less accepting of their partners' engagement in NEBs.

These results also fit with Weis and Slosnerick's (1981) research, which found that most individuals consider NEBs acceptable only if such behaviors were perceived as unlikely to lead to sexual encounters. Results of the present study suggest that the degree to which a person trusts their partner likely informs their decision as to where the line is drawn between acceptable and unacceptable NEBs. Therefore, results of the present study suggest that one's attitudes about trust can partially be captured via their attitudes about their partners' engagement in NEBs.

In sum, it appears that measuring someone's attitudes about their partner engaging in NEBs with friends, one may also be gleaning information about the degree to which that person trusts their partner. The finding of a moderate relationship between the two constructs suggests that the PANEBS has the ability to relate to this theoretically similar variable, suggesting evidence for convergent validity; however, it is important to recognize that these variables remain distinct constructs.

Jealousy. In further examining convergent validity, the theoretically similar construct of emotional jealousy was hypothesized to correlate moderately to strongly with the PANEBS. This hypothesis was unanimously substantiated across the three norming groups, suggesting that the more jealous individuals are, the more likely they are to be disapproving of their partners' engagement in NEBs. While there is little empirical research on the intersection between jealousy and people's attitudes about their partners' engagement in NEBs, the present study's findings are congruent with the limited existing research.

Specifically, previous research suggests that jealousy emerges when the threat of a partner being sexually unfaithful is great, whereas jealousy is least likely to occur when their partners are engaging in activities with others who are not sexually attractive to them (i.e., friends belonging to a sex-attracted group) (Barelds & Dijkstra, 2006; Guerrero et al., 2005; Hansen, 1985; Weis & Felton, 1987). The established link between emotional jealousy and attitudes about NEBs in the present study provides support for Hansen's (1985) conclusion that jealousy is a potential contributor to opposition of NEBs.

In terms of the theory thought to underlie the established relationship between attitudes toward NEBs and jealousy, one potential reason for that relationship could be that some individuals view their partners' friends as rivals or threats to the romantic relationship, especially when the friend belongs to a sex-attracted group. According to Dijkstra and Buunk (2002), most individuals find some characteristics of others to be threatening to their primary intimate relationships. Therefore, it seems plausible that

some individuals would experience jealousy when their partners engage in certain behaviors with friends, especially if the friends are viewed as rivals.

The moderate to strong relationship between jealousy and NEBs is partially concerning, in that perceptions of threat of rivals (i.e., the friends of partners) has been found in previous research to bring about possessive jealousy, which may lead individuals to try to keep their partners away from potential friends (Barelds & Dijkstra, 2006). Researchers have theorized that jealous heterosexual individuals may find it unacceptable that their partners have cross-sex friends (Barelds & Dijkstra, 2006). This theory was supported by the present study's findings, which expanded the theory to lesbian, gay, and bisexual populations. It has also been found that jealousy, specifically possessive jealousy, can lead individuals to restrict the access that their partners have to others outside of the primary intimate relationship (Barelds & Dijkstra, 2006; Guerrero et al., 2005). The present study's findings also make sense in light of Bevan and Lannutti's (2002) research, which found that individuals across all orientations and genders utilize restriction tactics when jealous.

The present study's results suggest that in measuring someone's attitudes about their partner engaging in NEBs with friends, information is also gleaned about the degree to which that person is experiencing emotional jealousy. The two constructs are theoretically similar, and as hypothesized, statistically related to each other accordingly. These results suggest ample support for the PANEBS' convergent validity. However, since jealousy is considered an emotional reaction and individuals' levels of approval of NEBs are considered attitudes, these two constructs remain distinct.

Nonexclusive friendship expectations. As a final test of the PANEBS' convergent validity, the conceptual overlap between nonexclusive friendship expectations (NFEs) and attitudes about NEBs was examined. Nonexclusive friendship expectations are the expectations that coupled individuals have about the experiences that they and their partners can share with friends (Boekhout et al., 2003). Specifically, it was hypothesized that the PANEBS would correlate moderately to strongly with the NFE subscale of the Relationship Issues Scale (RIS-NFE; Boekhout et al., 2003). As expected, strong relationships between these two measures were found across all norming groups.

While the purpose of this hypothesis was to provide evidence for convergent validity of the PANEBS, the present study's findings have important implications for theory. The findings are consistent with previous research on relationship exclusivity. For instance, Shackelford and Buss (1997) found that relationship exclusivity measures (i.e., limitations on what partnered people can do with persons outside of the primary relationship) are employed by people to guard against rivals and to reduce the negative feelings associated with jealousy. Further, research by Boekhout et al. (2003) and Lou et al. (2010) has suggested that people will differ in the amount of expectations that they have about having nonsexual extradyadic relationships, possibly due to their beliefs about the utility of those relationships and the motivations of their partners' and their partners' friends.

More specifically, Boekhout et al. (2003) found that nonexclusive friendship expectations were moderately related to the degree to which heterosexual individuals in monogamous relationships gave their partners approval to engage in nonsexual relationships with cross-sex friends. This finding is congruent with the present study's

results, which suggests that one's expectations of friendship nonexclusivity are related to the amount of approval partners have to engage in friendship behaviors. Results indicate that if individuals hold the expectation that they and their partners will have friendships outside of the primary romantic relationship, they also tend to be approving of their partners' engagement in various NEBs with friends. Therefore, it appears that in measuring someone's attitudes about their partner engaging in NEBs, one is also, at least in part, gleaning information about their expectations of friendship nonexclusivity within their romantic relationship.

Overall, results confirm the conceptual link between nonexclusive friendship expectations and attitudes about NEBs. However, the key difference between the two constructs is that one is an attitude, whereas the other is a belief or expectation. According to the theory of planned behavior, beliefs are antecedents of attitudes (Ajzen, 1985). This suggests that nonexclusive friendship expectations and attitudes about NEBs are conceptually related, but distinctive, thereby establishing further evidence for the convergent validity of the PANEBS.

Optimism. In addition to the strong evidence for the PANEBS' convergent validity, results also demonstrate that indicators of theoretically distinct constructs are not highly intercorrelated with the PANEBS, suggesting support for solid discriminant validity as well. As hypothesized, the PANEBS was weakly correlated with a measure of optimism - the Life Orientation Test – Revised (LOT-R; Scheier et al., 1994). Despite the expansion of optimism research to romantic relationships (e.g., Assad et al., 2007), previous research had not been conducted on the relationship between optimism and attitudes about NEBs. Therefore, the conceptual link to attitudes about NEBs had been

previously unknown. However, in the present study, it was hypothesized that there would be little to no covariance between the two measures, since the theoretical underpinnings of the two concepts are relatively distinct. As hypothesized, results suggest that attitudes about NEBs and optimism are indeed quite distinct constructs, providing evidence that the PANEBS scale has the power to discriminate between constructs that are theoretically different.

Social desirability. To further reexamine the PANEBS discriminant validity, the PANEBS was correlated with a measure of social desirability, as measured by the Marlowe-Crowne Social Desirability Scale – Short Form C (MC-C; Reynolds, 1982). As hypothesized, the MC-C correlated weakly with the PANEBS. Results provide two valuable sources of information regarding the properties of the PANEBS. First, the weak correlation suggests that the constructs of social desirability and attitudes about NEBs are distinct constructs that appear to have no conceptual overlap. This provides further evidence for the discriminant validity of the PANEBS. Second, the weak correlation also demonstrates that the PANEBS does not elicited socially desirable responses. One aspect of scale validity is the potential threat of contamination of data due to social-desirability response bias (King & Bruner, 2000). Therefore, it was imperative that the PANEBS be evaluated for its tendency to elicit socially desirable responses from respondents. The weak correlations indicate that data and scores on the PANEBS are not contaminated or confounded by social desirability.

In sum, the examination of the similarities and differences between the aforementioned constructs and attitudes about NEBs was essential in further establishing the construct validity of the PANEBS. However, it was also critical in better

understanding the understudied construct measured by the PANEBS. Overall, evidence for the convergent and discriminant validity of the PANEBS corroborated all hypothesizes across all measures and across all norming groups. These findings provide ample support for construct validity, suggesting that the PANEBS is a scale that measures a unique construct that is fittingly related to constructs that are theoretically similar and is appropriately unrelated to divergent constructs.

Comparison of Norming Groups

It was anticipated that the sexual orientation of one's partner would affect responses to items on the PANEBS. It was for this reason that three different norming groups, based on the sexual orientation of partners, were proposed and evaluated. Hypotheses comparing the norming group were corroborated, providing validation of the scale's norming group structure. However, results also offer noteworthy implications for theories of attitudes about friendships and EBs.

Since previous research and scales that measure attitudes about EBs have been solely examined within the heterosexual population, knowledge about these attitudes within the gay, lesbian, and bisexual population was previously unknown. Prior to the present study, no research has compared attitudes toward NEBs across sexual orientations.

Results of the present study indicate that there are indeed significant differences between people with heterosexual, bisexual, and gay and lesbian partners in relation to their acceptability of their partners' engagement in NEBs with same-sex and cross-sex friends. It was hypothesized that individuals with heterosexual and bisexual partners would be significantly more approving of NEBs with same-sex friends and individuals

with gay and lesbian partners would be significant more approving of NEBs with cross-sex friends. Previous research (e.g., Galupo, 2007) discussed the possibility for bisexual individuals to experience sexual attraction toward both their same-sex and cross-sex friends. However, it was hypothesized that the bisexual group would be significantly less approving of cross-sex friendships, as indicted by the Pilot Study results.

Overall, the present study's hypothesis comparing norming groups was supported by the Confirmation Study data, therby providing validation of the PANEBS' norming group structure. Findings also provide interesting implications for theory, in that they are congruent with phenomena previously posited by Galupo (2007), who theorized that engagement in NEBs with friends becomes more threatening to the primary romantic relationship when there is the potential for sexual attraction within the friendship. In the case of heterosexual populations, those friendships that would be most threatening are cross-sex friendships. In the case of gay and lesbian populations, same-sex friendships are most threatening (Galupo, 2007). While the purpose the comparison across sexual orientations was to validate the PANEBS norming group structure, the present study's findings provide are congruent with this theory and shed light for the first time on the attitudes of those with bisexual partners.

Heterosexual Norming Group

As hypothesized, the present study's finding suggests that heterosexual individuals are significantly more approving of their partners' engaging in NEBs with same-sex friends compared to cross-sex friends. This finding has important implications for theory. Researchers have long assumed that heterosexual cross-sex friendships have complex implications for monogamous heterosexual couples. Post hoc analysis in the

present study demonstrated that those participants who were in a sexually open or nonexclusive relationship with their heterosexual patterns were significantly more approving of their partners' engagement in NEBs with cross-sex friends than those in monogamous or sexually exclusive relationships. These results indicate the importance of the role of sexual exclusivity in understanding approval levels if engagement in NEBs.

While the present study did not explore the reasons behind the lower approval of the cross-sex NEBs, previous suggests that monogamous individuals may view their heterosexual partners' cross-sex friends as a threat to the primary relationship. This is thought to be due to the potential for sexual interest and possibly even sexual encounters in heterosexual cross-sex friendships (Weis & Felton, 1987). As such, there appears to be increased jealousy among individuals, particularly those in monogamous relationships, who have romantic partners with cross-sex friendships (O'Meara, 1989; Weis & Felton, 1987). In one study, approximately one-third of heterosexual individuals identified jealousy from their romantic partner as a primary cost of maintaining their cross-sex friendships (Bleske-Rechek et al., 2012). Previous research suggests that the majority of heterosexual individuals' friendships consist of same-sex and couple friendships (Weis & Felton, 1987). Perhaps one reason for this is that monogamous individuals are less approving of their partners' involvement in cross-sex friendships.

Although it is difficult to determine how much levels of approval relate to level of actual engagement, it is plausible that individuals who are less approving of their partners' engagement in NEBs with cross-sex friends might also suggest that their partners' then engage in cross-sex friendship behaviors less frequently. Although cross-sex friendships have become increasingly more commonplace in the heterosexual

population (Weis & Felton, 1987), it appears that heterosexual individuals, particularly monogamous individuals, continue to be significantly less approving of them as compared to same-sex friendships.

Gay and Lesbian Norming Group

As hypothesized, the opposite was true of the gay and lesbian population. Specifically, those with gay and lesbian partners were significantly less approving of their partners' same-sex friends, as compared to their cross-sex friends. This finding validated the importance of having separate norming groups based on the sexual orientation of partners.

These findings also offer interesting implications for theory. Findings fit with Galupo's (2007) argument that cross-sex friendships among monogamous heterosexual individuals share some of the same features as same-sex friendships among monogamous gay and lesbian individuals due to the possibility of sexual attraction and behavior. Results suggest that gay and lesbian same-sex friendships face some of the same complications as heterosexual cross-sex friendships. However, unlike the heterosexual norming group, the degree to which individuals' relationships with their gay or lesbian partners was sexually exclusive did not influence their approval of their partners' engagement in NEBs.

While the present study did not explore possible explanations for the lower levels of approval of same-sex friends in the lesbian/gay norming group, previous research may shed light on this finding. For instance, Rose and Zand (2000) found that the most prevalent dating script among lesbian women was a friendship gradually growing into a sexual relationship. This finding suggests that it is not uncommon for same-sex friends

within the gay and lesbian community to evolve into sexual relationships. Such a trend could lead gay and lesbian individuals to feel that their partners' same-sex friends are potential threats to the primary relationship. However, it appears that lesbian women most often establish friendships with other women (Weston, 1991), which might suggest that lesbian partner's find ways to navigate these friendships.

Bisexual Norming Group

Interestingly, unlike the lesbian and gay norming group, those with bisexual partners did not appear to be considerably threatened by their partners' same-sex friendships, despite the potential for their bisexual partners to be sexually attracted to them (Galupo, 2007). Galupo (2007) posited that both same-sex and cross-sex friendships among bisexual individuals might be threatening to their primary intimate partners, who may feel jealous and threatened by their bisexual partners' friends, regardless of their sex. However, as hypothesized based on Pilot Study results, individuals who were in a monogamous relationship with bisexual partners in the Confirmation Study sample were significantly less approving of their partners engaging in cross-sex NEBs as compared to same-sex NEBs. This finding is congruent with those who have heterosexual partners.

Also congruent with the heterosexual norming group, post hoc analysis demonstrated that those participants who were in sexually open or nonexclusive relationships with their bisexual partners were significantly more approving of their partners' engagement in NEBs with cross-sex friends than those in monogamous relationships. Although many bisexual individuals desire and sustain monogamous relationships, Peplau (1991) found that non-monogamous relationships tend to be relatively common and acceptable for bisexual individuals as compared to the

heterosexual population. It would make sense then that individuals who have sexually open relationships with their bisexual partners would be less threatened by friends to whom they believe their partners could become sexually attracted.

The purpose of comparing sexual orientations was to validate the PANEBS' norming group structure, which was accomplished. As such the present study did not examine the reasons for the similarities regarding attitudes about NEBs across the bisexual and heterosexual groups; however, they do have interesting implications for theory. Research on the bisexual population is severely neglected, and for that reason, several preliminary theories based on the present study's finding are offered. While it important to note that the finding may reflect valuable information about individuals' with bisexual partners, no prospective explanations posited here can be backed by empirical data, as the research methods required to further explore this finding were outside the scope and resources of the present study.

In examining potential explanations for the lower level of approval toward cross-sex friendships, it is noteworthy that the bisexual norming group had been composed mainly of heterosexual participants. In fact, approximately half of the sample identified as heterosexual (i.e., heterosexual-bisexual dyads), with gay, lesbian, and bisexual individuals comprising the remainder. Heterosexual participants may have been more likely to conform to heterosexual norms, which this research and previous research (e.g., Galupo, 2007; O'Meara, 1989; Weis & Felton, 1987) suggests involve being threatened by cross-sex friendships. Further, previous research has suggested that heterosexuals use their own group as the implicit standard against which to appraise individuals of other sexual orientations (Spalding & Peplau, 1997). With each individual's experience being

embedded in their own family, societal, and cultural context (Buxton, 2006), it would be no surprise that heterosexual individuals with bisexual partners may view their partners' sexual attraction through their own lens of heterosexuality, thereby assuming that their partners also have a one directional attraction.

Not only is the bisexual norming group skewed in terms of the majority of individuals identifying as heterosexual, but also a comparison of those in same-sex versus cross-sex intimate relationships with their bisexual partners was not possible. Two types of relationships are open to bisexuals: cross-sex relationships that behaviorally conform to societal norms of heterosexuality and same-gender relationships that violate those standards (Spalding & Peplau, 1997). The same-sex or cross-sex nature of the participants' relationships with their bisexual partners is likely, at least in part, a factor that affects the degree of approval of NEBs. For instance, participants in cross-sex relationships with their bisexual partners may assume that their partners desire or are attracted to someone who belongs to the same sex as the participant, based on the nature of the partner currently choosing to be in a same-sex dyad.

Furthermore, research suggests that as some bisexual individuals enter into monogamous relationships, they may begin identifying as gay, lesbian, or heterosexual. There certainly exists a tendency to infer an individual's sexual orientation based on the gender of his or her sexual partner, an assumption that can lead to mislabeling all individuals in cross-sex relationships as heterosexual (Buxton, 2006). Bisexual partners' sexual identities may then be incorrectly assumed on the basis of their partners' biological sex (Casquarelli & Fallon, 2011). It is possible then that individuals' partners may also begin to view them and their sexual interests this rigid way (Casquarelli &

Fallon, 2011), neglecting to recognize the fluidity in their sexuality. Unfortunately, the present study was not able to create subcategories to determine the potential influence of the participants' sexual orientation or the participants' sex, as there were simply not enough participants or resources to create subcategories for comparison.

The role of heteronormativity in explaining this finding is further indicated based on research that has suggested that third parties tend to perceive bisexual individuals and their cross-sex friends to be establishing a heterosexual romantic relationship (Rumens, 2012). In Rumens' (2012) study, some participants, particularly bisexual-identified individuals, disclosed that their cross-sex friendships were being understood in terms of heterosexual romantic coupledom. This speaks to society's tendency to assume that heterosexuality is the norm. While the present study did not assess the participants' endorsement of heterosexist views, attitudes and biases, it is plausible that the sample, which was largely heterosexual, might tend to view cross-sex friendships through their lens of attraction and heterosexist societal norms. This would then lead cross-sex friendships to be potentially more threatening and cross-sex friends to be considered potential rivals above and beyond same-sex friends.

Furthermore, since the vast majority of the population is heterosexual and bisexual individuals are most commonly friends with heterosexual individuals, participants may be cognizant of the reality that their bisexual partners have greater access to heterosexual individuals than lesbian, gay, or bisexual individuals. It is plausible that this access may make the perceived potential threat of cross-sex friends greater.

The degree of approval of NEBs with same-sex versus cross-sex friends might also largely dependent on the participants' knowledge of the degree of fluidity their partners' preferences for same-sex versus cross-sex relationships and sexual partners. It has been argued that the most challenging sexual issue for individuals of bisexual partners is to understand the nature of bisexuality (Buxton, 2006). Individuals in heterosexual-bisexual dyads bring two distinct sexual orientations to the relationship: bisexuality and its dual attraction as contrasted to the one directional attraction of heterosexual partners (Buxton, 2006). Research suggest that bisexual individuals are sexually, emotionally, and erotically attracted to both men and women, usually in varying degrees that may fluctuate over time, and may or may not have sex with partners of both genders in the same time period or over time (Buxton, 2006). Heterosexual partners of bisexual partners may very well face the challenge of understanding where their bisexual partners stand at any given time. It is clear that the fluidity and attraction levels create a degree of complexity in determining how individuals with bisexual partners interpret their partners' friendships.

Since we also did not assess the partners' perception of their partners' levels of attraction across the sexes or the degree of fluidity they have in their sexuality, it is impossible to know if these factors may have affected their attitudes about their partners' engagement in NEBs with same-sex and cross-sex friends. Since sexuality is a bit more stable in the heterosexual population and gay and lesbian population (Mock & Eibach, 2012), these potentially confounding factors were not an issue. However, the potential roles these factors play within the bisexual norming group indicate the complexity in exploring and understanding their attitudes about NEBs.

Certainly, these theories are only preliminary and offered solely as potential explanations regarding the bisexual norming group finding. Further research would need to empirically explore explanations, likely via a large sample of individuals with bisexual partners, so that subcategories based on the sex and sexual orientation of both the participant and partner, as well as the same-sex or cross-sex nature of their relationship, can be can be generated for data analysis. While it would have been very informative to further explain the finding, this type of categorization and analyses were outside of the purpose and resources of the present study.

Nonsexual Extradyadic Behaviors Across Sexual Orientations

Overall, it appears that across norming groups, participants appear to be more approving than not of their partners' engagement in NEBs with friends. However, when examining the differences in attitudes regarding their partners' engagement in NEBs with same-sex versus cross-sex friends, we found significant differences across all norming groups. It appears that individuals, at least in the current sample, are less accepting of their partners' engaging in NEBs in those friendships that have arguable the highest potential of sexual attraction. In other words, friendship dyads in which the gender expression and or biological sex of the members of the dyad allow one or more members of that dyad to perceive the possibility of sexual attraction are at greater risk of disapproval from romantic partners as compared to friendships where the possibility of sexual attraction is not considered as great a risk. This provides confirmation for the necessity of separate norming groups based on the sexual orientation of partners', thereby providing validation of the PANEBS norming group structure.

The validation of a scale such as the PANEBS allows us to have a better understanding of how sexual attraction potentials affect individuals' attitudes about the behaviors in which their partners' engage. Per the results, the possiblity of sexual attraction is certainly an important factor that influences the degree to which individuals are accepting of various behaviors, though other factors such as culture, religious beliefs, and previous experiences of infidelity may also influence these attitudes.

These results are congruent with previous research on theories, which has suggested that friendships, especially friendships made up of dyads that fall within the sex attracted group, present opportunities for acquiring more sexual partners (Luo et al., 2010; Nardi & Sherrod, 1994; Weis & Felton, 1987). The possibility of friendships becoming sexual in nature appears to produce some degree of discomfort among partners, particularly those in monogamous romantic relationships. As hypothesized, it appears that these friendships are perceived as being threatening to the monogamous romantic relationship and thus unacceptable.

These findings have interested implications for individuals, their partners, and their romantic relationships. For instance, previous research has suggested that when feeling threatened, some individuals in monogamous relationships employ relationship exclusivity efforts to "guard" against rivals and to reduce the negative feelings associated with jealousy (Bringle & Boebinger, 1990). While the relationship between mate guarding and attitudes about NEBs was not examined in the present study, it is important to note that jealousy was strongly correlated with attitudes about partners' engagement in NEBs. This suggests who score low on approval of NEBs on the PANEBS may be

engaging in behaviors that seek to limit partners' access to behaviors with friends who are viewed as rivals.

This is particularly concerning for those who rely heavily on friendships as a supplement and/or substitute for familial ties, as is occasionally the case with sexual minority populations (Weston, 1991). For instance, Gulupo (2007) found that individuals who identify as lesbian and gay reported having more same-sex friendships than cross-sex friendships. This means that sexual minorities are most often engaging in NEBs with individuals who belong to the sex to which they are sexually attracted. It is likely that if their partners are less approving of same-sex behaviors or friendships, which the results suggest they are, gay and lesbian individuals may experience difficulty procuring the social connectedness and familial context that often accompany these friendships (Weston, 1991).

Understanding more about attitudes about NEBs helps us to better understand individuals' acceptance of their partners' friendships in general, which likely affects the various benefits that theirs partners can reap from these friendships (APA, 2011; Kurdek, 1988; Weston, 1991). For instance, both same-sex and cross-sex extradyadic friendships have been found to provide numerous benefits to individuals. Such benefits include social support and reduced stress (Stevens, 1997), happiness (Argyle, 2001; Myers, 2000; Reis et al., 2000), physical and mental health benefits (Cohen & Syme, 1985; Cohen et al., 2000), and higher levels of life satisfaction (Antonucci et al., 2001). In order to maintain these important friendships and the benefits that accompany them, individuals must engage in behaviors that serve to keep their friendships positive and healthy (Dindia & Canary, 1993). Such behaviors include those measured by the PANEBS (i.e., Regular

Contact, Emotional Support, Instrumental Support, and Humor and Fun). If individuals are unsuccessful at adapting to the changing needs of their friendships, the friendship is more likely to become dissatisfying or to end, leaving the individuals with less social support (Oswald, Clark, & Kelly, 2004).

In addition to the benefits and satisfaction one personally gains from engaging in friendships, there are indications that individuals' relationships with their romantic partners benefit from these nonsexual friendships as well. For instance, it appears that engagement in NEBs will not only lead to friendship satisfaction but will also increase relationship satisfaction within romantic relationships (Brim, 1974; Shackelford & Buss, 1997).

Despite both the benefits and complexities that NEBs can bring to monogamous romantic relationships, little effort has been devoted to measuring and better understanding coupled individuals' attitudes about these behaviors until now. For years, heterosexual relationship research has dominated the EB research literature, making it impossible to explore attitudes about NEBs beyond the heterosexual population and cross-sex coupledom. The PANEBS demonstrates that attitudes about NEBs do differ across sexual orientations, allowing our field, for the first time, to further explore the nature of these attitudes and their causal and consequential factors.

Limitations

The present research study has several limitations, one of which is the use of Internet data collection. It has been argued that collecting data solely from the Internet can be a non-inclusive sampling method in that it leaves out individuals' who do not have access to or knowledge of how to operate computers and/or Internet services. While this

is a valid argument, use of the Internet to collect data from sexual minority people has grown increasingly popular, partly because sexual minorities have been found to make greater than average use of the Internet to gain information and connect with similar others (Riggle, Rostosky, & Reedy, 2005). Therefore, although this sampling method may exclude those who do not have access to the Internet, research suggests that use of this method can recruit diverse samples and produce results that are similar to those gained from other sampling methods (Gosling, Vazire, Srivastava, & John, 2004).

It could be argued that an additional limitation of the study is the nature of the demographic make-up of the norming groups and the subsequent generalizability of the results. Due to the recruitment of participants via Amazon Mechanical Turk (AMT), it is noteworthy to discuss the degree to which the AMT population is representative of the U.S. population. According to Poalacci, Chandler, and Ipeirotis (2010), there are significantly more females (64.85%) than males (35.15%) that utilize AMT. Further, 36 years of age appears to be the average age of individuals on AMT, which is slightly younger then both the U.S. population as a whole and the population of Internet users. The education and income levels of AMT workers are also noteworthy. In general, the educational level of U.S. AMT workers is higher than the general population and income is slightly lower. All the above trends appear to be representative of the Pilot Study sample. Despite this, Poalacci et al. (2010) found that AMT workers are at least as representative of the U.S. population as traditional participant pools, with gender, race, age and education of Internet samples all matching the population more closely than college samples and Internet samples.

In addition, random responding is a reasonable concern within an online participant pool where there is little financial incentive to complete surveys with adequate effort. During the Pilot Study, several processes were put in place to decrease the probability of random responses contaminating the data. However, it is possible that not all random responding was detected with the methods utilized in the present study (e.g., random response items). However, Poalacci et al. (2010) recently found that response error was significantly lower in AMT research than in Internet discussion boards.

The composition of the norming group is also a note-worthy limitation. In the present study, individuals were categorized into norming groups based on what sexual orientation they perceived their romantic partners to identify most closely with (i.e., gay and lesbian, bisexual, or heterosexual). Due to this, it is possible that the participants did not categorize their partners' sexual orientation identity accurately. However, the present study's results are more interested in the role of the perceived sexual orientation of the participants' partners, rather than their actual orientation. This is because it is believed that the what the participants' perceive to be their partners' sexual orientation would have the greatest influence on their PANEBS scores, more so than the partners' actual sexual orientation. Further, in regards to the categorical approach that implemented in grouping the partners' sexual orientations, it has been suggested in the research that sexual orientation identity is ideally measured on a continuum than in terms of definable categories (Klein, 1993; Klein et al., 1985). While the categorical approach utilized in the present study was inflexible and not ideal for measuring this aspect of identity, it was imperative in order to create norming groups that could be subjected to the various statistical analyses utilized in the present study.

Further, in the Pilot Study, the degree of sexual exclusivity within participants' romantic relationships was not investigated. This is problematic in that the results assume a traditional, monogamous view of romantic relationships, which likely does not fit for every participant's romantic relationship. However, to remedy this in the Confirmation Study, the degree of sexual exclusivity was measured.

Certainly, a myriad of factors might be acting as confounding variables, including the following: gender of participant, sexual orientation of participant, gender of partner, participants' self-esteem, dynamics of power and control in the relationship, relationship status of the partners' friends, emotional dependence of participant, perceived attractiveness of partners' friends, context of friendship (i.e., work versus personal), length of friendship, degree participant trusts his/her partners' friend, and previous infidelity within the romantic relationship. Furthermore, various cultural variables that may influence attitudes about NEBs were not explored, and certainly cultural context can shape human behavior, attitudes, and experience (Kitayama, 2002). These variables may include values related to family and friends, religiousness, language, meaning of nonverbal behaviors, degree of individualism or collectivism, high context or low context, importance of hierarchy, definition of power, definition and rigidity of gender roles, and use of humor. This is a particularly significant limitation of the study, in that it is difficult to determine how generalizable the results of the present study are to individuals from various cultures that differ across these variables. This brings into question how culturally equivalent the PANEBS is across various cultures. As a result of not recruiting respondents from outside of the US, generalizability is largely limited to Western culture.

Due to the number of potential confounding variables that might impact one's scores on the PANEBS, internal validity may be affected. Specifically, as with all self-report measures, scores need to be taken into context to be valuable and valid. The validity of the bisexual norming group results is particularly noteworthy due to the complexity surrounding the bisexual population. For example, the present study did not have enough participants to create subcategories of those in same-sex versus cross-sex relationships with their bisexual partners. Therefore, it is difficult to make meaningful and accurate interpretations about the bisexual norming group findings without this information. However, with the development of the PANEBS, our field is now able to examine how all of the aforementioned variables relate and causally interact with individuals' attitudes about their partners' engagement in NEBs in the future.

Another noteworthy limitation is the scarcity of empirical support on which the hypotheses of the present study were based. The existing literature on attitudes about extradyadic behaviors is not only exceedingly limited but also relatively outdated. Additionally, several of the more recent studies on extradyadic relationships offered preliminary theories regarding attitudes about NEBs, though did not empirically examine these theories (Gulupo, 2007; Luo et al., 2010). While the results of the present study provide a clearer and empirically founded understanding of attitudes about NEBs and also confirm some previously untested theories, it is noteworthy that the necessary reliance on untested theories moved away from a purely deductive approach to research.

In terms of the factor structure of the PANEBS, the higher-order factor structure demonstrated good fit to the data across groups. However, time and resource limitations limited the ability to gradually constrain the retained model when examining fit across

groups. Future research efforts could strategically test for aspects of measurement invariance by gradually constraining the model across groups to identify any differences. Measuring all aspects of measurement invariance (i.e., configural, metric, and scalar) of the model would be a valuable next step in further validating the factor structure of the PANEBS (Cheung & Rensvold, 1999).

Implications

The previously developed scales of EBs limited this area of study by focusing primarily on attitudes about EBs that were sexual in nature. The development of the PANEBS extends research in this understudied area to EBs that are nonsexual and more common within friendships. Further, due to the sole attention to heterosexual relationships in this area of research, the development of the PANEBS now provides opportunity for investigating attitudes about NEBs across sexual orientations in both research and clinical realms.

Research Implications

In the light of the scarcity of the published reliable and valid instruments that assess attitudes about a partner's engagement in NEBs, the results of the current study should benefit future research. Since a couples' engagement in NEBs has been associated with relationship satisfaction, well-being, jealousy, relationship trust, and conflict (O'Meara, 1989; Weis & Slosnerick, 1981), it seems essential to have the tools to adequately research and assess the following: where attitudes about NEBs come from; what factors impact these attitudes; how one's attitudes about NEBs affect their partner; how these attitudes impact aspects of the romantic relationship; and how these attitudes are managed within the romantic relationship.

For instance, Boekhout et al.'s (2003) study suggests that the potential for coupled individuals' friendships to become sexual affects their romantic relationship satisfaction. They found that monogamous relationships, where partners engage in SEBs with others outside of their primary intimate relationship, tend to be less satisfying than those relationships where both partners remain sexually exclusive to their primary intimate partners (Boekhout et al., 2003). These results may not be generalizable to NEBs or relationships that are not monogamous. However, prior to the development of the PANEBs, there was no adequate way to measure such phenomenon. The development of the PANEBS has, for the first time, presented the opportunity to investigate these inquiries. It has also provided a means to explore cultural equivalence of the construct and scale, which was outside the scope of the present study, yet is an important endeavor for future research nonetheless.

In order to gain further understanding of individuals' attitudes regarding NEBs, particularly across sexual orientations and cultures, additional exploration is undoubtebly needed. Future investigation of these areas would be logical steps in the expansion of literature in this area of study to sexual minorities and various cultures, which would build off of the innovative framework established by the present study. In doing so, the knowledge that will come from the increased investigation of NEBs can be used to inform clinical practice.

Clinical Implications

In clinical settings, the PANEBS can be utilized as a brief measure of individuals and couples' attitudes about NEBs. Since the breaking of one's agreements is one of the most common ways for trust to be broken in intimate relationships (Lusterman, 1998), it

appears imperative that couples have a clear understanding of their own and their partners' attitudes and expectations about NEBs. Some individuals may hold more extreme attitudes toward the acceptability of NEBs, which may be at odds with their partners who do not hold similar views (Weis & Felton, 1987). Without this understanding, couples can and do experience conflict over NEBs (Weis & Fenton, 1987). As such, the PANEBS would be a valuable tool to assess similarities and differences in these attitudes within a client's relationship.

The PANEBS can also be utilized as a baseline and progress measure or simply for gaining insight and facilitating discussion. It would allow clinicians and clients the opportunity to better understand how couples communicate their attitudes with one another, how their attitudes differ and the affect that difference has, how to manage conflict around attitudes, and to enhance understanding of from where these attitudes derive. This knowledge could aid inform therapy goals and treatment plans for those individuals and couples who undoubtedly face some concerns related to their engagement in NEBs.

Conclusions

The endeavor to develop the PANEBS commenced due to the paucity of psychometrically tested instruments for measuring attitudes towards romantic partners' engagement in NEBs. Over the course of three studies (Pilot Study, Confirmatory Study, and Test-Retest Study), hypotheses related to factor structure, various facets of validity, internal consistentcy, test-retest reliability were largely corroborated. In addition, results of a comparison across norming groups were congruent with hypotheses. The PANEBS demonstrated its worth as a highly valid and reliable measure with a theoretically

supported factor structure.

Overall, the PANEBS appears to be, to date, the most psychometrically sound measure of attitudes related to NEB's. In comparing the psychometric properties of the PANEBS to preexisting scales of extradyadic behaviors (e.g., Boekhout et al., 2003; Johnson, 1970), the PANEBS demonstrates advantage as evidenced by its comprehensive though brief composition, high internal consistency, empirically and theoretically sound factor structure, robust validity, and established test-retest reliability. Not only has the development and validation of the PANEBS provided the field with an improved way to research and clinically examine attitudes about NEBs within the heterosexual population, but most significantly has opened this area of study to sexual minority populations.

The novel findings presented in the present study point to the significant role that attitudes about NEBs (as measured by the PANEBS) may play in romantic relationships, and likely friendships, as evidenced by the associations between these attitudes and several substantial relationship dynamics (e.g., jealousy, exclusivity expectations, and trust) across sexual orientations. With so many uncertainties remaining, it is anticipated that the PANEBS will provide a valid instrument for answering important relational questions that could not be examined prior to the existence of a competent and psychometrically robust instrument.

APPENDICES

APPENDIX A

PANEBS-SS Subscale (Revised)

Directions: Please rate the degree to which you approve/disapprove of your partner engaging in each of the following behaviors with one of their **same-sex** friends.

	Strongly Disapprove	Disapprove	Somewhat Disapprove	Neutral	Somewhat Approve	Approve	Strongly Approve
Going places with a same-sex friend on a regular basis	1	2	3	4	5	6	7
Calling a same-sex friend on a regular basis	1	2	3	4	5	6	7
Visiting a same-sex friend's home on a regular basis	1	2	3	4	5	6	7
Acting cheerful and positive when with a same-sex friend	1	2	3	4	5	6	7
Trying hard to listen to a same-sex friend's problems	1	2	3	4	5	6	7
Trying to be supportive and caring of a same-sex friend	1	2	3	4	5	6	7
Comforting a same-sex friend in times of trouble	1	2	3	4	5	6	7
Giving a same-sex friend advice	1	2	3	4	5	6	7
Letting a same-sex friend know that they are available to help with tasks/chores	1	2	3	4	5	6	7
Helping a same-sex friend solve problems	1	2	3	4	5	6	7
Helping a same-sex friend accomplish tasks and get things done	1	2	3	4	5	6	7
Teasing a same-sex friend good-naturedly	1	2	3	4	5	6	7
Sharing 'inside jokes' with a same-sex friend	1	2	3	4	5	6	7
Joking around a lot with a same-sex friend	1	2	3	4	5	6	7
'Gossiping' with a same-sex friend	1	2	3	4	5	6	7

APPENDIX B

PANEBS-CS Subscale (Revised)

Directions: Please rate the degree to which you approve/disapprove of your partner engaging in each of the following behaviors with one of their **opposite-sex** friends.

	Strongly Disapprove	Disapprove	Somewhat Disapprove	Neutral	Somewhat Approve	Approve	Strongly Approve
Going places with an opposite-sex friend on a regular basis	1	2	3	4	5	6	7
Calling an opposite-sex friend on a regular basis	1	2	3	4	5	6	7
Visiting an opposite-sex friend's home on a regular basis	1	2	3	4	5	6	7
Acting cheerful and positive when with an opposite-sex friend	1	2	3	4	5	6	7
Trying hard to listen to an opposite-sex friend's problems	1	2	3	4	5	6	7
Trying to be supportive and caring of an opposite-sex friend	1	2	3	4	5	6	7
Comforting an opposite-sex friend in times of trouble	1	2	3	4	5	6	7
Giving an opposite-sex friend advice	1	2	3	4	5	6	7
Letting an opposite-sex friend know that they are available to help with tasks/chores	1	2	3	4	5	6	7
Helping an opposite-sex friend solve problems	1	2	3	4	5	6	7
Helping an opposite-sex friend accomplish tasks and get things done	1	2	3	4	5	6	7
Teasing an opposite-sex friend good-naturedly	1	2	3	4	5	6	7
Sharing 'inside jokes' with an opposite-sex friend	1	2	3	4	5	6	7
Joking around a lot with an opposite-sex friend	1	2	3	4	5	6	7
'Gossiping' with an opposite-sex friend	1	2	3	4	5	6	7

APPENDIX C

TRUST SCALE – DEPENDENCY SUBSCALE (TS-D)

Directions: Using the 7-point scale below, indicate the extent to which you agree or disagree with the following statements as they relate to someone with whom you have a close interpersonal relationship. Place your rating in the box to the right of the statement.

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
My partner has proven to be trustworthy and I am willing to let him/her engage in activities which other partners find too threatening.	1	2	3	4	5	6	7
I have found that my partner is unusually dependable, especially when it comes to things which are important to me.	1	2	3	4	5	6	7
I am certain that my partner would not cheat on me, even if the opportunity arose and there was no chance that he/she would get caught.	1	2	3	4	5	6	7
I can rely on my partner to keep the promises he/she makes to me.	1	2	3	4	5	6	7
Even when my partner makes excuses which sound rather unlikely, I am confident that he/she is telling the truth.	1	2	3	4	5	6	7

APPENDIX D

MULTIDIMENTIONAL JEALOUSY SCALE – EMOTIONAL JEALOUS SUBSCALE

Directions: Answer the following questions about your current romantic partner by circling the number corresponding to your level of agreement.

How would you emotionally react to the following situations?

1a.) My partner comments to me on how great looking a particular member of the cross sex is.

1 2 3 4 5 6 7
Not Upset Very Upset

2a.) My partner shows a great deal of interest or excitement in talking to someone of the cross sex.

1 2 3 4 5 6 7
Not Upset Very Upset

3a.) My partner smiles in a very friendly manner to someone of the cross sex.

1 2 3 4 5 6 7
Not Upset Very Upset

4a.) A member of the cross sex is trying to get close to my partner all the time.

1 2 3 4 5 6 7
Not Upset Very Upset

5a.) My partner is flirting with someone of the cross sex.

1 2 3 4 5 6 7
Not Upset Very Upset

6a.) Someone of the cross sex is dating my partner.

1 2 3 4 5 6 7
Not Upset Very Upset

7a.) My partner hugs and kisses someone of the cross sex.

1 2 3 4 5 6 7
Not Upset Very Upset

8a.) My partner works very closely with a member of the cross sex (at school or in the office).

1 2 3 4 5 6 7
Not Upset Very Upset

How would you emotionally react to the following situations?

1b.) My partner comments to me on how great looking a particular member of the same sex is.

1	2	3	4	5	6	7
Not Upset						Very Upset

2b.) My partner shows a great deal of interest or excitement in talking to someone of the same sex.

1	2	3	4	5	6	7
Not Upset						Very Upset

3b.) My partner smiles in a very friendly manner to someone of the same sex.

1	2	3	4	5	6	7
Not Upset						Very Upset

4b.) A member of the same sex is trying to get close to my partner all the time.

1	2	3	4	5	6	7
Not Upset						Very Upset

5b.) My partner is flirting with someone of the same sex.

1	2	3	4	5	6	7
Not Upset						Very Upset

6b.) Someone of the same sex is dating my partner.

1	2	3	4	5	6	7
Not Upset						Very Upset

7b.) My partner hugs and kisses someone of the same sex.

1	2	3	4	5	6	7
Not Upset						Very Upset

8b.) My partner works very closely with a member of the same sex (at school or in the office).

1	2	3	4	5	6	7
Not Upset						Very Upset

APPENDIX E

LIFE ORIENTATION TEST - REVISED (LOT-R)

Instructions:
Please answer the following questions about yourself by indicating the extent of your agreement using the following scale:

[0] = strongly disagree
[1] = disagree
[2] = neutral
[3] = agree
[4] = strongly agree

Be as honest as you can throughout, and try not to let your responses to one question influence your response to other questions. There are no right or wrong answers.

_____ 1. In uncertain times, I usually expect the best.
_____ 2. It's easy for me to relax.
_____ 3. If something can go wrong for me, it will.
_____ 4. I'm always optimistic about my future.
_____ 5. I enjoy my friends a lot.
_____ 6. It's important for me to keep busy.
_____ 7. I hardly ever expect things to go my way.
_____ 8. I don't get upset too easily.
_____ 9. I rarely count on good things happening to me.
_____ 10. Overall, I expect more good things to happen to me than bad.

APPENDIX F

THE RELATIONSHIP ISSUES SCALE - NONEXCLUSIVITY FRIENDSHIP EXPECTATIONS SUBSCALE (RIS-NFE)

Directions: For each statement listed below, fill in the response on the answer sheet that indicates how much you agree or disagree with that statement. The items refer to a specific love relationship. Please answer the questions with your current partner in mind.

For each statement:

1 = Strongly agree with the statement
2 = Moderately agree with the statement
3 = Neutral – neither agree nor disagree
4 = Moderately disagree with the statement
5 = Strongly disagree with the statement

1. I expect to have same-sex friendships while in my primary relationship.

2. I expect to have cross-sex friendships while in my primary relationship.

3. I expect my partner to have cross-sex friendships.

4. I expect my partner to have same-sex friendships.

5. I get satisfaction from interacting with many people.

APPENDIX G

MARLOEW-CROWNE SOCIAL DESIRABILITY SCALE – SHORT FORM C (MCSD – SFC)

Directions: Read each item and decide whether it is true (T) or false (F) for you.

1.	It is sometimes hard for me to go on with my work if I am not encouraged.	T	F
2.	I sometimes feel resentful when I don't get my way.	T	F
3.	On a few occasions, I have given up doing something because I thought too little of my ability.	T	F
4.	There have been times when I felt like rebelling against people in authority even though I knew they were right.	T	F
5.	No matter who I'm talking to, I'm always a good listener.	T	F
6.	There have been occasions when I took advantage of someone.	T	F
7.	I'm always willing to admit it when I make a mistake.	T	F
8.	I sometimes try to get even rather than forgive and forget.	T	F
9.	I am always courteous, even to people who are disagreeable.	T	F
10.	I have never been irked when people expressed ideas that are very different from my own.	T	F
11.	There have been times when I was quite jealous of the good fortune of others.	T	F
12.	I am sometimes irritated by people who ask favors of me.	T	F
13.	I have never deliberately said something that hurt someone's feelings.	T	F

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