MINORITY STRESS IN THE LIVES OF GAY AND LESBIAN COUPLES

by

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As members of the Dissertation Committee, we certify that we have read the dissertation prepared by Joel A. Muraco, titled Minority Stress in the Lives of Gay and Lesbian Couples and recommend that it be accepted as fulfilling the dissertation requirement for the Degree of Doctor of Philosophy.

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DEDICATION

This dissertation is dedicated to me, for all the support I gave myself, because I could not

have done it without me.

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ABSTRACT

The goal of this dissertation is to examine minority stress in the lives of gay and lesbian

individuals and couples. To do this I conducted three separate, but empirically and

conceptually related studies using data from 68 self-identified gay men and lesbians. Of

these, 38 participants were coupled ($n = 19$ couples). All three studies were informed by

minority stress theory. In the first study I examined individual ($N = 68$) and partner ($n =$

38) correlates and associations with concern for safety because of sexual orientation and

harassment because of sexual orientation. Comfort with homosexuality was the strongest

negative predictor of concern for safety because of sexual orientation. Further,

involvement with gay related activities was found to be the strongest positive predictor of

harassment because of sexual orientation. In the next two studies I examined the daily

influence of minority stress for same-sex couples ($n = 19$). In the second study I

examined how daily public displays (PDA) of affection are associated with daily

relationship satisfaction, daily concern for safety because of sexual orientation, and daily

harassment because of sexual orientation. I found daily PDA to be positively associated

with concurrent and lagged relationship satisfaction, positively associated with concurrent

and lagged concern for safety, and concurrent, lagged, and prospective increases in

harassment because of sexual orientation. In the third and final study I examined the

moderating effect of daily relationship satisfaction on the relationships between daily

concern for safety and harassment in predicting daily physical health and well-being. I

find that daily concern for safety and harassment are not associated with daily physical

health suggesting that the negative effects of minority stress on physical health are more cumulative and do not fluctuate from day-to-day. I also find that daily relationship satisfaction does moderate the relationship between daily concern for safety and harassment and their daily well-being in unexpected ways. Collectively, this dissertation illustrates the complex influence of minority stress in the lives of gay and lesbian individuals and couples in two ways: first, as it pertains to how personal characteristics and behaviors (e.g. involvement with gay related activities and engagement in PDA) are associated with minority stress overall and on a daily basis; second, by illustrating the daily influence of minority stress on daily physical health and well-being. In conclusion, in these studies I highlight the complexity of life and how minroty stress, stress that is unique to gay men and lesbian individuals and couples, complicates otherwise beneficical behaviors. Further, I illustrate the long and short term ramifications minority stress has on gay men and lesbian individuals and couples.

CHAPTER I. INTRODUCTION

Gay and lesbian individuals experience stress unique to their sexual orientation. This stress, referred to as minority stress, is the result of identifying with a stigmatized social group (Meyer, 1995) and has been found to be associated with a multitude of negative ramifications for gay men and lesbians. For example, experiencing discrimination, prejudices, daily heterosexist hassles, and hate crime victimization are all related to higher levels of psychological distress and feelings of suicidality (e.g. Abelson et al., 2006; Bontemp & D'Augelli, 2002; Cox et al., 2008; Szymanski, 2009). Further, actual experiences need not actually occur, as researchers have documented that expectations of victimization and discrimination (e.g. Cox et al., 2008) are also associated with higher levels of psychological distress and feelings of suicidality. Lastly, researchers have documented that higher levels of internalized homonegativity are associated with more mental health problems (Balsam & Mohr, 2007, Cox et al., 2008). Because of the negative influence minority stress exerts in the lives of same-sex attracted individuals it is imperative we gain as comprehensive an understanding of minority stress as possible.

In this dissertation I further our comprehension of minority stress. I examine minority stress cumulatively and on a daily basis to help further our understanding of how minority stress operates in the lives of gay men and lesbians and within their romantic relationships. A daily examination is new to the minority stress literature, as no known study has explicitly examined the daily influences of minority stress. Such a daily examination provides micro-level information about individuals and relationships

compared to both cross sectional and longitudinal studies that utilize longer study durations (Laurenceau & Bolger, 2005). In this way, my results provide insight into the daily influence of minority stress.

In this chapter I review the details of the study as they pertain to the recruitment of participants. Next I outline the process participants experienced, from their participation in the initial baseline survey through the 14 daily diary surveys. I next articulate the purpose of each of the three studies to be presented in this dissertation offering parsimonious rationales for each. Finally, I summarize the purpose of this dissertation and explicitly state the purpose of each of the three studies.

I have written three papers examining various relationships with minority stress. Data for all three papers comes from the Gays, Lesbians, and Minority Stress Study (GLAMSS) collected from January through March 2014. Recruitment was conducted in numerous ways. Specifically, numerous academic, professional, and lesbian, gay, bisexual, and transgender (LGBT) organization listservs were contacted and shared recruitment information. I also asked colleagues at other universities to share recruitment information with their local LGBT organizations and with friends and colleagues they thought appropriate. Facebook was also utilized for recruitment purposes, with multiple postings about the study being made, multiple LG individuals and LGBT pages receiving emails about the study, and for a period of time a paid Facebook ad ran specifically targeting LGs in relationships. In total, 68 people were recruited for the study. Of those, 38 were coupled partners in romantic relationships, representing 19 couples.

GLAMSS participants were instructed to access the baseline survey online. After consenting to take part in the study they were asked a series of qualifying questions. To qualify, participants had to identify as gay or lesbian, be at least 18 years old, had to be in a romantic relationship for at least two months, and had to have a partner who was also willing to participate. Ultimately, not all participants had partners who participated. Only couples progressed to the daily diary portion of the study. As such, the first study includes all participants ($N = 68$) while the second and third studies only include couples ($n = 38$).

After answering the qualifying questions, participants were asked to create a unique user ID that involved their initials and birth year and those of their partner. In the baseline demographic and personal background information was collected as well as items assessing many minority stress constructs (e.g., support, coping, comfort with homosexuality, involvement with gay related activities) as well as baseline scores of all additional variables to be studies (e.g., overall concern for safety because of sexual orientation, overall PDA, overall physical health).

When both partners completed the baseline survey, identified by their unique user IDs that were the opposite of each other, the couple would move into the daily diary phase of the study. For this phase of the study participants received a daily email at 5pm every day, for 14 days. In this email they received their user ID and a link to that day's daily diary survey. Both the user ID and survey link were qualified by a numeric value indicating which day they were on. Participants were instructed to complete each survey separately from their partner and encouraged to continue participating if they missed a

day, with instructions to not retrospectively complete daily diaries for days they may have

missed.

Paper 1: Individual and Partner Correlations and Associations of Minority Stress

In the first paper I examine individual and partner correlations and regression

associations with minority stress. While numerous researchers have examined the

influence of minority stress on physical and psychological health, the goal of my study is

to examine person and partner level characteristics that are associated with minority

stress. Such an examination allows for greater understanding of how minority stress

influences the lives of gay and lesbian individuals and offers greater insight into who may

be most at risk for the negative effects of minority stress.

Based on extant literature, it would appear that sex (Hequembourg & Brallier,

2009), race/ethnicity (Battle & Lemelle, 2002; Greene, 2000), and age (David & Knight,

2008) are specific person level characteristics that differentiate how individuals

experience minority stress; however, these characteristics are often included in models as

controls, mediators, or moderators. Additionally, much empirical support has been found

for the buffering effects support and coping can have for individuals dealing with stress

(Morris, Waldo, & Rothblum, 2001; Szymanski, Chungy, & Balsam, 2001; Wayment &

Peplau 1995) and the role religion plays in prejudice (Spilka, Hood, Hunsberger, &

Gorsuch, 2003; Whitley, 2009). As such, I also examine levels of support, coping, and

religiousness in relation to minority stress. Lastly, based on minority stress theory

(Meyer, 2003), comfort with homosexuality, attitudes toward homosexuality, and

involvement with gay related activities are also associated with overall minority stress for gay men and lesbians. As such, these constructs were also examined in relation to overall reports of minority stress.

Paper 2: Daily Public Displays of Affection, Relationship Satisfaction, and Minority Stress for Same-Sex Couples

In the second paper I begin examining minority stress on a daily basis. Specifically, how engagement in daily PDA with one's same-sex partner is associated with minority stress. PDA has been found to be important for overall physical, psychological and relational health (Beatty, McCroskey, & Floyd, 2009; Floyd, Hesse, & Haynes, 2007). Conversely, engagement in PDA "outs" couples. Whereas the couple may have been able to "pass" as close friends, engagement in PDA sends a clear message to others that you are indeed part of couple. This outing carries with it potential risks as same-sex couples live in a heteronormative society that more often than not expects heterosexual coupling. My study is the first known study to examining how PDA is associated with minority stress for same-sex couples.

In this paper I hypothesize that daily PDA will be associated with positive concurrent, lagged, and prospective daily relationship satisfaction. Further, because engagement in PDA "outs" the couple, I hypothesize daily PDA will be positively associated with daily, next day, and over time daily minority stress. Lastly, because participants are in dyads their partners likely exert influence over their experiences. As researchers have documented differences in outcomes pertaining to whether one is giving

or receiving affection (Beatty, McCroskey, & Floyd, 2009; Floyd, Hesse, & Haynes, 2007), interesting partner differences may exist. However, given the extant literature has not yet examined how partner PDA and minority stress influences the individual, I reframe from making specific predictions in relation to partner effects and instead explore how partner's daily PDA influence an individual's daily minority stress.

Paper 3: Daily Examination of Minority Stress on Physical Health and Well-Being for Same-Sex Couples

In the third and final paper I extend the research on minority stress by examining the daily influence of minority stress on daily physical health and well-being. Further, I examine the moderating role daily relationship satisfaction has on the relationship between daily minority stress and daily physical health and well-being. Extensive research has found that LGBT populations disproportionately report physical health problems (Cochran & Mays, 2007; Conron, Mimiaga, & Landers, 2010; Fredriksen-Goldsen, Kim, & Barkan, 2012; Kim & Fredriksen-Goldsen, 2012; Frost, Lehavot, & Meyer, 2011; Lock & Steiner, 1999; Sandfort, Bakker, Schellevis, & Vanwesenbeeck, 2006) compared to their heterosexual peers. LGBT populations also report disproportionately worse mental health compared to their heterosexual peers (DiPlacido, 1998; Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008; Kuyper & Fokkema, 2010, 2011; Lehavot & Simoni, 2011).

As such, I hypothesize that daily minority stress will be associated with poorer daily physical health and lower daily well-being. Additionally, when faced with adverse

life experiences gay men and lesbians often turn to their partner for support (Kurdek, 1988); however, if one does not have a very satisfying relationship with their partner they may look elsewhere for support or may not seek support out at all. As a result, I hypothesize that daily relationship satisfaction will ameliorate the negative effects of daily minority stress on daily physical health and daily well-being.

Summary

In summary, in this dissertation I have written three papers that examine minority stress in the lives of gay men and lesbians. I examine personal level correlates and associations of minority stress as well as those of the partner. I also examine minority stress on a daily basis to ascertain how daily PDA behaviors influence daily minority stress and relationship satisfaction. Lastly, I examine how daily minority stress influences daily physical health and well-being and how this influence in moderated by daily relationship satisfaction.

CHAPTER II. MANUSCRIPT I. INDIVIDUAL AND PARTNER CORRELATIONS

AND ASSOCIATIONS OF MINORITY STRESS

Introduction

Research comparing same- and other-sex couples posits more similarities than

differences (e.g. Kurdek, 1986, 1998, 2004, 2005). However, one notable difference

between such couples is that same-sex couples must operate within a heteronormative

society, a society that privileges heterosexuality (Johnson, 2002). This devaluing of same-

sex couples, through the privileging of heterosexuality, often results in minority stress for

gay and lesbian individuals. Minority stress is based on the idea that gay and lesbian

individuals are subjected to chronic stress related to the stigmatization associated with

their identities (Meyer, 1995). This stress manifests in various ways within the gay or

lesbian individual. Meyer (1995) posits that minority stress can be assessed through

internalized homophobia, perceived stigma, and prejudice events.

This stress has been documented to have negative ramifications for gay men and

lesbians. For example, experiencing discrimination, prejudices, daily heterosexist hassles,

and hate crime victimization are all related to higher levels of psychological distress and

feelings of suicidality (e.g. Abelson et al., 2006; Bontemp & D'Augelli, 2002; Cox et al.,

2008; Szymanski, 2009). Further, actual experiences need not actually occur, as

researchers have documented that expectations of victimization and discrimination (e.g.

Cox et al., 2008) are also associated with higher levels of psychological distress and

feelings of suicidality. Lastly, researchers have also documented that higher levels of

internalized homonegativity are associated with more mental health problems (Balsam & Mohr, 2007, Cox et al., 2008).

In more recent years, researchers have begun to examine the effects of minority stress in a multitude of contexts. Some researchers have examined the role of minority stress within lesbian couples and the role such stress has on battering and domestic violence (Balsam, 2001; Balsam and Szymanski, 2005). Others have examined how various aspects of minority stress are associated with differences in romantic relationship quality (e.g. Kamen, Burns, & Beach, 2011; Mohr & Daly, 2008; Otis, Rostosky, Riggle, & Hamrin, 2005; Todosijevic, Rothblum, & Solomon, 2005). Some have examined minority stress in African-American gay and bisexual men and the connection between minority stress and sexual problems (Zamboni & Crawford. 2007). Still others have examined minority stress in older lesbian, gay, and bisexual adults through the association between minority stress and loneliness (Kuyper & Fokkema, 2010).

While numerous researchers have examined the influence of minority stress on physical and psychological health, the goal of my study is to examine person and partner level characteristics that are associated with minority stress. Such an examination allows for greater understanding of how minority stress influences the lives of gay and lesbian individuals and offers greater insight into who may be most at risk for the negative effects of minority stress. I use data from 67 gay and lesbian individuals in romantic relationships to examine various individual level associations of minority stress. Of those,

I have data from 19 couples (38 individuals) to examine various couple level associations of minority stress.

Demographic and Personal Background Characteristics and Minority Stress

Meyer (1995) posits that the minority stress of living in a stigmatizing and discrimination society can be significant and that such stress does not solely arise from negative events, but from the totality of experiences. This totality of stressful experiences is best viewed using a distal-proximal distinction, wherein distal stressors are objective events and conditions and proximal personal processes are subjective because they are individual perceptions and appraisals (Meyer, 2003). The most distal stressors include stressful events, both chronic and acute, while less distal stressors include expectations of such events, to very proximal processes such as internalization of negative social attitudes (Meyer, 2003). In response to such stress, members of minority groups respond with coping and resilience (Clark et al., 1999; Meyer, 2003). Collectively, while there is no unified measure of minority stress, some have utilized measures assessing comfort with homosexuality, attitudes toward homosexuality (Rosario, Hunter, Maguen, Gwadz, & Smith, 2001; Rosario, Schrimshaw, & Hunter, 2006; Rosario, Schrimshaw, Hunter & Baum, 2006), involvement with gay related activities (Rosario, Schrimshaw, & Hunter, 2004a; Rosario, Schrimshaw, & Hunter, 2004b), support, and coping to examine how minority stress influence various physical and psychological outcomes.

Many of the studies I review here examine demographic and personal background differences to be used as controls or as mediating or moderating the relationship between

two variables of interest. Very few studies focus specifically on demographic and personal background characteristics and how minority stress may differentially influence gay men and lesbians. Such examinations are useful but fail to address the influence minority stress has on different individual's lives. However, based on the extant literature, there is considerable evidence to suggest that certain demographic (i.e. sex, sexual orientation, race, age) and personal background (i.e. religiousness, comfort with homosexuality, attitudes toward homosexuality, involvement with gay related activities) characteristics should be associated with minority stress in different ways.

For example, in a study of minority stress and mental health there were differences based on sex and sexual orientation. Specifically, in their examination of minority stress and mental health among LGB Dutch, Kuyper and Fokkema (2011) found that participants with a higher level of internalized homonegativity and those who reported more negative reactions to divulging their same-sex attractions reported more mental health problems. The latter finding pertaining to reactions from others was moderated by sex and sexual orientation such that more open females reported better mental health compared to their gay male counterparts. Further, others have found that as a consequence of a heteronormativity society, men and women experience minority stress differently. Specifically, women's same-sex relationships are often eroticized and distorted to accommodate the desires of heterosexual men while men's same-sex relationships are often depicted as sexually promiscuous and deviant (Hequembourg &

Brallier, 2009). As a result of these differing stereotypes, important consequences were found pertaining to disclosure decisions and social interactions for gay men and lesbians.

Researchers have found, in a study examining coming out and health, that men and women significantly differed in their reports of attitudes toward homosexuality and that older youth reported significantly more involvement in gay related activities compared to younger youth (Rosario, Hunter, Maguen, Gwadz, & Smith,, 2001). Additionally, significant differences based on race were found in relation to involvement in gay related activities and comfort with heterosexuality. As a result, these demographic and personal background characteristics were either controlled for or examined as mediating the relationships in their analyses.

While the studies reviewed here suggest that experiences of minority stress differ based on sex and sexual orientation, equal support has been found for how minority stress is experienced differently by race/ethnicity. Moradi et al. (2010) posit that compared to White LGB individuals, LGB people of color may either be "exposed to greater levels of heterosexist stigma" or may be "more resilient to such stigma" (p. 397). Researchers have argued in favor of the greater risk perspective for LGB individuals who are African American (Battle & Lemelle, 2002; Greene, 2000), Asian American (Chan, 1989), Latin American (Zea, Reisen, & Diaz, 2003), and Native American (Gilley & Co-Cke, 2005). Such a perspective suggests that LGB people of color are exposed to greater heterosexist stigma within their communities because such stigma is more prevalent in their communities compared to White communities (Moradi et al., 2010). Conversely, the

resiliency perspective posits that potential resources and strengths of LGB people of color could buffer against the negative effects of minority stress (Moradi et al., 2010). Specifically, because communities of color's values and experiences are posited to foster survival skills and bicultural competence (Moradi et al., 2010), LGB individuals of color may have skills that can more adequately recognize and address minority stress.

However, not all researchers find significant difference. No significant differences between LGB people of color and their White counterparts were found in terms of levels of perceived heterosexist stigma, internalized homophobia, and comfort with disclosure of sexual orientation; however, LGB people of color reported lower levels of outness (Moradi et al., 2010). Others have found support for the notion that LGB people of color are at risk for higher levels of minority stress, and increased negative physical and psychological health consequences as a result. For example, David and Knight (2008) found that older African American men experience significantly greater homonegativity and lower sexual identify disclosure compared to all races, significantly greater perceived racism than younger African American men, and significantly greater perceived ageism than White older adult gay men.

Others have suggests that age also matters for levels of minority stress (David & Knight, (2008). Recent qualitative and quantitative studies with elderly Dutch adults found that elderly LGB adults were significantly lonelier than their heterosexual counterparts (Fokkema & Kuyper, 2009). US researchers have documented similar phenomena (Grossman, D'Augelli, & O'Connell, 2002). Kuyper and Fokkema (2010)

posit that LGB adults may feel more emotionally and socially lonely because they are a more adverse population because of their age (e.g. more health problems, lower socioeconomic status), or that if may be more LGB specific (e.g. the result of minority stress).

Extant literature has confirmed that minority stress does add strongly to the explained variance of models that predicted loneliness (Kuyper & Fokkema, 2010). As a result of these studies, it is important to consider the race/ethnicity of the individual and their age in examining associations with minority stress. These researchers also found specific minority stressors varied in their associations with general, emotional, and social loneliness. Experiences with prejudicial events, expectations of prejudicial reactions, and LGB network were all associated with general loneliness (Kuyper & Fokkema, 2010). Experiences of prejudicial events and LGB network were associated with emotional loneliness and LGB network was associated with social loneliness (Kuyper & Fokkema, 2010).

Because of differences in the lived experiences of LGB people of color and age, I include race/ethnicity and age in our examination of individual and couple level associations of minority stress. My examination of individual associations will add support to the competing hypotheses regarding race/ethnicity.

Support, Coping, and Religion

Researchers have well documented the direct and stress buffering effects social support has on mental health (e.g., Szymanski, Chungy, & Balsam, 2001; Wayment &

Peplau 1995). Indeed, the very act of claiming a gay or lesbian identity suggests that these individuals have learned to cope with and overcome at least some of the adverse effects of stress (Morris, Waldo, & Rothblum, 2001). It is through various coping strategies that the lesbian, gay, bisexual, and transgender (LGBT) community learned to support one another by way of local LGBT centers and national organizations that value and enhance LGBT people (Crocker & Major, 1989). As such, individuals who report having social support in their lives, and those who report better ability to cope, may be advantaged when addressing the minority stress in their lives.

Additionally, stress carryover is also important to consider within a romantic relationship (Thoits, 1995). Specifically, stress has the potential to carryover and negatively affect others in one's life (Wayment & Peplau, 1995). For example, work stress has been found to carry over into the home and increase stress at home, and vice versa (Bolger 1990; Bolger, DeLongis, Kessler, & Wethington, 1989). Additionally, it has been found that stressors in one area of life have been found to exacerbate negative psychological effects of stress in others (Bromet, Dew, & Parkinson, 1990; Menaghan, 1991). It is for these reasons that I also examine the association between support, coping, and minority stress at the individual and partner level.

Lastly, researchers have found that religious involvement is positively correlated with various forms of prejudice (Spilka, Hood, Hunsberger, & Gorsuch, 2003; Whitley, 2009). For example, Whitley (2009) examined the relationship between seven forms of religiosity, ranging from frequency of attendance to quest orientations, and attitudes

toward lesbians and gay men. He found that five of seven forms of religiosity (fundamentalism, frequency of attendance, endorsement of Christian orthodoxy, self-ratings of religiosity, and intrinsic orientation) were negatively associated with attitudes toward lesbians and gay men. The reason for these negative associations is because although most religions teach tolerance, many of the world's prominent religions also condemn homosexuality (Fone, 2000; Toulouse, 2002). Because of this, I also examine individual, partner, and couple level religiousness.

Minority Stress Constructs

Attitudes towards homosexuality, comfort with homosexuality, and involvement in gay related activities are often included in models as controls or as mediating or moderating the association between two variables (e.g., Rosario et al., 2001, Rosario, Schrimshaw, & Hunter, 2004a). Further, these constructs are very influential within the minority stress framework (Meyer, 1995, 2003). While these constructs are often included as part of minority stress itself, I examine the direct effect these constructs have in relation to additional minority stress measures. I examine these associations at the individual, partner, and couple level to better understand the influence these constructs have in overall experiences of minority stress.

The Present Study

This study adds to the literature by examining not only individual associations of minority stress, but partner associations as well. While individual associations have been examined much more extensively, with few exceptions, much less is known about partner

level associations. Based on the extant literature, I examine the correlations and associations between sex, race/ethnicity, age, religiousness, support, and coping and minority stress. Additionally, given minority stress theory, I examine the associations between attitudes towards homosexuality, comfort with homosexuality, and involvement with gay related activities and minority stress. While many studies have examined these variables, they often have done so as moderating or mediating the relationship between other variables. Unique to my study is the direct examination of these variables in relation to minority stress.

Methods

Participants were 68 self-identified lesbian and gay individuals, of which 38 (19 couples) were in relationships. To be eligible to participate both individuals had to identify as gay or lesbian, be at least 18 years old, have been in their romantic relationship for two months, and both members had to be willing to participate. I recruited participants in numerous ways. Local LGBT organizations, at a large southwestern university and within a mid-sized southwestern city, were contacted and asked to pass along recruitment materials to the populations they serve. Colleagues of the first author at various universities were asked to share recruitment information about the study with their colleagues and the various LGBT groups at their respective universities. Flyers were also posted at local establishments frequented by LG individuals (e.g. coffee shops). Additionally, emails were sent to colleagues of the first author asking them to share recruitment materials with their local LGBT organizations. Lastly, social media,

specifically Facebook, was used. Recruitment materials were posted on the Facebook page of the first author, asking others to participate if eligible, and to share on their pages if not eligible. LGBT Facebook groups from across the country were also contacted and asked to post to their Facebook pages. A paid ad was also utilized targeting self-identifying gay men and lesbians who were also in relationships.

Utilizing these various sampling techniques resulted in a diverse sample of LG individuals. In total, 68 LG individuals pariticpated, of wich there were 19 couples. The majority of the sample was White (n = 47) followed by Hispanic (n = 11), African America (n = 4), Asian America (n = 1), and other (n = 5). The average age of participants was 33 years, with a range from 20.5 to 58, SD = 8.91. Average relationship length was 5.8 years, with a range from 0.5 to 34 year, SD = 6.40. Additionally, the majority of participants were educated with 75% indicating having earned a Bachelor's degree or higher. Eighty-two percent of participants reported that they live with their romantic partner, with a mean length of 4.2 years, and a range from .05 to 27, SD = 5.30. Lastly, 18% reported having children under the age of 18 living with them in their home.

When participants first went to the survey, they gave their consent, created a unique user ID, listed their email, and completed the initial baseline survey (including demographics). To create their user ID, participants were instructed to combine their initials (first and last) and the last two years of their birth year with that of their partners. For example, Jamie Smith's, born in 1983 and partnered with Alex Robles born in 1980, user ID would be JS83AR80. Conversely, Alex Robles' user ID would be AR80JS83. In

this way partners were identifiable. They used the same ID each day, qualified with an underscore and daily number (e.g. _3 for day 3 of the daily diary). Participants whose partners did not participate were retained for individual (individual) analyses ($n = 68$), but are not included in the partner and couple level analyses ($n = 38$).

Measurement

Sex and Sexual Orientation Identity (Individual only). Both participant sex and sexual orientation were assessed with single items. Sex was assessed with the question, "What is your sex?" Response options included female, male, intersex, female-to-male, and male-to-female. Participants only identified as male and female. Sexual orientation identity was assessed with the question, "In terms of sexual orientation, how do you identify?" Options included gay, lesbian, and other. Because of recruitment criteria, only self-identified gay and lesbian individuals were able to continue the survey. All male participants identified as gay and all but one female participant identified as lesbian. The one non-lesbian identified female participant identified as gay. Given sex and sexual orientation identity are highly correlated I only examine sex in my analysis.

Race/Ethnicity. One question was used to assess participant race/ethnicity. The question asked participants, "What is your race (select all that apply)?" Since the majority of participants identified as Caucasian I grouped those who identified as Hispanic, African American, Asian American, American Indian, and other together for analyses purposes.

Age. Participants indicated their age by selecting the day, month, and year of their birth using dropdown menus. This data was then converted into numerical values and then subtracted from the day the participant took the survey.

Religiousness. I used two items to assess religiousness. These items were based on work by Morrison and Morrison (2002). The first item asked (1) How often do you attend religious services? Response options ranged from 1 (*Never*) to 4 (*Often*). The second item asked (2) Which of the following best describe your level of religiousness? Again, response options ranged from 1 (*Not at all religious*) to 4 (*Very religious*). These two items were highly correlated, $r = .63$, $p < .0001$, and were subsequently mean scored to create a single religiousness item.

Support and Coping. The four specific items pertaining to coping come from wok by Sinclair and Wallston (2004). The items pertaining to both support and coping asked participants to identify how much they agree with each statement ranging from a 1 (*Disagree*) to 5 (*Agree*) scale. The items specific to coping include: (1) I actively look for ways to replace the losses I encounter in life. (2) I believe that I can grow in positive ways when dealing with difficult situations. (3) I look for creative ways to alter difficult situations. (4) Regardless of what happens to me, I believe I can control my reaction to it. The three items specific to support include: (1) I can turn to my family for support in times of need. (2) I can turn to my friends for support in times of need. (3) Overall, I feel supported by others in my life. Lastly, based on extant literature by Meyer (1995) that suggests feeling connected to one's community is protective, a single item was asked: I

feel connected to the LGBT community. Additional questions pertaining to involvement with gay-related activities was also assessed and will be discussed later.

Overall scale reliability for support, $a = .40$, and for coping, $a = .44$, was poor. As such, single item measures were used instead. For support, the item asking about overall support was retained for analyses. For coping, the item about growing in positive ways when dealing with difficult situations was kept for analyses purposes.

Attitudes toward Homosexuality. I used an 11-item scale that has been well documented to assess attitudes toward homosexuality (Rosario et al., 2001; Rosario, Schrimshaw, & Hunter, 2006). Among others, items ask participants if they are glad to be gay or lesbian, if their homosexuality makes them unhappy, and if they wish they were straight. Participants identified how much they agreed with each item, ranging from 1 (*Disagree*) to 5 (*Agree*). Some items were reverse coded. While scale reliability for this scale was good, $a = .73$, others have found higher reliability, $a = .90$ (Rosario et al., 2001; Rosario, Schrimshaw, & Hunter, 2006).

Comfort with Homosexuality. Again, a common scale used by Rosario and colleagues (Rosario et al., 2001, Rosario, Schrimshaw, & Hunter, 2004a) was utilized to measure comfort with homosexuality. The scale consisted of 12-items and asked participants to identify how much they agree, using a scale of 1 (*Disagree*) to 5 (*Agree*), with items such as comfort with straight friends, or neighbors knowing about their homosexuality and if it is important to conceal their homosexuality from most people. Again, some items were reverse coded. Scale reliability for this scale was good, $a = .90$.

Involvement in Gay-Related Activities. A commonly used measure by Rosario and colleagues (Rosario, Schrimshaw, & Hunter, 2004a, 2004) was used to assess involvement in gay-related activities. The 11-item measure was adapted to a 5-point scale allowing participants to indicate that they 1 (Never) to 5 (Very often) attend gay establishments or participate in gay-related activities. Establishments included gay or lesbian video rental stores, clubs, bars, or discos. Gay activities included attending local meetings of political organizations, an AIDS organization, or attending a gay or lesbian fair or pride celebration. Scale reliability for this scale was good, $a = .87$.

Minority Stress

Minority Stress. Because there is not a parsimonious and standardized measure of minority stress, a five item minority stress scale was created for the purposes of this study. Informed from the extant literature (e.g., Bunn, Solomon, Miller, & Forehand, 2007; Herek, Cogan, Gillis, & Glunt, 1998; Meyer, 1995, 2003) items assess general concern for safety and harassment because of sexual orientation. Additionally, it assessed to what degree participants generally hide their sexual orientation, thoughts about how much easier life could be if they were straight, and if they have felt less deserving of good things because of their sexual orientation. Scale reliability for these items was poor, $a = .45$. As a result, two items were chosen and examined separately in the analyses. Those items were concern for safety because of sexual orientation and harassment because of sexual orientation. Response options ranged from 1 (*Disagree*) to 5 (*Agree*). These items were not higly correlated, $a = .13$.

Plan of Analysis

I used SAS 9.2 to conduct all statistical analyses. I first ran and examined correlations. Next, PROC MIXED models were run to examine individual and partner associations with the minority stress items. These models were chosen to account for the interdependent nature of the data as 19 couples are encompassed in the sample. I examined two different mixed models, one where all the variables of interest predict concern for safety because of sexual orientation and one where all the variables of interest predict harassment because of sexual orientation. Sample syntax is provided here:

```
proc mixed covtest method = ml noclprint data = library.file;
class indv cpl;
model stress1 = sex ethnicity2 agey religiousness sup3 cope2
                    cwhmean athmean igramean
                    / solution ddfm = satterth;
random partner1 partner2 / type = cs sub = cpl;
run;
```

INDV refers to the individual ID while CPL refers to the couple ID. If both members of a couple participated, two participants would have the same couple ID, if only one member of a couple participated they would have their own unique couple ID. Each member of a dyad was also randomly assigned either PARTNER1 or PARTNER2 for the purposes of analysis. Within this code I also specified a random line. This allows the model to estimate an intercept each individual. The SUB statement specifies the multilevel structure, indicating that some participants are nested within couples.

I also tested the same models, but examined partner effects in relation to actor's concern for safety and harassment because of sexual orientation. Because partners were

the same sex, I did not examine the partner effect of sex. All other variables of interest (race/ethnicity, age, religiousness, support, coping, comfort with homosexuality, attitudes toward homosexuality, and involvement with gay related activities), because actors and partners could have differing scores, were examined.

Lastly, for significant models I also report unstandardized (*b*) and standardized beta's (*B*) and provide interpretations (% Δ) in terms of the original scale units. I report these beta's in addition to r-squared because r-squared can be problematic in multilevel models because negative values are possible (Snijders & Brosker, 1999). Standardized beta's (*B*) also allow for direct comparisions to be made between variables entered into the same model. Reported effect sizes are to the original scale units, adding to interpretation.

Results

In Table 1 I include the means, standard deviations, and correlations of all study variables. In relation to the minority stress constructs, I find the following: Religiousness is negatively correlated with concern for safety while support and comfort with homosexuality are both positively correlated concern for safety. Further, only involvement in gay related activities is significantly correlated with harassment because of sexual orientation.

Concern for Safety

In Table 2 I provide the results of regression models examining individual characteristics regressed onto the minority stress constructs of concern for safety and

harassment because of sexual orientation. I find that one's sex is trending toward significance (b = -.52, SE = .30, $F(1, 39)$ = 3.10, p = .08) such that males (because they were coded higher) report less concern for safety because of their sexual orientation than females. I also find that race/ethnicity is also associated with concern for safety (b = .76, SE = .33, $F(1, 56.6)$ = 5.32, $p < .05$) such that Whites (because they were coded higher) report more concern for safety than their non-White peers. Further, comfort with homosexuality is negatively associated with concern for safety (b = -.54, SE = .20, $F(1, 63)$ = 7.37, $p < .01$). Lastly, the only trending partner effect I found was for race/ethnicity (b = .80, SE = .44, $F(1, 35.7)$ = 3.31, p = .08). Similar to the previous race/ethnicity finding, those whose partners are White report more concern for safety than those whose partners are non-White. Table 3 provides the results of partner characteristics regressed onto the individual's minority stress outcomes; specifically concern for safety and harassment because of sexual orientation.

Harassment

Whereas involvement with gay related activities was the only variable significantly correlated with harassment, numerous variables are significantly associated when examined in multivariate analyses. Specifically, religiousness (b = -.46, SE = .26, $F(1, 63.8)$ = 3.19, p = .08) and attitudes toward homosexuality (b = -1.16, SE = .43, $F(1, 63.3)$ = 7.27, $p < .01$) are negatively associated with harassment. This means that more religiousness and more positive attitudes toward harassment are associated with less harassment. Further, coping (b = .89, SE = .29, $F(1, 58.7)$ = 8.91, $p < .01$) and

involvement with gay related activities ($b = .88$, $SE = .26$, $F(1, 63.2) = 11.19$, $p < .01$) are positively associated with harassment because of sexual orientation. These results suggest that more coping and involvement with gay related activities are associated with more harassment. No partner effects were found to be significantly associated with individual harassment because of sexual orientation.

Effect Sizes

Effect sizes for individual demographic and background characteristics were sizable. The -12.47% effect size for sex suggests that men (who are coded 0) report less concern for safety because of their sexual orientation compared to women (coded 1). The 17.48% effect size for race suggests that White participants (coded 3) report more concern for safety compared to their Hispanic (coded 1) and African American (coded 2) peers, especially compared to their Hispanic peers as Hispnaics and Whites comprise the majority of the sample. Further, one *SD* increase in comfort with homosexuality results in a 9.32% decrease in concern for safety. One *SD* increase in religiousness results in a decrease of 7.08% in harassment and one standard deviation increase in comfort with homosexuality results in a decrease of 11.21% in concern for safety because of sexual orientation. Lastly, one standard deviation increase in coping results in a 11.21% increase in harassment and a one standard deviation increase in involvement with gay related activities results in a 12.14% increase in harassment due to sexual orientation.

Discussion

My examination of the relationships between individual and partner characteristics and minority stress contributes in a number of ways to the current literature on minority stress. I failed to find significant correlations between the minority stress constructs and sex, race/ethnicity, age, and coping. These findings suggest, in relation to important demographic and personal background characteristics, there are few characteristics that differentiate individuals and their experiences of minority stress. These findings also suggest that previous researchers who controlled for these characteristics may not have been controlling for differences in minority stress, but differences in their other study variables of interest (e.g. sex differences in mental health or substance use and abuse differences based on race/ethnicity). While these characteristics were not found to be correlated with minority stress, I did find, at the individual level, that religiousness (trending), support, and comfort with homosexuality were each significantly correlated with concern for safety because of sexual orientation and that involvement with gay related activities is correlated with harassment because of sexual orientation.

Because mainstream religions often have negative opinions concerning homosexuality, it is often assumed that many LGBs avoid religion (Lehavot & Simoni, 2011). The findings do not support such a claim. The reason for this may stem from the spiritual aspect of religion. It has been posited that same-sex attracted individuals may benefit from spirituality, a distinct function of religion (Mahoney, 2010) as it connects them to others and adds meaning to their lives in a way that may help them when faced

with oppression (Lehavot & Simoni, 2011). Such a notion has been empirically supported by findings that show spirituality was a significant predictor of adjustment and well-being (Coleman, 2003; Lease, Horne, & Moffsinger-Frazier, 2005; Tan, 2005). Thus, religion may be positively impacting LG individuals, as suggested here, as a proxy for spirituality which may serve a buffering effect. As such, future researchers may want to further explore the relationship between religion, spirituality, and minority stress to better ascertain how they are interrelated.

The negative correlation between support and comfort with homosexuality and concern for safety because of sexual orientation was not as expected. Perhaps those who are often around others who are accepting and supportive of whom they are, worry about their safety less, and are also more likely to become more comfortable with their homosexuality. Research examining the influence of peers supports such a hypothesis. For example, researchers have found that social influence affects perceptions of attractiveness such that in more conservative environments participants reported greater attraction toward and more dating interest in dating someone of the same race (Lehmiller, Graziano, & VanderDrift, 2014). Conversely, in more liberal environments participant ratings of targets did not differ based on race (Lehmiller, Graziano, & VanderDrift, 2014). In another study, it was found that LGB persons are influenced by both broad sociocultural factors (e.g. social acceptance of homosexuality) and unique individual factors (Mohr & Fassinger, 2003). These studies help illustrate the influence those surrounding us can have and lends support to my hypothesis concerning the influence of

one's environment and those in it. Of course, such an examination is beyond the scope of the research study presented here, as it would require following participants for a prolonged period of time, assessing the environments and people they spend most of their time in and with.

In regards to the finding that more involvement in gay related activities is correlated with more harassment because of sexual orientation I posit the following. If one views involvement in gay related activities as a proxy for how out an individual is, these results suggest that the more out one is the more harassment they experience because of their sexual orientation. The literature supports such a position as researchers have talked about how, because of this harassment, many LGBT individuals will "pass," or act in a way that suggests to others that they are heterosexual (Johnson, 2002; Meyer, 1995). However, continued vigilance of one's sexuality can become tiresome and result in negative psychological outcomes (Foster & Campbell, 2005; Meyer, 1995). Thus, it would appear that LGBT individuals must continually walk the line between monitoring their behaviors in order to "pass," or out themselves and increase the likelihood they will be harassed because of it. This finding highlights an important cause of minority stress every LGBT individual likely confronts on a daily basis, especially considering how in times of minority stress LGBT individuals are likely to seek out support from other LGBT individuals and organizations and by doing so may ultimately be increasing their chance of experiencing minority stress.

Results of the regression models are interesting because previously uncorrelated variables became significantly associated with the minority stress constructs. For example, sex (trending) and race/ethnicity both appear to be significantly associated with concern for safety because of sexual orientation, but neither was significantly corrected with this minority stress outcome. Such significance suggests that presence of a suppressor variable or variables. Suppressor variables are variables that have a near-zero correlation with the criterion, but a substantial correlation with one or more predictors (Horst, 1941). Because of this, I reexamined the correlation results and indeed both sex and race/ethnicity have either a zero or near-zero correlation with concern for safety. Despite these zero or near-zero correlations, inclusion of these variables in the regression model can lead to improved prediction (Smith, Ager, & Williams, 1992). However, given the numerous associations being examined in each model, I am unable to definitively identify which variables are causing sex and race/ethnicity to be significantly associated with concern for safety. For these reasons I conclude that comfort with homosexuality is what is most predictive of concern for safety because of sexual orientation.

Additionally, the same is true for the significant associations predicting harassment. Specifically, religiousness (trending), coping, and attitudes toward homosexuality are not correlated with harassment, but they appear to all be correlated with each other and/or with involvement with gay related activities. Involvement with gay related activities is both correlated and associated with harassment because of sexual orientation. Again, I am unable to ascertain exactly which variables in the model are

causing religiousness, coping, and attitudes toward homosexuality to be significantly associated with harassment. This suggests to me that involvement with gay related activities is most predictive of harassment because of sexual orientation. In totality, the results of the regression analysis confirm that while many variables are not associated with minority stress on their own, there appears to be complex intersectionalities that likely are predictive of minority stress.

In terms of partner effects I find that race/ethnicity is trending toward significance in its association with concern for safety because of sexual orientation. The majority of participants are White and all but six of the couples were of the same race. I speculate that in a more diverse sample partner effects would likely surface. For example, partner effects are more likely to be found in couples who identify differently (e.g., one identifies as gay while their partner identifies as queer), who are of different race/ethnicities (e.g., one member is Hispanic while their partner is White), or who are very different age. Further, the support measure had little variation. If it had more variation I may have been able to see a partner effect for support in terms of how having a more or less supporting partner influences the individual's reports of minority stress.

Limitation and Future Research

One limitation of the current study involves single item measures of support and coping as well as the single item minority stress constructs. Specific to the coping measure, unlike previous researchers (Sinclair & Wallston, 2004), I did not find adequate scale reliability to use the four items as one unified scale. Similarly, I did not find

sufficient scale reliability for the three item support measure. As such, I selected

individual items to represent support and coping in the lives of the LG participants. Given

the findings, I urge future researchers to explore other scales to access the constructs of

support and coping.

Additionally, there is no standard measure of minority stress and many of the

scales that exist to measure minority stress are long, averaging 10 items per construct. As

such, a brief minority stress scale would prove useful to researchers interested in better

understating minority stress and the effects such stress can have on individuals and

couples. However, no brief measurement exists. I attempted to create a brief measure, but

was unsuccessful in my endeavor. Despite lack of success I believe a brief measure

would be well received by minority stress researchers and would help to further the field

tremendously. I highly encourage others to undertake similar pilot testing of their own

brief minority stress measures in the hopes of someday creating a measure that

adequately captures the phenomena of minority stress in a brief and assessable manner.

However, given the limitations with these scales, I found more than sufficient scale

reliability for the remaining variables of interest and the minority stress constructs.

Another limitation of the current study involves sample size which means the

results require replication (Mausbach, Harmell, Moore, & Chattillion, 2011). While I was

strategic in my recruit methods, purposefully sampling the population that could best

answer my research questions (Coyne, 1997; Marshall, 1996) and recruiting through

various outlets, a larger sample size would have been useful in detecting significant

relationships. For example, while I successfully recruited LG participants from a variety of age groups, I was not as successful in recruiting many ethnic minorities. As a result, I am limited in the ability to test certain partner effects. Future researchers may want to examine the unique minority stress processes that potentially exist in multi-racial couples as I suspect such couples likely differ in how they handle minority stress compared to couples whose partners are of the same race/ethnicity.

Conclusion and Implications

In conclusion my study adds to the literature by illustrating that many commonly controlled for demographic and personal background variables are not influencing participant's minority stress individually, but may exert influence when combined with other demographic and personal background variables. Further, specific individual and couple level characteristics do indeed differentiate who experiences minority stress and in what way. Specifically, more religious individuals report more concern for safety while individuals who are more comfortable with their identities report lower concern for safety. Further, individual and couple support is associated with lower concern for safety while involvement with gay related activities is associated with more harassment. These results illustrate the nuanced nature of minority stress and advances our understanding about how various individual and couple level characteristics differentiates the experience of minority stress.

Table 1

Means, Standard Deviations, and Correlations of Study Variables

Variable	M	SD	1	2	3	4	5
1. Sex	1.43	0.50	--	--	--	--	--
2. Race/Ethnicity	1.70	0.47	-.00	--	--	--	--
3. Age	32.98	8.91	-.14	.21	--	--	--
4. Religiousness	1.69	0.78	-.28*	-.16	-.01	--	--
5. Support	4.73	0.54	.09	-.15	.03	-.05	--
6. Coping	4.66	0.64	.04	.20	.10	.00	.08
7. Comfort with Homosexuality	4.06	0.89	-.02	.00	.16	-.24*	.49***
8. Attitudes Toward Homosexuality	4.54	0.48	-.16	-.10	.30*	-.29*	.26*
9. Involvement in Gay Related Activities	2.74	0.70	-.17	-.11	.28*	-.03	.19
10. Concern for Safety because of Sexual Orientation	2.68	1.34	-.13	.17	-.12	.24^t	-.29*
11. Harassment because of Sexual Orientation	3.31	1.55	.00	-.01	-.11	-.19	-.04

Note: ^{t} = trending. * $p < .05$.   ** $p < .01$. *** $p < .001$.

Table 1

Means, Standard Deviations, and Correlations of Study Variables

Variable	6	7	8	9	10	11
6. Coping	--	--	--	--	--	--
7. Comfort with Homosexuality	.10	--	--	--	--	--
8. Attitudes Toward Homosexuality	.26*	.40**	--	--	--	--
9. Involvement in Gay Related Activities	-.05	.33**	.27*	--	--	--
10. Concern for Safety because of Sexual Orientation	.04	-.41***	-.16	-.17	--	--
11. Harassment because of Sexual Orientation	.14	.12	-.09	.29*	.13	--

Note: ^{t} = trending. * *p* < .05.   ** *p* < .01. *** *p* < .001.

Table 2

Results of Regression Model for Individual's Associations of Minority Stress

	Concern for Safety because of Sexual Orientation				Harassment because of Sexual Orientation			
	B	*SE*	*B*	*% Δ*	*b*	*SE*	*B*	*% Δ*
Sex	-.52[t]	.30	-.19	-12.74	.02	.40	--	--
Race/Ethnicity	.76*	.33	.26	17.48	-.47	.39	--	--
Age	-.02	.02	--	--	-.03	.02	--	--
Religiousness	.15	.21	--	--	-.46[t]	.26	-.22	-7.08
Support	-.09	.31	--	--	-.49	.35	--	--
Coping	-.17	.27	--	--	.89**	.29	.36	11.21
Comfort with Homosexuality	-.54**	.20	-.34	-9.32	.32	.22	--	--
Attitudes toward Homosexuality	.10	.37	--	--	-1.16**	.43	-.35	-10.99
Involvement with Gay Related Activities	.008	.21	--	--	.88**	.26	.39	12.14

Note: [t] = trending. * p < .05. ** p < .01.

Table 3

Results of Regression Models for Partner's Associations of Minority Stress

	Concern for Safety because of Sexual Orientation				Harassment because of Sexual Orientation			
	B	*SE*	*B*	*% Δ*	*b*	*SE*	*B*	*% Δ*
Race/Ethnicity	.80[t]	.44	.27	18.4	.80	.53	--	--
Age	-.03	.02	--	--	-.03	.03	--	--
Religiousness	.12	.27	--	--	-.07	.34	--	--
Support	-.38	.57	--	--	-.20	.60	--	--
Coping	-.67	.45	--	--	-.25	.51	--	--
Comfort with Homosexuality	-.09	.28	--	--	-.37	.29	--	--
Attitudes toward Homosexuality	.09	.49	--	--	.89	.52	--	--
Involvement with Gay Related Activities	-.005	.26	--	--	-.14	.34	--	--

Note: [t] = trending.

CHAPTER III. MANUSCRIPT II. DAILY PUBLIC DISPLAYS OF AFFECTION,

RELATIONSHIP SATISFACTION, AND MINORITY STRESS FOR SAME-SEX

COUPLES

Introduction

Researchers have documented many physical and psychological benefits of affectionate communication (Beatty, McCroskey, & Floyd, 2009). Such communication consists of verbal and nonverbal behaviors that convey feelings of love, fondness, and positive regard for others and serves important relationship initiation and maintenance functions (Floyd, Hesse, & Haynes, 2007). Benefits from receiving affection include decreased susceptibility to psychosomatic illness (Komisaruk & Whipple, 1998) and mitigating effects on loneliness (Downs & Javidi, 1990) and depression (Oliver, Raftery, Reeb, & Delaney, 1993). Additionally, individuals who are high in expressing affection are advantaged in terms of psychological health, life satisfaction, and susceptibility to depression and stress when compared to their less-affectionate peers (Floyd, 2002; Floyd et al., 2005).

Despite the well documented benefits of engaging in affectionate communication, researchers have focused less on whether such benefits exist for couples who may face barriers to engaging in such communication in public. For example, researchers have examined interracial couples and affectionate communication given the complexities these couples face in navigating in a society that is not always accepting of such unions. Steinbugler (2005) found heterosexual interracial couples often feel invisible and that

when interracial heterosexual couples were acknowledged by others, it was often via inappropriate and negative comments or with physically aggressive threats. Additionally, heterosexual and same-sex interracial couples reported feelings of invisibility and fears regarding the dangers of being perceived as sexual partners when such perceptions could be dangerous (Steinbugler, 2005). When same-sex couples did engage in public displays of affection (PDA) they often did so in spaces, such as gay bars, clubs, and neighborhoods where they felt more safe (Steinbugler, 2005). Such research highlights the complexities minority couples must navigate when engaging in PDA.

Specific to same-sex couples navigating within a heteronormative society can prove stressful because such a society privileges heterosexuality (Johnson, 2002). The stress associated with living and navigating in a heteronormative society, referred to as minority stress, ranges from perceptions and expectations of discrimination and harassment to actual discrimination and harassment (Meyer, 1995). While researchers have extensively examined how minority stress is associated with increased depression and anxiety (Cochran, Sullivan, & Mays, 2003), alcohol, tobacco, and illicit drug use (Burgard, Cochran, & Mays, 2000), and suicide attempts (Hatzenbuehler, 2011), and completions (Richardson, 1995), few researchers have examined minority stress within dyads. The research that has been conducted has not yet examined how PDA is associated with minority stress given engaging in PDA, by its very nature, outs the couple as a same-sex couple.

Given the extant literature, my study contributed to this field of research by examining the relationship between PDA and relationship quality for same-sex couples. Additionally, my focus on the association between PDA and minority stress is novel. My study is also novel in that I examine daily minority stress and how daily behaviors (i.e. PDA) are associated with increases in minority stress.

LGBT Harassment and Stigmatization

Researchers have extensively documented the multitude of negative experiences lesbian, gay, bisexual, and transgender (LGBT) people experience across the lifespan. According to the 2011 National School Climate Survey, 63.5% of LGBT students felt unsafe because of their sexual orientation, while 81.9% were verbally and 38.3% were physically harassed because of their sexual orientation. At the college level, researchers have documented that LGBT young adults feel marginalized (Brown, Clarke, Gortmaker, & Robinson-Keilig, 2004; Evans & Broido, 2002; Garber, 2002) and that LGBT young adults are targeted for harassment and violence more than their heterosexual peers (Rankin, 1998).

For LGBT adults, minority stress is associated with many negative outcomes. Meyer (1995) found that internalized homophobia, expectations of rejection and discrimination, and actual discrimination and violence are each associated with psychological distress in gay men. Others have documented the positive relationship between minority stress and depression and anxiety, such that higher minority stress is related to higher levels of depression and anxiety (Cochran, Sullivan, & Mays, 2003).

Some have further explored the relationship between minority stress and psychological well-being, finding that minority stress is positively associated with suicide attempts (Hatzenbuehler, 2011) and suicide completions (Richardson, 1995). Lastly, still others have examined how minority stress is associated with specific behaviors related to alcohol, tobacco, and illicit drug use and find positive associations between minority stress and use (Burgard, Cochran, & Mays, 2000).

With few exceptions, researchers have yet to examine how minority stress influences relationship specific behaviors. However, it is very likely that minority stress does affect same-sex relationships as same-sex couples live in a society that does not value their relationship (Frost, 2011). Additionally, same-sex couples also experience minority stress through violence, hate crimes, daily hassles, and harassment (Peplau & Fingerhut, 2007). Researchers have documented how same-sex couples experience greater stress related to not being accepted and being misunderstood by others (Green, 2004; Lewis et al., 2001). As a result, it has been argued that same-sex couples may feel the need to conceal their relationships from others in order to avoid stigmatization (Frost, 2011). However, such concealment, over time, becomes a cognitive burden and results in added social stress (LaSala, 2000; Meyer, 2003). Thus, same-sex couples face the same challenges as heterosexual couples as well as stress specific to their sexual orientation (Otis, Rostosky, Riggle, & Hamrin, 2006).

Minority Stress and Relationship Quality

In terms of how minority stress influences relationship quality, the literature is limited. Internalized homophobia and discrimination have been found to impact same-sex couples in unique ways. Specifically, higher levels of internalized homophobia and discrimination were found to be predictive of less favorable perceptions of relationship quality (Otis, Rostosky, Riggle, & Hamrin, 2006). Others have found internalized homonegativity to be associated with decreases in relationship attractions and satisfaction (Mohr & Daly, 2008). Still others have found that one's feeling of closeness toward their partner buffers the negative relationship between stress and relationship satisfaction (Totenhagen, Butler, & Ridley, 2012). Although the aforementioned study examined relational stress (e.g. having had an argument or disagreement with one's partner) and not minority stress specifically, it is informative as it helps further our understanding of how stress influences relationship satisfaction for same-sex couples.

My study adds to the literature by taking a different approach. I examine how PDA, which has been found to be associated with better relationship satisfaction in heterosexual couples (Beatty, McCroskey, & Floyd, 2009; Floyd, Hesse, & Haynes, 2007), operates for same-sex couples. For example, whereas PDA may increase relationship satisfaction it may also increase minority stress. Such a finding would highlight the tension that exists for same-sex couples. Specifically, that PDA, which is supposedly good for relationship quality, could also be risky for same-sex couples and thus engagement in PDA must be constantly evaluated.

The Present Study

No research study that I am aware of has examined how PDA is associated with minority stress. Additionally, no study has yet examined minority stress as a daily experience that influences people's lives. My study addresses these limitations of the current research by examining the relationship between PDA and minority stress on a daily level. Given researchers have extensively identified many negative outcomes of overall minority stress, my study is a step forward as I continue to examine the negative effects minority stress has on the relationships of LGBT people.

As such, I hypothesize the following for PDA:

H1a. Daily PDA will be positively associated with daily relationship satisfaction.

H1b. Previous day PDA will be positively associated with next day relationship satisfaction.

H1c. Positive changes in daily PDA will be associated with increased daily relationship satisfaction.

However, engagement in such behaviors is complex for same-sex couples. As a result of heteronormativity, same-sex couples must navigate a world that presumes heterosexuality and is thus not always accepting of same-sex relationships. This lack of acceptance can result in verbal and physical harassment and requires same-sex couples to be vigilant of their surroundings. As such, I hypothesize the following competing hypotheses:

H2a. Daily PDA will be positively associated with daily minority stress.

H2b. Previous day PDA will be positively associated with next day minority stress.

H2c. Positive changes in daily PDA will be associated with increased daily minority stress.

Lastly, participants are in dyads and as such, their partners likely exert influence over their experiences. The extant literature has not yet examined how partner PDA and minority stress influences the actor; however, researchers have found differences based on whether one is giving or receiving affection. Given the complexities that surround PDA for same-sex couples, I reframe from making specific predictions in relation to partner effects and instead explore the following research question:

RQ1. How does partner's PDA and minority stress influence actor's daily relationship satisfaction and daily minority stress?

Methods

Given the difficulty of finding and recruiting large numbers of gay and lesbian individuals, convenience and snowball sampling techniques are often utilized (Elze, 2009; Meyer & Wilson, 2009). However, I sought out specific individuals and thus utilized judgment, or purposeful, sampling techniques (Coyne, 1997; Marshall, 1996). Judgment sampling involves the researcher actively selecting the most productive sample to answer their research question (Marshall, 1996). As such, I selectively recruited self-identified gay and lesbian adult couples for the study.

Recruitment efforts involved emailing local LGBT organizations in a mid-sized southwestern city and at a large university in the southwest. Additionally, the first author posted, emailed, and advertised recruitment information on Facebook and emailed recruitment information to colleagues at other universities across the country. Recruitment material was also posted at various LGBT and LGBT-friendly establishments. To be eligible, participants had to identify as gay or lesbian, be in a romantic relationship for at least 2 months, both members of the couple had to be willing to participate, and both had to be at least 18 years old.

When participants first logged into the survey, after giving consent, they completed a baseline survey. As part of the baseline participants created a unique user name by combining the first letter of their first and last name, the last two years of their birth year, with those of their partner. It is common in daily diary studies to have participants create unique user names that also serve to identify couples (e.g., Totenhagen, Serido, Curran, & Butler, 2012; Young, Curran, & Totenhagen, 2013). When their partner completed the survey, their username would be the reverse of theirs, and thus members of a couple could be identified. In addition to basic demographic information the baseline survey also asked about religiousness, and racial and sexual orientation socialization. Within 48 hours of both members of a couple completing the baseline survey, as identified by username, the daily diary portion of the study began. For 14 days both members of the couple were emailed. The email contained a unique user ID for that day and a unique link to the daily diary. The daily diary survey assessed minority

stress, PDA behaviors, physical and psychological well-being, and relationship satisfaction over the last 24 hours.

In total, 19 couples (38 individuals) completed the baseline and daily diary portions of the study. While small, my sample size is not unlike other studies examining same-sex couples (e.g., LaSala. 2002; Rostosky, Riggle, Gray, & Hatton, 2007). The average length of completed daily diary, by couple, was 10 days (range: 2-14). Of those who participated, 19 were lesbian and 19 were gay (one female identified as gay), or 20 females and 18 males. The majority of participants were White ($n = 24$, 63%), followed by Hispanic ($n = 7$, 19 %), African American ($n = 4$, 10%), and other ($n = 3$, 8%). Average participant age was 33 (range: 20-55, $SD = 8.75$) and average relationship length was 5.44 years (range: 0.83-23, SD = 5.39). The majority of participants were educated, with most (76%) reporting having completed a Bachelor's degree or higher. Lastly, the majority reported living with their partner (75%) with an average length of time living together at 3.38 years (Range: .05-11.13, SD =3.52).

Measurement

Daily Public Displays of Affection. I used five items to assess behaviors related to PDA (Kent & El-Alayli, 2001). The same five items were assessed daily for 14 days. Each item asked participants to indicate how often they engaged in 5 different behaviors in public (e.g. hugging, holding hands, kissing, sitting close, and cuddling) within the past 24-hours. Response options ranged from 1 (*Never*) to 5 (*Very often*). Scale reliability was excellent at day 1, $a = .95$.

Daily Minority Stress. Minority stress is a complex concept with numerous components. For purposes of this study, minority stress was assessed using 5 items. These items were informed by extant literature on minority stress (Bunn, Solomon, Miller, & Forehand, 2007; Herek, Cogan, Gillis, & Glunt, 1998; Meyer, 1995, 2003). Response options for each item ranged from 1 (*Disagree*) to 5 (*Agree*) with items being assessed for 14 days. Items assessed safety, having to hide one's sexual orientation, and feelings about one's sexual orientation. However, scale reliability was poor at day 1, *a* = .46. Subsequently, two individual items were used as minority stress measures and examined separately in the models. The two items include: 1) "Over the past 24 hours I worried about my safety because of my sexual orientation" and 2) "Over the past 24 hours I was harassed because of my sexual orientation". I chose these two items specifically as I believe the represent tenable tenets of minority stress theory. These two items were correlated *r* = .27, *p* < .001.

Daily Relationship Satisfaction. Daily relationship satisfaction was assessed using a 3 item measure that asked participants about satisfaction with their relationship, with their partner as a relational partner, and with their relationship with their partner (Graham, Diebels, & Barnow, 2011; Schumm, et al., 1986). Response options ranged from 1 (*Very dissatisfied*) to 5 (*Very satisfied*). These items were assessed on each of the 14 days of the diary. Scale reliability was excellent at day 1, *a* = .93.

Controls. Because I am interested in fluctuations in daily relationship satisfaction, daily concern for safety and daily harassment were controlled for base levels of these

constructs in respective models. Each item, or set of items, was assessed at baseline and was similar to the daily diary item except that it qualified the question with "overall" instead of with "over the past 24 hours." Scale reliability for baseline relationship satisfaction was excellent, $a = .92$. Additionally, as I am interested in PDA, I controlled for overall comfort with PDA which was a single item measure, measured on a 5-item scale, that asked respondents to identify how true the statement "In general, I am comfortable publically displaying my affection for my partner" was for them.

Plan of Analysis

I used SAS (9.2) PROC MIXED to run all statistical analyses. Because traditional data analysis techniques assume independent data, which is not the case with dyadic data (Kashy & Kenny, 2000), I utilize a longitudinal multilevel model (MLM: Kenny, Kashy, & Cook, 2006) to test the hypotheses. Within the MLM I am able to test the extent to which an individual influences his or her own outcomes (actor effect), as well as the extent to which a person's partner influences his or her outcomes (partner effect; Kenny, Kashy, & Cook, 2006). Additionally, as the hypotheses are temporal in nature, I also created lagged variables, rather than use an autoregressive error structure. As has been done by others (e.g., Totenhagen, Butler, & Ridley, 2012) such variables allow for more causal pathways to be examined. To test the hypotheses, I conducted longitudinal MLMs to examine concurrent, lagged, and prospective effects of daily PDA on daily relationship satisfaction, concern for safety, and harassment. Each model accounted for the interdependent nature of the data within individuals over time and between individuals in

a dyad (Totenhagen, Butler, & Ridley, 2012).

One statistical challenge of same-sex couples is the inability to distinguish between members of a couple because both members of the couple are the same sex. This is not unique to same-sex romantic couples, and can also occur in sibling, parent-child, and same-sex friendship research. Dyads are said to be distinguishable when the members of the dyad can be identified via a theoretically meaningful variable such as sex (Gonzalez & Griffin, 2012). When members of a dyad are indistinguishable there is no meaningful variable that can be used to identify the members (Gonzalez & Griffin, 2012).

Because of indistinguisability, I first randomly assigned partners to the dummy coded role of "partner 1" and "partner 2" as recommended (Kashy et al., 2008). Next, I examined if any of the outcomes of interest significantly increase or decrease over time. Daily concern for safety and harassment were not found to significantly increase or decrease over time and thus I adopted the methods outlined by Kashy and colleagues (2008) and omitted fixed and random effects of time in the models. However, daily relationship satisfaction was found to be positively associated with time such that couples reported more satisfaction over the period of the study and thus I controlled for time in the models examining daily relationship satisfaction. Such a finding suggests that there was perhaps a measurement effect such that asking participants about their daily relationship satisfaction caused them to think about and report higher daily relationship satisfaction the longer they were in the study.

Example syntax for the examination of the prospective influence of PDA on

harassment is provided below:

```
proc mixed covtest method = ml noclprint data = diss.apim;
class indv cpl obs;
model dstress2 = pdaown dstress2_lag dpda_lag / solution ddfm = satterth;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
run;
```

Included on the class line, INDV refers to the individual's own unique ID while CPL refers to the couple's own unique ID. Additionally, OBS refers to the number of days of data within each couple wherein each couple has their own individual set of days. For example, if couple one has data for days 1 through 13, couple two begins with 14. The lagged variables on the model line (qualified by "_lag") account for the previous day's scores for daily harassment and daily PDA. The inclusion of lagged harassment ("dstress2_lag" in the model) controls for the previous days harassment and allows for an accurate examination of the influence of the previous day's PDA ("dpda_lag" in the model).

Lastly, I also report unstandardized (*b*) and standardized beta's (*B*) and provide interpretations (% Δ) in terms of the original scale units for significant models only. I report these beta's in addition to r-squared because r-squared can be problematic in multilevel models because negative values are possible (Snijders & Brosker, 1999). Standardized beta's (*B*) also allow for direct comparisions to be made between variables entered into the same model.

Results

In Table 1 I provided descriptive information and correlations for all study variables. These correlations are provided solely for descriptive purposes because, as they are daily variables, they contain multiple sources of variance (e.g., between and within person and dyad). That is to say, individuals in couples are more likely to be like each other. I provide this information for descriptive purposes only. Next I provide the results of multiple dyadic multilevel models that test the hypotheses and research question. I also provide this information in Table 2 for the reader's convenience.

Daily Relationship Satisfaction (H1a-c)

I first examined the relationship between daily PDA and relationship satisfaction. Controlling for comfort with PDA and overall relationship satisfaction I found daily PDA to be positively associated with daily relationship satisfaction, such that more daily PDA was associated with higher daily relationship satisfaction ($b = .07$, $SE = .02$, $F(1, 397) = 9.99$, $p < .001$). The lagged effect of daily PDA was also found to be positively trending toward significance with daily relationship satisfaction, such that more PDA the previous day is associated with higher daily relationship satisfaction the following day ($b = .05$, $SE = .02$, $F(1, 333) = 3.48$, $p = .06$). Lastly, I found that changes in daily PDA do not result in changes in daily relationship satisfaction ($b = .02$, $SE = .02$, $F(1, 319) = .88$, $p = .45$). These models were tested individually; however, together, these results partially support the hypothesis such that increased daily PDA does result in increased daily relationship satisfaction on the same and next day, but not necessarily over time.

Minority Stress: Concern and Harassment (H2a-c)

Again, I first examined the associations between daily concern for safety and harassment and daily PDA, controlling for comfort with PDA and overall concern for safety and harassment. Daily PDA was positively associated with both daily concern for safety ($b = .03$, $SE = .02$, $F(1, 134) = 4.66$, $p < .05$) and harassment ($b = .03$, $SE = .01$, $F(1, 114) = 8.47$, $p < .01$). Next, lagged effects were examined to further test H3. The lagged effect of daily PDA on daily concern for safety was positively trending toward significance ($b = .03$, $SE = .01$, $F(1, 70) = 3.36$, $p = .07$). The lagged effect of daily PDA on daily harassment was positively significant ($b = .01$, $SE = .01$, $F(1, 32) = 2.52$, $p < .05$). Lastly I examined if changes in PDA resulted in changes in concern for safety and harassment. Changes in PDA were not found to be associated with changes in concern for safety ($b = .02$, $SE = .01$, $F(1, 34.5) = 1.64$, $p = .21$). However, increased changes in PDA were found to be associated with increased changes in harassment ($b = .02$, $SE = .01$, $F(1, 37) = 6.64$, $p < .05$). These results support the hypotheses such that when same-sex couples engage in daily PDA they increase their daily minority stress in terms of concern for safety (trending) and harassment.

However, given that such relationships can also work in the reverse, that is daily minority stress may be associated with daily PDA, I conducted post hoc analyses to test these associations. Results reveal only daily, and not lagged or prospective, minority stress to be associated with daily concern for safety ($b = .22$, $SE = .11$, $F(1, 394) = 3.85$, $p = .05$) and daily harassment ($b = .36$, $SE = .15$, $F(1, 357) = 5.88$, $p < .05$). These results indicate that more daily minority stress is associated with more daily PDA. Because my

initial results, examining the effect of daily PDA on daily minority stress, are theoretically what I would expect and sustained over a longer period of time, I posit that my interpretation better represent the data.

Partner Effects (RQ1)

Correlations between actor and partner variables of interest were first examined. Actor and partner daily PDA was highly correlated, $r(443) = .71, p < .001$. The correlation between actor and partner daily relationship satisfaction was lower, $r(442) = .35, p < .001$. Lastly, correlations between actor and partner daily concern for safety and harassment were also low, $r(443) = .06, p = .23$ and $r(441) = .17, p < .001$, respectively.

While each model was reexamined with the inclusion of partner effects, I report only significant findings here. All results of these analyses can be found in Table 3. Specifically, partner's daily PDA was found to be positively associated with actor's daily concern for safety $(b = .04, SE = .01, F(1, 126) = 8.38, p < .01)$; partner's PDA the previous day was found to be positively trending toward significance with actor's daily concern for safety the following day $(b = .02, SE = .01, F(1, 101) = 3.13, p = .08)$; and partner's PDA the previous day was found to be positively associated with actor's daily harassment the following day $(b = .01, SE = .01, F(1, 28) = 5.51, p < .05)$. These results illustrate the influence partners have. Most notable from these results is that changes in partner daily PDA did not result in changes in actor daily relationship satisfaction, concern for safety, or harassment. Instead, partner influence exists only in terms of same day or previous say associations.

Percent Change

I also calculated the percent change for each significant regression model, which can be found in Tables 2 and 3 respectively. While percent change appears small, its meaning is important. For example, increased actor daily PDA predicts increased harassment because of sexual orientation such that one standard deviation change in daily PDA is associated with a 1.14% change in actor's daily harassment. Given harassment can range from verbal (e.g., name calling) to physical (e.g., hitting) acts, any increase is a serious cause for concern. See Figure 1 for the conceptual model illustrating how daily PDA increases daily relationship satisfaction while also increasing daily concern for safety and harassment because of sexual orientation.

Discussion

In this study I examined the concurrent, lagged, and prospective relationships between daily PDA, relationship satisfaction, concern for safety, and harassment. I find support for my hypotheses concerning the relationship between PDA and relationship satisfaction. Specifically, I find support for the same day (H1a) and previous day (trending; H1b) influence of PDA on relationship satisfaction, but not the over-time (H1c) influence. Taken together, the findings support that increases in PDA are predictive of increases in relationship satisfaction concurrently and lagged.

These findings are positive for a number of reasons. First, they are in-line with what researchers have found for heterosexual couples. As has been documented by researchers previously, same-sex couples are very similar to heterosexual couples. For

example, Kurdek (1998) found same-sex and heterosexual couples do not differ in terms of relationship satisfaction or the rate relationship satisfaction decreases over a five year period. Similarly, same-sex couples, like heterosexual couples, report highest relationship satisfaction at the onset of the relationship (Kurdek, 2005). Further, same-sex and heterosexual couples report meeting potential partners in the same way – through friends, at work, at a bar, or at a social event (Peplau & Fingerhut, 2007). Lastly, same-sex and heterosexual couples are undistinguishable in terms of having positive views of their relationships (Roisman et al., 2008). My findings add another similarity.

Second, engagement in PDA may serve an affirming purpose for one's identity and relationship. LaSala (2000) examined how coming out and being out to parents affected the romantic relationships of gay men. Using qualitative data collected in the early 1990s, LaSala (2000) found that most of the gay men who had come out to their parents and in-laws experienced initial and ongoing disapproval for their lifestyle and relationships; however, despite this disapproval, most of the men believed that coming out benefitted their relationship with their partner. Benefits of coming out included not having to hide the relationship and increased inclusion of one's partner in family events (LaSala, 2008). Many of the gay men also commented that the negativity they received from their family had no adverse effects on their romantic relationships. However, given what is known about the important and distinct role support plays in romantic relationships, these findings should be considered with caution. Limitations of the LaSala

(2002) study include a small sample size ($N = 20$ couples) that was all male and predominately White ($n = 37$).

Further, through coming out, LGB people learn to cope with and overcome the adverse effects of minority stress such that outness has been found to be inversely related to psychological distress for lesbian and bisexual women (Morris, Waldo, & Rothblum, 2001). Though identification with a stigmatized group, LGB people are able to create community and support systems that help them cope with adverse experiences. Some have posited that while violence towards an LGB person can have negative effects, it can also present opportunities for growth (Lehmiller, Graziano, & VanderDrift, 2014). Thus, couples who engage in PDA may be couples who have developed coping skills to deal with potential harassment and the stress such concern would create. Such a position highlights how LGB people are able to develop support systems and coping mechanisms when faced with discrimination.

Despite the positive association between PDA and relationship satisfaction, I also find partial support for the hypotheses concerning the relationship between daily PDA and concern for safety such that more same day (H2a) and previous day (trending; H2b) PDA is correlated with concurrent and lagged concern for safety. Additionally, I find support for the hypotheses concerning PDA and harassment such that more concurrent (H2a), lagged (H2b), and prospective (H2c) PDA increases harassment. Such findings clearly illustrate a temporal link between PDA and minority stress, specifically, increasing concern for safety and harassment potentially because of visibility as a couple.

Increases in concern for safety and harassment are likely reasons why couples choose to "pass" when in public. Passing refers to when sexual minorities intentionally present themselves either directly or indirectly as heterosexual (Johnson, 2002). It is not uncommon for LGBT people to pass and the reasons why LGBT people choose to pass are as varied as the people themselves. It has been argued that society expects same-sex couples to pass as same-sex heterosexual friends (Johnson, 2002; Steinbugler, 2005). However, Johnson (2002) notes that such societal expectations are oppressive and require same-sex couples to self-police and self-regulate their behaviors. Steinbugler (2005) found that same-sex couples experienced tension surrounding visibility; feeling that visually dissociating from each other was a taxing and tedious experience.

These results illustrate just one area of complexity that same-sex couples must navigate. As a result of heterosexual privilege, there are unique stressors same-sex couples face that heterosexual couples do not. These stressors can complicate otherwise uncomplicated processes, as I have found with PDA. Indeed, while daily PDA is beneficial to daily relationship satisfaction is also increases daily concern for safety and harassment because of sexual orientation.

Partner Effects

I also examined partner effects in the models I tested as I was interested in investigating how partner daily PDA influences actor daily relationship satisfaction and minority stress. I find that, in terms of partner's daily PDA influencing actor's daily concern for safety and harassment because of sexual orientation, the findings are

inconsistent. Specifically, partner's concurrent PDA and lagged PDA (trending) were positively associated with actor's daily concern for safety. Further, only partner's lagged daily PDA was positively associated with actor's next day daily harassment. Together with the actor's results, these findings suggest that actor's daily PDA is more useful in predicting increases in PDA and that the influence of partner PDA on minority stress is more immediate which is why I fail to see change over time in the partner models. Additionally, these findings illustrate that partner changes in daily PDA do not result in increases in actor minority stress. Lack of a significant finding here may stem from the interdependent nature of the couple such that when a partner begins engaging in more PDA, an actor may in turn also engage in more PDA. Thus, the change effect may be captured solely by the actor as a result of partner's change in behavior resulting in a change in actor behavior.

Limitation and Future Research

Despite the benefits of daily diary methods adding power to the statistical analyses, the sample size was relatively small (38 individuals, 19 couples) which means replication studies are required (Mausbach, Harmell, Moore, & Chattillion, 2011). However, despite the small sample size, a strength of the study is the range of participants I was able to recruit. Often, researchers rely heavily on college LGBT groups, resulting in participants who are often urban residents, active in LGBT organizations and groups, and mostly open about their sexual orientation (Elze, 2009). One such strategy, which I followed, is to recruit from a variety of different venues (Corliss, Cochran, & Mays,

2009). While I did recruit through college LGBT groups, I also recruited through community LGBT organizations and their social media webpages, as well as through convenience sampling, canvasing local establishments frequented by LGBT members, and through LGBT friendly organizations. I believe such recruitment strategies proved beneficial in diversifying the sample. However, I acknowledge that the findings are not generalizable to all same-sex couples.

An additional limitation of the current study concerns the single item measures of minority stress. While many researchers have examined minority stress (e.g., Mohr & Daly, 2008; Otis, Rostosky, Riggle, & Hamrin, 2006), they often utilize multiple item measures to assess various constructs of minority stress (i.e. comfort with homosexuality, involvement with gay related activities). Given the diary component of the study I sought to create a more parsimonious measure for participants; however, despite my efforts scale reliability failed to achieve an acceptable level and therefore items were examined individually. I chose to focus the analyses on two constructs of minority stress. A standard parsimonious measure of minority stress would benefit the field, especially as researchers begin to examine the effect of minority stress on a daily basis.

Another area of future research surrounds interracial same-sex couples. Specifically, researchers may want to consider recruiting interracial couples to serve as a comparison group. Because interracial couples also navigate specific stressor as a result of their union, there are likely to be many similarities, yet also interesting differences between the various couple types. Steinbugler (2005) has already documented how

interracial couples, like same-sex couples, monitor their surroundings and consider the potential consequences of outing themselves in a society that is not always welcoming of such couples. Potential differences in coping processes may arise as non-White individuals likely have the skills needed to more successfully combat the negative effects of discrimination. Indeed, such an examination would further our understanding of marginalized and discriminated couples and help us better untangle the intersectionality of race and sexual orientation.

Conclusion and Implications

My study adds to the literature by illustrating the concurrent, lagged, and prospective impact of daily PDA on daily relationship satisfaction and daily minority stress. Our findings highlight the complexities same-sex couples must address. Specifically, while engaging in PDA increases concern for safety and harassment because of sexual orientation, PDA also increases relationship satisfaction. These findings also illustrate how we as researchers should be careful about what we generalize to be true for same-sex couples given what we know about heterosexual couples. These findings should also prove helpful to counselors and other practitioners with same-sex couples as clients when offering strategies these couples can utilize to better their relationships.

Table 1

Means, Standard Deviations, and Correlations of Study Variables

	M	SD	1	2	3
1. Daily Relationship Satisfaction	4.39	0.69	---	---	---
2. Daily Public Displays of Affection	2.38	1.43	0.11*	---	---
3. Daily Concern for Safety	1.08	0.41	0.04	0.10*	---
4. Daily Harassment	1.04	0.30	0.07	0.14**	0.27***

Note. All items range from 1 to 5. * < .05. ** < .01. *** < .001.

Table 2

Results of Regression Models, Actors

Model	*b*	*SE*	*B*	R^2	% Δ
DV: Actor's Daily Relationship Satisfaction					
Model 1: Actor's Concurrent PDA (H1a)	.07**	.02	.15	.32	2.00
Model 2: Actor's Lagged PDA (H1b)	.05^t	.02	.10	.32	1.43
Model 3: Actor's Prospective PDA (H1c)	.02	.02	---	---	---
DV: Actor's Daily Concern for Safety					
Model 1: Actor's Concurrent PDA (H2a)	.03*	.02	.10	.009	.86
Model 2: Actor's Lagged PDA (H2b)	.03^t	.01	.10	.03	.86
Model 3: Actor's Prospective PDA (H2c)	.02	.01	---	---	---
DV: Actor's Daily Harassment					
Model 1: Actor's Concurrent PDA (H2a)	.04*	.02	.18	.003	1.14
Model 2: Actor's Lagged PDA (H2b)	.01*	.01	.05	.04	.29
Model 3: Actor's Prospective PDA (H2c)	.02*	.01	.09	.01	.57

Note: IVs were entered into individual regression models. ^{t} = trending. * *p* < .05. ** *p* < .001.

Table 3

Results of Regression Models, Partners

Model	b	SE	B	R^2	%Δ
DV: Actor's Daily Relationship Satisfaction					
Model 1: Partner's Concurrent PDA	.04	.02	---	---	---
Model 2: Partner's Lagged PDA	.02	.02	---	---	---
Model 3: Partner's Prospective PDA	.00	.03	---	---	---
DV: Actor's Daily Concern for Safety					
Model 1: Partner's Concurrent PDA	.04**	.01	.14	.00	1.14
Model 2: Partner's Lagged PDA	.02^t	.01	.07	.02	.57
Model 3: Partner's Prospective PDA	.02	.01	---	---	---
DV: Actor's Daily Harassment					
Model 1: Partner's Concurrent PDA	.01	.01	---	---	---
Model 2: Partner's Lagged PDA	.01*	.01	.04	.03	.29
Model 3: Partner's Prospective PDA	.01	.01	---	---	---

Note: IVs were entered into individual regression models. ^{t} = trending. * $p < .05$. ** $p < .01$.
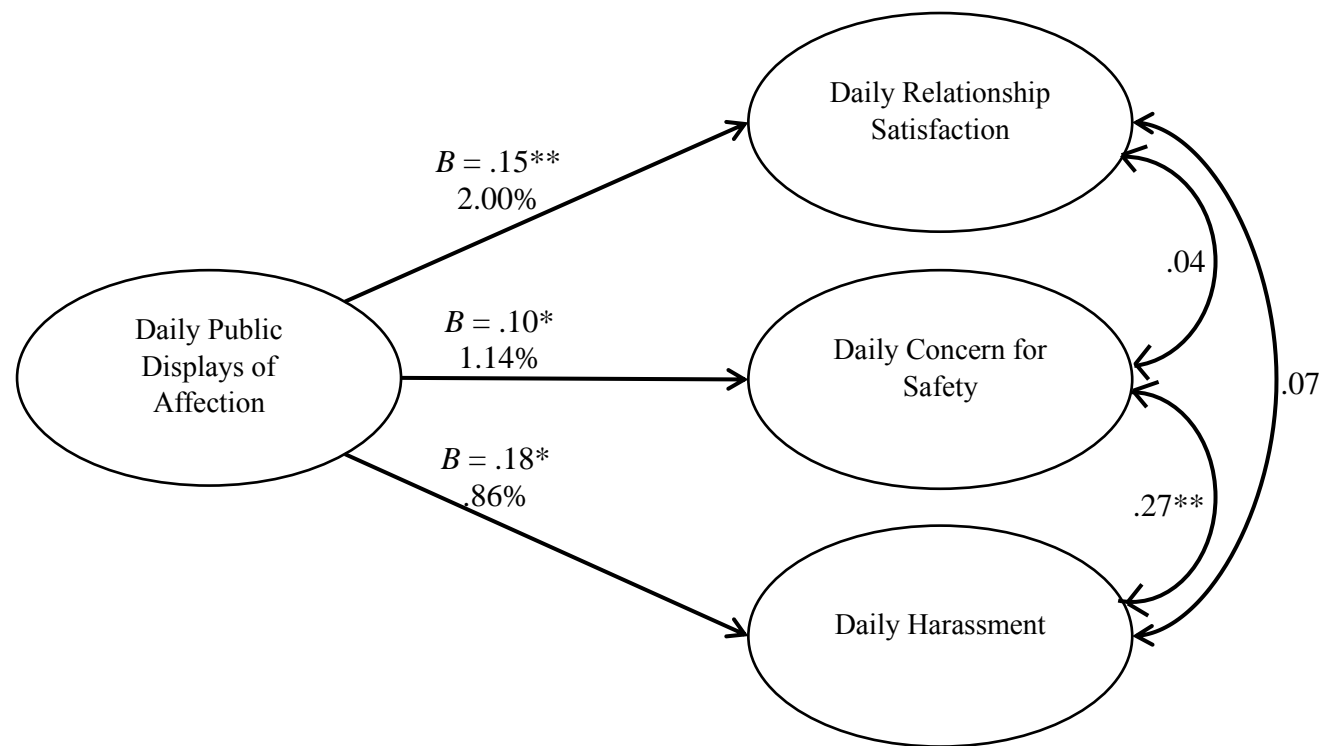
Figure 1. Conceptual model of the daily influence of public displays of affection on daily relationship satisfaction and concern for safety and harassment because of sexual orientation.

Note: Standardized betas and percentage change reported along with correlations between IVs. * $p < .05$. ** $p < .001$.

CHAPTER IV. MANUSCRIPT III. DAILY EXAMINATION OF MINORITY STRESS

ON PHYSICAL HEALTH AND WELL-BEING FOR SAME-SEX COUPLES

Introduction

Gay and lesbian individuals experience stress unique to their sexual orientation. This stress, referred to as minority stress, is the result of identifying with a stigmatized social group (Meyer, 1995) and has been found to be associated with a multitude of negative outcomes. Meyer (1995) found that internalized homophobia, expectations of rejection and discrimination, and actual events of discrimination and violence were each associated with psychological distress in gay men. Further, researchers have documented the negative effects of minority stress on depression and anxiety (Cochran, Sullivan, & Mays, 2003), alcohol, tobacco, and illicit drug use (Burgard, Cochran, & Mays, 2000), and suicide attempts (Hatzenbuehler, 2011) and completions (Richardson, 1995).

Our study advances the literature on minority stress by examining the daily influence of minority stress on physical health and well-being. While researchers have extensively documented the negative influence of minority stress on physical health and well-being, no study has yet to examine the day-to-day effect of this stress. Additionally, I examine the role romantic relationships play in moderating the relationship between daily minority stress, physical health, and well-being. I examine this moderating effect because gay and lesbian individuals likely rely on their partner as support when faced with minority stress such that those in satisfying relationship are more likely better be able to cope with minority stress.

Minority Stress Theory

The foundation for minority stress is inferred from several sociological and social psychological theories (Meyer, 2003). Minority stress is based on the premise that sexual minority individuals, living in a heterosexist society, are subjected to chronic stress related to stigmatization due to their sexual orientation (Meyer, 1995). Generally speaking, minority stress arises when one's self concept does not adhere to what society expects of the individual. Minority stress conceptualizes minority stressors as: internalized homophobia, stigma, and the actual experiences of discrimination and violence (Meyer, 1995). Internalized homophobia refers the directing of society's negative attitudes toward the self (Meyer, 1995). Often, sexual minorities begin to internalize society's anti-homosexual attitudes before they may recognize their own same-sex attractions (Meyer, 1995). While internalized homophobia is most acute early in the coming-out process, it is unlikely to completely abate even as the individual accepts and acknowledges their sexual orientation (Meyer, 1995).

Perceived stigma refers to the expectation of rejection and discrimination (Meyer, 1995). A high level of perceived stigma leads minority group members to maintain a high degree of vigilance with regard to the minority components of their identity in interactions with dominant group members (Meyer, 1995). This vigilance is chronic in that it is evoked in the everyday life of the minority person and it is stressful in that it requires exertion of energy and resources (Meyer, 1995). Such concerns over stigma can be so great that it may drive some sexual minority individuals to "pass" as heterosexual;

however, "passing" also requires considerable monitoring and expenditure of energy. Lastly, actual experiences of discrimination and violence are an important consideration within minority stress. Rejection, discrimination, and violence that minority individuals experience because of their stigmatized minority position are the most explicit sources of minority stress (Meyer, 1995).

Minority Stress and Physical Health

In recent years researchers have begun examining physical health disparities within the lesbian, gay, bisexual, and transgender (LGBT) community. Compared to their heterosexual peers, LGBT individuals report poorer overall health (Fredriksen-Goldsen, Kim, & Barkan, 2012; Frost, Lehavot, & Meyer, 2011), a higher number of acute physical symptoms and chronic health conditions (Sandfort, Bakker, Schellevis, & Vanwesenbeeck, 2006), and report that as a result of their current health status they have curtailed everyday physical activity (Conron, Mimiaga, & Landers, 2010; Fredriksen-Goldsen, Kim, & Barkam, 2012; Kim & Fredriksen-Goldsen, 2012). Further, LGB individuals are found to report more headaches (Cochran & Mays, 2007; Lock & Steiner, 1999), more chronic conditions and allergies (Lock & Steiner, 1999), and osteoarthritis and gastro-intestinal problems (Sandfort, Bakker, Schellevis, & Vanwesenbeeck, 2006) compared to their heterosexual peers. Lastly, researchers have found that those who report being in a same-sex relationship report more diagnoses of asthma compared to other-sex couples (Heck & Jacobson, 2006).

Minority stress is one theory proposed that may explain these health disparities (Lick, Durso, & Johnson, 2013; Meyer, 2003) and there are empirical studies to support such a claim. LGB young adults' reports of headaches were found to increase as a function of self-reported exposure to homophobic remarks (Woodford, Howell, Kulick, & Silverschanz, 2012). In another study, high rates of minority stress, measured in reports of discrimination, rejection, internalized homophobia, and identity concealment, were associated with more total physical health problems and poorer overall health for LGB adults (Frost, Lehavot, & Meyer, 2011). Further, expectations of rejection, internalized homophobia, and recalled experiences of victimization were associated with physical symptom severity among lesbians and gay men (Denton, 2012).

The findings by these researchers illustrate that LGBT individuals are likely to experience disparate physical health outcomes compared to their heterosexual peers and that these outcomes are likely related to minority stress. In my study I extend the literature by examining the daily influence of minority stress on daily physical health and the role relationships play as potential buffers to the negative effects of such stress.

Minority Stress and Well-Being

Extant literature suggests that one does not have to confront stigma to experience the negative effects of minority stress. For example, fear of antigay stigma arouses feelings of distress that can negatively affect personal well-being, much the same way actual antigay stigma experiences (Meyer, 2003, 2007). However, most LGBT individuals will experience actual anti-LGBT sentiment throughout their life as upward of

94% of LGB adults report experiencing verbal harassment related to their sexual orientation (Herek, Cogan, & Gillis, 2002). Further, almost a third (17%-28%) report physical assault and proper damage related to their sexual orientation (Berrill, 1992; Katz-Wise & Hyde, 2012).

While many researchers have examined the effect of minority stress on mental health, few have examined daily well-being specifically. For example, gay men who reported high levels of minority stress were three times more likely to report anxiety, hopelessness, and poor self-esteem in comparison to gay men who reported low levels of minority stress (Meyer, 1995). Further, numerous studies support the idea that minority stress compromises psychological well-being (DiPlacido, 1998; Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008; Kuyper & Fokkema, 2010, 2011; Lehavot & Simoni, 2011). In all, these studies provide ample support for the association between minority stress and decreased psychological health; however, none examined the daily influence of minority stress on daily psychological well-being. Again, my study adds to the literature by examining this daily effect, as well as the ameliorating role one's romantic relationship has.

Minority Stress and Relationship Satisfaction

Same-sex couples must initiate and maintain their romantic partnerships in social climates that often marginalize and devalue same-sex relationships (Lehmiller & Agnew, 2006; Mohr & Fassinger, 2006). This added stress is one aspect that differentiates same-sex couples from other-sex couples; however, similar to other-sex couples (Collins et al.,

2010) same-sex couples often turn to their partner for support when faced with adverse life experiences (Kurdek, 1988). While the influence of minority stress has been studied predominately with regard to the individual there is reason to believe that such stress also affects the romantic relationships of same-sex couples (Green & Mitchell, 2002).

Specific to same-sex couples, internalized homophobia is associated with decreases in relationship attraction and satisfaction over a six week period (Mohr & Daly, 2008). However, self-concealment was not found to be associated with these outcomes (Mohr & Daly, 2008), despite research that suggests vigilance and self-monitoring required to conceal one's orientation and relationship may increase stress levels making the relationship less rewarding (Foster & Campbell, 2005). This latter finding is also contrary to other studies that have found same-sex couples use concealment as a coping strategy when faced with minority stress from family members, coworkers, and communities (Rostosky, Riggle, Gray, & Hatton, 2007). These researchers also found that when couples face minority stress, they create social support systems and reaffirm their self and their partnership (Rostosky, Riggle, Gray, & Hatton, 2007).

Ultimately, all individuals carry the effects of discrimination with them into their relationships, especially their intimate ones (Otis, Rostosky, Riggle, & Hamrin 2006). However, same-sex couples may be disadvantaged as they may have to manage this stress without the support of their families of origin or the larger community (Peplau, 1993; Weston, 1997). This potential lack of support is why having a satisfying relationship with one's partner may be of particular importance in same-sex relationships.

The relationship may serve an important support role. As such, I examine how the effects of daily minority stress on daily physical health and well-being are potentially buffered by daily relationship satisfaction.

The Present Study

Minority stress increases negative health outcomes and decrease psychological well-being. The extant literature suggests no reason why these processes should work differently on a daily basis. Further, I propose that relationship satisfaction likely serves an ameliorate the relationship between daily minority stress and daily physical health and well-being. As such, I propose the following hypotheses:

H1. Daily minority stress will be associated with poorer daily physical health and lower daily well-being.

H2. Daily relationship satisfaction will ameliorate the negative effects of daily minority stress on daily physical health and daily well-being.

Methods

Purposeful, sampling techniques were utilized because I actively recruited the most productive sample to answer the research questions (Coyne, 1997; Marshall, 1996). Specifically, I recruited self-identified lesbians and gay men who were 18 years old, had been in a romantic relationship for at least 2 months, and whose partner would also willing participate. Recruitment efforts were varied and included emailing local and national LGBT organizations, including colleges, universities, and non-profit organizations. Additionally, the first author used Facebook for recruitment purposes,

posting on his wall and emailing potential participants and LGBT groups directly as well as paying to have his studied directly marketed to gays and lesbians in romantic relationships. Additionally, recruitment flyers were also posted at local LGBT friendly establishments around a mid-sized southwestern city.

Collectively, 19 (38 individuals) couples participated in the study which included a baseline survey and then 14 days of daily diary surveys. Couples completed an average of 10 days (range: 2-14) of daily diary surveys in addition to their baseline survey. One more lesbian couple participated than did gay couple. There were 20 females and 18 males in total in the study. Most participants were White ($n = 24$, 63%), followed by Hispanic ($n = 7$, 19 %), African American ($n = 4$, 10%), and other ($n = 3$, 8%). Their average age was 33 (range: 20-55, $SD = 8.75$) and average relationship length was 5.44 years (range: 0.83-23, SD = 5.39). Most reported that they lived with their partner (75%) with an average length of time living together at 3.38 years (Range: .05-11.13, $SD =3.52$).

Potential participants first completed an online base survey. This base survey, after consent and checking eligibility, required participants create a unique user ID by combining the first letter from their first and last name with their two digit date of birth, with that of their partner. In this way, members of a couple could be identified. Within 48 hours of completing the baseline survey, the daily diary portion of the study began. Once a day, at 5:00pm MST, participants would receive an email with their user ID, qualified by a daily notation, and a link to that day's survey. Participants received this email for 14 days after which time they completed all portions of the study.

Measurement

Daily Minority Stress. Based on extant literature (Bunn, Solomon, Miller, & Forehand, 2007; Herek, Cogan, Gillis, & Glunt, 1998; Meyer, 1995; 2003), I created a 5-item measure of minority stress. I endeavored to create a parsimonious measure because there is not a standardized minority stress measure or set of measures. The measure assessed concern for safety because of sexual orientation, harassment because of sexual orientation, hiding one's sexual orientation, thoughts about how life would be easier if straight, and feeling less deserving because of one's sexual orientation. Participants answered how much each statement was true for them over the previous 24 hours, with responses ranging from 1 (*Disagree*) to 5 (*Agree*). Scale reliability was poor for these 5-items together, $a = .46$. As such, 2-items were selected and will be examined separately for analysis. Specifically, concern for safety because of sexual orientation and harassment because of sexual orientation were chosen.

Daily Physical Health. Five items were used to measure physical health (Pennebaker, 1982). These items asked participants to rank, over the past 24 hours, how much they agree with statements concerning headaches; upset stomach or stomach aches; stiff or sore muscles; sore throat, coughing, or runny/congested nose; and tiredness or low energy. Responses ranged from 1 (*Very untrue*) to 5 (*Very true*). While Pennebaker (1982) summed these items, I mean scored them. Scale reliability was acceptable, $a = .67$.

Daily Well-Being. Three items were used to measure well-being (McDowell, 2006). Items included: "How have you been feeling about your life?" with responses

ranging from 1 (*Very poor*) to 5 (*Very good*); "How happy, satisfied, or pleased have you been with your personal life?" with responses ranging from 1 (*Not happy, satisfied, or pleased*) to 5 (*Very happy, satisfied, or pleased*); and "Has your daily life been full of things that are interesting to you?" with responses ranging from 1 (*No, not full*) to 5 (*Yes, very full*). Scale reliability was very good, *a* = .88.

Daily Relationship Satisfaction. Three items were adapted to assess daily relationship satisfaction (Graham, Diebel, & Barnow, 2011; Schumm et al., 1986). The items asked respondents to rate, over the past 24 hours, how satisfied they are with their relationship, with their partner as a relationship partner, and with their relationship with their partner. Response options ranged from 1 (*Very dissatisfied*) to 5 (*Very satisfied*) and had excellent scale reliability, *a* = .93.

Controls. As I am interested in the daily influence of daily minority stress, physical health, well-being, and relationship satisfaction I control for overall levels of these constructs in the analyses. The same daily items were also assessed at baseline. The only difference in these baseline questions asked participants to reflect "overall" or "in general" rather than "over the past 24 hours".

Plan of Analysis

All analyses were conducted using SAS (9.2) PROC MIXED to account for the interdependent nature of the data inherent in dyadic data analyses. Before models were tested, and following Aiken and West (1991) recommendations, all predictor and control variables were person mean centered. Person mean centering, like the name implies,

computes a mean score for each participant across just their days of diary (Miller &

Johnson, 2014). Before interaction analyses were examined, each predictor (IV and

moderator) variable was entered into its own model predicting physical health first, and

then well-being. Next, I ran interaction models examining the moderating effects of daily

relationship satisfaction on daily concern for safety and daily harassment in predicting

daily physical health and well-being. Again, these models were run separately. Significant

interactions were then probed and graphed using tools provided by Dawson (2014) and

Preacher, Curran, and Bauer (2006).

I provide sample syntax below for the interaction of daily harassment by daily

relationship satisfaction predicting daily well-being:

```
proc mixed covtest method = ml noclprint data = diss.apim;
class indv cpl obs;
model dpsy = day opsy stress2 pcmdstress2 pcmdsat
pcmdstress2*pcmdsat / covb solution ddfm = satterth;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
run;
```

On the class line INDV refers to the individual's own unique ID while CPL refers to the

couple's own unique ID. Additionally, OBS refers to the number of days of data within

each couple wherein each couple has their own individual set of days. For example, if

couple one has data for days 1 through 13, couple two begins with 14. On the model line,

I include day as I found a significant association between daily well-being and day such

that the longer participants were in the study the higher their reported well-being. Such an

increase is likely a result of participating in the study and as such, I included day in the

model to account for this temporal increase of daily well-being. Lastly, I randomly

assigned partners to the dummy coded role of "partner 1" and "partner 2" as

recommended (Kashy et al., 2008) which was included on the random line.

For significant models I also report unstandardized (*b*) and standardized beta's

(*B*). I report these beta's in addition to r-squared because r-squared can be problematic in

multilevel models because negative values are possible (Snijders & Brosker, 1999).

Standardized beta's (*B*) also allow for direct comparisions to be made between variables

entered into the same model. I provide interpretations (% Δ) in terms of the original scale

units. Lastly, I test simple slopes for significant interactions, as outlined by Dawson

(2014).

Results

In Table 1 I provide descriptive statistics and correlations of the study variables of

interest. These correlations are provided solely for descriptive purposes as they contain to

multiple sources of variance (e.g., between and within person and dyad). I also provide

results of the regression analyses in Table 2.

Daily Effect of Minority Stress (H1)

To test the first hypothesis, I ran individual multilevel dyadic models. Controlling

for overall physical health and concern for safety, daily concern for safety was not

significantly associated with daily physical health ($b = .05$, $SE = .08$, $F(1, 406) = .45$, $p =

.50$). Similarly, controlling for overall physical health and harassment, daily harassment

was not significantly associated with daily physical health ($b = .01$, $SE = .10$, $F(1, 395) =

.01, $p = .91$). Controlling for overall well-being and concern for safety, daily concern for safety was not significantly associated with daily well-being ($b = -.08$, $SE = .06$, $F(1, 412) = 1.80$, $p = .18$). However, controlling for overall well-being and harassment, daily harassment was found to be significantly associated with daily well-being ($b = .20$, $SE = .08$, $F(1, 393) = .01$, $p < .01$). Collectively I do not find support for the hypotheses concerning daily minority stress and daily physical health. Further I find the opposite of what I predicted in terms of daily minority stress and daily well-being such that it appears more daily harassment is associated with increased daily well-being. I wait to interpret this last finding with the additional information the interaction provides.

Moderating Effect of Daily Relationship Satisfaction (H2)

I next examined the moderating effect of daily relationship satisfaction on these relationships, retaining the same controls per model as previously outlined. The interaction of daily concern for safety by daily relationship satisfaction was not significantly associated with daily physical health ($b = -.08$, $SE = .16$, $F(1, 403) = .28$, $p = .60$). Neither was daily harassment by daily relationship satisfaction significant ($b = -.22$, $SE = .32$, $F(1, 411) = .44$, $p = .51$). However, daily concern for safety by daily relationship satisfaction was trending toward significance and daily harassment by daily relationship satisfaction was significantly associated with daily well-being, ($b = .19$, $SE = .11$, $F(1, 406) = 3.11$, $p = .07$) and ($b = -.63$, $SE = .22$, $F(1, 416) = 8.16$, $p < .01$) respectively.

I next graphed and examined regions of significance and simple slope tests for the interactions predicting daily well-being. See Figure 1 for the interaction of daily concern for safety by daily relationship satisfaction predicting daily well-being. Regions of significance tests for this interaction revealed that the significant region for daily relationship satisfaction ranges from -3.32 to -0.05. Because person centered daily relationship satisfaction ranges from -2.56 to 1.21, the effect of daily concern for safety on daily well-being is only significant for relatively low observed values of daily relationship satisfaction. Tests of simples slopes was not significant for higher than average daily relationship satisfaction ($b = .03$, t(406) = .12, $p = .90$) or for lower than average daily relationship satisfacation ($b = -.24$, t(406) = -.56, $p = .59$).

Similarly, see Figure 2 for the interaction of daily harassment by daily relationship satisfaction predicting daily well-being. Regions of significance tests for this interaction revealed that the significant region for daily relationship satisfaction falls outside of 0.31 to 1.18. As such, and similar to the previous model, the effect of daily harassment on daily well-being is only significant for relatively low observed values of daily relationship satisfaction. Tests of simples slopes was not significant for higher than average daily relationship satisfaction ($b = -.11$, t(416) = -.22, $p = .83$) or for lower than average daily relationship satisfacation ($b = .77$, t(416) = 1.11, $p = .29$).

Effect Sizes

Lastly, these results represent changes in daily well-being that range from -3.91% to 6.49%. For example, daily relationship satisfaction is associated with increased daily

well-being such that one standard deviation change in daily relationship satisfaction is associated with a 6.49% increase (on a 5-point scale) in daily well-being. See Table 2 for additional results.

Discussion

The results do not support the first hypothesis concerning the daily physical influence of minority stress; however I do find partial support for the second hypothesis concerning the moderating affect daily relationship satisfaction would have on the relationship between daily minority stress and daily physical health and well-being. To the former (H1), the null findings are interesting and add to the literature as the first daily examination of minority stress. With one notable exception (Totenhagen, Butler, & Ridley, 2012), I am aware of no other study to examine the daily influence of stress within same-sex couples. However, the study extends the Totenhagen, Butler, and Ridley (2012) study by focusing specifically on the influence of minority stress in the lives of gay and lesbian couples. Interestingly, and contrary to what I hypothesized, I did find that daily harassment is associated with increased daily well-being. Again, I wait to propose a possible explanation until I discuss the interaction analysis.

While I failed to find support for my first hypothesis concerning daily physical health and well-being, I did find support for the proposed interactions with daily relationship satisfaction, but only in relation to predicting daily well-being. Specifically, for individuals with lower than their average daily relationship satisfaction, daily concern for safety negatively impacted daily well-being. Further, in terms of daily harassment,

individuals with lower than their average daily relationship satisfaction report increases in daily well-being, the opposite of what I predicted. These results illustrate the varying influences minority stress can have on daily well-being and how daily relationship satisfaction influences this relationship.

The negative relationship between daily concern for safety and daily well-being for those with lower than their average daily relationship satisfaction may be the result of an absence of partner support. For example, in LGB adults 60 years old and over, partners were found to provide considerably more emotional support when compared to all other support networks (Grossman, D'Augelli, & Hershberger, 2000). Additionally, Kurdek (1988) found that partners were named as providers of social support more frequently than family members and coworkers, again highlighting the important support role one's partner plays. It is likely that when one is satisfied in their relationship, they turn to their partner in times of stress. It is also likely, when they are less satisfied in their relationship, that in times of stress one either turns to others (i.e. friends, family) or internalizes the stress. While friends and family may be able to offer quality support, it may still be lacking to the support one's partner could provide given they know their partner on a more intimate level. It is this lack of support that may inherently exist for less satisfied couples that fails to buffer them against the negative effects of daily minority stress.

Such an explanation also helps to explain the finding pertaining to higher daily well-being in the presence of more daily harassment and lower than average daily

relationship satisfaction. These individuals may seek support from friends or family, which is common (Grossman, D'Augelli, & Hershberger, 2000; Kurdek, 1988), however, it appears the support they receive may not be enough to fully counter the negative effects of the daily harassment. Visual inspection of the graphed interaction shows that despite the increase in well-being, these individuals still report lower daily relationship satisfaction compared to their high daily relationship satisfaction peers.

An alternative explanation may be that these individuals identify highly with their gay or lesbian identity. High identification has been found to affect how individuals perceive their social environment (Hong, Morris, Chiu, & Benet-Martinez, 2000) and how they relate to others (Tajel & Turner, 1979). Identification is associated with psychological well-being and stress exposure, both distal such as discrimination and proximal such as perceived stigma (Fingerhut, Peplau, & Gable, 2010). As a result of high identification, these individuals may be more likely to experience harassment. Compared to those who are low in gay identity, those who are higher in gay identity report significantly more discrimination but significantly less perceived stigma and were found to be protected from the negative consequences of perceived stigma (Fingerhut, Peplau, & Gable, 2010). Thus, one explanation for why I find that those who are high in harassment and low in daily relationship satisfaction report increased daily well-being may stem from the fact that these individuals also highly identify as gay or lesbian. However, this explanation is speculative and beyond the scope of the present study.

Lastly, the null findings add to the literature, suggesting that the negative effects of stress on physical health may be more cumulative, and are not something you can see when examined on a daily basis. For example, one study followed LGB participants for one year, assessing health and minority stress at baseline and with a one year follow-up survey. These researchers found that the odds of experiencing an externally rated physical health problem during the follow-up survey were approximately three times higher for LGB individuals who had experienced a prejudice event in that year compared to those who had not (Frost, Lehavot, & Meyer, 2013). Collectively, it appears that the negative effect of minority stress on physical health is more long-term, which appears in direct contrast to the effect of minority stress on well-being as the results support a daily association between the two.

Limitation and Future Research

I add to the minority stress literature by examining daily effects of minority stress on daily health and well-being. However, one limitation of the study is the sample size. While it is not uncommon to find small sample sizes in studies of same-sex couples (e.g., Rostosky, Riggle, Gray, & Hatton, 2007), such a sample size means the results require replication (Mausbach, Harmell, Moore, & Chattillion, 2011). While I was successful in recruiting a non-college aged population, which is often a critique of studies with an LGBT sample (Elze, 2009), the sample was still predominately White and well educated. Researchers may want to conduct replication studies to see if the findings can be

replicated in more diverse samples, or within samples of predominately African American or Hispanic populations.

To ease participant burden, and in an attempt to create a parsimonious standardized measure, I attempted to create a short, 5-item, measure of minority stress informed by extant literature. I used items that I believed assessed internalized homophobia, stigma, and experiences of discrimination, which are the various components of the minority stress theory (Meyer, 1995). However, scale reliability was poor for these items suggesting that while these items are all constructs of minority stress, they are distinct from one another, at least on a daily basis. For this reason I selected two components of minority stress, stigma (concern for safety) and harassment (experiences of discrimination) for examination in the analysis. A future study could examine how the other items are also associated with daily health and well-being as they pertain more to the internalized homophobia aspect of minority stress. Additionally, future researchers may want to undertake the challenge of creating a more parsimonious minority stress measure as such a measure would ease participant burden and allow for increased usage (i.e. lend itself more to daily diary methods).

This study was not a study focused on specific support systems for gay and lesbian individuals. Instead I was interested in the daily effect on minority stress on daily physical health and well-being; however, I speculate that individuals in more satisfying romantic relationships use their partner for support. I cannot definitively test this assertion with the data. Future researchers may want to examine who specifically is

sought out for support when LGBT individuals are faced with increased minority stress. Those within romantic relationships likely do seek out their partner for this support, and are less likely to when the relationship is not satisfying, but the last interaction (daily harassment X daily relationship satisfaction in predicting daily well-being) suggests that individuals low in relationship satisfaction are likely to seek support somewhere.

Conclusion and Implications

My study adds to the literature on the influence of minority stress in the lives of same-sex couples and the important role of relationship satisfaction. Specifically, I found that those who are report lower than their average daily relationship satisfaction report lower daily well-being on days with more daily concern for safety. Conversely, those with lower than their average daily relationship satisfaction reported increased daily well-being on days with more harassment because of sexual orientation. However, despite this increase in daily well-being, those with lower than their average daily relationship satisfaction still report lower daily well-being than their peers who report higher than their average daily relationship satisfaction. These results have interesting implications for practitioners working with same-sex couples as they suggest that working on relationship satisfaction may be one outlet for addressing minority stress within their relationship while also increasing their well-being.

Table 1

Means, Standard Deviations, and Correlations of Study Variables

	M	*SD*	1	2	3	4
1. Daily Concern for Safety	1.08	0.41	---	---	---	---
2. Daily Harassment	1.04	0.30	0.27*	---	---	---
3. Daily Relationship Satisfaction	4.39	0.69	0.04	0.07	---	---
4. Daily Physical Health	2.18	0.98	0.07	0.04	-0.06	---
5. Daily Well-Being	4.04	0.77	-0.08^t	-0.07	0.58*	-0.1*

Note. All items range from 1 to 5. ^{t} = trending. * $p < .0001$.

Table 2

Results of Regression Models

	DV: Daily Physical Health					DV: Daily Well-Being				
	b	*SE*	*B*	R^2	% Δ	*b*	*SE*	*B*	R^2	% Δ
Model 1: Daily Concern for Safety	.05	.08	---	---	---	-.08	.06	---	---	---
Model 2: Daily Harassment	.01	.10	---	---	---	.20*	.08	.06	.14	1.24
Model 3: Daily Relationship Satisfaction	-.08	.07	---	---	---	.47***	.05	.33	.95	6.49
Model 4: Daily Concern for Safety X Daily Relationship Satisfaction	-.08	.16	---	---	---	.19^t	.11	.08	.34	1.56
Model 5: Daily Harassment X Daily Relationship Satisfaction	-.22	.32	---	---	---	-.63**	.22	-.20	.33	-3.91

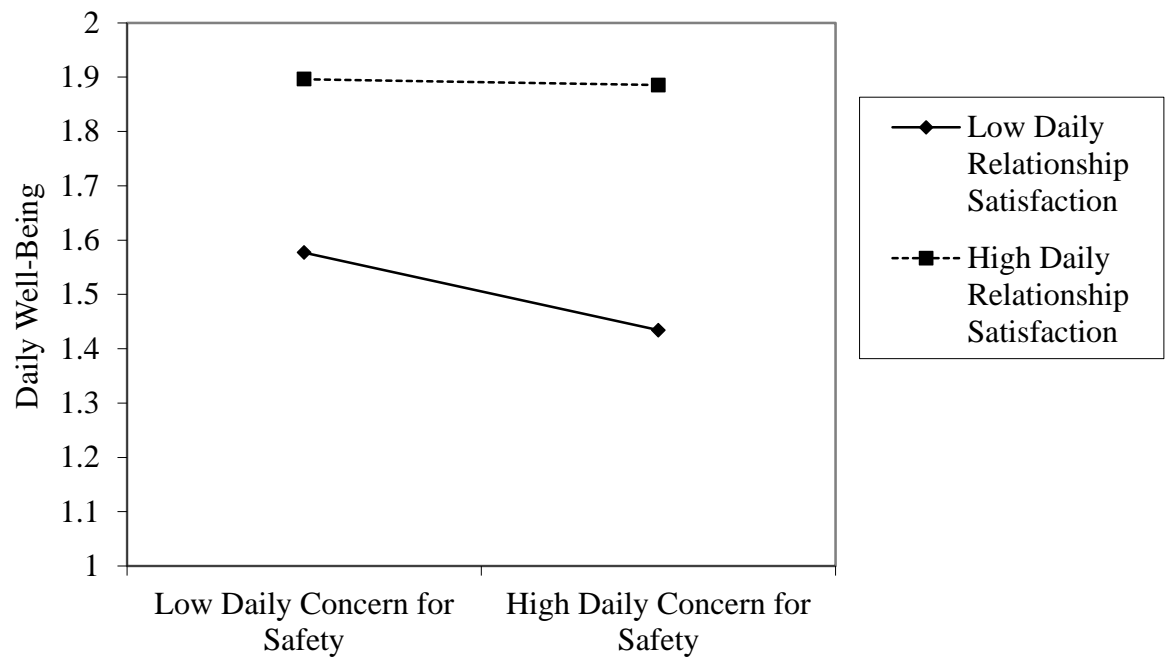Note: ^{t} = trending. * p < .05. ** p < .01. *** p < .001.

Figure 1. Interaction of daily concern for safety X daily relationship satisfaction on daily well-being.
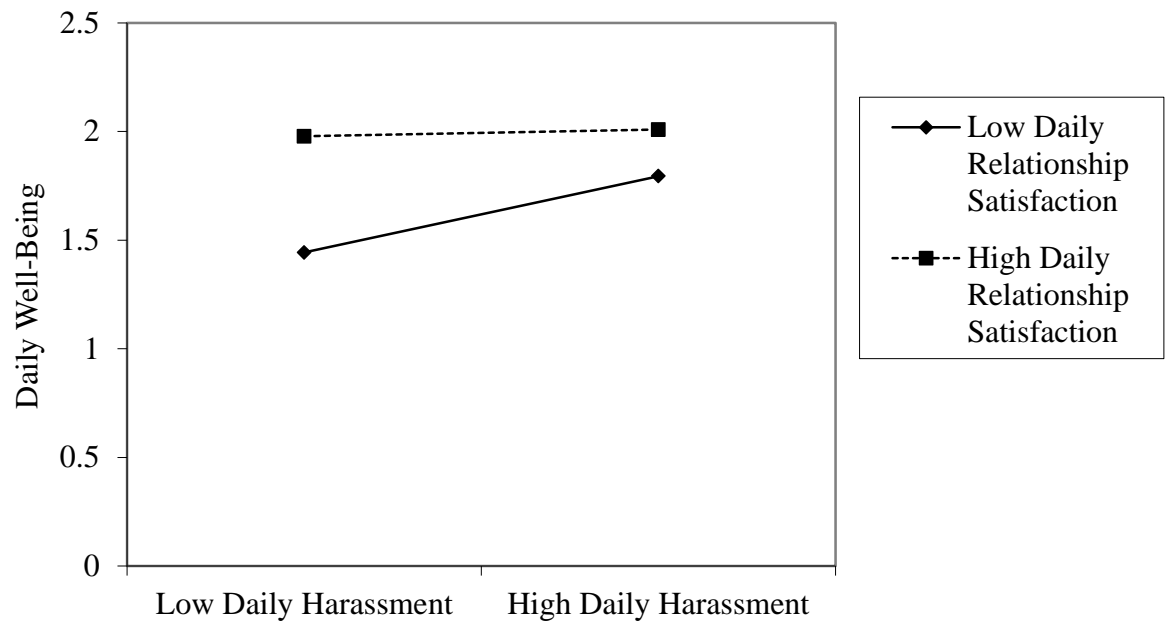
Figure 2. Interaction of daily harassment X daily relationship satisfaction on daily well-being.

CHAPTER V. CONCLUSIONS

Overview of the Three Papers

In this dissertation I examined two minority stress constructs. These two constructs, concern for safety because of sexual orientation and harassment because of sexual orientation, are salient and impactful in the lives of gay men and lesbians. These constructs represent minority stress that is experienced in general and on a daily basis and has daily repercussions on well-being and relational health. As illustrated in the studies presented here, concern for safety and harassment do not necessarily follow in tandem. That is to say that a process that causes increases in one does not necessarily result in increases in the other and/or that the effects of one do not necessarily mirror the effect of the other. Indeed, I find that while concern for safety and harassment are correlated with one another, examining the various associations of these minority stress constructs individually reveals different results.

In the first paper I examined individual and partner correlates and associations of minority stress. The variables examined were sex, race/ethnicity, age, support, coping, religiousness, comfort with homosexuality, attitudes toward homosexuality, and involvement in gay related activities. These variables were chosen either because they have been identified by minority stress researchers as exerting some influence on the relationship between minority stress and health or because they are important constructs within the minority stress framework. The purpose of this paper was to better understand what individual and partner characteristics differentiate experiences of minority stress. It

is important that these characteristics be identified to ensure such characteristics are included in future minority stress studies. Additionally, this information may be useful to therapists, counselors, and others who work with LGBT populations to better help them serve their clients by increasing their awareness of how personal characteristics differentiate the experience of minority stress.

The second paper examined minority stress on a daily basis as it pertains to certain outing behaviors (i.e. public displays of affection). This is the first known study to examine how PDA is associated with minority stress. My findings contribute to our understanding of the complex nature of being gay or lesbian and living in a heteronormative society. Specifically, engagement in PDA is good for relationship satisfaction, not to mention physical and psychological health; however, it also outs a same-sex couple thereby potentially increasing their minority stress. As such, it is important that researchers examine what is known to be true for heterosexual couples because such things may not be true for same-sex couples for a myriad of reason. Further, such an understanding would also again prove useful to therapists, councilors, and others who work with same-sex couples as a more informed professional can give more sound advice.

Lastly, the third paper extends the already well documented negative influence of minority stress on health and well-being by examining the influence of minority stress on a daily basis. Specifically, this is the first known study to examine how minority stress influences the physical health and well-being of gay men and lesbians. Further, because

romantic partners often play a support role, I examined how the daily influence of minority stress on daily physical health and well-being was moderated by daily relationship satisfaction. Such an examination is illuminating for two reasons. First, it illustrates the daily impact of minority stress on the individual. Second, it helps identify a potential protective factor for same-sex couples when faced with minority stress. Together, the results of this paper are useful for practitioners who may work with gay men, lesbians, and individuals in same-sex couples.

Summary of Findings

The results of the first paper suggest that there are not many demographic and personal background characteristics that differentiate experiences of minority stress. In terms of correlations, religiousness is negatively correlated with concern for safety because of sexual orientation while comfort with homosexuality is positively correlated with concern for safety because of sexual orientation. Further, involvement in gay related activities is correlated with harassment because of sexual orientation. However, when examined together in a regression model, not all of these relationships persist. In terms of concern for safety, I find that comfort with homosexuality is negatively associated and that sex and race/ethnicity are also associated such that males and non-Whites report less concern for safety. For harassment, whereas involvement in gay related activities was the only significantly correlating variable, harassment is also negatively associated with religiousness and attitudes toward homosexuality and positively associated with coping and involvement in gay related activities. Collectively, these results imply that comfort

with homosexuality has the strongest relationship with concern for safety and that involvement with gay related activities has the strongest relationship with harassment because of sexual orientation.

Next, the results of the second paper indicate that daily PDA is positively associated with same and next day relationship satisfaction. Further, daily PDA is positively associated with same and next day concern for safety because of sexual orientation and positively associated with same and next day and over time increases in harassment because of sexual orientation. As a result of increases in concern for safety and harassment many same-sex couples may choose to "pass" when in public. Passing refers to when sexual minorities intentionally present themselves either directly or indirectly as heterosexual (Johnson, 2002). Indeed, it has been argued that society expects same-sex couples to pass as same-sex heterosexual friends (Johnson, 2002; Steinbugler, 2005). However, Johnson (2002) notes that such societal expectations are oppressive and require same-sex couples to self-police and self-regulate their behaviors. Steinbugler (2005) found that same-sex couples experienced tension surrounding visibility; feeling that visually dissociating from each other was a taxing and tedious experience. Such findings illustrate the good and bad PDA results in for same-sex couples.

Partner effects of PDA were also found on individual's daily relationship satisfaction, concern for safety, and harassment. Partner's same and previous day PDA was positively associated with actor's daily concern for safety while partner's previous day PDA was positively associated with actor's daily concern for safety because of sexual

orientation. Compared to the actor's results, these findings suggest that actor's daily PDA is more useful in predicting increases in PDA and that the influence of partner PDA on minority stress is more immediate which is why I fail to find significant change over time in the partner models. Additionally, these findings illustrate that partner changes in daily PDA do not result in increases in actor minority stress.

Lastly, the results of the third paper illustrate the daily effect of minority stress on daily physical health and well-being. Researchers have extensively examined the relationship minority stress and physical and psychological health (DiPlacido, 1998; Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008; Kuyper & Fokkema, 2010, 2011; Lehavot & Simoni, 2011; Lick, Durso, & Johnson, 2013; Meyer, 2003); this study is novel in its daily examination. I find that daily minority stress does not have an effect on daily physical health suggesting the negative physical health effects of minority stress are likely more cumulative in nature. Additionally, I find that daily harassment has a positive effect on daily well-being suggesting that when harassment is high, well-being is high. It may be that when harassment is high individuals seek out support that is affirming and thus increases their well-being.

An examination of how daily relationship satisfaction may moderate these relationships supports the notion of partner as support. Specifically, the interaction between daily concern for safety and daily relationship satisfaction was significantly associated with daily well-being such that those with more daily concern and less daily relationship satisfaction reported lower daily well-being. Conversely, the interaction

between daily harassment and daily relationship satisfaction was significantly associated with daily well-being such that when participants report lower than their average daily relationship satisfaction, they reporter greater daily well-being on high harassment days. While concern for safety may not prompt someone to seek support, harassment may be enough to do so. Partners have been found to provide considerably more emotional support when compared to all other support networks (Grossman, D'Augelli, & Hershberger, 2000). As such, I see higher daily well-being on high harassment days for individuals with lower than average daily relationship satisfaction because they sought out and received affirming support, but they have lower daily well-being than their peers with higher daily relationship satisfaction because they may not have turned to their partner for support.

Overall Implications

While the public is increasingly aware of the sobering statistics concerning the high rates of antigay victimization (Lick, Durso, & Johnson, 2013), they are less aware of the unique stressors they face. Collectively, the studies presented here illustrate the complexities of gay and lesbian life. Specifically, how gay men and lesbians increase their minority stress simply by engaging in otherwise healthy behaviors (i.e. seeking community through involvement with gay related activities and maintaining a healthy romantic relationship thorough PDA) and how minority stress negatively impacts daily well-being.

Additionally, the findings from this dissertation hold several implications for practitioners and those who work with gay men, lesbians, and same-sex couples. Specifically, it is important for practitioners and others to understand the potential consequences outing behaviors can have. For example, while a couples' counselor may often encourage heterosexual couples to make time for each other, go on dates, and express their feelings for one another, such counseling for a same-sex couple can result in increased minority stress, specifically harassment. Being aware of such pitfalls, the couples' counselor can address concerns the same-sex couple may have about engaging in outing behaviors and even develop a plan regarding ways to address potential concerns for safety and harassment that emerge. Specific counseling such as this may likely prove useful, as many couples often already have stipulations in place concerning where they are willing to engage in outing behaviors (Steinbugler, 2005), but may be less likely to have discussed how to handle minority stress when it arises.

Lastly, the studies presented here also undertook the challenge of developing a parsimonious minority stress measure. Researchers should note that my attempt was unsuccessful in creating a 5-item scale. However, given the diversity of assessing minority stress that exists across the field, a short standard measure assessing minority stress would advance the field tremendously. This is especially salient as LGBT researchers expand their methods to include daily diary measures. A short standard assessment of minority stress would provide insightful information pertaining to

experiences of minority stress, while allowing for the comparison of findings across studies, and significantly decreasing participant burden in such studies.

Summary

Minority stress is a complex phenomenon in the lives of gay men and lesbians. My research illustrates that certain behaviors, behaviors that heterosexuals and opposite-sex couples engage in with little repercussion and sometimes celebration, and behaviors that are good for heterosexuals and opposite-sex couples' relationship quality, are not without their negative consequences for gay men, lesbians, and same-sex couples. Specifically, while comfort with homosexuality is associated with lower concern for safety because of sexual orientation, involvement with gay related activities which should serve affirming and community building purposes, increases harassment because of sexual orientation. Further, while daily PDA is associated with increased daily relationship satisfaction for same-sex couples, daily PDA is also associated with increased daily minority stress in terms of concern for safety and harassment because of sexual orientation. Thus, PDA serves to enhance the relationship for same-sex couples while simultaneously increasing their stress.

Despite this increase in daily minority stress, daily relationship satisfaction appears to alleviate the negative influence of minority stress on daily well-being. Specifically, when daily concern for safety is high and daily relationship satisfaction is lower than their average, individuals report lower daily well-being compared to their peers who report low daily concern for their safety and lower than their average daily

relationship satisfaction. Conversely, when daily harassment is high and daily relationship satisfaction is lower than average, individuals report higher daily well-being compared to their peers who report low daily harassment. This increase is likely due to these individuals, as a direct result of high daily harassment, seeking out support which in turn affirms their identity and increases their daily well-being. Despite this increase in daily well-being in response to increased daily harassment, these lower than average daily relationship satisfaction individuals report lower daily well-being than their high daily relationship satisfaction peers illustrating that they are still disadvantaged in comparison.

In conclusion, this dissertation has illustrated that complex role minority stress plays in the lives of gay men and lesbians. The first study is novel in its examination of individual and partner level characteristics and their correlations and associations with minority stress instead of examining such variables as controls, moderators, or mediators. The second study is novel in its examination of PDA and how daily engagement in outing behaviors simultaneously increases daily relationship satisfaction and experiences of daily minority stress. Lastly, the third study is novel in its examination of the influence of minority stress on physical health and well-being on a daily basis. Collectively, these studies extend our knowledge of minority stress.

APPENDICES

APPENDIX A – THE GAYS, LESBIANS, AND MINORITY STRESS STUDY

(GLAMSS): BASELINE SURVEY AND CODEBOOK

Qualifying Information
First, please answer the following four questions to determine if you qualify for our study.

1. In terms of sexual orientation, how do you identify? [orientation]
    (1) Gay   (2) Lesbian   (3) Other

2. Are you currently in a romantic relationship with someone of the same sex? [verifyrel]
    (1) Yes   (2) No

3. If yes, have you been in your relationship with your partner for at least two months (60 days)? [verifylength]
    (1) Yes   (2) No

4. Lastly, are you and your partner both at least 18 years old? [old]
    (1) Yes   (2) No

Demographics
Great, you qualify for our study!
Next, we would really like to learn more about you.

5. What is your sex? [sex]
    (0) Female   (3) Female-to-Male
    (1) Male   (4) Male-to-Female
    (2) Intersex   (5) Other: _____

6. What is your gender? [gender]
    (1) Predominately feminine   (4) Mostly masculine
    (2) Mostly feminine   (5) Predominately masculine
    (3) Equally feminine and masculine   (6) Other: _____

7. What is your race (select all that apply)? [race]
    (1) Hispanic   (4) Asian American
    (2) African American   (5) American Indian
    (3) Caucasian   (6) Other: _____

8. What is your birth day? [birthd]

(1) 1	(12) 12	(23) 23
(2) 2	(13) 13	(24) 24
(3) 3	(14) 14	(25) 25
(4) 4	(15) 15	(26) 26
(5) 5	(16) 16	(27) 27
(6) 6	(17) 17	(28) 28
(7) 7	(18) 18	(29) 29
(8) 8	(19) 19	(30) 30
(9) 9	(20) 20	(31) 31
(10) 10	(21) 21	
(11) 11	(22) 22	

9. What is your birth month? [birthm]

(1) 1	(5) 5	(9) 9
(2) 2	(6) 6	(10) 10
(3) 3	(7) 7	(11) 11
(4) 4	(8) 8	(12) 12

10. What is your birth year? [birthy] _____

11. What is the highest level of education you have obtained? [educate]
    (1) Less than high school
    (2) High school diploma
    (3) Some college
    (4) An Associate's degree
    (5) A Bachelor's degree
    (6) Some graduate or professional training

    (7) A Master's degree
    (8) A PhD
    (9) A professional degree (MD, Esq, PharmD, etc)
        a. Please specify:
            _____
    (10) Other: _____

12. What is the best estimate of your yearly income (not household income): [income]
    _____

13. My partner and I have been together for:
    (13a) Days: [reld]   (13b) Months: [relm]   (13c) Years: [rely]
    _____   _____   _____

14. Are children (under the age of 18) present in your home? [kids]
    (1) Yes   (2) No

15. What state do you live in? [state] _____

16. In your opinion, is the city or town you live in more conservative or liberal? [livepol]
    (1) Very conservative   (4) Liberal
    (2) Conservative   (5) Very liberal
    (3) Equally conservative and liberal

17. Do you feel as though the place you live is generally safe for gay and lesbian individuals? [livesafe]
    (1) Not safe at all   (4) Very safe
    (2) Somewhat safe   (5) Extremely safe
    (3) Safe

18. Do you and your partner live together? [cohab]
    (1) Yes   (2) No

19. If yes, how long have you been living together?
    (17a) Days: [cohd]   (17b) Months: [cohm]   (17c) Years: [cohy]
    _____   _____   _____

Religiousness

The following questions pertain to your religious affiliation and practices.

Reference:
- Morrison, M. A. & Morrison, T. G. (2002). Development and validation of a scale measuring modern prejudice toward gay men and lesbian women. *Journal of Homosexuality*, 43, 15-37.

20. What religion are you? [rel1] _____

21. How often do you attend religious services? [rel2]
    (1) Never
    (2) On special occasions
    (3) Now and then
    (4) Often

22. Which of the following best describes your level of religiousness? [rel3]
    (1) Not at all religious
    (2) Slightly religious
    (3) Somewhat religious
    (4) Very religious

> Message (seen by participants):
> - You are doing great! Keep it up!

Racial and Sexual Orientation Socialization

The following statements are concerned with experiences you had growing up as a child, before you were 18. Please identify, as best you can remember, how often your parents...

These items were informed from the extant literature examining racial socialization and were then adapted for sexual orientation:

- Hughes, D. (2003). Correlates of African American and Latino parents' messages to children about ethnicity and race: A comparative study of racial socialization. *American Journal of Community Psychology*, 31, 15-33.
- Hughes, D. & Johnson, D. (2001). Correlates in children's experiences of parents' racial socialization behaviors. *Journal of Marriage and Family*, 63, 981-995.
- Toomey, R. (2013). Sexual orientation measure. Unpublished scale, Kent State University.

23. Talked with you about others trying to limit you because of your race. [race1]
    (1) Never   (4) Often
    (2) Rarely   (5) Very Often
    (3) Sometimes

24. Told you that you must be better to get the same rewards as others because of your race. [race2]
    (1) Never   (4) Often
    (2) Rarely   (5) Very Often
    (3) Sometimes

25. Talked to someone else about discrimination based on race when you could hear. [race3]
    (1) Never   (4) Often
    (2) Rarely   (5) Very Often
    (3) Sometimes

26. Talked with you about unfair treatment due to your race. [race4]
    (1) Never   (4) Often
    (2) Rarely   (5) Very Ofte
    (3) Sometimes

27. Talked with you about others trying to limit you because of your sexual orientation. [sex1]
    (1) Never   (4) Often
    (2) Rarely   (5) Very Often
    (3) Sometimes

28. Told you that you must be better to get the same rewards as others because of your sexual orientation. [sex2]

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

29. Talked to someone else about discrimination based on sexual orientation when you could hear. [sex3]

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

30. Talked with you about unfair treatment due to your sexual orientation. [sex4]

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

Support and Coping

The following statements focus on the various support networks and coping mechanisms we have in our lives. Please identify how much you generally agree with each statement.

Coping reference:
- Sinclair, V. G. & Wallston, K. A. (2004). The development and psychometric evaluation of the brief resilient coping scale. *Assessment*, 11, 94-101.

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32. I can turn to my family for support in times of need. [sup1]
    (1) Disagree   (4) Slightly agree
    (2) Slightly disagree   (5) Agree
    (3) Neither disagree or agree

32. I can turn to my friends for support in times of need. [sup2]
    (1) Disagree   (4) Slightly agree
    (2) Slightly disagree   (5) Agree
    (3) Neither disagree or agree

33. Overall, I feel supported by others in my life. [sup3]
    (1) Disagree   (4) Slightly agree
    (2) Slightly disagree   (5) Agree
    (3) Neither disagree or agree

34. I actively look for ways to replace the losses I encounter in life. [cop1]
    (1) Disagree   (4) Slightly agree
    (2) Slightly disagree   (5) Agree
    (3) Neither disagree or agree

35. I believe that I can grow in positive ways when dealing with difficult situations. [cop2]
    (1) Disagree   (4) Slightly agree
    (2) Slightly disagree   (5) Agree
    (3) Neither disagree or agree

36. I look for creative ways to alter difficult situations. [cop3]
    (1) Disagree   (4) Slightly agree
    (2) Slightly disagree   (5) Agree
    (3) Neither disagree or agree

37. Regardless of what happens to me, I believe I can control my reaction to it. [cop4]
    (1) Disagree   (4) Slightly agree
    (2) Slightly disagree   (5) Agree
    (3) Neither disagree or agree

38. I feel connected to the LGBT community. [cop5]
    (1) Disagree   (4) Slightly agree
    (2) Slightly disagree   (5) Agree
    (3) Neither disagree or agree

Masculinity and Femininity

For the following questions, 'masculinity' and 'femininity' refers to what you believe people in the United States stereotypically mean by 'masculinity' and 'femininity.' Regardless of your sex and gender, please answer all of the following questions.

Reference:
- Sanchez, F. J. & Vilain, E. (2012). "Straight-acting gays": The relationship between masculine consciousness, anti-effeminacy, and negative gay identity. *Archives of Sexual Behavior*, 41, 111-119.

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42. How important is it to you that <u>you look</u> (your clothes, hair, etc.) <u>masculine</u> in public? [mas1]
    (1) Not very important   (4) Important
    (2) Somewhat important   (5) Very important
    (3) Neutral

43. How important is it to you that <u>you behave</u> (your speech, mannerisms, etc.) <u>masculine</u> in public? [mas2]
    (1) Not very important   (4) Important
    (2) Somewhat important   (5) Very important
    (3) Neutral

44. How important is it to you that <u>your partner looks</u> (your clothes, hair, etc.) <u>masculine</u> in public? [mas3]
    (1) Not very important   (4) Important
    (2) Somewhat important   (5) Very important
    (3) Neutral

45. How important is it to you that <u>your partner behaves</u> (your speech, mannerisms, etc.) <u>masculine</u> in public? [mas4]
    (1) Not very important   (4) Important
    (2) Somewhat important   (5) Very important
    (3) Neutral

46. How important is it to you that <u>you look</u> (your clothes, hair, etc.) <u>feminine</u> in public? [fem1]
    (1) Not very important   (4) Important
    (2) Somewhat important   (5) Very important
    (3) Neutral

47. How important is it to you that <u>you behave</u> (your speech, mannerisms, etc.) <u>feminine</u> in public? [fem2]
 (1) Not very important   (4) Important
 (2) Somewhat important   (5) Very important
 (3) Neutral

48. How important is it to you that <u>your partner looks</u> (your clothes, hair, etc.) <u>feminine</u> in public? [fem3]
 (1) Not very important   (4) Important
 (2) Somewhat important   (5) Very important
 (3) Neutral

49. How important is it to you that <u>your partner behaves</u> (your speech, mannerisms, etc.) <u>feminine</u> in public? [fem4]
 (1) Not very important   (4) Important
 (2) Somewhat important   (5) Very important
 (3) Neutral

Message (see by participants):
- More than half way finished! Keep up the terrific work.

Minority Stress

The following statements concern stress you may experience as a result of your sexual orientation. Please identify how much you generally agree with each statement.

These items were informed from the extant literature examining minority stress and well-being for LGBT individuals:

- Bunn, J. Y., Solomon, S. E., Miller, C., & Forehand, R. (2007). Measurement of stigma in people with HIV: A reexamination of the HIV stigma scale. *AIDS Education and Prevention*, 19, 198-208.
- Herek, G. M., Cogan, J. C., Gillis, J. R., & Glunt, E. K. (1998). Correlates of internalized homophobia in a community sample of lesbians and gay men. *Journal of the Gay and Lesbian Medical Association*, 1997, 2, 17-25.
- Meyer, I. H. (1995). Minority stress and mental health in gay men. *Journal of Health and Social Behavior*, 36, 38-56.
- Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin*, 129, 674-697.

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50. I generally worry about my safety because of my sexual orientation. [stress1]
    - (1) Disagree
    - (2) Slightly disagree
    - (3) Neither disagree or agree
    - (4) Slightly agree
    - (5) Agree

51. I have been harassed because of my sexual orientation. [stress2]
    - (1) Disagree
    - (2) Slightly disagree
    - (3) Neither disagree or agree
    - (4) Slightly agree
    - (5) Agree

52. I generally hide my sexual orientation. [stress3]
    - (1) Disagree
    - (2) Slightly disagree
    - (3) Neither disagree or agree
    - (4) Slightly agree
    - (5) Agree

53. I have thoughts about how much easier my life could be if I were straight. [stress4]
    - (1) Disagree
    - (2) Slightly disagree
    - (3) Neither disagree or agree
    - (4) Slightly agree
    - (5) Agree

54. I have felt that I am less deserving of good things in life because of my sexual orientation. [stress5]

    (1) Disagree   (4) Slightly agree

    (2) Slightly disagree   (5) Agree

    (3) Neither disagree or agree

Attitudes Toward Homosexuality
Even gay and lesbian individuals have varying attitudes about homosexuality. Please indicate how strongly you agree with each of the following statements.

References:
- Nungessor, L. (1983). *Homosexual acts, actors, and identities*. New York: Praeger.
- Rosario, M., Hunter, J., Maguen, S., Gwadz, M., & Smith, R. (2001). The coming-out process and its adaptational and health-related associations among gay, lesbian, and bisexual youths: Stipulation and exploration of a model. *American Journal of Community Psychology, 29*, 133-160.
- Rosario, M., Schrimshaw, E.W., & Hunter, J. (2006a). A model of sexual risk behaviors among young gay and bisexual men: Longitudinal associations of mental health, substance abuse, sexual abuse, and the coming-out process. *AIDS Education and Prevention, 18,* 444-460.
- Rosario, M., Schrimshaw, E.W., & Hunter, J. (2004). Ethnic/racial differences in the coming-out process of lesbian, gay, and bisexual youths: A comparison of sexual identity development over time. *Cultural Diversity and Ethnic Minority Psychology, 10*, 215-228.
- Rosario, M., Schrimshaw, E.W., Hunter, J., & Baum, L. (2006b). Sexual identity development among gay, lesbian, and bisexual youths: Consistency and change over time. *The Journal of Sex Research, 43,* 46-58.

* Reverse code these items.

55. Homosexuals should be allowed to have or adopt children if they want to. [ath1]
(1) Disagree   (4) Slightly agree
(2) Slightly disagree   (5) Agree
(3) Neither disagree or agree

56. I am glad to be (lesbian/gay). [ath2]
(1) Disagree   (4) Slightly agree
(2) Slightly disagree   (5) Agree
(3) Neither disagree or agree
57. My homosexuality does not make me unhappy. [ath3]
(1) Disagree   (4) Slightly agree
(2) Slightly disagree   (5) Agree
(3) Neither disagree or agree

58. I wish I were straight.* [ath4]
(1) Disagree   (4) Slightly agree
(2) Slightly disagree   (5) Agree
(3) Neither disagree or agree

59. Whenever I think a lot about being (lesbian/gay), I feel sad or depressed.* [ath5]
(1) Disagree   (4) Slightly agree
(2) Slightly disagree   (5) Agree
(3) Neither disagree or agree

60. Marriage between two homosexuals should be legalized. [ath6]
(1) Disagree   (4) Slightly agree
(2) Slightly disagree   (5) Agree
(3) Neither disagree or agree

61. Whenever I think a lot about being (lesbian/gay), I feel critical about myself.* [ath7]
(1) Disagree   (4) Slightly agree
(2) Slightly disagree   (5) Agree
(3) Neither disagree or agree

62. Homosexual lifestyles are not as satisfying or fulfilling as straight lifestyles.* [ath8]
(1) Disagree   (4) Slightly agree
(2) Slightly disagree   (5) Agree
(3) Neither disagree or agree

63. I am proud to be part of the lesbian and gay community. [ath9]
(1) Disagree   (4) Slightly agree
(2) Slightly disagree   (5) Agree
(3) Neither disagree or agree

64. I would not give up my homosexuality even if I could. [ath10]
(1) Disagree   (4) Slightly agree
(2) Slightly disagree   (5) Agree
(3) Neither disagree or agree

65. Homosexuality is not as good as heterosexuality.* [ath11]
(1) Disagree   (4) Slightly agree
(2) Slightly disagree   (5) Agree
(3) Neither disagree or agree

Comfort With Homosexuality

People have different comfort levels with regard to their sexuality. Please indicate how strongly you agree with each of the following statements.

References:
- Nungessor, L. (1983). *Homosexual acts, actors, and identities*. New York: Praeger.
- Rosario, M., Hunter, J., Maguen, S., Gwadz, M., & Smith, R. (2001). The coming-out process and its adaptational and health-related associations among gay, lesbian, and bisexual youths: Stipulation and exploration of a model. *American Journal of Community Psychology, 29*, 133-160.
- Rosario, M., Schrimshaw, E.W., & Hunter, J. (2006a). A model of sexual risk behaviors among young gay and bisexual men: Longitudinal associations of mental health, substance abuse, sexual abuse, and the coming-out process. *AIDS Education and Prevention, 18,* 444-460.
- Rosario, M., Schrimshaw, E.W., & Hunter, J. (2004). Ethnic/racial differences in the coming-out process of lesbian, gay, and bisexual youths: A comparison of sexual identity development over time. *Cultural Diversity and Ethnic Minority Psychology, 10*, 215-228.
- Rosario, M., Schrimshaw, E.W., Hunter, J., & Baum, L. (2006b). Sexual identity development among gay, lesbian, and bisexual youths: Consistency and change over time. *The Journal of Sex Research, 43,* 46-58.

* Reverse code these items.

66. When I think about coming out to a straight friend, I am afraid they will pay more attention to my body movements and voice than to me, the person.* [cwh1]
(1) Disagree   (4) Slightly agree
(2) Slightly disagree   (5) Agree
(3) Neither disagree or agree

67. I am afraid people will harass me if I come out more publicly.* [cwh2]
(1) Disagree   (4) Slightly agree
(2) Slightly disagree   (5) Agree
(3) Neither disagree or agree

68. If I were outed, I would be extremely unhappy.* [cwh3]
(1) Disagree   (4) Slightly agree
(2) Slightly disagree   (5) Agree
(3) Neither disagree or agree

69. If others knew about my homosexuality I would be afraid that they would see me as being (masculine/feminine).* [cwh4]
(1) Disagree   (4) Slightly agree
(2) Slightly disagree   (5) Agree
(3) Neither disagree or agree

70. If my straight friends knew about my homosexuality I would feel uncomfortable.* [cwh5]
(1) Disagree   (4) Slightly agree
(2) Slightly disagree   (5) Agree
(3) Neither disagree or agree

71. I would not mind if my neighbors knew that I am (lesbian/gay). [cwh6]
(1) Disagree   (4) Slightly agree
(2) Slightly disagree   (5) Agree
(3) Neither disagree or agree

72. If people knew of my homosexuality, I am afraid they would begin to avoid me.* [cwh7]
(1) Disagree   (4) Slightly agree
(2) Slightly disagree   (5) Agree
(3) Neither disagree or agree

73. It is important for me to conceal the fact that I am (lesbian/gay) from most people.* [cwh8]
(1) Disagree   (4) Slightly agree
(2) Slightly disagree   (5) Agree
(3) Neither disagree or agree

74. When people know of my homosexuality, I am afraid they will not treat me as a (woman/man).* [cwh9]
(1) Disagree   (4) Slightly agree
(2) Slightly disagree   (5) Agree
(3) Neither disagree or agree

75. Whenever I tell my straight friends about my homosexuality, I worry they will try to remember things about me that appear to fit the stereotype of a homosexual.* [cwh10]
(1) Disagree   (4) Slightly agree
(2) Slightly disagree   (5) Agree
(3) Neither disagree or agree

76. If people my age knew of my homosexuality, I am afraid that many would not want to be my friends.* [cwh11]
(1) Disagree   (4) Slightly agree
(2) Slightly disagree   (5) Agree
(3) Neither disagree or agree

77. When I think about coming out to a straight friend, I worry that she or he might watch me to see if I do things that are stereotypically homosexual.* [cwh12]
(1) Disagree   (4) Slightly agree
(2) Slightly disagree   (5) Agree
(3) Neither disagree or agree

Involvement in Gay-Related Activities

People participate and engage in gay-related activities to various degrees. Please tell us how often have you ever done any of the following things?

References:
- Rosario, M., Hunter, J., Maguen, S., Gwadz, M., & Smith, R. (2001). The coming-out process and its adaptational and health-related associations among gay, lesbian, and bisexual youths: Stipulation and exploration of a model. *American Journal of Community Psychology, 29*, 133-160.
- Rosario, M., Schrimshaw, E.W., & Hunter, J. (2004a). Ethnic/racial differences in the coming-out process of lesbian, gay, and bisexual youths: A comparison of sexual identity development over time. *Cultural Diversity and Ethnic Minority Psychology, 10*, 215-228.
- Rosario, M., Schrimshaw, E.W., & Hunter, J. (2004b). Predictors of substance use over time among gay, lesbian, and bisexual youths: An examination of three hypotheses. *Addictive Behaviors, 29*, 1623-1631.

78. Seen a play with lesbian or gay characters or themes, and/or gay comedian? [igra1]
    (1) Never　　　　　　　　　　　　　　(4) Often
    (2) Rarely　　　　　　　　　　　　　　(5) Very Often
    (3) Sometimes

79. Read a lesbian or gay book, magazine, newspaper, etc.? [igra2]
    (1) Never　　　　　　　　　　　　　　(4) Often
    (2) Rarely　　　　　　　　　　　　　　(5) Very Often
    (3) Sometimes

80. Gone to a concert or musical event by lesbian or gay singers, choirs, dancers, or musicians? [igra3]
    (1) Never　　　　　　　　　　　　　　(4) Often
    (2) Rarely　　　　　　　　　　　　　　(5) Very Often
    (3) Sometimes

81. Gone to an annual lesbian and gay fair? [igra4]
    (1) Never　　　　　　　　　　　　　　(4) Often
    (2) Rarely　　　　　　　　　　　　　　(5) Very Often
    (3) Sometimes

82. Gone to an annual Lesbian and Gay Pride Celebration? [igra5]
    (1) Never   (4) Often
    (2) Rarely   (5) Very Often
    (3) Sometimes

83. Gone a lesbian or gay bookstore? [igra6]
    (1) Never   (4) Often
    (2) Rarely   (5) Very Often
    (3) Sometimes

84. Gone to a lesbian or gay video rental store? [igra7]
    (1) Never   (4) Often
    (2) Rarely   (5) Very Often
    (3) Sometimes

85. Gone to gay or lesbian dance clubs, bars, discos, or hung around these places? [igra8]
    (1) Never   (4) Often
    (2) Rarely   (5) Very Often
    (3) Sometimes

86. Gone to other public places that lesbians or gays frequent (e.g., certain restaurants, coffeehouses)? [igra9]
    (1) Never   (4) Often
    (2) Rarely   (5) Very Often
    (3) Sometimes

87. Attended meetings of political organizations? [igra10]
    (1) Never   (4) Often
    (2) Rarely   (5) Very Often
    (3) Sometimes

88. Attended meetings or volunteered at an AIDS organization? [igra11]
    (1) Never   (4) Often
    (2) Rarely   (5) Very Often
    (3) Sometimes

Public Displays of Affection: Attitudes
The following statements are about your <u>general</u> feelings about public displays of affection. Please select how true each statement is of you.

89. In general, I am comfortable when <u>others</u> display affection in public. [pdao]
    (1) Very untrue   (4) Somewhat true
    (2) Somewhat untrue   (5) Very true
    (3) Neutral

90. In general, I am comfortable publicly displaying <u>my</u> affection for my partner. [pdam]
    (1) Very untrue   (4) Somewhat true
    (2) Somewhat untrue   (5) Very true
    (3) Neutral

Public Displays of Affection: Behaviors
Please tell us how often you <u>generally</u> engage in each of the following activities.

Reference:
- Kent, E. & El-Alayli, A. (2011). Public and private physical affection differences between same-sex and different-sex couples: The role of perceived marginalization. *Interpersona*, 5, 149-167.

91. Hug or embrace your partner in public. [pda1]
    (1) Never   (4) Often
    (2) Not very often   (5) Very often
    (3) Sometimes

92. Hold hands with your partner in public. [pda2]
    (1) Never   (4) Often
    (2) Not very often   (5) Very often
    (3) Sometimes

93. Kiss your partner in public. [pda3]
    (1) Never   (4) Often
    (2) Not very often   (5) Very often
    (3) Sometimes

94. Sit very close to your partner in public. [pda4]
    (1) Never   (4) Often
    (2) Not very often   (5) Very often
    (3) Sometimes

95. Cuddle or hold your partner in public. [pda5]
    (1) Never   (4) Often
    (2) Not very often   (5) Very often
    (3) Sometimes

Message (see by participants):
- Just 15 more questions and you're all done!

Physical Well-Being

The next statements focus on your <u>general</u> physical health. Please indicate how true each statement is for you overall.

Reference:
- Pennebaker, J. W. (1982). *The psychology of physical symptoms*. New York, NY: Springer.

---

96. I often have HEADACHES. [phy1]
    (1) Very untrue   (1) Somewhat true
    (2) Somewhat untrue   (2) Very true
    (3) Neutral

97. I often have an UPSET STOMACH OR STOMACH-ACHES. [phy2]
    (1) Very untrue   (4) Somewhat true
    (2) Somewhat untrue   (5) Very true
    (3) Neutral

98. I often have STIFF OR SORE MUSCLES. [phy3]
    (1) Very untrue   (4) Somewhat true
    (2) Somewhat untrue   (5) Very true
    (3) Neutral

99. I often have a SORE THROAT, COUGHING, OR RUNNY/CONGESTED NOSE. [phy4]
    (1) Very untrue   (4) Somewhat true
    (2) Somewhat untrue   (5) Very true
    (3) Neutral

100. I often have been TIRED OR LOW ON ENERGY. [phy5]
    (1) Very untrue   (4) Somewhat true
    (2) Somewhat untrue   (5) Very true
    (3) Neutral

Psychological Well-Being
The following questions focus on your <u>overall</u> well-being. Please think about how you generally feel overall when answering.

Reference:
- McDowell, I. (2006). *Measuring health: A guide to rating scales and questionnaires* (3rd ed). New York, NY. Oxford University Press.

---

101. How have you been feeling about your life? [psy1]
    (1) Very poor   (4) Good
    (2) Poor   (5) Very good
    (3) Neutral

102. How happy, satisfied, or pleased have you been with your personal life? [psy2]
    (1) Not happy, satisfied, or pleased   (3) Somewhat happy, satisfied, or pleased
    (2) Only a very little happy, satisfied, or pleased   (4) Happy, satisfied, or pleased
                             (5) Very happy, satisfied, or pleased

103. Has your daily life been full of things that are interesting to you? [psy3]
    (1) No, not full   (4) Somewhat full
    (2) Not very full   (5) Yes, very full
    (3) Neutral

Relationship Satisfaction

The next set of questions asks about your <u>overall</u> relationship satisfaction with your current partner. Please think about your current partner and relationship when answering.

> Reference:
> - Graham, J. M., Diebels, K. J., & Barnow, Z. B. (2011). The reliability of relationship satisfaction: A reliability generalization meta-analysis. *Journal of Family Psychology*, 25, 39-48.
> - Schumm, W. R., Paff-Bergen, L. A., Hatch, R. C., Obiorach, F. C., Copeland, J. M., Meens, L. D., & Bugaighis, M. A. (1986). Concurrent and discriminant validity of the Kansas Marital Satisfaction Scale. *Journal of Marriage and Family*, 48, 381-387.

104. In general, how satisfied are you with your <u>relationship</u>? [sat1]
    (1) Very dissatisfied   (4) Satisfied
    (2) Dissatisfied   (5) Very satisfied
    (3) Equally dissatisfies as satisfied

105. In general, how satisfied are you with your <u>partner as a relationship partner</u>? [sat2]
    (1) Very dissatisfied   (4) Satisfied
    (2) Dissatisfied   (5) Very satisfied
    (3) Equally dissatisfies as satisfied

106. In general, how satisfied are you with your <u>relationship with your partner</u>? [sat3]
    (1) Very dissatisfied
    (2) Dissatisfied
    (3) Equally dissatisfies as satisfied
    (4) Satisfied
    (5) Very satisfied

Qualitative Questions

For the following questions, please feel free to write anything that comes to mind. There are no right or wrong answers; we are just interested in what you think.

107. What is the best part about being gay or lesbian? [qual1]

108. What do you believe is currently the biggest issue facing the LGBT community? [qual2]

109. What aspect of the LGBT community do you believe the general public misunderstands the most? [qual3]

110. What things do you foresee occurring for the LGBT community in the next 20 years? [qual4]

Comments (seen by participants):

    That completes the baseline survey. Thank you so much!

    Within two days (48 hours) of you and your partner completing this survey, you will receive an email initiating the daily diary portion of the study. You will then receive an email reminder every day for 14 days. Your fourteenth daily diary is your final daily diary and completes your participation in the study. Again, your participation is voluntary and you can discontinue participation at any time.

    Each email will contain the unique username you created, with an added number at the end to indicate the day (e.g. JS83PY80_1). You will be prompted to enter your username as noted in the email to access that day's daily diary. Please be aware that it is okay if you miss a day, just make sure you use the username in the email you received on that day and not the one for the day you missed. For example, if you miss day two, don't use your day two user ID (e.g. JS83PY80_2) on day three, but instead use your day three ID (e.g. JS83PY80_3) that you will receive in your day three reminder email.

    If you have any comments, questions, or concerns please do not hesitate to contact the primary investigator, Joel Muraco, at muraco@email.arizona.edu. All emails will be answered within 24 hours.

Available Resources

If you need to talk to someone or want more information about the LGBT community, please visit one of the sources listed below.

    The National Gay and Lesbian Task Force
        www.ngltf.org
    The Human Rights Campaign
        www.hrc.org
    National Resource Center on LGBT Aging
        www.lgbtagingcenter.org
    The Trevor Project
        www.thetrevorproject.org   OR   1-866-488-7386
    American Foundation for Suicide Prevention
        www.afsp.org   OR   1-800-273-TALK (8255)

APPENDIX B – THE GAYS, LESBIANS, AND MINORITY STRESS STUDY
(GLAMSS): DAILY DIARY SURVEY AND CODEBOOK

Message (seen by participants):
- Thank you for your continued participation in our study. The daily diary survey is a short 21 questions.
- To access the survey, please copy and paste the USER ID you received in your daily reminder email in the box below. Remember, your USER ID changes every day. If you miss a day that is okay. [_____]

Daily Diary Survey

Daily Minority Stress
The following statements concern stress you may experience as a result of your sexual orientation. Please identify how much you agree with each statement as it pertains to the past 24 overs.

1. Over the past 24 hours I worried about my safety because of my sexual orientation. [stress1_1]
    (1) Disagree   (4) Slightly agree
    (2) Slightly disagree   (5) Agree
    (3) Neither disagree or agree

2. Over the past 24 hours I was harassed because of my sexual orientation. [stress2_1]
    (1) Disagree   (4) Slightly agree
    (2) Slightly disagree   (5) Agree
    (3) Neither disagree or agree

3. Over the past 24 hours I hid my sexual orientation. [stress3_1]
    (1) Disagree   (4) Slightly agree
    (2) Slightly disagree   (5) Agree
    (3) Neither disagree or agree

4. Over the past 24 hours I thought about how much easier my life could be if I were straight. [stress4_1]
    (1) Disagree   (4) Slightly agree
    (2) Slightly disagree   (5) Agree
    (3) Neither disagree or agree

5. Over the past 24 hours I felt that I am less deserving of good things in life because of my sexual orientation. [stress5_1]

    (1) Disagree   (4) Slightly agree

    (2) Slightly disagree   (5) Agree

    (3) Neither disagree or agree

Daily Public Displays of Affection: Behaviors
Please tell us how often over the past 24 hours you engaged in each of the following activities.

6. Hugged or embraced your partner in public. [pda1_1]
    (1) Never   (4) Often
    (2) Not very often   (5) Very often
    (3) Sometimes

7. Held hands with your partner in public. [pda2_1]
    (1) Never   (4) Often
    (2) Not very often   (5) Very often
    (3) Sometimes

8. Kissed your partner in public. [pda3_1]
    (1) Never   (4) Often
    (2) Not very often   (5) Very often
    (3) Sometimes

9. Sat very close to your partner in public. [pda4_1]
    (1) Never   (4) Often
    (2) Not very often   (5) Very often
    (3) Sometimes

10. Cuddled or held your partner in public. [pda5_1]
    (1) Never   (4) Often
    (2) Not very often   (5) Very often
    (3) Sometimes

> Message (seen by participants):
> - Just 11 more questions and you're all done!

Daily Physical Well-Being
The next statements focus on your physical health <u>over the past 24 hours</u>. Please respond with how true each statement is for you over the past 24 hours.

11. Over the past 24 hours I have had a HEADACHE]. [phy1_1]
    (1) Very untrue   (4) Somewhat true
    (2) Somewhat untrue   (5) Very true
    (3) Neutral

12. Over the past 24 hours I have had an UPSET STOMACH OR STOMACH-ACHE. [phy2_1]
    (1) Very untrue   (4) Somewhat true
    (2) Somewhat untrue   (5) Very true
    (3) Neutral

13. Over the past 24 hours I have had STIFF OR SORE MUSCLES. [phy3_1]
    (1) Very untrue   (4) Somewhat true
    (2) Somewhat untrue   (5) Very true
    (3) Neutral

14. Over the past 24 hours I have had a SORE THROAT, COUGHING, OR RUNNY/CONGESTED NOSE. [phy4_1]
    (1) Very untrue   (4) Somewhat true
    (2) Somewhat untrue   (5) Very true
    (3) Neutral

15. Over the past 24 hours I have been TIRED OR LOW ON ENERGY. [phy5_1]
    (1) Very untrue   (4) Somewhat true
    (2) Somewhat untrue   (5) Very true
    (3) Neutral

Daily Psychological Well-Being
The following questions focus on your well-being <u>over the past 24 hours</u>. Please think about how you have felt overall the last 24 hours when answering.

16. Over the past 24 hours how have you been feeling about your life in general? [psy1_1]
    (1) Very poor   (4) Good
    (2) Poor   (5) Very good
    (3) Neutral

17. Over the past 24 hours how happy, satisfied, or pleased have you been with your personal life? [psy2_1]
    (1) Not happy, satisfied, or pleased   (3) Somewhat happy, satisfied, or pleased
    (2) Only a very little happy, satisfied, or pleased   (4) Happy, satisfied, or pleased
                                         (5) Very happy, satisfied, or pleased

18. Over the past 24 hours has your daily life been full of things that were interesting to you? [psy3_1]
    (1) No, not full   (4) Somewhat full
    (2) Not very full   (5) Yes, very full
    (3) Neutral

Daily Relationship Satisfaction

The next set of questions asks about your relationship satisfaction with your current partner over the past 24 hours. Please think about your current partner and relationship over the past 24 hours when answering.

19. Over the past 24 hours, how satisfied have you been with your relationship? [sat1_1]
    (1) Very dissatisfied   (4) Satisfied
    (2) Dissatisfied   (5) Very satisfied
    (3) Equally dissatisfied as satisfied

20. Over the past 24 hours, how satisfied have you been with your partner as a relationship partner? [sat2_1]
    (1) Very dissatisfied   (4) Satisfied
    (2) Dissatisfied   (5) Very satisfied
    (3) Equally dissatisfied as satisfied

21. Over the past 24 hours, how satisfied have you been with your relationship with your partner? [sat3_1]
    (1) Very dissatisfied   (4) Satisfied
    (2) Dissatisfied   (5) Very satisfied
    (3) Equally dissatisfied as satisfied

Message (seen by participants):

- That completes today's daily diary!

Available Resources
If you need to talk to someone or want more information about the LGBT community, please visit one of the sources listed below.

The National Gay and Lesbian Task Force
    www.ngltf.org
The Human Rights Campaign
    www.hrc.org
National Resource Center on LGBT Aging
    www.lgbtagingcenter.org
The Trevor Project
    www.thetrevorproject.org   OR   1-866-488-7386
American Foundation for Suicide Prevention
    www.afsp.org   OR   1-800-273-TALK (8255)

APPENDIX C – SAS 9.2 SYNTAX FOR DISSERSTATION ANALYSIS

```
/****************//****************//****************/
/****************//*PAPER 1 SYNTAX*//****************/
/****************//****************//****************/

data DISS.BASEEVERYONE;
set DISS.BASEEVERYONE;

/*ACTORS*/

if ath4 = 1 then ath4r = 5;
else if ath4 = 2 then ath4r = 4;
else if ath4 = 3 then ath4r = 3;
else if ath4 = 4 then ath4r = 2;
else if ath4 = 5 then ath4r = 1;
if ath5 = 1 then ath5r = 5;
else if ath5 = 2 then ath5r = 4;
else if ath5 = 3 then ath5r = 3;
else if ath5 = 4 then ath5r = 2;
else if ath5 = 5 then ath5r = 1;
if ath7 = 1 then ath7r = 5;
else if ath7 = 2 then ath7r = 4;
else if ath7 = 3 then ath7r = 3;
else if ath7 = 4 then ath7r = 2;
else if ath7 = 5 then ath7r = 1;
if ath8 = 1 then ath8r = 5;
else if ath8 = 2 then ath8r = 4;
else if ath8 = 3 then ath8r = 3;
else if ath8 = 4 then ath8r = 2;
else if ath8 = 5 then ath8r = 1;
if ath11 = 1 then ath11r = 5;
else if ath11 = 2 then ath11r = 4;
else if ath11 = 3 then ath11r = 3;
else if ath11 = 4 then ath11r = 2;
else if ath11 = 5 then ath11r = 1;

if cwh1 = 1 then cwh1r = 5;
else if cwh1 = 2 then cwh1r = 4;
else if cwh1 = 3 then cwh1r = 3;
else if cwh1 = 4 then cwh1r = 2;
```

```
else if cwh1 = 5 then cwh1r = 1;
if cwh2 = 1 then cwh2r = 5;
else if cwh2 = 2 then cwh2r = 4;
else if cwh2 = 3 then cwh2r = 3;
else if cwh2 = 4 then cwh2r = 2;
else if cwh2 = 5 then cwh2r = 1;
if cwh3 = 1 then cwh3r = 5;
else if cwh3 = 2 then cwh3r = 4;
else if cwh3 = 3 then cwh3r = 3;
else if cwh3 = 4 then cwh3r = 2;
else if cwh3 = 5 then cwh3r = 1;
if cwh4 = 1 then cwh4r = 5;
else if cwh4 = 2 then cwh4r = 4;
else if cwh4 = 3 then cwh4r = 3;
else if cwh4 = 4 then cwh4r = 2;
else if cwh4 = 5 then cwh4r = 1;
if cwh5 = 1 then cwh5r = 5;
else if cwh5 = 2 then cwh5r = 4;
else if cwh5 = 3 then cwh5r = 3;
else if cwh5 = 4 then cwh5r = 2;
else if cwh5 = 5 then cwh5r = 1;
if cwh7 = 1 then cwh7r = 5;
else if cwh7 = 2 then cwh7r = 4;
else if cwh7 = 3 then cwh7r = 3;
else if cwh7 = 4 then cwh7r = 2;
else if cwh7 = 5 then cwh7r = 1;
if cwh8 = 1 then cwh8r = 5;
else if cwh8 = 2 then cwh8r = 4;
else if cwh8 = 3 then cwh8r = 3;
else if cwh8 = 4 then cwh8r = 2;
else if cwh8 = 5 then cwh8r = 1;
if cwh9 = 1 then cwh9r = 5;
else if cwh9 = 2 then cwh9r = 4;
else if cwh9 = 3 then cwh9r = 3;
else if cwh9 = 4 then cwh9r = 2;
else if cwh9 = 5 then cwh9r = 1;
if cwh10 = 1 then cwh10r = 5;
else if cwh10 = 2 then cwh10r = 4;
else if cwh10 = 3 then cwh10r = 3;
else if cwh10 = 4 then cwh10r = 2;
else if cwh10 = 5 then cwh10r = 1;
```

if cwh11 = **1** then cwh11r = **5**;
else if cwh11 = **2** then cwh11r = **4**;
else if cwh11 = **3** then cwh11r = **3**;
else if cwh11 = **4** then cwh11r = **2**;
else if cwh11 = **5** then cwh11r = **1**;
if cwh12 = **1** then cwh12r = **5**;
else if cwh12 = **2** then cwh12r = **4**;
else if cwh12 = **3** then cwh12r = **3**;
else if cwh12 = **4** then cwh12r = **2**;
else if cwh12 = **5** then cwh12r = **1**;

/*PARTNERS*/

if Path4 = **1** then Path4r = **5**;
else if Path4 = **2** then Path4r = **4**;
else if Path4 = **3** then Path4r = **3**;
else if Path4 = **4** then Path4r = **2**;
else if Path4 = **5** then Path4r = **1**;
if Path5 = **1** then Path5r = **5**;
else if Path5 = **2** then Path5r = **4**;
else if Path5 = **3** then Path5r = **3**;
else if Path5 = **4** then Path5r = **2**;
else if Path5 = **5** then Path5r = **1**;
if Path7 = **1** then Path7r = **5**;
else if Path7 = **2** then Path7r = **4**;
else if Path7 = **3** then Path7r = **3**;
else if Path7 = **4** then Path7r = **2**;
else if Path7 = **5** then Path7r = **1**;
if Path8 = **1** then Path8r = **5**;
else if Path8 = **2** then Path8r = **4**;
else if Path8 = **3** then Path8r = **3**;
else if Path8 = **4** then Path8r = **2**;
else if Path8 = **5** then Path8r = **1**;
if Path11 = **1** then Path11r = **5**;
else if Path11 = **2** then Path11r = **4**;
else if Path11 = **3** then Path11r = **3**;
else if Path11 = **4** then Path11r = **2**;
else if Path11 = **5** then Path11r = **1**;

if Pcwh1 = **1** then Pcwh1r = **5**;
else if Pcwh1 = **2** then Pcwh1r = **4**;

```
else if Pcwh1 = 3 then Pcwh1r = 3;
else if Pcwh1 = 4 then Pcwh1r = 2;
else if Pcwh1 = 5 then Pcwh1r = 1;
if Pcwh2 = 1 then Pcwh2r = 5;
else if Pcwh2 = 2 then Pcwh2r = 4;
else if Pcwh2 = 3 then Pcwh2r = 3;
else if Pcwh2 = 4 then Pcwh2r = 2;
else if Pcwh2 = 5 then Pcwh2r = 1;
if Pcwh3 = 1 then Pcwh3r = 5;
else if Pcwh3 = 2 then Pcwh3r = 4;
else if Pcwh3 = 3 then Pcwh3r = 3;
else if Pcwh3 = 4 then Pcwh3r = 2;
else if Pcwh3 = 5 then Pcwh3r = 1;
if Pcwh4 = 1 then Pcwh4r = 5;
else if Pcwh4 = 2 then Pcwh4r = 4;
else if Pcwh4 = 3 then Pcwh4r = 3;
else if Pcwh4 = 4 then Pcwh4r = 2;
else if Pcwh4 = 5 then Pcwh4r = 1;
if Pcwh5 = 1 then Pcwh5r = 5;
else if Pcwh5 = 2 then Pcwh5r = 4;
else if Pcwh5 = 3 then Pcwh5r = 3;
else if Pcwh5 = 4 then Pcwh5r = 2;
else if Pcwh5 = 5 then Pcwh5r = 1;
if Pcwh7 = 1 then Pcwh7r = 5;
else if Pcwh7 = 2 then Pcwh7r = 4;
else if Pcwh7 = 3 then Pcwh7r = 3;
else if Pcwh7 = 4 then Pcwh7r = 2;
else if Pcwh7 = 5 then Pcwh7r = 1;
if Pcwh8 = 1 then Pcwh8r = 5;
else if Pcwh8 = 2 then Pcwh8r = 4;
else if Pcwh8 = 3 then Pcwh8r = 3;
else if Pcwh8 = 4 then Pcwh8r = 2;
else if Pcwh8 = 5 then Pcwh8r = 1;
if Pcwh9 = 1 then Pcwh9r = 5;
else if Pcwh9 = 2 then Pcwh9r = 4;
else if Pcwh9 = 3 then Pcwh9r = 3;
else if Pcwh9 = 4 then Pcwh9r = 2;
else if Pcwh9 = 5 then Pcwh9r = 1;
if Pcwh10 = 1 then Pcwh10r = 5;
else if Pcwh10 = 2 then Pcwh10r = 4;
else if Pcwh10 = 3 then Pcwh10r = 3;
```

```
else if Pcwh10 = 4 then Pcwh10r = 2;
else if Pcwh10 = 5 then Pcwh10r = 1;
if Pcwh11 = 1 then Pcwh11r = 5;
else if Pcwh11 = 2 then Pcwh11r = 4;
else if Pcwh11 = 3 then Pcwh11r = 3;
else if Pcwh11 = 4 then Pcwh11r = 2;
else if Pcwh11 = 5 then Pcwh11r = 1;
if Pcwh12 = 1 then Pcwh12r = 5;
else if Pcwh12 = 2 then Pcwh12r = 4;
else if Pcwh12 = 3 then Pcwh12r = 3;
else if Pcwh12 = 4 then Pcwh12r = 2;
else if Pcwh12 = 5 then Pcwh12r = 1;

run;


/*LETS SUM THE VARIOUS SCALES FOR ANALYSIS PURPOSES*/

data DISS.BASEEVERYONE;
set DISS.BASEEVERYONE;
SUPMEAN = MEAN(SUP1, SUP2, SUP3);
COPEMEAN = MEAN(COPE1, COPE2, COPE3, COPE4, COPE5);
CWHMEAN = MEAN(cwh1r, cwh2r, cwh3r, cwh4r, cwh5r, cwh6, cwh7r, cwh8r,
cwh9r, cwh10r, cwh11r, cwh12r);
ATHMEAN = MEAN(ath1, ath2, ath3, ath4r, ath5r, ath6, ath7r, ath8r, ath9, ath10,
ath11r);
IGRAMEAN = MEAN(IGRA1, IGRA2, IGRA3, IGRA4, IGRA5, IGRA6, IGRA7,
IGRA8, IGRA9, IGRA10, IGRA11);
PCWHMEAN = MEAN(Pcwh1r, Pcwh2r, Pcwh3r, Pcwh4r, Pcwh5r, Pcwh6, Pcwh7r,
Pcwh8r, Pcwh9r, Pcwh10r, Pcwh11r, Pcwh12r);
PATHMEAN = MEAN(Path1, Path2, Path3, Path4r, Path5r, Path6, Path7r, Path8r, Path9,
Path10, Path11r);
PIGRAMEAN = MEAN(PIGRA1, PIGRA2, PIGRA3, PIGRA4, PIGRA5, PIGRA6,
PIGRA7, PIGRA8, PIGRA9, PIGRA10, PIGRA11);
RELIGIOUSNESS = MEAN(RELIGION1, RELIGION2);
PRELIGIOUSNESS = MEAN(PRELIGION1, PRELIGION2);
RUN;

proc corr data = DISS.BASEEVERYONE ALPHA NOMISS; /*Religion: Correlation of
.63*/
var religion1 religion2;
run;
```

```
proc corr data = DISS.BASEEVERYONE ALPHA NOMISS; /*Comfort With
Homosexuality: RAW ALPHA IS .90*/
var cwh1r cwh2r cwh3r cwh4r cwh5r cwh6 cwh7r cwh8r cwh9r cwh10r cwh11r cwh12r;
run;
proc corr data = DISS.BASEEVERYONE ALPHA NOMISS; /*Attitudes Toward
Homosexuality: RAW ALPHA IS .73*/
var ath1 ath2 ath3 ath4r ath5r ath6 ath7r ath8r ath9 ath10 ath11r;
run;
proc corr data = DISS.BASEEVERYONE ALPHA NOMISS; /*Involvement with Gay
Related Activities: RAW ALPHA IS .87*/
var IGRA1 IGRA2 IGRA3 IGRA4 IGRA5 IGRA6 IGRA7 IGRA8 IGRA9 IGRA10
IGRA11;
run;
proc corr data = DISS.BASEEVERYONE ALPHA NOMISS; /*Support RAW ALPHA
.40*/
var SUP1 SUP2 SUP3;
run;
proc corr data = DISS.BASEEVERYONE ALPHA NOMISS; /*Coping RAW ALPHA
.44*/
var COPE1 COPE2 COPE3 COPE4 COPE5;
run;
proc corr data = DISS.BASEEVERYONE ALPHA NOMISS; /*Minority Stress RAW
ALPHA .45*/
var stress1 stress2 stress3 stress4 stress5;
run;

PROC FREQ DATA = DISS.BASEEVERYONE;
TABLE ETHNICITY1 COHABYN CHILDREN EDUCATE;
RUN;
PROC MEANS DATA = DISS.BASEEVERYONE;
VAR AGEY RELLENY COHABY;
RUN;
PROC MEANS DATA = DISS.BASEEVERYONE;
VAR CPLSUP CPLCOP CPLREL CPLETH;
RUN;

PROC CORR DATA = DISS.BASEEVERYONE;
VAR  RELIGION1 RELIGION2;
RUN;
PROC CORR DATA = DISS.BASEEVERYONE;
```

```
VAR SEX ORIENTATION ETHNICITY2 AGEY RELIGIOUSNESS CWHMEAN
ATHMEAN  IGRAMEAN;
RUN;
PROC CORR DATA = DISS.BASEEVERYONE;
VAR CWHMEAN PCWHMEAN;
RUN;
PROC CORR DATA = DISS.BASEEVERYONE;
VAR ATHMEAN PATHMEAN;
RUN;
PROC CORR DATA = DISS.BASEEVERYONE;
VAR IGRAMEAN PIGRAMEAN;
RUN;

/*PER MAYS AND COCHRAN LETS EXAMINE SEXUAL ORIENTATION, SEX,
RACE, AGE, RELIGION*/

/*CORRELATIONS AND MEANS*/

PROC CORR DATA = DISS.BASEEVERYONE;
VAR SEX ETHNICITY2 AGEY RELIGIOUSNESS SUP3 COPE2 CWHMEAN
ATHMEAN IGRAMEAN STRESS1 STRESS2;
RUN;

/*********************//*FIRST ACTOR EFFECTS*//*********************/

/*STRESS1*/

proc mixed covtest method = ml noclprint data = diss.BASEEVERYONE;
class indv cpl;
model STRESS1 = SEX ETHNICITY2 AGEY RELIGIOUSNESS SUP3 COPE2
CWHMEAN ATHMEAN IGRAMEAN / SOLUTION DDFM = SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
RUN;
/*SEX .0859; ETHNICITY .0247; CWH .0086*/

        proc mixed covtest method=ml covtest data= diss.BASEEVERYONE;
        class indv cpl;
        model STRESS1 = SEX ETHNICITY2 AGEY RELIGIOUSNESS SUP3 COPE2
CWHMEAN ATHMEAN IGRAMEAN / s DDFM = SATTERTH outpm = modelB;
        random partner1 partner2 / type = CS sub=cpl solution;
        repeated / type = cs sub = cpl;
```

```
        ods output SolutionR = variances;
        run;

        proc reg data = modelB;
        model stress1 = pred;
        run;
        quit;

/*STRESS2*/

proc mixed covtest method = ml noclprint data = diss.BASEEVERYONE;
class indv cpl;
model STRESS2 = SEX ETHNICITY2 AGEY RELIGIOUSNESS SUP3 COPE2
CWHMEAN ATHMEAN IGRAMEAN / SOLUTION DDFM = SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
RUN;
/*RELIGIOUSNESS .0787; COPE2 .0041; ATH .0090; IGRA .0014*/

        proc mixed covtest method=ml covtest data= diss.BASEEVERYONE;
        class indv cpl;
        model STRESS2 = IGRAMEAN / s DDFM = SATTERTH outpm = modelB;
        random partner1 partner2 / type = CS sub=cpl solution;
        repeated / type = cs sub = cpl;
        ods output SolutionR = variances;
        run;

        proc reg data = modelB;
        model STRESS2 = pred;
        run;
        quit;

/*********************//*NEXT PARTNER EFFECTS*//*********************/

/*STRESS1*/

proc mixed covtest method = ml noclprint data = diss.BASEEVERYONE;
class indv cpl;
model STRESS1 = PETHNICITY2 PAGEY PRELIGIOUSNESS PSUP3 PCOPE2
PCWHMEAN PATHMEAN PIGRAMEAN / SOLUTION DDFM = SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
RUN;
```

```
/*PETHNICITY .0773*/

        proc mixed covtest method=ml covtest data= diss.BASEEVERYONE;
        class indv cpl;
        model STRESS1 = PETHNICITY2 PAGEY PRELIGIOUSNESS PSUP3
PCOPE2 PCWHMEAN PATHMEAN PIGRAMEAN / s DDFM = SATTERTH outpm =
modelB;
        random partner1 partner2 / type = CS sub=cpl solution;
        repeated / type = cs sub = cpl;
        ods output SolutionR = variances;
        run;

        proc reg data = modelB;
        model STRESS1 = pred;
        run;
        quit;

/*STRESS2*/

proc mixed covtest method = ml noclprint data = diss.BASEEVERYONE;
class indv cpl;
model STRESS2 = PETHNICITY2 PAGEY PRELIGIOUSNESS PSUP3 PCOPE2
PCWHMEAN PATHMEAN PIGRAMEAN / SOLUTION DDFM = SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
RUN;
/*NS*/

        /***************//***************//***************/
        /***************//*PAPER 2 SYNTAX*//***************/
        /***************//***************//***************/

proc mixed covtest method = ml noclprint data = diss.apim ;  /*SIG*/
class indv cpl obs;
model DSAT = DAY / SOLUTION DDFM = SATTERTH;
random partner1 partner2/ type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;
proc mixed covtest method = ml noclprint data = diss.apim ;  /*NS*/
class indv cpl obs;
model DSTRESS1 = DAY / SOLUTION DDFM = SATTERTH;
random partner1 partner2/ type = cs sub = cpl;
```

```
repeated / type = cs sub = obs(cpl);
RUN;
proc mixed covtest method = ml noclprint data = diss.apim ;  /*NS*/
class indv cpl obs;
model DSTRESS2 = DAY / SOLUTION DDFM = SATTERTH;
random partner1 partner2/ type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;


/*So, need to create lagged variables for daily PDA (DPDA), daily concern for safety
(DSTRESS1) and daily harassment (DSTRESS2)*/


/*First, create the PDA scale*/


DATA DISS.APIM;
SET DISS.APIM;
OPDA = MEAN(PDA1, PDA2, PDA3, PDA4, PDA5); /*BASELINE, OVERALL PDA
- ACTOR*/
DPDA = MEAN(dpda1, dpda2, dpda3, dpda4, dpda5);      /*DAILY PDA - ACTOR*/
DPDAP = MEAN(dpda1p, dpda2p, dpda3p, dpda4p, dpda5p); /*DAILY PDA SCALE -
PARTNER*/
DSAT = MEAN(DSAT1, DSAT2, DSAT3); /*DAILY RELATIONSHIP
SATISFACTION - ACTOR*/
SAT = MEAN(SAT1, SAT2, SAT3); /*BASELINE RELATIONSHIP SATISFACTION
- ACTOR*/
DSATP = MEAN(DSAT1P, DSAT2P, DSAT3P); /*DAILY RELATIONSHIP
SATISFACTION - PARTNER*/
SATP = MEAN(SAT1P, SAT2P, SAT3P); /*BASELINE RELATIONSHIP
SATISFACTION - PARTNER*/
RUN;


PROC FREQ DATA = DISS.APIM;
TABLE OPDA DPDA DPDAP;
RUN;
PROC CORR DATA = DISS.APIM;
VAR OPDA DPDA DPDAP;
RUN;


DATA DISS.APIM;
SET DISS.APIM;
```

```
DSAT_LAG = LAG1(DSAT) ;
DSATP_LAG = LAG1(DSATP) ;

DPDA_LAG = LAG1(DPDA) ;
DPDAP_LAG = LAG1(DPDAP) ;

DSTRESS1_LAG = LAG1(DSTRESS1) ;
DSTRESS1P_LAG = LAG1(DSTRESS1P) ;

DSTRESS2_LAG = LAG1(DSTRESS2) ;
DSTRESS2P_LAG = LAG1(DSTRESS2P) ;

IF DAY <= 1 THEN DPDA_LAG = .;
IF DAY <= 1 THEN DPDAP_LAG = .;

IF DAY <= 1 THEN DSTRESS1_LAG = .;
IF DAY <= 1 THEN DSTRESS1P_LAG = .;

IF DAY <= 1 THEN DSTRESS2_LAG = .;
IF DAY <= 1 THEN DSTRESS2P_LAG = .;

IF DAY <= 1 THEN DSAT_LAG = .;
IF DAY <= 1 THEN DSATP_LAG = .;

RUN;

/**********************************************************/
/*FIRST MODELS WITH DAILY RELATIONSHIP SATISFACTION AS DV*/
/**********************************************************/

    /*H1a - ACTOR EFFECT - DPDA - DAILY*/
proc mixed covtest method = ml noclprint data = diss.apim ;
/*SIG*/
class indv cpl obs;
model DSAT = DAY PDAOWN SAT DPDA / SOLUTION DDFM = SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;

        PROC MEANS DATA = DISS.APIM;
```

```
VAR DSAT DPDA;
RUN;
```

/*CALCULATING EFFECT SIZES*/

```
proc mixed covtest method=ml covtest data= diss.apim;
class indv cpl obs;
model DSAT = DAY PDAOWN SAT DPDA / s DDFM = SATTERTH outpm =
modelB;
random partner1 partner2 / type = CS sub=cpl solution;
repeated / type = cs sub = obs(cpl);
ods output SolutionR = variances;
run;

proc reg data = modelB;
model DSAT = pred;
run;
quit;
```

/*H1b - ACTOR EFFECTS - DPDA - LAGGED*/
```
proc mixed covtest method = ml noclprint data = diss.apim;
/*SIG*/
class indv cpl obs;
model DSAT = DAY PDAOWN SAT DPDA_LAG / SOLUTION DDFM =
SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;

PROC MEANS DATA = DISS.APIM;
VAR DSAT DPDA_LAG;
RUN;
```

/*CALCULATING EFFECT SIZES*/

```
proc mixed covtest method=ml covtest data= diss.apim;
class indv cpl obs;
model DSAT = DAY PDAOWN SAT DPDA_LAG / s DDFM = SATTERTH
outpm = modelB;
random partner1 partner2 / type = CS sub=cpl solution;
repeated / type = cs sub = obs(cpl);
```

```
ods output SolutionR = variances;
run;

proc reg data = modelB;
model DSAT = pred;
run;
quit;

/*H1c. ACTOR EFFECTS - DPDA - CHANGED*/
proc mixed covtest method = ml noclprint data = diss.apim;
class indv cpl obs;
model DSAT = DAY PDAOWN DSAT_LAG DPDA_LAG / SOLUTION DDFM =
SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;

/*****PARTNER EFFECTS*****/

/*PARTNER EFFECTS - DPDA - DAILY*/
proc mixed covtest method = ml noclprint data = diss.apim;
class indv cpl obs;
model DSAT = DAY PDAOWN SAT DPDAP / SOLUTION DDFM = SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;

/*PARTNER EFFECTS - DPDA - LAGGED*/
proc mixed covtest method = ml noclprint data = diss.apim;
class indv cpl obs;
model DSAT = DAY PDAOWN SAT DPDAP_LAG / SOLUTION DDFM =
SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;

/*PARTNER EFFECTS - DPDA - CHANGED*/
proc mixed covtest method = ml noclprint data = diss.apim;
class indv cpl obs;
model DSAT = DAY PDAOWN DSAT_LAG DPDAP_LAG / SOLUTION DDFM =
SATTERTH;
```

```
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;


/*********************************************************/
/*NEXT MODELS WITH DAILY CONCERN FOR SAFETY AS DV*/
/*********************************************************/

   /*H2a - ACTOR EFFECTS - PDA - DAILY*/
proc mixed covtest method = ml noclprint data = diss.apim; /*SIG*/
class indv cpl obs;
model DSTRESS1 = PDAOWN STRESS1 DPDA / SOLUTION DDFM = SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;

        PROC MEANS DATA = DISS.APIM;
        VAR DSTRESS1 DPDA;
        RUN;

/*CALCULATING EFFECT SIZES*/

        proc mixed covtest method=ml covtest data= diss.apim;
        class indv cpl obs;
        model DSTRESS1 = PDAOWN STRESS1 DPDA / s DDFM = SATTERTH
outpm = modelB;
        random partner1 partner2 / type = CS sub=cpl solution;
        repeated / type = cs sub = obs(cpl);
        ods output SolutionR = variances;
        run;

        proc reg data = modelB;
        model DSAT = pred;
        run;
        quit;

   /*H2b - ACTOR EFFECTS - PDA - LAGGED*/
proc mixed covtest method = ml noclprint data = diss.apim;
class indv cpl obs;
model DSTRESS1 = PDAOWN STRESS1 DPDA_LAG / SOLUTION DDFM =
SATTERTH;
```

```
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;

        PROC MEANS DATA = DISS.APIM;
        VAR DSTRESS1 DPDA_LAG;
        RUN;
```

/*CALCULATING EFFECT SIZES*/

```
        proc mixed covtest method=ml covtest data= diss.apim;
        class indv cpl obs;
        model DSTRESS1 = PDAOWN STRESS1 DPDA_LAG / s DDFM =
SATTERTH outpm = modelB;
        random partner1 partner2 / type = CS sub=cpl solution;
        repeated / type = cs sub = obs(cpl);
        ods output SolutionR = variances;
        run;

        proc reg data = modelB;
        model DSAT = pred;
        run;
        quit;
```

   /*H2c - ACTOR EFFECTS - PDA - CHANGED*/
```
proc mixed covtest method = ml noclprint data = diss.apim;
class indv cpl obs;
model DSTRESS1 = PDAOWN DSTRESS1_LAG DPDA_LAG / SOLUTION DDFM =
SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;
```

/*****PARTNER EFFECTS*****/

   /*PARTNER EFFECTS - PDA - DAILY*/
```
proc mixed covtest method = ml noclprint data = diss.apim;
class indv cpl obs;
model DSTRESS1 = PDAOWN STRESS1 DPDAP / SOLUTION DDFM =
SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
```

```
repeated / type = cs sub = obs(cpl);
RUN;

        PROC MEANS DATA = DISS.APIM;
        VAR DSTRESS1 DPDAP;
        RUN;

/*CALCULATING EFFECT SIZES*/

        proc mixed covtest method=ml covtest data= diss.apim;
        class indv cpl obs;
        model DSTRESS1 = PDAOWN STRESS1 DPDAP / s DDFM = SATTERTH
outpm = modelB;
        random partner1 partner2 / type = CS sub=cpl solution;
        repeated / type = cs sub = obs(cpl);
        ods output SolutionR = variances;
        run;

        proc reg data = modelB;
        model DSAT = pred;
        run;
        quit;

   /*PARTNER EFFECTS - PDA - LAGGED*/
proc mixed covtest method = ml noclprint data = diss.apim;
class indv cpl obs;
model DSTRESS1 = PDAOWN STRESS1 DPDAP_LAG / SOLUTION DDFM =
SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;

/*CALCULATING EFFECT SIZES*/

        proc mixed covtest method=ml covtest data= diss.apim;
        class indv cpl obs;
        model DSTRESS1 = PDAOWN STRESS1 DPDAP_LAG / s DDFM =
SATTERTH outpm = modelB;
        random partner1 partner2 / type = CS sub=cpl solution;
        repeated / type = cs sub = obs(cpl);
        ods output SolutionR = variances;
```

```
run;

proc reg data = modelB;
model DSAT = pred;
run;
quit;

/*PARTNER EFFECTS - PDA - CHANGED*/
proc mixed covtest method = ml noclprint data = diss.apim;
class indv cpl obs;
model DSTRESS1 = PDAOWN DSTRESS1_LAG DPDAP_LAG / SOLUTION DDFM
= SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;

/*********************************************/
/*NEXT MODELS WITH DAILY HARASSMENT DV*/
/*********************************************/

/*H2a - ACTOR EFFECTS - PDA - DAILY*/
proc mixed covtest method = ml noclprint data = diss.apim;
class indv cpl obs;
model DSTRESS2 = PDAOWN STRESS2 DPDA / SOLUTION DDFM = SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;

PROC MEANS DATA = DISS.APIM;
VAR DSTRESS2 DPDA;
RUN;

/*CALCULATING EFFECT SIZES*/

proc mixed covtest method=ml covtest data= diss.apim;
class indv cpl obs;
model DSTRESS2 = PDAOWN STRESS2 DPDA / s DDFM = SATTERTH
outpm = modelB;
random partner1 partner2 / type = CS sub=cpl solution;
repeated / type = cs sub = obs(cpl);
```

```
ods output SolutionR = variances;
run;

proc reg data = modelB;
model DSAT = pred;
run;
quit;
```

```
/*H2b - ACTOR EFFECTS - PDA - LAGGED*/
proc mixed covtest method = ml noclprint data = diss.apim;
class indv cpl obs;
model DSTRESS2 = PDAOWN STRESS2 DPDA_LAG / SOLUTION DDFM =
SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;
```

```
PROC MEANS DATA = DISS.APIM;
VAR DSTRESS2 DPDA_LAG;
RUN;
```

```
/*CALCULATING EFFECT SIZES*/
```

```
proc mixed covtest method=ml covtest data= diss.apim;
class indv cpl obs;
model DSTRESS2 = PDAOWN STRESS2 DPDA_LAG / s DDFM =
SATTERTH outpm = modelB;
random partner1 partner2 / type = CS sub=cpl solution;
repeated / type = cs sub = obs(cpl);
ods output SolutionR = variances;
run;

proc reg data = modelB;
model DSAT = pred;
run;
quit;
```

```
/*H2c - ACTOR EFFECTS - PDA - CHANGED*/
proc mixed covtest method = ml noclprint data = diss.apim;
/*SIG*/
```

```
class indv cpl obs;
model DSTRESS2 = PDAOWN DSTRESS2_LAG DPDA_LAG / SOLUTION DDFM =
SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;


        PROC MEANS DATA = DISS.APIM;
        VAR DSTRESS2 DPDA_LAG;
        RUN;

/*CALCULATING EFFECT SIZES*/

        proc mixed covtest method=ml covtest data= diss.apim;
        class indv cpl obs;
        model DSTRESS2 = PDAOWN DSTRESS2_LAG DPDA_LAG / s DDFM =
SATTERTH outpm = modelB;
        random partner1 partner2 / type = CS sub=cpl solution;
        repeated / type = cs sub = obs(cpl);
        ods output SolutionR = variances;
        run;

        proc reg data = modelB;
        model DSAT = pred;
        run;
        quit;

/*****PARTNER EFFECTS*****/

   /*PARTNER EFFECTS - PDA - DAILY*/
proc mixed covtest method = ml noclprint data = diss.apim;
class indv cpl obs;
model DSTRESS2 = PDAOWN STRESS2 DPDAP / SOLUTION DDFM =
SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;

   /*PARTNER EFFECTS - PDA - LAGGED*/
```

```
proc mixed covtest method = ml noclprint data = diss.apim;
/*SIG*/
class indv cpl obs;
model DSTRESS2 = PDAOWN STRESS2 DPDAP_LAG / SOLUTION DDFM =
SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;
```

/*CALCULATING EFFECT SIZES*/

```
    proc mixed covtest method=ml covtest data= diss.apim;
    class indv cpl obs;
    model DSTRESS2 = PDAOWN STRESS2 DPDAP_LAG / s DDFM =
SATTERTH outpm = modelB;
    random partner1 partner2 / type = CS sub=cpl solution ;
    repeated / type = cs sub = obs(cpl);
    ods output SolutionR = variances;     run;

    proc reg data = modelB;
    model DSAT = pred;
    run;
    quit;
```

   /*PARTNER EFFECTS - PDA - CHANGED*/
```
proc mixed covtest method = ml noclprint data = diss.apim;
class indv cpl obs;
model DSTRESS2 = PDAOWN DSTRESS2_LAG DPDAP_LAG / SOLUTION DDFM
= SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;
```

/*STATISTICS TO REPORT*/

```
PROC CORR DATA = DISS.APIM;
VAR DSAT DPDA DSTRESS1 DSTRESS2;
RUN;
```

```
/********************//********************//*******************/
/*******************//*POST HOC ANALYSIS*//*******************/
```

```
/*******************//*******************//******************/

/*SO ANSWERING THE QUESTION DOES MINORITY STRESS PREDICT PDA*/

/*FIRST STRESS1*/

proc mixed covtest method = ml noclprint data = diss.apim; /*.0506*/
class indv cpl obs;
model DPDA = PDAOWN STRESS1 DSTRESS1 / SOLUTION DDFM = SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;
proc mixed covtest method = ml noclprint data = diss.apim;
class indv cpl obs;
model DPDA = PDAOWN STRESS1 DSTRESS1_LAG / SOLUTION DDFM =
SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;
proc mixed covtest method = ml noclprint data = diss.apim;
class indv cpl obs;
model DPDA = PDAOWN DPDA_LAG DSTRESS1_LAG / SOLUTION DDFM =
SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;

/*THEN STRESS2*/

proc mixed covtest method = ml noclprint data = diss.apim; /*.0158*/
class indv cpl obs;
model DPDA = PDAOWN STRESS2 DSTRESS2 / SOLUTION DDFM = SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;
proc mixed covtest method = ml noclprint data = diss.apim;
class indv cpl obs;
model DPDA = PDAOWN STRESS2 DSTRESS2_LAG / SOLUTION DDFM =
SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
```

```
RUN;
proc mixed covtest method = ml noclprint data = diss.apim;
class indv cpl obs;
model DPDA = PDAOWN DPDA_LAG DSTRESS2_LAG / SOLUTION DDFM =
SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;

/*INTERACTION MODELS WITH PERSON CENTERED VARIABLES*/

proc mixed covtest method = ml noclprint data = diss.apim ;          /*NS*/
class indv cpl obs;
model DSTRESS1 = PCMDSAT PCMDPDA PCMDSAT*PCMDPDA / SOLUTION
DDFM = SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;

proc mixed covtest method = ml noclprint data = diss.apim ;          /*NS*/
class indv cpl obs;
model DSTRESS2 = PCMDSAT PCMDPDA PCMDSAT*PCMDPDA / SOLUTION
DDFM = SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;

        /****************//****************//***************/
        /***************//*PAPER 3 SYNTAX*//***************/
        /****************//****************//***************/

proc corr data = diss.apim;
var dstress1 dstress2 dsat dphy dpsy;
run;

proc mixed covtest method = ml noclprint data = diss.apim; /*SIG*/
class indv cpl obs;
model DPHY = DAY / SOLUTION DDFM = SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;
```

```
proc mixed covtest method = ml noclprint data = diss.apim; /*SIG*/
class indv cpl obs;
model DPSY = DAY / SOLUTION DDFM = SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;
proc mixed covtest method = ml noclprint data = diss.apim; /*SIG*/
class indv cpl obs;
model DSAT = DAY / SOLUTION DDFM = SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;

/*FIRST LOOK AT SCALE RELIABILITY*/

proc corr data = DISS.APIM ALPHA NOMISS; /*OVERALL HEALTH .52 STILL
USE AND TALK ABOUT EXTANT LITERATURE AS JUSTIFICATION*/
var DPHY1 DPHY2 DPHY3 DPHY4 DPHY5;
WHERE DAY = 1;
run;

proc corr data = DISS.APIM ALPHA NOMISS; /*OVERALL WELL-BEING .79*/
var DPSY1 DPSY2 DPSY3;
WHERE DAY = 1;
run;

proc corr data = DISS.APIM ALPHA NOMISS; /*OVERALL RELATIONSHIP
SATISFACTION .93*/
var DSAT1 DSAT2 DSAT3;
WHERE DAY = 1;
run;

/*THEN CREATE SCALES*/

DATA DISS.APIM;
SET DISS.APIM;
DPHY = MEAN(DPHY1, DPHY2, DPHY3, DPHY4, DPHY5);
OPHY = MEAN(PHY1, PHY2, PHY3, PHY4, PHY5);
DPSY = MEAN(DPSY1, DPSY2, DPSY3);
OPSY = MEAN(PSY1, PSY2, PSY3);
RUN;
```

```
/*SO NOW LETS LOOK AT INTERACTIONS. FIRST NEED TO CREATE PERSON
CENTERED VARIABLES.*/

DATA DISS.APIM;
SET DISS.APIM;
PCMDSTRESS1 = DSTRESS1 - MEANDSTRESS1;
PCMDSTRESS2 = DSTRESS2 - MEANDSTRESS2;
PCMDSAT = DSAT - MEANDSAT;
PCMDPDA = DPDA - MEANDPDA;
RUN;


/*LOOKING TO SEE HOW MINORITY STRESS IS ASSOCIATED WITH EACH
OUTCOME, DAILY FIRST*/

/*FIRST PHYSICAL HEALTH*/
proc mixed covtest method = ml noclprint data = diss.apim; /*.5045*/
class indv cpl obs;
model DPHY = DAY OPHY STRESS1 DSTRESS1 / SOLUTION DDFM =
SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;
proc mixed covtest method = ml noclprint data = diss.apim; /*.9084*/
class indv cpl obs;
model DPHY = DAY OPHY STRESS2 DSTRESS2 / SOLUTION DDFM =
SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;
proc mixed covtest method = ml noclprint data = diss.apim; /*.2136*/
class indv cpl obs;
model DPHY = DAY SAT DSAT / SOLUTION DDFM = SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;

/*THEN WELL-BEING*/
proc mixed covtest method = ml noclprint data = diss.apim; /*.1801*/
class indv cpl obs;
```

```
model DPSY = DAY OPSY STRESS1 DSTRESS1 / SOLUTION DDFM =
SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;
proc mixed covtest method = ml noclprint data = diss.apim; /*.0120*/
class indv cpl obs;
model DPSY = DAY OPSY STRESS2 DSTRESS2 / SOLUTION DDFM =
SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;

/*CALCULATING EFFECT SIZES*/

        proc mixed covtest method=ml covtest data= diss.apim;
        class indv cpl obs;
        model DPSY = DAY OPSY STRESS2 DSTRESS2 / s DDFM = SATTERTH
outpm = modelB;
        random partner1 partner2 / type = CS sub=cpl solution ;

        repeated / type = cs sub = obs(cpl);
        ods output SolutionR = variances;
        run;

        proc reg data = modelB;
        model DSAT = pred;
        run;
        quit;

proc mixed covtest method = ml noclprint data = diss.apim; /*.0001*/
class indv cpl obs;
model DPSY = DAY SAT DSAT / SOLUTION DDFM = SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;

/*CALCULATING EFFECT SIZES*/

        proc mixed covtest method=ml covtest data= diss.apim;
        class indv cpl obs;
```

```
model DPSY = DAY SAT DSAT / s DDFM = SATTERTH outpm = modelB;
random partner1 partner2 / type = CS sub=cpl solution;
repeated / type = cs sub = obs(cpl);
ods output SolutionR = variances;
run;

proc reg data = modelB;
model DSAT = pred;
run;
quit;
```

/*SO NOW WE CAN REEXAMINE INTERACTIONS AND SEE IF THE FINDINGS
STILL HOLD... THEY SHOULD, BUT YOU NEVER KNOW...*/

```
proc mixed covtest method = ml noclprint data = diss.apim; /*.5979*/
class indv cpl obs;
model DPHY = DAY OPHY STRESS1 PCMDSTRESS1 PCMDSAT
PCMDSTRESS1*PCMDSAT / SOLUTION DDFM = SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;
proc mixed covtest method = ml noclprint data = diss.apim; /*.5070*/
class indv cpl obs;
model DPHY = DAY OPHY STRESS2 PCMDSTRESS2 PCMDSAT
PCMDSTRESS2*PCMDSAT / SOLUTION DDFM = SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;

proc mixed covtest method = ml noclprint data = diss.apim; /*.0788*/
class indv cpl obs;
model DPSY = DAY OPSY STRESS1 PCMDSTRESS1 PCMDSAT
PCMDSTRESS1*PCMDSAT / covb SOLUTION DDFM = SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;
```

/*CALCULATING EFFECT SIZES*/

```
proc mixed covtest method=ml covtest data= diss.apim;
class indv cpl obs;
```

```
        model DPSY = DAY OPSY STRESS1 PCMDSTRESS1 PCMDSAT
PCMDSTRESS1*PCMDSAT / s DDFM = SATTERTH outpm = modelB;
        random partner1 partner2 / type = CS sub=cpl solution;
        repeated / type = cs sub = obs(cpl);
        ods output SolutionR = variances;
        run;

        proc reg data = modelB;
        model DSAT = pred;
        run;
        quit;

proc mixed covtest method = ml noclprint data = diss.apim; /*.0045*/
class indv cpl obs;
model DPSY = DAY OPSY STRESS2 PCMDSTRESS2 PCMDSAT
PCMDSTRESS2*PCMDSAT / covb SOLUTION DDFM = SATTERTH;
random partner1 partner2 / type = cs sub = cpl;
repeated / type = cs sub = obs(cpl);
RUN;

/*CALCULATING EFFECT SIZES*/

        proc mixed covtest method=ml covtest data= diss.apim;
        class indv cpl obs;
        model DPSY = DAY OPSY STRESS2 PCMDSTRESS2 PCMDSAT
PCMDSTRESS2*PCMDSAT / s DDFM = SATTERTH outpm = modelB;
        random partner1 partner2 / type = CS sub=cpl solution;
        repeated / type = cs sub = obs(cpl);
        ods output SolutionR = variances;
        run;

        proc reg data = modelB;
        model DSAT = pred;
        run;
        quit;

PROC MEANS DATA = DISS.APIM;
VAR  PCMDSTRESS1 PCMDSTRESS2 PCMDSAT ;
RUN;

PROC MEANS DATA = DISS.APIM;
```

```
VAR  pcmdsat;
RUN;

/*DESCRIPTIVE STATS*/

PROC CORR DATA = DISS.APIM;
VAR DSTRESS1 DSTRESS2 DSAT DPHY DPSY;
WHERE DAY = 1;
RUN;

proc freq data=diss.apim;
table dstress1;
run;
proc freq data=diss.apim;
table dstress2;
run;

        PROC MEANS DATA = DISS.APIM;
        VAR DPHY DSTRESS2 DSAT DSTRESS1;
        RUN;
```

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