THE EFFECTS OF SAME-SEX IMAGERY ON AFFECT VALENCE,

AFFECT INTENSITY, AND BEHAVIOURAL CHANGE

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Abstract

It has been observed that attitudes toward gay men and lesbian women have slowly improved over the last decade. However, some researchers have opined that this "improvement" may be the result of an over-emphasis on category membership (i.e., descriptions of being gay or lesbian), and the relative omission of sexual behaviour. While a sparse amount of previous research has used sexually explicit stimuli to evoke affective responses in heterosexual participants, the use of such procedures is qualified by the risk of the influence of erotophobia (i.e., a general aversion to any sexually explicit depictions). As a result, alternative stimuli, which are nonsexual but still render the targets' sexual object choice salient to participants, have been used in lieu of more overt photographs or video clips. The present study sought to expand on previous research that has used images of gay men engaged in everyday intimacies and symbolic threats by also including similar photographs depicting lesbian women and heterosexual couples. Affective responses to each of these groups of images were recorded via feeling thermometers (valence) and a list of six basic emotions (i.e., happiness, disgust, anger, fear, sadness, and surprise). Indicators of old-fashioned and modern homonegativity were also included. Since most affect research has overlooked the *intensity* of the affective responses provided by participants, this study employed the novel approach of using a mouse that is capable of detecting the pressure used to click it. A multiplicative index (valence X intensity) was created as an indicator of the overall affective response for each participant. Results indicated that, contrary to predictions, images depicting lesbian women were rated as least positive compared to images of gay men and heterosexual couples. In addition, no statistically significant differences in homonegativity emerged across groups. Limitations associated with the current study and avenues for future research are delineated.

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Dedication

This dissertation is dedicated to my Babcia and Dziadziu. I wish that you both could be here to witness this accomplishment. Things just are not the same without either of you in my life, but I will keep striving to achieve great things in your memory.

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Chapter 1: Introduction

Homonegativity refers to stereotypes, prejudice, and/or discrimination directed against individuals perceived to be, or who self-identify as, gay or lesbian (Jewell & Morrison, 2012; Morrison, Parriag, & Morrison, 1999). There have been two forms of homonegativity described within the literature. The first, "old-fashioned" or "traditional," is based on relatively strict adherence to traditional notions of sexual "normality," religious objections, and/or myths regarding gay men and lesbian women (Morrison & Morrison, 2002). Thus, traditional homonegativity may manifest itself in arguments that same-sex sexual behaviour is sinful or that sexual minority people are mentally ill or "defective" in some way. The second, "modern" homonegativity, refers to the belief[s] that gay men and lesbian women: 1) are complicit in their own marginalisation because they place excessive importance on their sexual minority status; 2) have unrealistic expectations regarding social justice and subsequent social change; and/or 3) no longer experience prejudice and discrimination as a result of their sexual orientation (Morrison & Morrison, 2002).

Previous research elucidates the differences between these two forms of homonegativity. For example, given the observation that overt and explicit (i.e., old-fashioned/traditional) forms of prejudice and discrimination are largely deemed politically incorrect in Western countries (Tougas, Brown, Beaton & Joly, 1995), incidents of traditional homonegativity appear to have diminished. Morrison and Morrison (2002) sought to empirically differentiate between both traditional and modern homonegativity by developing the *Modern Homonegativity Scale* (MHS) and comparing it to the well-established *Attitudes toward Gay Men and Lesbians Scale* (ATLG; Herek, 1988). Among a sample of Canadian university students, the authors found that participants reported greater modern homonegativity (as measured by the MHS) compared to

traditional homonegativity (as measured by the ATLG). This discrepancy in endorsement rates may be due to the finding that, when distributed to university samples, the ATLG is susceptible to floor effects (i.e., since traditional homonegativity is no longer considered socially appropriate, a scale measuring such attitudes may yield limited variability: e.g., Morrison & Morrison, 2002; Rye & Meaney, 2010a). Further empirical evidence of this distinction is provided psychometrically, where a two-factor model for traditional and modern homonegativity (i.e., one factor containing only MHS items and the other containing only ATLG items) has consistently emerged with various samples (Morrison, Kenny, & Harrington, 2005; Morrison & Morrison, 2002; Morrison, Morrison, & Franklin, 2009).

The distinction between traditional and modern homonegativity also emerges on behavioural indicators. For example, using an attributional ambiguity technique, in which two experimental conditions are employed (i.e., a "covert" condition that allows participants the opportunity to obscure their discriminatory behaviour and an "overt" condition that does not), Morrison and Morrison (2002) found that participants higher in modern homonegativity were significantly less likely to sit beside a confederate wearing a shirt with a pro-gay or pro-lesbian slogan. This finding only occurred in the covert condition where participants were able to justify not sitting next to a "gay/lesbian" confederate on non-prejudicial grounds. However, no difference in seating preference was observed for those higher in old-fashioned homonegativity (i.e., regardless of condition, they were unwilling to sit beside a "gay/lesbian" confederate).

Although the literature serves to affirm that traditional and modern homonegativity represent separate yet related constructs, they share certain correlates. In the next section, variables associated with homonegativity will be reviewed briefly.

1.1 Central Correlates of Homonegativity

Myriad correlates of homonegativity have been identified within the literature. To illustrate: Grey, Robinson, Coleman, and Bockting (2013) provided a systematic review of instruments that measure homonegativity toward gay men. The authors reported associations between each of the instruments and previously established or hypothesized correlates of homonegativity which appeared in either the source articles or subsequent psychometric examinations of each of the measures. Several correlates emerged from this research which apply to both traditional and modern homonegativity and map onto findings from previous research. First, heterosexual participants who reported less contact with gay men reported significantly greater homonegativity (Herek & Capitanio, 1996). Second, heterosexual respondents who harboured more negative attitudes about HIV/AIDS possessed significantly greater homonegativity than those with less negative attitudes (Ruel & Campbell, 2006). Third, greater religiosity (i.e., more frequent religious service attendance and more traditional beliefs) and/or belonging to a more conservative religion (e.g., Jehovah's Witnesses) was associated with greater homonegativity among heterosexual participants (Herek & Capitanio, 1996). Finally, males scored significantly higher on the reviewed homonegativity instruments than did females; a difference that has emerged consistently in the literature (e.g., Buechel & Hegarty, 2007; Herek, 2002; Morrison & Morrison, 2002; Morrison & Morrison, 2011; Pearl & Galupo, 2007; West & Cowell, 2015).

Moving beyond sociodemographic correlates, researchers have found that homonegativity is associated with various ideological beliefs as well as other forms of prejudice. For example, heterosexual participants who reported authoritarian views (Haddock & Zanna, 1998), traditional beliefs about gender roles, and less support for sexual minorities' civil rights

(e.g., marriage equality) also were more homonegative (e.g., Brown & Henriquez, 2011; Pearl & Galupo, 2007; Morrison & Morrison, 2002; Worthington, Dillon, & Becker-Schutte, 2005). In addition, heterosexual persons who were biased against other marginalized social groups such as Aboriginal people, women, and overweight individuals reported greater levels of homonegativity (e.g., Morrison et al., 2005) suggesting that prejudice is a "generalized phenomenon" (Bierly, 1985).

The anti-gay violence that manifests from traditional homonegativity also has been well-documented. Specifically, heterosexual individuals who evidence greater traditional homonegativity are more likely to physically assault sexual minority women and men (e.g., Bernat, Calhoun, Adams, & Zeichner, 2001; Franklin, 2000). For those reporting greater *modern* homonegativity, physical reprisal is less common. Instead, *microaggressions* are more likely to occur. Microaggressions are everyday forms of subtle discrimination that typically manifest as verbal, behavioural, and/or environmental insults (Galupo, Henise, & Davis, 2014). From the perspective of the perpetrators, these insults may be unconscious or automatic and are often perceived to be harmless (Woodford, Howell, Silverschanz, & Yu, 2012). Within the context of homonegativity, microaggressions denote subtle everyday homonegative behaviours such as the verbal expression "that's so gay" or purposely distancing oneself from a sexual minority individual (e.g., Herbstrith, Tobin, Hesson-McInnis, & Schneider, 2013; Jewell & Morrison, 2010; Morrison & Morrison, 2002).

A key limitation of the aforementioned studies examining the correlates of homonegativity is that the authors focus on *identity* (i.e., whether a target *is* non-heterosexual) and fail to consider the target's sexual behaviour (Hegarty, 2006). The minimal emphasis accorded sexual practices is surprising as homonegativity centres upon what sexual minorities *do*

with their bodies rather than with the state of *being* gay or lesbian (McDermott, Morrison, McDonagh, & O'Doherty, 2012).

1.2 The Importance of Focusing on Same-Sex Sexual Behavior

To the casual observer, sexual behaviour provides a more accurate indicator of a target's sexual orientation than frequently utilized, but potentially misleading, signifiers such as t-shirts (Clarke, 2016; Gray, Russell & Blockley, 1991; Hendren & Blank, 2009; Tsang, 1994), buttons/badges (Bosson, Weaver, Caswell, & Burnaford, 2012; Cuenot & Fugita, 1982), and baseball caps (Hebl, Foster, Mannix, & Dovido, 2002) adorned with gay slogans and other Pride-related insignia. One should not assume that findings using these signifiers are unimportant. However, Buechel and Hegarty (2007) illustrate the need to disentangle sexual identity from sexual behaviour. The researchers distributed vignettes that described gay, lesbian, or heterosexual couples engaging in one of two categories of workplace romance: "discrete" (e.g., *Bob and Luke [keep] their feelings for each other secret. Few people in the department know they are a couple*) versus "explicit" (e.g., *Bob and Luke are open about their feelings for each other. Everyone in the department knows they are a couple*.). Undergraduate student participants (*N* = 135) then completed psychometrically sound indicators of traditional and modern homonegativity. Results indicated that those reporting levels of modern homonegativity above the median perceived the gay and lesbian "explicit" co-worker relationships as being least acceptable. However, these participants did not differentiate between the "explicit" versus "discrete" heterosexual couples. Finally, among those scoring below the median in modern homonegativity, no difference in evaluation emerged as a function of the couple's sexual orientation. These results suggest that, at least for those higher in modern homonegativity, evaluations of gay couples varied in accordance with whether their romantic behaviour was

"overt" or "discrete" (i.e., judgements of acceptability were not based on the couple's status as sexual minority couples but, rather, on the discreteness of their romantic behaviours). Unfortunately, this study did not describe the ways in which the gay/lesbian couple's "openness" about their relationship manifested itself behaviourally.

To date, only a single study, using a vignette methodology, has examined the relationship between same-sex sexual behaviour and homonegativity. Wells (1992) instructed self-identified heterosexual undergraduate participants ($N = 252$) to complete a questionnaire package that measured their: 1) attitudes toward the gay, lesbian, and heterosexual couples' sexual behaviour described in each vignette; 2) curiosity about same-sex sexual behaviour; 3) perceptions of the differences and similarities between gay, lesbian, and heterosexual sexual behaviour; 4) beliefs about which groups have the most and least uninhibited sex; and 5) approval or disapproval of same-sex relationships. In addition, participants evaluated the comparative attractiveness of gay men and lesbian women relative to heterosexual individuals and described how they would feel if someone thought they were gay or lesbian. Results indicated that, in comparison to males, females were more offended by explicit heterosexual behaviour, by two women kissing, and by explicit lesbian sexuality. In contrast, males were more offended by two males kissing. No statistically significant gender difference was noted in the perceived offensiveness of gay male sexuality (i.e., a majority of male and female participants found this type of sex to be offensive).

A key limitation of Wells' (1992) study is that no details were furnished about the targets' hypothetical relationship. This omission is problematic because, since gay men are commonly stereotyped as being sexually promiscuous (e.g., Lipp, 2013; McAleenan, 2014; Will, 2012), it is possible that the hypothetical gay male dyads were more likely to be viewed as engaging in casual sex. Another concern relates to the abstract nature of the vignette

methodology in general. First, the ambiguity of certain elements within a vignette may lead participants to infer details regarding the target(s) that may be counterintuitive to the nature of the research (Zaikman, Marks, Young, & Zeiber, 2016). For example, at the time Wells' (1992) research was conducted, the idea of marriage equality was in its infancy. Thus, participants may have viewed the heterosexual couple as "married" and the gay and lesbian couples as "unwed." Such details may affect how one views the sexual behaviour of such couples, especially if participants place a greater value on sexual behaviour taking place between married individuals. Second, despite painstaking efforts to ensure that vignettes are relatable to one's sample, relevant to the research question, and comparable across conditions, researchers may still be unable to create descriptions which accurately represent and articulate a real-world (i.e., authentic) scenario[1] (Bradbury et al., 2015). Third, adequate pilot testing of a series of vignettes is unable to offer conclusions on how participants may process and, thus, interpret the elements of interest pertaining to the study (McCutcheon & Morrison, 2015). Fourth, when completed by university students, the usefulness of a vignette methodology may be questioned. For instance, Wells' (1992) study required that university students: 1) imagine hypothetical gay, lesbian, and heterosexual dyads kissing and engaging in "explicit sexual behaviours"; 2) visualize these sexual behaviours (which would have been problematic if participants were unfamiliar with same-sex sexual activity); and 3) decide whether any of these dyads were in a romantic relationship or were merely engaging in casual sex.

These limitations underscore the need to move beyond ambiguous textual descriptions of gay and lesbian sexual behaviour. In the next section, the limited research that has utilized *visual* stimuli of gay, lesbian, and heterosexual couples will be reviewed briefly.

1.3 Sexually Explicit Imagery as Stimuli

Turnbull and Brown (1977) conducted the first study that examined attitudes toward gay men and lesbian women using sexually explicit photographs. Introductory psychology students ($n = 34$ males; $n = 31$ females) were asked to complete a questionnaire package of scales measuring attitudes toward gay men, attitudes toward lesbian women, attitudes toward heterosexual sex practices, and general issues concerned with sexual freedom. Then, using a seven-point semantic differential scale, participants were asked to rate 19 sexually explicit slides that depicted: 1) male and female nudity; 2) male and female masturbation; 3) heterosexual dyadic sexual behaviour; 4) heterosexual group sexual behaviour; 5) gay dyadic sexual behaviour; and 6) lesbian dyadic sexual behaviour. Once the slide rating task was complete, participants were given a second questionnaire that enabled them to reflect on their slide viewing experience. After classifying male and female participants into high or low in homonegativity on the basis of their attitude scale scores, results indicated that, for both sexes, the high homonegativity groups rated the slides as more sexually explicit than did the low homonegativity groups. Furthermore, every slide was rated more negatively by the high homonegativity groups with 14 of the 19 ratings differing significantly. Regardless of their level of homonegativity, female participants rated all slides more negatively than did male participants. Finally, male participants rated the male slides (i.e., nudity, masturbation, and gay male dyads) more negatively than they did equivalent slides featuring females.

This study is not without its limitations. First, viewing the sexually explicit images in a group setting and in the presence of the researchers may have triggered self-presentation concerns in the participants. Second, participants' sexual orientation was not measured. Third, and finally, the selected images were not pilot tested to ensure they were matched across

conditions and the homonegativity scale that was used had questionable psychometric properties (e.g., no scale score reliability was reported).

Research by Mosher and O'Grady (1979) represents the earliest example whereby sexually explicit films depicting gay male dyads were used as stimuli to gauge homonegativity. In this study, undergraduate males ($N = 215$) were asked to complete a questionnaire package that assessed guilt, masturbation experience, negative attitudes toward masturbation, "homosexual threat," and sexual orientation. During a follow-up lab session, participants were randomly assigned to view one of three silent sexually explicit films (in colour and approximately 10 minutes in length) depicting: 1) a heterosexual dyad (engaged in kissing, petting, oral sex, and vaginal penetration); 2) a gay male dyad (engaged in kissing, mutual masturbation, oral sex, "sixty-nine," and anal intercourse); or 3) a lone male masturbating on his back. Prior to viewing their designated film, participants received either a typical set of viewing instructions or a set designed to promote projective identification with the male performer(s) (i.e., these participants were explicitly asked to imagine that they *were* the male performers being viewed). After watching the film, participants completed a second questionnaire package measuring sexual arousal, genital sensations, affective state, and level of identification with the male performer(s). Participants that viewed the sexually explicit heterosexual film reported more subjective arousal and less anger, disgust, shame, guilt, and depression than those viewing the solo male masturbation or gay male film. In comparison to the masturbation film, the one featuring gay men elicited greater subjective arousal along with greater disgust, anger, guilt, and shame. No other statistically significant findings were noted.

This study possesses several limitations that should be noted briefly. First, participants may enhance or diminish their reported level of sexual arousal while viewing different types of

sexually explicit stimuli (e.g., material depicting heterosexual versus gay dyads: Adams, Wright, & Lohr, 1996). Second, the authors do not discuss how participants were instructed to respond to the identification items for the gay male film (i.e., were participants required to focus on only one of the two male performers and if so, which one?). Third, the researchers' measure of homonegativity (i.e., "homosexual threat") had questionable psychometric properties (e.g., scale score reliability was poor [.58]).

These two pioneering studies laid the groundwork for the research that followed, which expanded the study of homonegativity by focusing on photographs/film clips of same-sex sexual behaviour. Further, subsequent research attempted to address the limitations associated with Turnbull and Brown (1977) and Mosher and O'Grady's (1979) studies by using: 1) pre-post designs to determine if viewing sexually explicit same-sex dyads prompts a change in affect (e.g., Nevid, 1983); 2) physiological data (i.e., heart rate) to measure phobic responses (e.g., Shields & Harriman, 1984) and sexual arousal (e.g., Adams, Wright, & Lohr, 1996) in response to exposure to same-sex sexual behaviour; and 3) homonegativity scales that are psychometrically robust (e.g., Greendlinger, 1985). These advancements influenced more contemporary research that investigated homonegativity via participants' exposure to sexually explicit stimuli.

To examine homonegativity and physical aggression directed toward gay men, Bernat et al. (2001) assigned self-identified heterosexual male college students ($N = 463$) to one of two groups on the basis of whether they scored one standard deviation above or below the mean on a measure of old-fashioned homonegativity (above = homonegative [$n = 26$]; below = non-homonegative [$n = 26$]). Both groups were exposed to a sexually explicit gay male video clip and completed a questionnaire package measuring affect prior to engaging in a reaction time

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(RT) task against a fictitious male opponent (described as either gay or heterosexual) in another room. The task was designed to allow the participant with the fastest reaction time (never the fictitious opponent) to have the option of administering a shock to his opponent and to be able to determine the intensity and duration of the shock. Results indicated that the homonegative group reported greater anxiety, negative affect, and anger/hostility after viewing the sexually explicit gay video clip than did the non-homonegative group. In addition, the homonegative group demonstrated significantly more aggression toward a gay male opponent (in terms of shock intensity and duration) than did the non-homonegative group. No statistically significant differences emerged when the opponent was heterosexual.

Expanding upon this research, Parrott and Zeichner (2005) randomly assigned self-identified heterosexual male participants ($N = 165$) into one of four groups: 1) sexually explicit gay male dyad video clip and gay male opponent ($n = 42$); 2) sexually explicit gay male dyad video clip and heterosexual male opponent ($n = 42$); 3) sexually explicit heterosexual dyad video clip and gay male opponent ($n = 41$); or 4) sexually explicit heterosexual dyad video clip and heterosexual male opponent ($n = 40$). Participants were asked to complete a measure of homonegativity prior to their laboratory session while state anger was assessed both immediately prior to and following the viewing of their assigned sexually explicit video clip. For participants who saw the gay male video clip and then subsequently competed against a fictitious gay male opponent, antigay anger and homonegativity were positively associated with aggression (i.e., shock intensity and duration). However, for those who saw the gay male clip and then competed against a fictitious heterosexual opponent, no statistically significant relationship between aggression and either anti-gay anger or homonegativity emerged. Similarly, no significant

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findings were noted for participants that viewed the heterosexual clip and then competed against a fictitious gay or straight opponent.

Zeichner and Reidy (2009) explored whether negative affective responses following exposure to sexually explicit gay male video clips serve as a coping strategy for homonegative men experiencing unwanted feelings/desires elicited by the explicit sexual nature of the clip. Self-identified heterosexual male college students ($N = 54$) completed an index of old-fashioned homonegativity and, subsequently, were assigned to view either a sexually explicit gay male or heterosexual video clip. After the viewing exercise, participants completed a lexical decision task which measured their reaction times when identifying words associated with anger, happiness, fear, and disgust. Results indicated that, among those viewing the gay male video clip, homonegativity correlated with faster reaction times for anger- and fear-related words and slower reaction times for disgust- and happiness-related words. For those viewing the heterosexual video clip, no statistically significant associations between homonegativity and reaction times for any of the affective words were observed. Zeichner and Reidy speculate that the faster reaction times for fear- and anger-related words among more homonegative participants stems from these individuals being fearful that exposure to the sexually explicit gay male clip will cause them to become sexually aroused. Further, the authors propose that the disgust typically reported by homonegative men in response to gay male sexuality is due to self-presentation bias (i.e., these men claim to be disgusted because they believe they are *supposed* to be, not because they necessarily are). Since the lexical decision task is an implicit measure, conscious engagement in socially desirable behaviour (i.e., elevated levels of disgust in response to same-sex imagery) is unlikely hence their slower reaction times to disgust-related words.

Mahaffey, Bryan, and Hutchison (2005a) elected to use softcore[2] pornographic images instead of video clips. Self-identified heterosexual undergraduate women ($n = 91$) and men ($n = 87$) completed a questionnaire package followed by exposure to 24 images: 18 of semi- or completely nude and intimately engaged (i.e., kissing or fondling) gay, lesbian, and heterosexual couples (six images each); and six control images. The image viewing task was completed in conjunction with startle probes (i.e., electrodes strategically placed on participants' faces to measure facial musculature movement in response to viewing images). A median split[3] on a measure assessing social distance (i.e., discomfort being in close proximity to gay men) was used to create biased versus non-biased groups. The researchers found that male participants, classified as biased, displayed a startle response indicative of greater negative affect (e.g., disgust and fear) when viewing images of gay men. No startle response was observed among non-biased men. As well, no association between men's bias toward lesbian women and their startle response to lesbian imagery was noted. Finally, female participants did not display a startle response indicative of negative affect toward any of the images.

A key limitation of this study resides in the authors' claim that startle eye blink can be used to identify specific types of affect. Available evidence suggests that startle eye blink differentiates between positive and negative affect but does not particularize the emotion experienced (Vrana, 1994). Additional psychophysiological measures (e.g., facial EMG) are needed to provide greater specificity regarding an affective response (Witvliet & Vrana, 1995).

In a more recent study (Mahaffey, Bryan, Ito, & Hutchison, 2011), self-identified heterosexual male participants ($N = 104$) were categorized on the basis of their scores on a scale of antigay bias (low antigay bias, $n = 40$; moderate antigay bias, $n = 37$; high antigay bias, $n = 27$). Participants were asked to view 40 slides consisting of eight neutral images (e.g., an

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electrical outlet), eight positive images (e.g., kittens), and eight images each of gay male, lesbian female, and heterosexual dyads, who were either semi- or completely nude and engaged in sexual behaviour (e.g., kissing, fondling). These images were shown in conjunction with startle probes. The 40 slides were randomized for each participant and half of the sexual and neutral slides possessed a short lead startle probe (i.e., noise presented 800 ms after stimulus presentation) while the other half possessed a long lead (i.e., noise presented 4000 ms after stimulus presentation). The authors speculated that homonegativity resulting from a *defensive* function (i.e., homonegativity that manifests as aggression directed toward gay men and/or lesbian women to alleviate anxiety resulting from unwanted same-sex desires) would require additional cognitive processing before a negative affective response could occur. Thus, a shorter lead that does not allow for sufficient processing of a stimulus should provoke less antigay bias than a longer lead time that does allow for additional processing. Participants then viewed the slides again; however, for each image, they answered three items measuring sexual arousal, physical arousal, and affective valence, using a nine-point Likert scale.

Results showed a significant interaction between lead time and existing antigay bias when viewing gay male imagery (i.e., the high antigay bias group showed the least positivity[4] toward the gay male imagery during the long lead while there was little variability between groups during the short lead). Thus, males high in antigay bias appear to require sufficient time to process stimuli (i.e., longer lead time) in order to become cognitively aware of their negative affect toward gay men; at a more automatic level (i.e., shorter lead time), they do not appear to experience greater negative affect than those with moderate or low antigay bias.

All of the studies employing sexually explicit imagery as stimuli share several key limitations. First, the everyday intimacies engaged in by same-sex couples are absent; thus, it is

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unclear how homonegative individuals would respond to "ordinary" public displays of affection such as holding hands or kissing. Second, it is difficult to determine whether the negative affect identified by researchers is attributable to the same-sex nature of the sexually explicit stimuli; the act of viewing sexually explicit material within a public setting such as a laboratory; other unknown variables (e.g., anxiety or fear that one's participation in such a study may be judged by his or her friends or peers); or some combination thereof.

Erotophobia, which refers to a general discomfort with, and negative attitudes toward, sexual behavior (Fisher, Byrne, & White, 1983), also serves as a potential confound in this type of research. For instance, Mahaffey, Bryan, and Hutchison (2005b) examined the affective responses of a sample of self-identified heterosexual undergraduate males using the startle eye blink measure while they viewed images of individual nude men and women (study 1; $n = 58$) and nude gay and heterosexual couples (study 2; $n = 100$). The authors assessed homonegativity using the same social distance measure employed by Mahaffey et al. (2005a). The results of study one indicated that participants reporting higher levels of homonegativity displayed greater startle eye blink activity when viewing images of nude men. However, an interaction between erotophobia and homonegativity was found in predicting the responses of more homonegative men (i.e., homonegative men who experienced anxiety or distress during exposure to any form of sexual contact displayed a greater startle eye blink response regardless of the sex of the individuals being depicted). This was not the case for homonegative men who did not experience anxiety or distress when shown sexual behaviour. Study two attempted to control for the effects of erotophobia that may be experienced when viewing sexually explicit materials. Results indicated that among participants reporting low erotophobia, their social distance score was not significantly related to their startle response toward gay men whereas for those reporting high

erotophobia, social distance was significantly associated with startle response when viewing photographs of nude or semi-nude gay male couples. Based on these findings, it appears that erotophobia may be a confounding variable when examining homonegative participants' reactions to sexually explicit stimuli (i.e., negative responses may be due to or enhanced by the sexually explicit nature of the stimuli in general and not necessarily by the gay/straight status of the sexual activity itself). While measuring erotophobia may seem like a reasonable approach when using sexually explicit stimuli to gauge homonegativity, self-reporting of erotophobia may be subject to impression management. For example, consumption of pornography has been identified as serving an educational function for males (e.g., Kubicek, Beyer, Weiss, Iverson, & Kipke, 2010; Sun, Bridges, Johnson, & Ezzell, 2016); thus, agreement with erotophobic items suggesting that exposure to this type of material results in anxiety or distress may be perceived as violating male gender roles. Based on these limitations, less explicit images – albeit ones that still render gay men's and lesbian women's sexual object choice salient – may represent a superior choice to ones that are more sexually graphic.

1.4 Non-Sexually Explicit Stimuli

Among a sample of self-identified heterosexual men ($N = 83$), Bishop (2015) examined affective reactions to images that depicted: 1) gay men engaged in "everyday intimacies" (e.g., two men kissing, embracing, or holding hands); 2) gay men engaged in "symbolic threats" (e.g., gay men getting married); and 3) neutral inanimate objects (e.g., a lamp) taken from the *International Affective Picture System* (IAPS; Lang, Bradley, & Cuthbert, 2001). "Everyday intimacies" constitute intimate behaviour such as kissing and embracing that may occur in public. "Symbolic threats" occur when the dominant group does not believe that its values, morals, and beliefs are shared by a subordinate group (Stephan & Stephan, 2000). This belief can

lead to prejudice being directed toward the outgroup as a means of reinforcing the dominant (in)group's cultural worldview. Thus, the dominant group's feeling that its values are threatened, and the group's subsequent response, may be viewed as a potential cause of prejudice.

In Bishop's study, each participant attended a lab session and completed a paper-based questionnaire package. A flag was embedded in the questionnaire for participants to request that the researcher activate the monitor and provide instructions for the image viewing task. At this point, participants assumed control of a slideshow containing six images and completed three items measuring current levels of happiness, anger, and disgust (e.g., "Looking at this picture makes me happy") on a seven-point Likert scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). Once the image viewing task was completed, participants were instructed to turn off the monitor and finish the remainder of the questionnaire package which consisted of two global items measuring their perception of the image viewing task (i.e., enjoyment of the task and whether or not they liked the images they viewed) and the Modern Homonegativity Scale[5] (Morrison & Morrison, 2002). Results indicated that homonegativity moderated the association between viewing the images depicting "symbolic threats" and negative affective responses. That is, the relationship between exposure to "symbolic threat" images and subsequent negative affect was stronger for those reporting greater levels of modern homonegativity. No moderation was found for the relationship between exposure to images depicting "everyday intimacies" and negative affect (i.e., regardless of participants' level of modern homonegativity, affective responses to this type of image tended to be negative).

Kiebel, McFadden, and Herbstrith (2016) also used non-sexually explicit stimuli depicting both same- and other-sex couples kissing. Self-identified heterosexual undergraduate participants ($N = 37$; 19 males and 18 females) were asked to complete an Affect Misattribution

Procedure (AMP) and image rating task while psychophysiological data (i.e., facial electromyography [EMG], variability in skin conductance response [SCR], and heart rate [HR] fluctuations) were collected. Participants then received measures of old-fashioned and modern homonegativity, general prejudice, and disgust sensitivity. The authors employed six different image types: 1) other-sex kissing; 2) same-sex female kissing; 3) same-sex male kissing; 4) pleasant (positive) images; 5) disgusting (negative) images; and 6) Chinese characters (neutral). For each AMP trial, participants were presented with a random (prime) image from one of the first five sets of images, followed by a blank screen, and finally a Chinese character (the target). Instructed to ignore the prime image, a rating of "pleasant" or "unpleasant" was provided for each target. Next, participants completed the image rating task in which all of the images from the aforementioned groups were randomly presented with the exception of positive images which appeared at the end in an attempt to induce or restore a more positive mood.

Participants reported significantly greater old-fashioned homonegativity toward gay men than toward lesbian women. However, no differences for modern homonegativity were noted. Male participants rated images of men kissing as significantly more disgusting than images of women kissing or men and women kissing. They also rated images of women kissing as significantly more arousing than all other image types. For female participants, no significant differences between arousal or disgust ratings were observed for any of the kissing images. The AMP demonstrated that implicit attitudes toward male/female kissing images were significantly more positive than attitudes toward both male and female same-sex images. As well, implicit attitudes toward female same-sex kissing images were significantly more positive than implicit attitudes toward male same-sex images. No significant findings emerged for the psychophysiological data.

Kiebel et al.'s study has certain limitations that should be discussed. For example, there is no mention of the kissing photographs having undergone pilot testing to ensure their comparability on dimensions such as perceived attractiveness and age of the targets. Similarly, the authors reported that five of the disgust images were obtained via an Internet search but do not mention whether they were pilot-tested to ensure they were comparable to the other seven disgust images taken from the IAPS.

A further concern, one that is applicable to Bishop (2015) and Kiebel et al.'s (2016) research, is the omission of a measure assessing general sensitivity to public displays of affection. Recall that Mahaffey et al. (2005b) found a significant association between scores on a social distance scale and startle responses toward gay male dyads *only* for those participants who reported greater levels of erotophobia. When using images that are not sexually explicit, a related construct (namely, the perceived acceptability of public displays of affection: Doan, Miller & Loehr, 2015) should be measured. Unfortunately, to date, the researcher is unaware of any published study that has directly examined this variable in the context of prejudice and discrimination toward sexual minority groups.

A final limitation, and one applicable to other research focusing, more generally, on affect, is that the *intensity* of the affective response was not assessed (e.g., individuals A and B may report being angered by the same stimulus; however, the level of anger that is experienced may differ). The value of measuring affective intensity is briefly detailed in the next section.

1.5 Affect Intensity

Affect intensity, which is a stable individual difference characteristic, refers to the varying intensities with which emotional reactions are experienced by individuals (Larsen & Diener, 1987). Affect intensity is believed to generalize across emotional states; that is,

individuals typically do not report greater intensity for positive emotions than negative emotions or vice versa (Larsen, 2009).

A number of instruments have been developed to gauge affect intensity. The most widely used is the *Affect Intensity Measure* (AIM), which consists of 40 items that are completed using a six-point Likert scale ranging from 1 (Never) to 6 (Always). Participants respond to each item in accordance with their individual experience of emotional responses (Larsen, 1984). Larsen and Diener (1987) report that the AIM possesses strong scale score reliability (Cronbach's alpha coefficients ranged from .90 to .94 across four samples), and adequate split-half reliability (correlation values ranged from .73 to .82). In addition, the AIM has good temporal stability with one, two, and three month test-retest correlation coefficients of .80, .81, and .81, respectively, having been reported.

There is some ambiguity, however, about the AIM's factor structure. Weinfurt, Bryant, and Yarnold (1994) found that it was inappropriate to treat the AIM as unidimensional. Using a sample of college undergraduates ($N = 673$), the authors tested an oblique four-factor model (Positive Affectivity, Negative Intensity, Negative Reactivity, and Serenity). Despite attaining mediocre fit statistics, the researchers argued that relying upon the one-factor model of the AIM is problematic because it conceptualizes both positive and negative affect as a single construct. They further suggested that their results demonstrated the AIM is not unidimensional and that future research should embrace their conclusions and strive to develop a better conceptual model. Doing so would help ensure that important associations are not overlooked (e.g., the authors cite previous research that examined the relationship between cardiac arousal and affect intensity as measured by the unidimensional AIM and suggested that significant findings for basal arousal

and evoked arousal may have emerged had they been compared to their four proposed

dimensions).

Two years later, Bryant, Yarnold, and Grimm (1996) revisited the proposed four-factor

structure of the AIM and the concept of affect intensity in general. The authors sought to

differentiate between the constructs of affect intensity and affect reactivity. Affect intensity was

described as the characteristic strength of individuals' everyday emotions whereas affect

reactivity was conceptualized as a separate construct that addressees the characteristic strength of

individuals' affective responses to emotion-evoking stimuli. To illustrate the difference between

the two, consider the following: individuals high in negative intensity (i.e., experience strong

negative emotions) are capable of developing the ability to avoid, repress, or abate initial

negative reactions to aversive stimuli, thus experiencing low negative reactivity. A similar

concern may occur when an individual, exposed to a novel undesirable situation, reports negative

reactivity but alleviates this reaction through coping behaviours thereby experiencing low

negative intensity.

Using two independent undergraduate samples ($N = 673$ and $N = 631$), the researchers

employed confirmatory factor analysis (CFA) to explore the goodness of fit of five different

measurement models of the AIM. The first was the original one-factor model proposed by

Larsen (1984) that included all 40 items. The second was Weinfurt et al.'s (1994) four-factor

model that also included all 40 items. The remaining three models consisted of 27 of the 40

items, and had one-, three-, and four-factors. For both samples, the 27-item four-factor model

possessed the best goodness of fit and explained approximately 80% of the variance. Since two

of the factors (Positive Reactivity and Positive Intensity) were very strongly correlated in both

samples ($r = 0.92$ [sample 1]; $r = 0.90$ [sample 2]), Bryant et al. (1996) combined them and the

resultant three-factor model was found to possess almost identical goodness of fit. The authors refer to this model as the three-factor *Affect Intensity and Reactivity* (AIR) model. In the authors' second study, the discriminant validity of the AIR model was measured relative to the unidimensional AIM in predicting elements of dispositional empathy. Undergraduate students (N = 218) were asked to complete the three-factor AIR, the unidimensional AIM, and an index of dispositional empathy. The construct of dispositional empathy was selected based on the argument that sympathy, empathy, and personal distress all involve affective arousal and that individuals with a propensity for high-intensity affective responses would be expected to display greater vicarious affective responding (Eisenberg et al., 1991). Results indicated that the three AIR factors (i.e., positive affectivity, negative intensity, and negative reactivity) accounted for greater variance in dispositional empathy than the unidimensional AIM. Demonstrating discriminant validity, none of the AIR factors showed similar relationships with the four dimensions of dispositional empathy.

Citing the aforementioned research, Geuens and De Pelsmacker (2002) concurred that treating the AIM as unidimensional and, thus, calculating a composite score for respondents is inappropriate. Using data obtained from Belgian community (N = 510) and university (Ns = 204 and 166) samples, the authors investigated the psychometric properties of the AIM. Based on the results of a principal component analysis with varimax rotation and the application of stringent component loading criteria, the authors concluded that a three-component solution containing 20 of the 40 items from the AIM offered the best representation of the data. This 20-item version was subsequently labelled the *Short Affect Intensity Scale* (SAIS).

Although the AIM's one-factor model (Larsen & Diener, 1987), four-factor model (Weinfurt et al., 1994), AIR three-factor model (Bryant et al., 1996), and the SAIS (Geuens &

De Pelsmacker, 2002) appear to be psychometrically sound, they are subject to various criticisms. First, the use of a self-report scale that requires participants to gauge their own propensity for experiencing emotional states of varying intensities is problematic since it is susceptible to self-presentation bias. For example, the item "When I feel guilty, this emotion is quite strong" is high in face validity as it is clear that the item pertains to the intensity with which one experiences instances of guilt. However, respondents who do not regularly feel guilt for their inappropriate behaviour (for whatever reason), but do not want others to judge them as callous or uncaring, may provide a response that better accommodates perceived social expectations.

Second, items of this type make it difficult (if not impossible) to determine whether participants experience certain emotions more intensely in some contexts than in others. For example, perhaps an individual has stronger feelings of guilt in a situation where a friend was "wronged" versus a stranger. Also, several of the scale items are ambiguous. To illustrate: "I feel pretty bad when I tell a lie." What does "pretty bad" mean and is its interpretation uniform across participants? Another example: "When things are going good, I feel 'on top of the world.'" How good do things need to be before a person reaches this heightened state?

Finally, the varying iterations of the AIM appear to be trait-based; that is, higher scores reflect the strength of an individual's affective responses in general, rather than in response to a current situation or stimulus. While the AIR model incorporates affective reactivity in response to novel stimuli, it does not measure an individual's response in real time. A literature search did not yield any studies that used a variant of the AIM that was capable of measuring state-based affect intensity. It seems that a more implicit way of measuring affect intensity during exposure to a stimulus would be beneficial.

Cognisant of the need for an unobtrusive measure of affect intensity, Schaaff, Degen, Adler, and Adam (2012) developed technology which may (eventually) eliminate reliance on self-report data. Previous research (e.g., Reynolds, 2001) demonstrated that a mouse equipped with force sensors was capable of revealing computer users' frustration, as determined by how much force they used to click and how tightly they gripped the mouse. The main limitation of these initial studies was that the force sensors were visible to participants, which is problematic because it is easy for respondents to manipulate the pressure applied if they are aware that it is being measured (Schaaff et al., 2012). Recognising this limitation, Schaaff and colleagues constructed a device in which all force sensors are included within the shell of the mouse thereby concealing them from the participant.

Initial testing of these second generation devices was conducted by randomly assigning undergraduate students ($N = 124$) to either a high or low arousal group. Both groups completed the same puzzle task and were monetarily compensated for participating. However, the low arousal group completed fewer rounds of the game and was awarded between 0 to 15 EUR depending on what number each participant rolled on a six-sided die. The high arousal group completed more rounds of the game and the reimbursement given was based on their performance in relation to the other participants present (i.e., if they achieved the highest score, they received the maximum amount of reimbursement [15 EUR] and the participant with the lowest score received nothing). In addition to the financial incentive, the high arousal group was exposed to "suspenseful," fast-paced music which increased as more time elapsed. (The low arousal group was not exposed to any additional stimuli.) Results indicated that, although both groups used less pressure to click the mouse over time (presumably due to learning effects which make the task less arousing as participants progressed), the mean mouse pressure for the high

arousal group was significantly greater suggesting the mouse was able to detect between-group differences. In addition, as participants became adept at completing the puzzle game, mean force scores dropped in the high arousal group until the last minute of game play where a spike was observed. Thus, the device is also capable of detecting within-group differences.

A limitation of this study is that valence measures were not included; thus, it is unclear whether the affective state signified by greater mouse pressure was positive or negative. Using self-report valence scores in conjunction with the mouse force sensors would allow one to capture both valence and intensity.

1.6 Present Study

This study built upon existing research in three ways. First, self-identified heterosexual men and women's affective responses to non-pornographic images of gay and lesbian couples performing "everyday intimacies" or "symbolic threats" were tested. Other than Bishop (2015), it does not appear that any additional research has explored affective responses to both these types of stimuli. Second, affect intensity (AI), using Schaaff et al.'s (2012) mouse technology, as well as affect valence (AV) were measured. A multiplicative index (AI X AV) also was calculated. The present study is the first one to apply Schaaff et al.'s technology in a social psychological experiment. Third, in conjunction with research suggesting that affect is a strong predictor of discrimination (Talaska, Fiske, & Chaiken, 2008), the relationship between affective reactions to same-sex images and subsequent behavioural change (i.e., positive, negative, or neutral) in response to the researcher's self-identification as a gay man was examined. Both of these variables were measured unobtrusively (i.e., affect intensity via mouse pressure sensors and behavioural change observed during a debriefing interview). A literature search determined that use of behavioural indicators of discrimination is rare in the literature (e.g., Dasgupta &

Rivera, 2006; Gore, Tobiasen, & Kayson, 1997; Hendren & Blank, 2009) and that, to date, no studies have explored their association with affective responses to non-pornographic same-sex stimuli.

1.7 Hypotheses

As per meta-analytic reviews suggesting that, in comparison to heterosexual women, straight men are more homonegative toward gay men (e.g., Kite & Whitley, 1996; Peterson & Hyde, 2010), it was predicted that heterosexual males in this study would evidence greater negative affect (H1), greater homonegativity (H2), and greater negative valence (H3) when exposed to images of gay men in comparison to images of lesbian women or straight couples. It was further hypothesized that male participants would be most negative when they viewed images of gay men engaging in "everyday intimacies" (i.e., maximal negative affect, homonegativity, and negative valence would emerge for this type of image: H4, H5, and H6, respectively). The next series of predictions concerned valence intensity (i.e., mouse pressure). Specifically, it was hypothesized that heterosexual men would demonstrate greater mouse pressure when they viewed images of gay men in comparison to images of lesbian women or straight couples (H7). It also was predicted that, for males, mouse pressure would be greatest when they saw images of gay men engaging in "everyday intimacies" (H8). The ninth hypothesis concerned the interplay between negative valence and valence intensity (i.e., a multiplicative index [MI] representing valence, as determined by a feeling thermometer, multiplied by intensity, as determined by mouse pressure). It was proposed that male participants' MI would be more negative (suggesting negative affect of greater intensity) when they viewed images of gay men versus images of lesbian women or heterosexual couples (H9). For male participants, the MI would be most negative when they saw images of gay men engaging in "everyday intimacies"

(H10). Finally, based on the work of Parrot and Zeichner (2005; i.e., the authors demonstrated that heterosexual male participants primed with male-male sexually explicit imagery used electrical shocks of significantly greater intensity and duration against a gay male opponent than those who competed against a heterosexual opponent), it was predicted that male participants exposed to images of gay men, regardless of whether those images depicted "everyday intimacies" or "symbolic threats," would be more likely to be categorized as exhibiting negative behavioural change (i.e., during a videotaped interview) toward a self-identified gay man (H11).

There is little consensus in the literature with respect to whether heterosexual women, in comparison to their male counterparts, are more homonegative toward lesbian women. For example, Cohen, Hall, and Tuttle (2009) asked a sample of self-identified heterosexual college students ($N = 53$) to read two personality surveys and answer eight items capturing their perceptions of the target described in each survey (e.g., how friendly they perceived the target, how likeable they found the target, and how much they like the target based on the description). Participants were randomly assigned to either a gay male or lesbian female condition that also differed in terms of masculinity or femininity (i.e., feminine gay target; feminine lesbian target; masculine gay target; masculine lesbian target). Results indicated that for both lesbian targets, female participants reported liking them more than their male counterparts. Conversely, Monto and Supinski (2014) asked a group of undergraduate students ($N = 431$) to respond to a series of vignettes that described scenarios where heterosexual individuals occasionally experience discomfort in the presence of gay men and/or lesbian women. The vignettes were developed as items for a new measure of modern homonegativity and were tested in conjunction with a previously established scale that measures the same construct. The findings indicated that female participants reported greater homonegativity toward lesbian women than toward gay men. These

illustrative studies underscore the lack of consensus vis-à-vis heterosexual women's attitudes toward lesbian women. Thus, for the current study, no predictions were generated for female participants.

Notes

1. Levitt and Hinesley (1967) similarly noted that the ability of a stimulus to resemble reality is only as good as its inherent quality in representing a specific construct. The authors provide the following example: "…a line drawing, no matter how excellently executed and how closely it resembled actual physical objects, would not be as effective a stimulus as a photographic reproduction" (p. 63). Thus, photographic and video stimuli would be preferable to the forms of hypothetical and imaginary stimuli provided in vignettes.

2. Although the images used by Mahaffey et al. (2005a) depicted partially and fully nude individuals and couples, the authors opted not to include images depicting penetration "in the interest of decency" (p. 540).

3. Unfortunately, the authors do not explicitly state how the biased and non-biased groups were created.

4. The authors note that all sexual stimuli were rated as more positive than neutral stimuli (i.e., the sample, as a whole, exhibited the greatest startle magnitude in response to neutral stimuli). Thus, the results must be viewed as encompassing varying levels of positive affect with the understanding that the respective startle responses are all lower than for the neutral stimuli.

5. Bishop (2015) entered homonegativity as the outcome variable based on previous research that had employed similar procedures. For example, Piwowarski, Christopher, and Walter (2011) examined whether a mortality salience manipulation (i.e., priming participants with reminders of their own, inevitable, deaths) in conjunction with belief in an afterlife would have an effect on the manifestation of homonegativity. The results indicated that when participants were subconsciously primed with reminders of their own mortality they reported

greater homonegativity (e.g., derogation of individuals who did not share their own cultural worldview) if they did not believe in an afterlife. Those who did believe in an afterlife reported less homonegativity in comparison. Similarly, Schiappa, Gregg, and Hewes (2005) examined whether parasocial contact with three decidedly different gay characters would affect participants reported homonegativity. Across three studies, the results indicated that parasocial contact was associated with lower homonegativity. Given that these examples, and other research like them, demonstrated that levels of homonegativity are susceptible to manipulation, it stands to reason that homonegativity may be conceptualized as both trait- and state-based.

Chapter 2: Method

2.1 Participants

Four hundred and fifteen participants (male [$n = 196$] and female [$n = 219$]) recruited from a mid-sized Canadian university and the surrounding community took part in this study. Two males accidentally participated twice and an additional 12 participants provided data that, for a number of reasons, could not be used (e.g., equipment failure, lack of proficiency with the English language, etc.). Also excluded were participants not classified as heterosexual in accordance with Savin-Williams' (2006) tripartite measure of sexual orientation ($n = 93$) or those that did not follow instructions by moving the feeling thermometer slider bar to a score of 25 as indicated in the questionnaire package ($n = 99$). Thus, usable data were provided by 241 participants (118 males; 123 females).

Female participants ranged in age from 17 to 26 ($M = 19.1$, $SD = 1.8$), while male participants ranged in age from 17 to 33 ($M = 20.8$ $SD = 2.9$). There was a statistically significant difference in the mean age of male and female participants, $F(1, 239) = 189.44$, $p < .001$; $d = -.70$. The majority of the sample reported being White (79.3%), followed by Asian (7.5%), South Asian (5.0%), Black (4.1%), Aboriginal (3.7%), Arab/Middle Eastern (2.9%), and Other[1] (2.5%).[2]

2.2 Materials

2.2.1 Control group images. The control group consisted of six neutral images (Appendix C) of inanimate objects taken from the International Affective Picture System (IAPS; Lang, Bradley, & Cuthbert, 2001); these images were selected because they had low arousal means (i.e., ≤ 2.33 for both males and females).

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2.2.2 Symbolic threat images. The symbolic threat images were selected on the basis of a pilot study in which graduate students rated six sets of pictures[3] which depicted gay or lesbian couples engaged in "symbolic threats." Two sets of "symbolic threat" images were rated for each dyad because, in the present study, weddings/commitment ceremonies as well as family photographs (i.e., parents with children) were used. Images of heterosexual couples also were tested; however, it is important to note that, within the context of this study, such pictures did not constitute "symbolic threats" (i.e., it is normative for heterosexual men and women to marry and raise children).

Pilot test participants evaluated 14 gay, 13 lesbian, and 13 heterosexual images depicting weddings/commitment ceremonies. Each image was rated in terms of: 1) its correspondence to the "traditional" notion of marriage; 2) how common this behaviour is among each of the couple types (i.e., gay, lesbian, or heterosexual); 3) the nature of the relationship between the individuals depicted (i.e., whether they were seen as being a couple); 4) its romanticism; and 5) its offensiveness (Appendix D). The three images that were selected from each group (Appendices E-G), were perceived as corresponding most closely to a "traditional" marriage; were seen as reflecting common behaviour for the group in question; were viewed as depicting "partners;" and received the highest mean romanticism and lowest mean offensiveness scores. (see Appendix H for summary scores of the chosen images).

For the family photographs, respondents rated 12 gay, 13 lesbian, and 13 heterosexual images. Each picture was rated in terms of: 1) its perceived correspondence to the idea of a "traditional" family; 2) its likelihood of being observed in public; 3) the perceived relationship between the individuals appearing in the photograph (i.e., were the children and couple perceived as a family); 4) the likelihood others would code the persons depicted as a family; and 5) its

perceived offensiveness (Appendix I). The three images that were selected for each group (i.e., 3 gay, 3 lesbian, and 3 heterosexual; Appendices J-L) were those that best satisfied the aforementioned criteria; that is, they corresponded most strongly to notions of a "traditional" family; were regarded as most likely to be observed in public; were most likely to be perceived by the participant and others as members of a family; and received the lowest mean offensiveness scores. (see Appendix M for summary scores for the selected images).

2.2.3 Everyday intimacies images. The same pilot test procedure was used to select the images depicting everyday intimacies. Pilot participants rated 26 gay[4], 26 lesbian, and 26 heterosexual images on the following criteria: 1) the likelihood that the rater might see a gay[5], lesbian, or heterosexual couple engage in the behaviour in public; 2) the perceived relationship between the persons depicted; 3) its sexual explicitness; and 4) its offensiveness (Appendices N-O). The six images selected from each group (Appendices P-R) were those regarded as being most likely to occur in public; depicting "partners" in a relationship; and receiving the lowest mean sexual explicitness and offensiveness scores. (See Appendix S for summary scores of the selected images: six gay, six lesbian, and six heterosexual.)

2.3 Measures

2.3.1 Affect Valence. For each image, participants completed a 101-point feeling thermometer ranging from unfavourable (i.e., extremely negative perception) to favourable (i.e., extremely positive perception). A score of 0 (very cold) indicated very negative affect, while a score of 100 (very warm) indicated very positive affect (Appendix T). This measure has been used in previous LGB research and appears to be psychometrically sound. For example, across two studies, Breen and Karpinski (2013) provided evidence of concurrent validity via strong positive correlations between scores on a feeling thermometer used to rate gay men and lesbian

women and scores on a seven-point semantic differential scale (ranging from -3 [awful or unpleasant] to +3 [great, pleasant]) also employed to rate gay men and lesbian women ($r = .73$). Tsang and Rowatt (2007) reported that negative attitudes toward gay men and lesbian women, as measured by feeling thermometers, were negatively correlated with scores on a measure of right-wing authoritarianism, which can be interpreted as evidence of convergent validity. Further, Overby and Barth's (2002) findings that those who believed homosexuality is a choice, self-identified as a fundamentalist Christian, and reported more conservative ideologies provided lower feeling thermometer scores toward gay men and lesbian women in comparison to those that did not view homosexuality as a choice, did not self-identify as fundamentalist, and did not endorse conservative ideologies. Such findings attest to the known-groups validity of the feeling thermometers.

After viewing each image, participants also were asked to indicate their level of agreement with six affective states: happiness, anger, disgust, surprise, fear, and sadness (Appendix U). A seven-point Likert scale (1 = Strongly Disagree; 7 = Strongly Agree) was used with a higher score suggesting that the emotion in question was felt more strongly. The list of six "basic emotions" (Ekman & Friesen, 1976) was included for two reasons. First, some affect inventories like the Positive and Negative Affect Schedule – Expanded Form (PANAS-X; Watson & Clark, 1994) are time-consuming and potentially ambiguous (e.g., participants may be unable to differentiate between proximal emotional states such as "afraid" versus "scared" or "disgusted" versus "loathing"). Second, shorter affect inventories like the PANAS – Short Form (Thompson 2007) either did not include emotional states of interest (e.g., disgust and anger) or listed ones of little relevance to the types of images shown in this study (e.g., determined and alert).

2.3.2 Affect intensity. The mouse technology developed by Schaaff et al. (2012) was employed to measure the amount of force used as participants completed the online questionnaire. As noted earlier, the mouse appears to be psychometrically sound because Schaaff et al. found that these devices were capable of detecting between-group differences by differentiating the amount of pressure used by a low arousal versus a high arousal group. In addition, these devices were able to detect a decrease in mean scores for the high arousal group and, thus, could assess within-group differences.

2.3.3 Social desirability. The Social Desirability Scale-17 (SDS-17; Stöber, 2001) consists of 16 questions answered using a dichotomous true/false format (Appendix V). A sample item reads: "I always accept others' opinions, even when they don't agree with my own." Total scores can range from 0 to 16 with higher scores denoting greater bias.

Previous research has found that the SDS-17 possesses satisfactory psychometric properties. For example, Stöber (2001) reported Cronbach's alpha values of .74, .75, and .75 for three separate university samples and .80 for a community sample. When Blake, Valdiserri, Neuendorf, and Nemeth (2006) asked three samples of participants to complete the scale during a standard administration (i.e., informed all responses were confidential with no additional manipulation), Kuder-Richardson 20 (KR-20) alpha values of .70, .70, and .64 were calculated. Evidence of concurrent validity was established via significant positive correlations between the SDS-17 and the Marlowe-Crowne Scale: rs = .74 (Stöber, 2001) and .78, .74, and .72 (Blake et al., 2006 [across three samples]). Stöber also provided evidence of discriminant validity via nonsignificant correlations between the SDS-17 and indices of neuroticism, extraversion, psychoticism, and openness to experience (rs ranged from -.16 to .03).

2.3.4 Modern homonegativity. The *Modern Homonegativity Scale* (MHS; Morrison &

Morrison, 2002) is comprised of two parallel subscales (one pertaining to gay men [MHS-G;

Appendix W] and the other lesbian women [MHS-L; Appendix X]). Each subscale has 12 items

that may be answered using a five-point or seven-point Likert scale (e.g., 1 = Strongly Disagree;

7 = Strongly Agree). When using a seven-point scale, scores for the MHS-G and MHS-L can

range from 12 to 84 with higher scores indicative of greater modern homonegativity. A sample

item reads: "Many lesbian women use their sexual orientation so they can obtain special

privileges."

Previous research attests to the psychometric soundness of both versions of the MHS. For

example, across six samples, Rye and Meaney (2010a) report Cronbach's alpha values ranging

from .89 to .95 for the MHS-G and MHS-L subscales. Exploratory factor analyses indicated that

the MHS-G and the MHS-L were unidimensional (Morrison & Morrison, 2002; Rye & Meaney,

2010a). Confirmatory factor analyses supported the unidimensional structure of the MHS-G and

MHS-L (Morrison, Morrison, & Franklin, 2009). The measure's concurrent validity also has

been demonstrated (i.e., across multiple samples, Rye and Meaney found that the MHS-G and an

index of old-fashioned homonegativity toward gay men correlated strongly [rs ranged from .76

to .83]). Furthermore, McDermott et al. (2012) provided evidence of the instrument's convergent

validity via statistically significant positive correlations between the MHS-L and measures of

right-wing authoritarianism and social dominance orientation.

2.3.5 Old-fashioned homonegativity. The *Attitudes toward Lesbians and Gay Men*

Scale – Short Form (ATLG-S; Herek, 1988) contains two parallel subscales (one pertaining to

lesbian women [ATL-S; Appendix Y] and the other gay men [ATG-S; Appendix Z]). Each

subscale is comprised of five items which are answered using a seven-point Likert scale (1 =

Strongly Disagree; 7 = Strongly Agree). Total scores can range from 7 to 35 with higher scores indicating stronger endorsement of old-fashioned homonegativity. A sample item reads: "Male homosexuality is a perversion."

For the most part, previous research suggests that the ATLG-S is psychometrically robust. Morrison and Morrison (2002) reported Cronbach's alpha values of .89 and .89 on the ATG-S and ATL-S, respectively, for male respondents, and values of .87 and .89 on the same subscales for females. Siebert, Chonody, Siebert, and Rutledge (2014) reported Cronbach's alpha coefficients of .90 and .89 for the ATG-S across two university samples.

In terms of scale score validity, Herek (1988) observed strong positive correlations between scores on the ATG-S and a measure assessing sexist attitudes toward women (males, $r = .87$; females, $r = .85$). Statistically significant correlations also have been documented between scores on the ATG-S and indices of religiosity suggesting that as self-reported religiousness increases so, too, does old-fashioned homonegativity (males, $r = .70$; females $r = .87$). These sorts of relationships provide strands of evidence in support of the construct validity of the ATG-S. Regarding the ATL-S, Morrison et al. (2005) provided evidence of its convergent validity via positive correlations with measures of social dominance orientation ($r = .43$) and neoracism ($r = .43$) and a strong negative correlation with support for lesbian women's human rights ($r = -.69$).

2.3.6 Universal orientation. The *Universal Orientation Scale* (UOS; Phillips & Ziller, 1997) consists of 20 items which assess non-prejudice (Appendix A1). A five-point Likert scale is used (1 = Strongly Disagree; 5 = Strongly Agree) with total scores ranging from 20 to 100. Higher scores represent greater non-prejudicial attitudes. A sample item reads: "I can understand almost anyone because I'm a little like everyone."

With respect to the measure's psychometric properties, Phillips and Ziller (1997) reported adequate scale score reliability (i.e., Cronbach's alpha = .76; 6 week test-retest reliability = .75). Using exploratory and confirmatory factor analyses, these researchers showed that UOS items loaded onto two factors. However, as the factors corresponded to the directionality of the items (i.e., the items that loaded onto the second factor were all reverse scored), Phillips and Ziller (1997) contended that it was appropriate to treat the scale as unidimensional and compute a total score. Regarding construct validity, Phillips and Ziller used the absence of a correlation between the UOS and an indictor of social desirability bias as evidence of discriminant validity. Convergent validity also was established via statistically significant correlations between the UOS and indicators of modern racism (r = -.18), anti-Black attitudes (r = -.19) and humanitarianism-egalitarianism (r = .37). It should be noted, however, that the validation coefficients were quite modest. Using samples of undergraduate students, Nicol and Boies (2006) found that scores on the UOS were inversely associated with scores on a measure of social dominance (rs = -.50 and -.36) which further supports the measure's convergent validity.

2.3.7 State anxiety. The *State Anxiety Inventory – Short Form* (SAI-S; Marteau & Bekker, 1992) contains six items that measure how a respondent is feeling at the moment the scale is completed (Appendix B1). The SAI-S uses a four-point Likert scale (1 = Not at all; 4 Very much so) with higher scores indicative of greater anxiety at that point in time (possible range is 6 to 24). A sample item reads: "I feel upset."

The SAI-S was found to have sound psychometric properties in previous research. Marteau and Bekker (1992) reported a Cronbach's alpha coefficient of .82 while Tluczek, Henriques, and Brown (2009) obtained Cronbach's alpha values of .79, .79, and .81 at three different time periods (i.e., new parents completed the scale when their baby was aged 2 months,

6 months, and 12 months). Confirmatory factor analysis indicated that the SAI-S was unidimensional and achieved better fit than an alternate six-item short-form version of the original 20-item scale (Tluczek et al., 2009). Marteau and Bekker (1992) tested the measure's concurrent validity by computing whether there was a significant difference between scores on the SAI-S and scores on both the original 20-item scale and a shorter 14-item version for three separate groups (i.e., 200 pregnant women; 45 nursing students; and 38 medical students). No statistically significant differences among the scores on any of the three versions of the scale were detected. Tluczek et al. examined the measure's concurrent validity by correlating scores on the SAI-S with scores on the original 20-item version; the authors reported rs > .90 at each of the three aforementioned time points.

 2.3.8 Perceptions of public displays of affection. Since there are no scales currently available to gauge how individuals perceive public displays of affection (PDA), four items were included as a potential means of differentiating between negative affective responses due to homonegativity and those due to a general sensitivity to PDA (Appendix C1). The items were developed by taking into account the content of the images depicting everyday intimacies. Each item was answered using a seven-point Likert scale (1 = Strongly Disagree; 7 = Strongly Agree). To mitigate the likelihood of homonegativity influencing responses, items were developed to be neutral or to focus on heterosexual couples. Two sample items are: "Anything more than holding hands between couples in public is inappropriate" and "Public displays of affection between a man and a woman are gross." Previous research by Cairns and Champagne (2002) demonstrated that the sexual orientation of target stimuli did not affect scores on the acceptability of PDA (measured using 16 scenario-based statements that focused on the sexual orientation of the

targets) and there were no statistically significant differences between scores provided by males and females.

In order to test the dimensionality of the four PDA items, an exploratory factor analysis (EFA) using maximum-likelihood estimation was conducted. Direct oblimin (the standard form of oblique) rotation was selected to allow for factors to be correlated as is typically expected with social scientific data. Diagnostic tests such as the Kaiser-Myer-Olkin measure of sampling adequacy (.81) and Bartlett's test of Sphericity (χ^2 [6] = 589.03, p < .001) suggested the data were suitable for EFA. While the items were expected to be highly correlated with one another, the determinant value that emerged, .084, was greater than the minimum threshold of .00001 suggesting that multicollinearity was not a concern (Field, Miles, & Field, 2012). A one-factor solution was extracted (eigenvalue = 3.04; 76.05% variance accounted for) with factor loadings ranging from .75 to .90. A parallel analysis (PA) was conducted which confirmed the unidimensional structure of the PDA measure (i.e., the second eigenvalue generated from the random dataset exceeded the second eigenvalue generated from the actual dataset thereby suggesting that one factor should be retained).

Data from the present study provided evidence of the convergent validity of this measure. For example, Doan, Miller, and Loehr (2015) randomly assigned American participants (N = 486) to one of three vignette conditions in which the relationship between a gay, lesbian, or straight couple was described briefly. Participants then were instructed to answer a series of questions about the vignette. These questions included: a single item assessing how much in love the couple was (0 = not at all in love; 10 = completely in love); items measuring the allocation of rights both formal (e.g., insurance benefits and family leave) and informal (e.g., being allowed to French-kiss in a park); and a single item focusing on the right to get married. Results indicated

that the gay couple was perceived as less loving than either the heterosexual or lesbian couple. No difference was found between the latter groups. Further, participants' perceptions of whether the couple was in love influenced their assessments of: 1) whether the gay male couple should be accorded informal rights; and 2) whether the gay and lesbian couples should be allowed to get married. In terms of formal rights, participants believed that all couples should receive them, regardless of their perceived levels of love. These findings denote a double standard. The heterosexual couple was accorded basic rights and privileges (e.g., getting married and displaying intimate behaviour in a public setting) regardless of their level of love; however, different expectations were placed on the gay male couple (i.e., the allocation of the *same* rights was contingent on them being in love). Using a modern prejudice framework, these findings suggest that heterosexual persons may use variables such as love and affection to justify inequality (i.e., sexual minority couples may not be "sufficiently" in love or may engage in intimate behaviour at the "wrong" place or time). In keeping with this logic, it was predicted that individuals reporting more negative attitudes toward PDA, as measured by the PDA scale, also would be more homonegative. Findings were compatible with this prediction: PDA and modern homonegativity toward gay men, r (241) = .30, $p < .001$; PDA and modern homonegativity toward lesbian women, r (241) = .33, $p < .001$. Finally, in keeping with previous research that has identified social desirability as theoretically unrelated to other attitudinal measures (e.g., Rye & Meaney, 2010a), the discriminant validity of the PDA scale was tested by correlating scores on this measure with scores on the SDS-17. As predicted, a non-significant correlation emerged, r (241) = -.06, $p = .357$.

2.3.9 Demographic information. Participants were asked to provide demographic information at the end of the questionnaire package to ensure that the disclosure of such

information did not influence responses on other items. They were asked about their age, sex, ethnicity, religious affiliation (and current level of religiosity), and political identification (Appendix D1). In addition, the three indicators of sexual orientation described by Savin-Williams (2006) were used. The first indicator is self-identification, which is measured using the following eight options: asexual; gay/lesbian; bisexual, but mostly gay/lesbian; bisexual, equally gay/lesbian and heterosexual; bisexual, but mostly heterosexual; heterosexual; I don't know for sure; and other (adapted from: D'Augelli, Hershberger, & Pilkington, 2001). The second indicator is sexual behaviour, which is measured using the item "Have you ever had a relationship with someone of your own sex which resulted in sexual orgasm?" (Eskin, Kaynak-Demir, & Demir, 2005, p. 188). For this item, response options are: "yes," "no," and "I do not desire any sexual relationships." The third indicator is romantic attraction, which is measured using the items "Have you ever had a romantic attraction to a male?" and "Have you ever had a romantic attraction to a female?" (Udry & Chantala, 2005, p. 484). Three response options are provided for these two questions: "yes," "no," and "I do not experience romantic attraction to anyone." A tripartite method for measuring sexual orientation was selected because it maximizes the accuracy of individuals' designation as gay or straight (i.e., respondents must reliably and consistently report varying components of sexual orientation).

  2.3.10 Behavioural change. Following the data collection phase, participants took part in a videotaped debriefing interview with the researcher. Partway through the interview, the researcher disclosed that one of the reasons he is interested in the topic of homonegativity is because he is a gay man. During each interview, the researcher took note of any behavioural changes that occurred before and after his disclosure (e.g., moving backward following disclosure, seeming uncomfortable, backing away from the researcher after the interview was

completed). Once the participant left the lab, the researcher carefully documented the behaviour that was witnessed, where applicable (i.e., some participants were rather stoic and did not appear to demonstrate any form of behavioural change). Since each participant was observed independently during each interaction, there was not a predetermined set of behaviours that were anticipated. Instead, *any* behavioural changes that emerged unique to the specific participant being interviewed were noted and documented accordingly. Therefore, the frequency of the various behaviours that were observed are not applicable since these behaviours are unique to each and every interaction that took place (i.e., 415 interviews). Due to the uniqueness of the behaviours within each interaction, they were subsequently categorized as negative behavioural change, no change, and positive change on the basis of the field notes. Employing a categorical system of this type represented the ideal method of assigning meaning to each of the independent observations from the perspective of the researcher.

The field notes that were prepared can be conceptualized as a form of autoethnography from the perspective of the researcher since these behaviours were observable (i.e., empirically derived) and part of the interaction that was subsequently documented (i.e., literarily derived) (Richardson, 2000). In many cases, these observed behaviours were instigated by the researcher's authentic disclosure of his sexual orientation. Ergo, any behavioural changes that emerged during the interview were documented as a reflection of the researcher's experience with each participant (i.e., they were his *impression* of the behaviour). Admittedly, that means these observed behaviours (as documented by the researcher) were subjective in nature; however, that is not to say that such observations are devoid of value. As a result, there may be a tendency for some readers to dismiss these observations as "anecdotal" which is often and inaccurately defined as an unimportant narrative that is likely fictitious (Dworkin, 1989).

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However, these observations are better conceptualized as a review of the behaviour experienced by the researcher which Lather (1999) notes are situated in the moment of the interaction and subsequently offer a unique perspective that would otherwise be lost. Therefore, the unique perspectival experience of the researcher with each participant in the moment of each of these interactions is used as the source of the behavioural change based on his sexual orientation disclosure.

It should be noted that this assessment occurred prior to the researcher calculating participants' levels of modern and old-fashioned homonegativity and their affect valence and intensity toward sexual minority stimuli. Thus, he was "blind" to participants' attitudes toward gay men. It should be noted that in a research context, it is not possible for a researcher to be truly "blind" to all aspects of his/her own study as certain assumptions would be made regarding all participants in some capacity. However, in this instance, for expectancy effects to influence the results, the researcher would first need to be aware of participants' homonegativity scores and group assignment, which, as mentioned, he was not. Therefore, while the researcher undoubtedly possessed some assumptions regarding his sample, these assumptions could not influence the results of this analysis because the details required to act on any assumptions, in a meaningful way, remained occluded.

2.4 Procedure

Participants were recruited three ways: 1) Convenience sampling (i.e., Introductory psychology students were targeted using the SONA system); 2) Chain-referral sampling (i.e., students enrolled in a second year course were asked to recruit male participants); and 3) university-wide advertisements (i.e., recruitment posters and online bulletins describing the study; Appendix E1). Prospective participants who did not have access to the SONA system

contacted the researcher via e-mail to schedule individual appointments. Eligible students were informed that their participation would yield partial course credit (i.e., two percentage points added to their final grade). All participants also were eligible to be entered in a draw for a $50 Amazon gift card. To avoid potential bias, participants were recruited using the cover story that the researcher was investigating "perceptions of social groups and objects." The purpose of the study was not disclosed until the debriefing interview.

Participants were randomly assigned to one of seven conditions: 1) control, 2) symbolic threats – gay male couples, 3) symbolic threats – lesbian female couples, 4) symbolic threats – heterosexual couples, 5) everyday intimacies – gay male couples, 6) everyday intimacies – lesbian female couples, and 7) everyday intimacies – heterosexual couples. A randomized blocks design was used with an online random number sequence generator to create each of the blocks. The first number that appeared in the first block coincided with the respective group indicated above and all subsequent participants were assigned to a group in cyclical fashion following the unique pattern of each subsequent block. For example, if the sequence of the first block was 4, 7, 5, 2, 3, 6, and 1, the first participant would be assigned to condition four, the second participant would be assigned to condition seven and so on.

All responses provided by participants were completely confidential and not linked to any identifying information thereby affording the greatest degree of anonymity possible. Upon arriving at the laboratory and prior to beginning the study, participants were asked to read and sign a consent form outlining what their participation would entail (Appendix A). If participants had any concerns regarding the tasks being asked of them, they were informed that they could leave the study at any point without penalty. Once completed, the signed consent forms were

filed and kept separate from all other information gathered for the study. Approval for this research was granted by the University of Saskatchewan's Behavioural Research Ethics Board.

Participants were seated at a desk with a standard QWERTY keyboard and a mouse equipped with force sensors with a 50-inch plasma television that served as the monitor. Prior to leaving the room (which was done to minimize self-presentation bias), the researcher asked participants to read the instructions carefully before commencing with the study. Participants were also told that, should they have any questions or concerns, the researcher would be located in the office next door.

Following a brief training session on how to use the slider bar (i.e., feeling thermometer) with the mouse, participants viewed the six images associated with their randomly assigned group and provided their affective responses to each image. Once participants completed the image viewing task, they were asked to wait two minutes (by watching a countdown) before completing the remainder of the questionnaire package. When finished, participants notified the researcher who then returned to conduct the videotaped debriefing interview. Once the interview was completed, participants were asked to a sign a release form granting permission to analyze the recording for content (Appendix F1). Participants that did so also were informed they had the right to view their recording at any time by scheduling an appointment. Those participants who refused to release their video recording (i.e., one male and one female participant) were permitted to watch it being deleted. Before leaving, a debriefing form (Appendix B) was provided with additional details regarding the study that, for the sake of brevity, were not mentioned during the debriefing interview, along with contact information for counselling services in the event that participation evoked any unexpected anxiety and/or distress. Finally, to

minimize spillage, participants were informed that details about the experiment should be kept in strictest confidence.

2.5 Data Management

Little's (1988) Missing Completely at Random (MCAR) test was conducted on all variables subjected to hypothesis testing. A statistically significant result was obtained (χ^2 [24973] = 25597.83, p = .003), which suggests the data were not MCAR. According to Bennett (2001), when the proportion of missing data is less than 10%, statistical analyses are not likely to be biased. Thus, any cases that were missing more than 10% of their data were excluded (4 cases in total). Following the removal of these cases, the expectation-maximization (EM) algorithm was used to impute missing values as it assumes that data are missing at random (MAR) as opposed to MCAR (Bennett, 2001).[6]

Scores on the modern and old-fashioned measures of homonegativity (i.e., MHS-G, MHS-L, ATG, and ATL) were significantly intercorrelated (rs ranging from .68 to .96, ps = .01). To increase parsimony, principal component analysis (PCA) was conducted on these four indicators of homonegativity. Diagnostics revealed that these data were suitable for PCA. Specifically, the determinant was .008, which exceeds the threshold of .00001, suggesting that multicollinearity was not a concern (Field et al., 2012). As well, the Kaiser-Myer-Olkin (KMO) measure of sampling adequacy was greater than .50 (i.e., .68), and Bartlett's test of Sphericity was statistically significant (χ^2 [6] = 1145.38.54, p < .001). The latter tests the null hypothesis that the correlation matrix for the obtained data is an identity matrix (i.e., a matrix characterized by ones along the diagonal and zeroes on the off-diagonal). A one-component solution was obtained (eigenvalue = 3.29; 82.25% total variance accounted for) with component loadings ranging from .89 to .92. This solution was confirmed via Parallel Analysis. As the four measures

of homonegativity loaded onto a single component, standardized scores were calculated and then summed. The resultant sum was then used in all applicable statistical tests.

2.6 Data Analysis Plan

To test whether male participants would evidence the greatest negative affect when shown images of gay men engaging in "everyday intimacies," a 2 (gender: male or female) X 2 (threat type: everyday intimacies or symbolic threats) X 3 (image type: gay, lesbian, or heterosexual) MANCOVA was conducted. The dependent variables (DVs) were happiness, anger, disgust, surprise, fear, and sadness. The covariates were sensitivity to public displays of affection (PDA) and state anxiety, as these correlated with one or more of the DVs. To examine any significant multivariate findings, descriptive discriminant analysis (DDA; Warne, 2014) was used for post hoc testing. This analysis served to address Hypotheses 1 and 4.

To test whether male participants would display the greatest homonegativity when shown images of gay men engaging in "everyday intimacies," a 2 (gender: male or female) X 2 (threat type: everyday intimacies or symbolic threats) X 3 (image type: gay, lesbian, or heterosexual) ANCOVA was conducted. The dependent variable was the composite homonegativity score. The covariate was sensitivity to PDA (i.e., it correlated significantly with the DV). This analysis examined Hypotheses 2 and 5. To identify if male participants would evidence the greatest negative valence when shown images of gay men performing "everyday intimacies," a 2 (gender: male or female) X 2 (threat type: everyday intimacies or symbolic threats) X 3 (image type: gay, lesbian, or heterosexual) ANOVA was employed. In this case, the DV was scores on the feeling thermometer. No covariate was used. Hypotheses 3 and 6 were addressed using this test.

To determine if male participants would evidence the greatest valence intensity when shown images of gay men engaging in "everyday intimacies," a 2 (gender: male or female) X 2

(threat type: everyday intimacies or symbolic threats) X 3 (image type: gay, lesbian, or heterosexual) ANCOVA was conducted. The dependent variable was mouse pressure. The covariate was state anxiety (i.e., it correlated significantly with mouse pressure). This analysis addressed hypotheses 7 and 8.

The same statistical procedure (i.e., 2 X 2 X 3 ANCOVA) was utilized to test if male participants would display the greatest negative valence of greatest intensity when viewing images of gay men engaged in "everyday intimacies." For this analysis, the dependent variable was the valence multiplicative index (i.e., score on the feeling thermometer X mouse pressure). The covariate was state anxiety. This analysis addressed hypotheses 9 and 10.

Finally, to determine whether male participants would evidence more negative behavioral change after being shown images of gay men, logistic regression (LR) was used. For this analysis, the criterion variable was the behavioural change score that emerged from the debriefing interviews. Predictor variables were gender, threat type, image type, and valence intensity. This analysis addressed hypothesis 11.

2.7 Data Assumptions

A breakdown of the key assumptions for each of the hypotheses and whether the data did or did not satisfy them is provided in Table 1. Note that the assumption of homogeneity of (co)variance is violated (i.e., Box's M test was statistically significant) for all but two of the hypotheses (i.e., hypotheses 7 and 8). To account for these violations, a more conservative alpha threshold (i.e., $p = .01$) was implemented as recommended by Tabachnick and Fidell (2007). Regarding normality, skewness and kurtosis statistics ranged from $\pm .032$ to ± 1.989 and $\pm .048$ to ± 4.211, respectively. However, these values fall within the threshold of acceptable limits (i.e., ± 2 for skewness and ± 7 for kurtosis) described by West, Finch, and Curran (1995). Influential

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outliers were identified for the analyses conducted for hypotheses 1 and 4, 2 and 5, and 7 and 8. To address this issue, all outliers were omitted for each respective analysis. Failing to exclude these outliers would have risked violating the assumptions of each respective analysis which can lead to inflated error rates and incidences of Type I error (Osborne & Overbay, 2004). Indicators of a lack of multicollinearity and the relationship between covariates and dependent variables can be found in Table 2. Finally, the level and measurement of variables was broken down in the previous section (i.e., dependent variables are continuous, independent variables are categorical, and covariates are either continuous or dichotomous).

Notes

1. It appears as though these individuals were unfamiliar with the term "ethnicity" and/or conflated it with "nationality" since each of them provided their country of origin as their response.

2. Among the cases retained for analysis, nine participants selected more than one ethnicity to describe themselves. Thus, the ethnicity percentages sum to greater than 100%.

3. The images for each set were located using various search engines (e.g., Google, Yahoo, and Bing). Only images of Caucasian couples were included in an attempt to mitigate potential ethnic bias among participants.

4. An additional set of 15 images of gay male dyads engaging in everyday intimacies was rated. This was necessary due to two images selected from the original set being deemed inappropriate for inclusion. One image was of a celebrity couple the researcher did not recognize and the other depicted an individual who some committee members felt may be coded as an ethnic minority. A new set was constructed to replace these images since none of the remaining images in the original set received scores adequately mapping onto the selection criteria. The mean scores for the two selected images are included in Appendix S.

5. For the set of images depicting heterosexual dyads, the item pertaining to the likelihood of witnessing a sexual minority couple perform this behaviour in public was not included. This decision was made because there are no everyday intimacies that are more accepted when engaged in by sexual minorities compared to heterosexual couples.

6. Relatedly, Hair, Black, Babin, and Anderson (2010) note that when the proportion of missing data is less than 10%, any method of imputation can be used (with the exception of the complete case method).

Chapter 3: Results

Means and standard deviations for each of the explicit measures, stratified by gender, are provided in Table 3 and scale score reliability coefficients can be found in Table 4. Mean scores for the composite measure of homonegativity were well below the scale midpoint (i.e., 19) suggesting low levels of prejudice toward sexual minority persons for both male and female participants. With the exception of happiness, which was above the midpoint (i.e., 3.5), males and females generally reported low levels of anger, disgust, surprise, sadness, and fear in response to the images that were viewed. Feeling thermometer scores for both male and female participants were well above the midpoint (i.e., 50), suggesting warm (i.e., favourable) attitudes toward the image viewed. Finally, the mean multiplicative index scores were above the midpoint of 0, which indicates that male and female participants reported more positive affective responses overall with regard to the photographs they were randomly assigned to view.

In terms of the potential covariates, female participants reported slightly more negative attitudes toward public displays of intimacy, as measured by the PDA scale, than did male participants; however, this difference was not statistically significant. State anxiety and social desirability scores were relatively low with mean scores for both male and female participants below scale midpoints (i.e., 15 for the SAI-S and 8 for the SDS-17). Finally, mean scores on the measure of universalistic orientation (i.e., the UOS[1]) were above the midpoint (i.e., 60) suggesting the sample was relatively non-prejudiced.

A series of independent samples t tests were conducted for each of the explicit measures with gender serving as the grouping variable. The results indicated that male participants reported greater levels of state anger, $t(200.36) = 2.59$, $p = .01$, $d = .33$; social desirability, $t(239) = 2.27$, $p = .024$, $d = .29$); and affect intensity $t(221.18) = 4.22$, $p = <.001$, $d = .54$.

Conversely, female participants reported greater state anxiety, t (239) = -3.30, p = .001, d = -.42. No other statistically significant differences emerged in terms of the composite measure of homonegativity; the feeling thermometer scores; self-reported levels of disgust, surprise, sadness, fear, and happiness; and the multiplicative index (valence X intensity of valence). With respect to the covariates, male and female participants did not differ in their attitudes toward public displays of affection (PDA), universalistic orientation (UOS), and social desirability bias (SDS-17).

Each of the six affective states were all highly intercorrelated (negative rs [241] ranged from -.27 to -.64 and positive rs [241] ranged from .23 to .80). The inverse correlations suggest that greater levels of happiness were associated with lower levels of disgust, anger, surprise, fear, and sadness (this result could be interpreted as happiness emerging as a positive emotion and the remaining five as negative). Conversely, the positive correlations indicate that greater levels of one of the five negative emotions (e.g., disgust) were associated with greater levels of any of the other remaining negative emotions (i.e., anger, sadness, fear, and surprise).

Not surprisingly, each of these affective states was correlated with the composite homonegativity score (happiness: r [241] = -.38; other 5 states: rs ranged from .19 to .53), affective valence (happiness: r [239] = .79; other 5 states: rs ranged from -.28 to -.65), and the multiplicative index (MI; happiness: r [235] = .78; other 5 states: rs ranged from -.28 to -.65). With regard to homonegativity, the negative correlation indicated that greater homonegativity was associated with lower reported happiness while the positive correlations suggest that greater homonegativity was associated with greater disgust, anger, sadness, surprise, and fear. The reverse emerged for the affective valence and MI scores (i.e., greater happiness was associated with warmer evaluations of targets [via feeling thermometers] and with ratings both warmer and

of greater intensity via the MI while greater disgust, anger, fear, sadness, and surprise was related to "colder" ratings on the feeling thermometers and "colder" and more intense ratings on the MI).

Similarly, affective valence (r [239] = -.41) and the MI (r [235] = -.40) were both negatively correlated with the composite homonegativity score. These inverse correlations suggest that greater levels of homonegativity were associated with "colder" evaluations of targets, as determined by feeling thermometers, and with evaluations that were both "colder" and more intense as measured by the MI. When examined across image type, the inverse relationship observed for MI holds across the gay, lesbian, and heterosexual groups. However, for affect valence, the inverse relationship only holds for the gay men and lesbian women groups (the heterosexual group is not statistically significant). Both affect valence and MI scores did not correlate with homonegativity for the control group. Finally, the composite homonegativity measure was positively correlated with the PDA measure: r (241) = .32. This positive correlation indicates that greater levels of homonegativity were related to more negative attitudes toward PDA. See Table 2.

For hypotheses one and four, happiness was not included as a dependent variable (i.e., Cronbach's alpha coefficient for the 6-item affect measure [i.e., happiness, anger, disgust, surprise, fear, and sadness] increased from .35 to .83, when happiness was removed). In addition, anger was entered into the model as a covariate to address multicollinearity concerns (i.e., disgust and anger were highly correlated, r [241] = .80, p < .001). Since disgust possessed an overall greater mean than anger (i.e., 1.68 versus 1.65) and is more conceptually related to the purpose of this study, it was entered as a dependent variable. Finally, 30 influential multivariate outliers were identified using Mahalanobis distance and subsequently removed from the analysis.

Since Box's M test was statistically significant and there was some variability present in the cell sizes, two corrective strategies were employed. First, Pillai's trace was used, as it is the most robust multivariate test statistic when data are non-normal (Olson, 1976). Second, a more conservative probability value of $p = .01$ was used.

As noted earlier, a 2 (gender: male or female) X 2 (threat type: everyday intimacies or symbolic threats) X 3 (image type: gay, lesbian, or heterosexual) MANCOVA was employed to determine whether male participants exposed to gay male targets engaging in everyday intimacies would exhibit the *most* negative affect in comparison to other group permutations (e.g., female participants exposed to gay male targets performing everyday intimacies; male participants exposed to gay male targets engaged in symbolic threats; and so on).

Anger was found to be a significant covariate (Pillai's Trace = .50, F [4, 155] = 39.36, p < .001, partial-η^2 = .50); however, attitudes toward PDA (Pillai's Trace = .03, F [4, 155] = 1.23, $p = .300$, partial-η^2 = .03) and state anxiety (Pillai's Trace = .02, F [4, 155] = 0.62, $p = .648$, partial-η^2 = .02) were not. The multivariate results were statistically significant for two main effects and one interaction: 1) threat type (Pillai's Trace = .14, F [4, 155] = 6.14, p = < .001, partial-η^2 = .14); 2) image type (Pillai's Trace = .15, F [8, 312], = 3.07, $p = .002$, partial-η^2 = .07); and 3) threat type X image type interaction (Pillai's Trace = .14, F [8, 312] = 2.84, $p = .005$, partial-η^2 = .07). (See Table 5.1.)

The multivariate main effects for threat type and image type were qualified by the interaction. Thus, the latter was decomposed using descriptive discriminant analysis (DDA). Specifically, one DDA was conducted for participants viewing everyday intimacies and another DDA was conducted for participants viewing symbolic threats. For both DDAs, the four emotions (i.e., disgust, surprise, sadness, and fear) were treated as "independent variables" and

image type (i.e., gay, lesbian, and heterosexual) was treated as the "grouping" variable. Each DDA allows one to determine which emotion or emotions best differentiates among those viewing the gay images, lesbian images, or heterosexual images. Comparing the DDAs allows one to determine whether the emotions that best differentiate among the three types of images differ when the images concern everyday intimacies or symbolic threats.

For the everyday intimacies analysis, Box's M test was *not* statistically significant. Thus, a standard probability value of $p < .05$ was employed. Function 1 (Wilks' Lambda = 0.76; χ^2 [8] = 21.95, $p = .005$) was statistically significant with surprise contributing the most to group separation followed by disgust. Function 2 was not statistically significant: Wilks' Lambda = 0.96; χ^2 (3) = 3.64, $p = .303$. To better understand Function 1, group differences were explored by evaluating the direction of the group centroids, and then comparing groups' discriminant scores using a one-way analysis of variance (ANOVA)[2]. Results indicated that participants who viewed images of lesbian women engaging in everyday intimacies reported significantly greater surprise and disgust in comparison to participants who viewed images of gay men or heterosexual men and women. No statistically significant difference was noted between participants who viewed images of gay men versus heterosexual men and women. Finally, for those who viewed images depicting symbolic threats, neither Function 1 (Wilks' Lambda = 0.84; χ^2 [8] = 14.81, $p = .06$) nor Function 2 (Wilks' Lambda = 0.96; χ^2 (3) = 3.41 $p = .332$) was statistically significant. See Table 5.1.1. Thus, contrary to Hypotheses 1 and 4, the strongest emotional response was not reported by male participants viewing images of gay men engaged in everyday intimacies, which would be illustrated by a three-way interaction. Rather, for both male and female participants, surprise, disgust and, to a lesser extent, sadness were experienced by those viewing images of lesbian women performing everyday intimacies. These emotional

responses were not reported by participants when they saw sexual minority targets engage in behaviours that constitute "symbolic threats" (e.g., getting married or rearing children).[3,4]

For hypotheses two and five, one influential outlier was identified using Cook's distance and, subsequently, was removed from this analysis. Since Levene's test was statistically significant, a more conservative probability value $p = .01$ was selected as a corrective strategy. As mentioned earlier, a 2 (gender: male or female) X 2 (threat type: everyday intimacies or symbolic threats) X 3 (image type: gay, lesbian, or heterosexual) ANCOVA was used to determine whether male participants who viewed gay males performing everyday intimacies would evidence the greatest homonegativity (on the composite score) compared to the other groups (e.g., female participants exposed to heterosexual couples engaged in everyday intimacies).

Sensitivity to PDA was found to be a statistically significant covariate, $F(1, 189) = 24.96$, $p < .001$, partial-$\eta^2 = .12$. After controlling for sensitivity to PDA, none of the independent variables emerged as statistically significant. (See Table 5.2.) Therefore, contrary to hypotheses two and five, male participants who viewed images of gay men engaging in everyday intimacies did not evidence levels of homonegativity that significantly differed from any of the other groups.[5,6]

For hypotheses three and six, Levene's test was statistically significant; therefore, a probability value of $p = .01$ was selected as a means of correction. Recall that a 2 (gender: male or female) X 2 (threat type: everyday intimacies or symbolic threats) X 3 (image type: gay, lesbian, or heterosexual) ANOVA was used to determine whether male participants who viewed images of gay men engaged in everyday intimacies would report the most negative valence (on

the feeling thermometer) compared to the other groups (e.g., male participants exposed to heterosexual couples engaged in symbolic threats).

A statistically significant main effect was obtained for image type, F (2, 190) = 6.81, p = .001, partial-η^2 = .07. (See Table 5.3.) Post hoc testing using Bonferroni correction indicated that participants who viewed images depicting lesbian women provided significantly lower feeling thermometer scores than those who viewed heterosexual couples. Also, participants who viewed lesbian women reported lower feeling thermometer scores than those who viewed images of gay men although this difference was not statistically significant. Recall that lower scores on the feeling thermometer are indicative of *less* positive or warm attitudes toward the images. Therefore, these results were inconsistent with hypotheses three and six. The most negative valence was not reported by male participants who viewed gay men engaging in everyday intimate behaviour. Rather, *both* male and female participants reported less warmth toward photographs of lesbian women regardless of threat type.[7,8]

For hypotheses seven and eight, two influential outliers were identified using Cook's distance and subsequently removed from this analysis. In this case, Levene's test was *not* statistically significant; therefore, a standard probability value of .05 was applied. As discussed above, a 2 (gender: male or female) X 2 (threat type: everyday intimacies or symbolic threats) X 3 (image type: gay, lesbian, or heterosexual) ANCOVA was used to determine whether male participants who viewed gay men performing everyday intimacies would demonstrate the greatest affective intensity (using the mouse equipped with pressure sensors) compared to the other groups (e.g., male participants exposed to lesbian women engaged in symbolic threats).

State anxiety was not a statistically significant covariate for affect intensity (F [1, 185] = 2.58, p = .110, partial-η^2 = .01). Gender (F [1, 185] = 17.63, p < .001, partial-η^2 = .09) emerged

as a statistically significant main effect. See Table 5.4. Given the absence of any interactions, this finding indicates that, regardless of threat type or image type, male participants reported greater affective intensity in comparison to women.[9,10]

For hypotheses 9 and 10, Levene's test was statistically significant: thus, $p = .01$ was used as a means of correction. A 2 (gender: male or female) X 2 (threat type: everyday intimacies or symbolic threats) X 3 (image type: gay, lesbian, or heterosexual) ANCOVA was used to determine whether male participants who viewed images of gay men engaged in everyday intimacies would evidence the most negative multiplicative index (MI; affect valence [measured by the feeling thermometers] X affect intensity [measured using the pressure mouse]) compared to the other group permutations (e.g., female participants who viewed photos of lesbian couples engaged in symbolic threats).

State anxiety was not a statistically significant covariate for the MI, $F(1, 186) = 1.57$, $p = .212$, partial-$\eta^2 = .01$. A statistically significant main effect was noted for image type, $F(2, 186) = 6.71$, $p = .002$, partial-$\eta^2 = .07$. (See Table 5.5.) Follow-up pairwise comparisons using Bonferroni's confidence interval adjustment were conducted which indicated that participants who viewed photos of lesbian women had significantly lower MI scores (suggesting more negative affect of greater intensity) than those who viewed images depicting heterosexual couples. No other statistically significant differences emerged. These results indicated that *both* male and female participants reported colder responses to images depicting lesbian women regardless of threat type. These results are contrary to the prediction that male participants would evidence the most negative MI scores in response to photos of gay men performing everyday intimacies.[11,12]

For hypothesis 11, since only three male participants and one female participant were flagged as demonstrating positive change following the researcher's disclosure of his sexual minority status, they were removed and a simple logistic regression was conducted. In addition, 65 (55.1%) male participants and 37 (30.1%) female participants exhibited negative behavioural change (50 males [42.4%] and 85 females [69.1%] did not exhibit any behavioural change). Bivariate correlations were computed between the behaviour change categorical variable and the remaining scores to determine which, if any, should be entered as predictors along with gender, threat type, and image type. See Table 5.6.1. From this table, affect intensity emerged as statistically significant. As a result, affect intensity was entered on block 1 and the remaining main effect (i.e., gender, threat type, and image type) and interaction terms were entered on block 2.

The results of this logistic regression indicated that the model was a good fit, χ^2 [12] = 31.33, p = .002 and explained 19.8% (Nagelkerke R^2) of the variance in whether participants would be classified as exhibiting negative behavioural change versus no behavioural change. Illustrative examples of negative behavioural change are: following the completion of the interview, a male participant recoiled from the researcher and refused to shake his hand even though he had done so upon arrival to the lab; some participants moved back from the researcher in their chair (with wheels) upon his disclosure; and some participants refrained from maintaining eye contact with the researcher even though even though they had done so prior to his disclosure. The model correctly classified 67% of cases. Female participants had lower odds of being classified as having exhibited negative behavioural change during the interview compared to males. In addition, participants (regardless of gender) who viewed lesbian women engaged in symbolic threats had lower odds of being classified as having demonstrated negative

behavioural change in response to the researcher compared to gay and heterosexual couples engaged in everyday intimacies. No other predictor variables emerged as statistically significant. See Table 5.6.2. Thus, contrary to what was predicted in Hypothesis 11, male participants exposed to gay male targets were not most likely to evidence negative behavioural change following the researcher's disclosure of his sexual orientation.

Notes

1. Caution should be exercised when interpreting results concerning the UOS as scale score reliability coefficients for this measure were poor.

2. While it may seem counterintuitive to conduct a univariate test to examine the group differences in a multivariate function (indeed, this is why descriptive discriminant analysis [DDA] is a more desirable form of multivariate post hoc testing), it is important to remember that the discriminant scores entered into the analysis were derived from including each of the four independent variables into the DDA. Therefore, the *results* of a multivariate analysis are being tested. Note that the group centroids are the means of the discriminant scores for each category of the dependent variable. Therefore, applying post hoc testing in this manner allows for between-groups testing across the group centroids which assists in the interpretation of group differences via 95% confidence intervals and ensuring that researchers do not need to rely upon "eye-balling" the outputs.

3. The control group could not be included when examining interaction effects between threat type and image type (i.e., control photos could not be partitioned into everyday intimacies/symbolic threats or gay/lesbian/heterosexual variants). As *one-way* multivariate and univariate ANOVAs and descriptive discriminant analysis (DDA) are analogues (Sherry, 2006), only the latter was conducted. For the DDA used to test hypotheses 1 and 4, the independent variables were disgust, surprise, fear, and sadness. The grouping variable was threat type (i.e., everyday intimacies, symbolic threats, or control). Box's M test was statistically significant; therefore, a more conservative probability value of $p = .01$ was used as a corrective strategy. Function 1 (Wilks' Lambda $= 0.70$; $\chi^2 [8] = 76.64$, $p < .001$) was statistically significant with fear contributing the most to group separation followed by

sadness. Function 2 was also statistically significant: Wilks' Lambda = 0.94; χ^2 (3) = 13.15, p = .004 with disgust contributing the most to group separation followed by fear. The direction of the group centroids then was examined along with one-way ANOVAs to compare the groups' discriminant scores for each function. For function 1, the results indicated that participants who viewed the control images reported significantly greater fear, sadness, and surprise than participants who viewed either everyday intimacies or symbolic threats (ps < .001). Function 2 revealed that participants who viewed control images reported greater disgust, and to a lesser extent, fear, surprise, and sadness compared to those who viewed symbolic threats, although this difference is borderline statistically significant (i.e., p = .05).

4. A similar DDA to that described in note 2 was conducted for image type. The independent variables were disgust, surprise, fear, and sadness. The grouping variable was image type (i.e., gay, lesbian, heterosexual, or control images). Again, Box's M test was statistically significant; therefore, the corrective strategy of using a more conservative probability of p = .01 was employed. Function 1 (Wilks' Lambda = 0.70; χ^2 [12] = 77.43, p < .001) was statistically significant with fear contributing the most to group separation followed by sadness and surprise. Function 2 was also statistically significant: Wilks' Lambda = 0.91; χ^2 (6) = 20.40, p = .002 with disgust contributing the most to group separation followed by surprise. Function 3, however, was not statistically significant: Wilks' Lambda = 0.99; χ^2 (2) = 3.32, p = .190. Examination of the group centroids via one-way ANOVAs (to compare the groups' discriminant scores for each statistically significant function) indicated that, for function 1, participants who viewed the control images reported significantly greater fear, sadness, and surprise than those who viewed the gay, lesbian, or heterosexual images (ps < .001). For function 2, those participants in the control group did not report appreciably

different levels of disgust and surprise compared to those who viewed the gay, lesbian, or heterosexual images ($ps > .05$).

5. Additional pairwise comparisons were conducted to determine whether there were statistically significant differences between participants who viewed control images versus those who viewed either everyday intimacies or symbolic threats (i.e., threat type). A 2 X 3 X 4 ANCOVA was conducted and the independent variables were: gender (i.e., male and female), threat type (i.e., everyday intimacies, symbolic threats, and control), and image type (i.e., gay, lesbian, heterosexual, and control). The dependent variable was the composite homonegativity score and the covariate was attitudes toward PDA. No statistically significant differences emerged between participants who viewed the control images and those who viewed either images depicting everyday intimacies or symbolic threats ($ps > .05$).

6. Pairwise comparisons for image type were conducted within the same 2 X 3 X 4 ANCOVA described in note 5 (i.e., independent variables: gender, threat type, and image type; dependent variable: composite homonegativity score; covariate: attitudes toward PDA). The findings showed that no statistically significant differences between control participants and those who viewed gay, lesbian, and heterosexual images were evident ($ps > .05$).

7. Post hoc testing using the Bonferroni method was conducted to determine whether there were statistically significant differences between participants who viewed control images versus those who viewed either everyday intimacies or symbolic threats (i.e., threat type). A 2 X 3 X 4 ANOVA was conducted and the independent variables were: gender (i.e., male and female), threat type (i.e., everyday intimacies, symbolic threats, and control), and image type (i.e., gay, lesbian, heterosexual, and control). The dependent variable was affect valence (i.e., feeling thermometer scores). The findings showed that participants who viewed the control

images reported significantly lower feeling thermometer scores compared to those who viewed either everyday intimacies or symbolic threats (ps < .001). Recall that lower feeling thermometer scores are indicative of more negative or "colder" affect.

8. Additional post hoc testing using the Bonferroni method was completed for image type in the 2 X 3 X 4 ANOVA described in note 7 (i.e., independent variables: gender, threat type, and image type; dependent variable: affect valence). The findings indicated that participants who viewed the control images reported significantly lower affective valence scores compared to those who viewed images depicting gay men, lesbian women, and heterosexual couples, respectively (ps ranged from .001 to < .001).

9. A 2 X 3 X 4 ANCOVA was conducted and the independent variables were: gender (i.e., male and female), threat type (i.e., everyday intimacies, symbolic threats, and control), and image type (i.e., gay, lesbian, heterosexual, and control). The dependent variable was affect intensity and the covariate was state anxiety. This allowed for additional pairwise comparisons (using Bonferroni correction) which included the control group within threat type. No statistically significant differences emerged between those who viewed the control images versus those who viewed images depicting everyday intimacies or symbolic threats (ps > .05).

10. Additional pairwise comparisons (using Bonferroni correction) that included the control images with image type were completed using the same 2 X 3 X 4 ANCOVA described in note 9 (i.e., independent variables: gender, threat type, and image type; dependent variable: affect intensity; covariate: state anxiety). No statistically significant differences between the control group and the remaining image groups (i.e., gay, lesbian, and heterosexual) were found (ps > .05).

11. A similar method was used as described above to conduct additional Bonferroni corrected pairwise comparisons and determine whether there were statistically significant differences between participants who viewed control images versus those who viewed images depicting everyday intimacies or symbolic threats. A 2 X 3 X 4 ANCOVA was used and the independent variables were: gender (i.e., male and female), threat type (i.e., everyday intimacies, symbolic threats, and control), and image type (i.e., gay, lesbian, heterosexual, and control). The dependent variable was the multiplicative index (MI; affect valence X affect intensity) and the covariate was state anxiety. The results indicated that participants who viewed the control images had significantly lower MI scores than those who viewed either the everyday intimacies or symbolic threats images ($ps < .001$). Recall that lower MI scores are indicative of more negative affective responses.

12. Pairwise comparisons were also conducted for image type using the same 2 X 3 X 4 ANCOVA described in note 11 (i.e., independent variables: gender, threat type, and image type); dependent variable: MI; covariate: state anxiety). These pairwise comparisons were conducted using Bonferroni correction to determine if statistically significant differences between the control and other groups emerged. Similar to note 11, the findings demonstrated that participants in the control group yielded significantly lower MI scores than those who viewed either the gay, lesbian, or heterosexual images (ps ranged from .001 to $< .001$).

Chapter 4: Discussion

The purpose of the present study was to build upon the extant literature that examined self-identified heterosexual individuals' reactions to non-sexual images depicting gay men and lesbian women performing everyday intimacies (e.g., holding hands or kissing) or symbolic threats (e.g., getting married or rearing children). To date, Bishop (2015) represents the only study that has explored affective reactions to these specific sorts of non-sexual stimuli performed by gay men. The present study is the first to include photographs of lesbian women performing similar behaviours (i.e., everyday intimacies *and* symbolic threats). The current study employed a novel approach in evaluating the affective reactions reported by participants. Specifically, mouse technology capable of measuring the amount of force used by participants each time they click the mouse (Schaaff et al., 2012) was used as an indicator of affect *intensity*. These pressure scores were then multiplied by the mean affect valence scores (i.e., feeling thermometer scores) to generate a multiplicative index score which was indicative of the overall affective response experienced by participants. Lower scores represented more negative and more intense affect. Finally, following completion of the questionnaire package, participants engaged in a debriefing interview with the researcher during which he self-identified as a gay man. Any behavioural changes (i.e., positive, negative, or neutral) that emerged following the interviewer's disclosure were carefully documented. Overall, the results indicated that, contrary to what was predicted, self-identified heterosexual male participants did not evidence greater negative affect following exposure to images depicting gay men engaging in everyday intimacies or negative behavioural change (in response to the researcher's disclosure) after viewing photos depicting gay men, in general. The implications of these findings, limitations, challenges experienced, and directions for future research are delineated below.

4.1 Overview of Findings

The 2 X 2 X 3 MANCOVA, which was used to test the predictions in hypotheses one and four, assessed whether gender, threat type (i.e., everyday intimacies and symbolic threats), and image type (i.e., gay, lesbian, and heterosexual images) influenced reported levels of disgust, surprise, fear, and sadness. The results indicated that participants who viewed images of lesbian women performing everyday intimacies reported significantly greater surprise, disgust, and sadness compared to the other types of images (i.e., gay and heterosexual). No such difference was noted for those who viewed images depicting symbolic threats. These findings loosely map onto those noted by Bishop (2015) who demonstrated that greater negative affect was generally observed in response to viewing images depicting everyday intimacies versus symbolic threats. However, the findings in Bishop concerned images of gay men, not lesbian women, and only included self-identified heterosexual male participants.

One possible explanation for these unexpected findings concerning lesbian targets may be found within the context of the *Parasocial Contact Hypothesis* (Schiappa, Gregg, & Hewes, 2006), which posits that parasocial contact (i.e., "interactions" between individuals and characters in popular media such as television or film) may lead to the development of warmer or more affirmative feelings toward certain characters who belong to a minority group. These affirmative feelings are the result of having learned more about the group being depicted through the television show or film. Relatedly, the Gay and Lesbian Alliance Against Defamation (GLAAD) has been tracking the representation of minority individuals in popular media since 2005. Pursuant to the focus on gay men and lesbian women in the present study, GLAAD (2016) indicated that gay men represented 49% (35) of the 71 regular and recurring sexual and gender minority characters on television whereas lesbian women only represented 17% (12) of these

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characters (the remaining 24 characters were bisexual, transgender, or some other sexual and/or gender minority). While this number reflects a fraction of the hundreds of heterosexual characters depicted every year, it is still reflective of a dramatic shift in the amount and quality of sexual and gender minority representations available. However, it is evident that gay men are depicted at a rate of almost 3:1 compared to lesbian women. Perhaps this difference in parasocial availability has led to greater acceptability of everyday intimacies, when displayed by gay men compared to lesbian women.

The 2 X 2 X 3 ANCOVA, which was used to test the predictions in hypotheses two and five, assessed if gender, threat type (i.e., everyday intimacies and symbolic threats), and image type (i.e., gay, lesbian, and heterosexual images) influenced reported levels of homonegativity (as indicated by a composite score). The results revealed that none of the independent variables or their respective interactions emerged as statistically significant. These findings may be partly explained by the observation that measures of old-fashioned homonegativity (e.g., ATLG) are susceptible to floor effects, especially among more liberal populations such as university students (Rye & Meaney, 2010a). Indeed, even scores on a measure of modern homonegativity (MHS) were well below the midpoint. Such findings suggest that novel measurement approaches may need to be pursued, particularly when university samples are targeted.

The 2 X 2 X 3 ANOVA, which was used to test hypotheses three and six, investigated whether gender, threat type (i.e., everyday intimacies and symbolic threats), and image type (i.e., gay, lesbian, and heterosexual images) influenced levels of affect valence (i.e., feeling thermometer scores). The results indicated that both male and female participants expressed less warmth toward photographs of lesbian women, regardless of threat type, compared to any other group. (Note that while lesbian women were rated less warmly than gay men, mean feeling

thermometer scores were well above the scale midpoint for both groups). Identical results were found for the 2 X 2 X 3 ANCOVA that was used to test hypotheses nine and ten (i.e., the findings revealed that participants, regardless of gender, who viewed images depicting lesbian women, compared to gay men or heterosexual couples, exhibited lower multiplicative index [MI] scores). The latter finding was not too surprising since the affect valence scores were one of the two components used to compute the MI scores (i.e., affect valence X affect intensity) and there was a strong positive correlation between these two dependent variables.

Previous research has used feeling thermometers to measure affective responses toward gay men and lesbian women with results indicating that reported affect is generally warm (e.g., Breen & Karpinski, 2013; Gilad & Stepanova, 2015). However, no research that has employed feeling thermometers has reported less warmth for lesbian women in comparison to gay men. As mentioned, the current study represents the first occasion where affect intensity was measured via a pressure sensitive mouse; ergo, it is also the first time a MI of this type was computed. The reason for these findings may be due to the influence of the aforementioned *Parasocial Contact Hypothesis*. As mentioned, Schiappa et al. (2006) described how parasocial interactions with television characters can lead to warmer associations with a character that belongs to a minority group and, as a result, that minority group as a whole. This effect is not limited to individuals who may possess a neutral opinion of a particular group. The authors note that parasocial contact may have the ability to (covertly) *modify* the attitudes and opinions individuals have about a particular group. Thus, people who harbour or express decidedly negative attitudes toward gay men, for example, may experience a fundamental shift in their beliefs as a result of witnessing the life experiences of a gay male character depicted on a popular television series.

While literature indicating more negative attitudes toward lesbian women compared to gay men is rare, another potential explanation for these findings may be related to how heterosexual women have previously reported their objections to more feminine lesbian couples adopting children. To illustrate: Rye and Meaney (2010b) reported that among a sample of introductory students ($N = 447$), female participants were more likely to rate lesbian couples as the least desirable hypothetical adoptive parents compared to heterosexual or gay male couples described in vignettes. McCutcheon and Morrison (2015) did not replicate this finding. However, they did find that lesbian dyads in which *both* members possess feminine qualities were rated as significantly less desirable potential adoptive parents than a butch/femme lesbian couple which mimicked the more "traditional" male/female dyad. The three images that depicted lesbian women engaged in the symbolic threat of rearing children (Appendix K), do not reflect a "traditional" masculine/feminine parental dynamic. If participants observed the two women as feminine then, akin to McCutcheon and Morrison, affective valence and intensity for these images may have been lowered.

The 2 X 2 X 3 ANCOVA which was used to test hypotheses seven and eight, explored whether gender, threat type (i.e., everyday intimacies and symbolic threats), and image type (i.e., gay, lesbian, and heterosexual images) influenced levels of affect intensity (i.e., measured using a pressure sensitive mouse). A main effect of participant gender was found (i.e., male participants used significantly greater pressure when clicking the mouse than did females). However, the increase in pressure was not related to either the type of threat or type of image viewed. The only study to date that has used this mouse technology as a means of establishing autonomic arousal of participants was the original article by Schaaff et al. (2012). Thus, the current study is the first one to employ this mouse technology as an indicator of affective

intensity. Unfortunately, Schaaff et al.'s original article did not compare pressure scores between male and female participants, instead opting to focus on differences due to the low and high intensity nature of the two scenarios included in their study. Statistically significant differences between the two scenarios were noted; however, no significant differences were detected across the experimental conditions in the current study. The finding that male participants displayed greater mouse pressure in comparison to female participants may be attributable to the observation that men generally exhibit greater physical strength than women (Miller, MacDougall, Ternopolshy, & Sale, 1993).

Finally, the 2 X 2 X 3 logistic regression (LR) which was used to test hypothesis 11, assessed how well gender, threat type (i.e., everyday intimacies and symbolic threats), and image type (i.e., gay, lesbian, and heterosexual images) predicted participants being coded as exhibiting negative behavioural change during the debriefing interview. The findings indicated that females had lower odds than male participants of being classified as exhibiting negative behavioural change following the researcher's disclosure about his sexual orientation. This finding is not particularly surprising since, in comparison to straight women, self-identified heterosexual men have been documented as reporting more negative attitudes toward gay men (e.g., Kite & Whitley, 1996; Peterson & Hyde, 2010). However, what is worthy of note is that while scores on the composite measure of homonegativity were well below the midpoint and, subsequently, indicative of more neutral to positive attitudes toward gay men and lesbian women, 55.2% of male participants exhibited negative behavioural change following the interviewer's disclosure that he self-identifies as a gay male (compared to 30.8% of female participants). This finding is important because it suggests that pen-and-paper measures of attitudes toward gay men may not coincide with the behavioural reactions of male participants (i.e., while self-identified straight

male participants reported little homonegativity toward gay men, when they were confronted with a gay male whom they originally coded as heterosexual, their subtle behaviours did not match their earlier composite homonegativity scores).

In addition, the results also showed that, regardless of gender, participants who viewed lesbian women engaged in symbolic threats had lower odds of being classified as having exhibited negative behavioural change. This finding may be related to the earlier observation that lesbian women are accorded less visibility and recognition in popular media. More specifically, if participants reacted especially negatively to instances of lesbian women rearing children or getting married due to the aforementioned dearth of similar parasocial contact, the disclosure of the researcher's sexual orientation may not have possessed sufficient impact to elicit negative behavioural change in comparison to the remainder of the sample. Recall that the lesbian dyads depicted in the symbolic threat images are indicative of feminine/feminine type couples as opposed to the more favourably viewed masculine/feminine lesbian dyad described in Rye and Meaney's (2010b) study. Perhaps their findings are applicable to these results and the present sample found lesbian women engaged in symbolic threats especially problematic due to their defiance of traditional gender roles being present in the context of their relationships. If this is the case, then this may be an additional strike against measures of homonegativity toward lesbian women since such differences remained occluded in the earlier analyses.

Overall, these findings demonstrate the importance of continuing to develop novel approaches of measuring attitudes toward gay men and lesbian women since the standard instruments (e.g., MHS and ATLG-S) appear to be highly susceptible self-presentation bias and impression management.

4.2 Limitations

Several key limitations emerged from this investigation and will be summarized. First, the value of the mouse capable of measuring affect intensity via the amount of force used to click it each time is indeterminate at this stage. Recall that for affect intensity, results indicated that male participants used greater pressure when clicking the mouse than did females while no other statistically significant differences emerged. In-depth pilot testing is necessary to determine whether this mouse technology is responsive to images in general. Such pilot testing need not necessarily employ images of gay men and lesbian women as used in the current study. Instead, visual stimuli (e.g., photographs or video clips) to induce different emotional states (e.g., disgust, anger, sadness) of varying intensities (e.g., an image of a used bandage would likely evoke less intense disgust that a photograph of feces in a toilet) could be evaluated using the mouse. Findings in the predicted direction (e.g., greater intensity for a photo of feces in a toilet versus a used bandage) would provide evidence that the mouse is capable of differentiating between the intensity of the affective state experienced by participants through exposure to different images. In addition, such findings would indicate that the stimuli that was included in the present study may have been too anodyne to elicit responses of a sufficient magnitude.

While sexually explicit stimuli pose challenges for the interpretation of results, photographs of everyday intimacies and symbolic threats may no longer be perceived as negatively as they were in the past. As mentioned, the (positive) representation of gay men and lesbian women in mass media has increased over the last ten years. Gone are the days of discretionary messages warning viewers that a given television program contains gay-themed content (Mc, 2013).[1] The noted increase in media representations of gay men and lesbian women may have normalized everyday intimate behaviours (e.g., kissing, hugging, and holding hands),

especially when performed by gay men. More explicit stimuli may be required to achieve the same degree of affective reactions that more anodyne photos were able to elicit even a few years prior (e.g., Bishop, 2015). However, if this is the case, novel approaches for the detection of, and subsequent controlling for, erotophobia will need to be developed. In future, more rigorous pilot testing of potential stimuli should take place using a small number of participants from the population being targeted by the study as opposed to a convenience sample of graduate students. This is especially important since a report from the Pew Research Centre (2016) indicated that individuals with postgraduate degrees (e.g., M.Sc. or Ph.D.) tend to be more liberal than those with undergraduate degrees (e.g., B.Sc. or B.A.). Such a shift in pilot testing procedure would ensure that selected stimuli are more reflective of the thoughts and feelings of the intended sample.

Third, the utility of the International Affective Picture System (IAPS; Lang et al., 2001), in the context of selecting appropriate control images, is challenged by the current study. Recall that control images were selected on the basis of having the lowest arousal means for both males and females, combined. By selecting these photos, it was anticipated that they would be the least affect provoking among participants and, thus, offer a meaningful benchmark from which the effects of the experimental images could be compared. However, results from the present study indicated that participants generally reported *greater* negative affect in response to the control images than any of the other experimental groups. This finding is clearly problematic and calls into question whether this group of images was appropriate to use in contrast to the other three types of photographs (i.e., gay men, lesbian women, and heterosexual couples). The poor picture quality of the photographs contained in the IAPS has fallen under scrutiny with some researchers suggesting that this factor may introduce unintended confounds into an experimental design

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(Marchewka, Żurawski, Jednoróg, & Grabowska, 2014). For example, upon reviewing the control images that were selected for this study (See Appendix C), each of the photographs possess qualities that may be coded as "dirty" (e.g., in the photo of the fan, the shag carpeting is an unflattering colour that belies whether it is or is not clean and there appear to be many specks of dirt on the wall). While the arousal means for these images were low, these low scores may be an artefact of an era when high definition quality photography was not readily available and, thus, less attention was paid to the subtle details of the photos. An alternative would be for researchers to pilot test a pool of neutral images along with their experimental counterparts to ensure that the control stimuli do, in fact, provide a baseline measure of affective responses.

Finally, whether participants were aware of the researcher's sexual orientation prior to or during the lab session may have introduced unanticipated self-presentation bias leading to less negative responses. However, this seems unlikely for several reasons. First, Gowen and Britt (2006) asked heterosexual undergraduate participants ($N = 120$) to listen to a university admissions interview with a male applicant described as either gay or heterosexual (or not specified) and who spoke with stereotypically "gay" speech versus "normal" speech. Participants were asked to indicate, on the basis of the recording, whether they would award the hypothetical student with a scholarship and complete measures of social distance and old-fashioned homonegativity. The results indicated that participants were more positive in response to a gay applicant if he sounded stereotypically "gay" while the gay applicant who sounded "normal" was viewed much more negatively. Participants expressed a willingness to be in close social contact with a gay male who sounded stereotypically "gay" versus a gay male who sounded "normal" and were more willing to grant the gay applicant who demonstrated congruence between his sexual orientation and speech with a scholarship. These findings suggest that when heterosexual

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individuals are aware that a stranger is gay, their responses are contingent upon whether they are able to use behavioural cues (e.g., speech pattern, mannerisms, clothing) to code said stranger as a gay male. When an expectancy violation occurs (i.e., the gay male's behaviour and mannerisms do not conform to expected stereotypes), heterosexual individuals are more likely to respond in aversive ways.

Participants in the current study were also asked to provide their perceptions of the researcher's sexual orientation during the debriefing interview. After examination of a subset of male ($n = 18$) and female ($n = 19$) responses to this item: 83.3% of males and 73.7% of females perceived the researcher as heterosexual; 11.1% of males and 21.1% of females reported they never assume someone's sexual orientation they do not know well; and 5.6% of males and 5.3% of females guessed the researcher may be bisexual. These cases were drawn at random and it is unlikely that any significant deviation would emerge as additional cases are added. Note that none of the respondents in either subset perceived the researcher as a gay male. In addition to these results, given the researcher's profuse experiences with individuals across all sorts of vocations expressing their disbelief at his sexual minority status, it seems logical to conclude that his everyday mannerisms, speech patterns, and manner of dress do not belie that he self-identifies as a gay male.

Further emphasizing this point, Rubin, Paolini, and Crisp (2013) asked online participants ($N = 237$) to indicate their liking of stereotypical and counterstereotypical gay men and lesbian women. The results indicated that participants reported greater liking of the counterstereotypical gay men and lesbian women (e.g., a gay man who is overtly masculine) *only* when the target individuals were described using adjectives (e.g., an insensitive gay male). However, when the target individuals were described in terms of *behaviours* (e.g., enjoys fishing), the reverse

emerged (i.e., participants reported greater liking of a sexual minority target who adhered to stereotypes). Based on these results, since participants' interactions with the researcher in the present study would provide details related to his behaviour, it seems more likely that since the researcher has been consistently reminded that he does not adhere to common stereotypes of gay men that participants would evidence greater negative responses as a result. Taken together, even if participants did suspect the researcher may have been a gay male, a suppressive effect of participants' negative responses was unlikely to have occurred.

4.3 Challenges and Future Directions

Throughout the duration of the present study, several challenges presented themselves that should be addressed in future research. The first issue that emerged was related to "spillage" with regard to participants revealing the purpose of the present study to other individuals prior to their participation, despite being asked and reminded that doing so would compromise the utility of the data being gathered. On several occasions, participants revealed during the debriefing interview, after the researcher had disclosed the purpose of the study, that they already knew that "this was the mouse study." One participant stated that "everyone in the engineering department is talking about the study with the cool mouse." A related matter was attempts to participate more than once. Even though participants were clearly advised that their data could not be used if they were knowledgeable of the study's true purpose, at least 10 individuals attempted to participate twice, presumably to be allocated additional bonus points for their psychology courses. Fortunately, the researcher was able to detect eight of the individuals prior to their re-participation. The two remaining individuals were flagged following data collection by reviewing the informed consent sheets. Both individuals, who participated twice, indicated – each time – that they were unaware of the true nature of the study. Such disclosure

and behaviour are problematic for a number of reasons: 1) as mentioned earlier, knowing that the mouse contains force sensors beforehand allows individuals to consciously manipulate the amount of force being used; 2) any cases where participants were privy to the purpose of the study prior to participating had to be excluded; and 3) the researcher's admonition to participants that they refrain from divulging the purpose of the study was clearly not followed and, thus, there is no way of knowing how much spillage occurred.

The transmission of information about a given study underscores the value of partial debriefing. In partial debriefing, participants are provided with *some* information regarding the materials used in the study they participated in (e.g., what the scales were measuring), but details regarding any experimental manipulations and subsequent hypotheses remain occluded until data collection is completed (Zwolinski, 2014). In future, it is prudent to work with the Behavioural Research Ethics Board at one's home institution to determine whether withholding the true purpose of an experimental study, until data collection is completed, is a viable option. This manner of deception was approved for the study described in Bishop (2015). However, the likelihood of receiving approval for such a procedure will vary from institution to institution. It is recommended that researchers conducting experimental research both request and advocate for this type of deception since being able to maintain the cover story for the duration of data collection will ensure that spillage is kept to a minimum.

A second challenge was with regard to the integrity of the data collected. While data in laboratory-based studies are routinely lost due to inevitable technology failures, the first issue of note was discovered during data collection. Chief among these concerns relates to participants not following verbal instructions provided by the researcher. There is some overlap with the aforementioned concern of spillage that occurred with unknown frequency, but this particular

issue manifested in ways beyond revealing the true nature of the study to pending participants. For example, prior to beginning the online questionnaire, participants were asked to provide all responses with the mouse provided and only use the keyboard to enter demographic data requested on the final page. However, some participants disclosed that they entered some data in their surveys using the keyboard because "it was easier" even though they were asked to refrain from doing so. Furthermore, participants were advised that if they experienced any problems with the online questionnaire (e.g., next page would not load; they were unable to provide their responses; they did not understand an item/question, etc.), they were to request assistance from the researcher, who was located in an adjacent office. During the debriefing interviews, while participants initially reported having experienced no issues during testing, a sizeable minority (approximately 30-50) later indicated that they struggled with some items or experienced some technical difficulties that ended up resolving themselves after several minutes. It is unclear why participants would conceal the issues they experienced only to report the truth a short time later. More disconcerting is that a small number of participants would stare at a blank screen, indicative of an error, for over 10 minutes until the researcher entered to check on their progress. These individuals indicated their inaction occurred because they thought "it was part of the study" and they did not seek assistance for this reason.

Similarly, it was noted *following* data collection that participants also did not *read* the instructions that were included in the questionnaire package, which seems to map onto participants not adhering to verbal instructions. Krosnick (1991) refers to ignoring or skimming through instructions as "satisficing" which he defines as the tendency for participants to minimize the cognitive effort required for providing optimal responses to a questionnaire package by providing responses that are, instead, merely satisfactory. Krosnick suggests that

satisficing may manifest as participants: 1) choosing the first response option that seems to reflect a plausible response without considering any additional options; 2) automatically agreeing with an assertion made in an item regardless of whether or not they *actually* agree; 3) endorsing the status quo as opposed to supporting social justice initiatives; 4) selecting "don't know," where applicable, to avoid having to differentiate between response categories; and 5) randomly selecting response options as they proceed through the questionnaire package.

To detect satisficing, Oppenheimer, Meyvis, and Davidenko (2009) advocate the use of instructional manipulation checks (IMC). Such checks are embedded within the questionnaire package but ask participants to respond to a question that relates to the instructions they were *supposed* to have read. If participants do not provide the correct response to this item, it suggests that the respondent did *not* read the instructions and calls into question the utility of his/her data. In such an event, the case would be flagged and not included in the subsequent analyses. Fortunately, in the present study, an IMC item was embedded near the beginning of the questionnaire package. Unfortunately, of the original 415 cases, 99 (23.9%) participants did not correctly answer the item. While the loss of such a substantial amount of cases is disheartening, 23.9% of cases may be on the low side since Oppenheimer et al. found that 46% of their sample failed to correctly answer their embedded IMC.

The use of IMCs is vital to ensuring the validity of the data being entered into one's statistical analyses. To illustrate: Oppenheimer et al. sought to determine whether removing cases that indicated satisficing would increase the statistical power of an experiment by asking 213 university students to read one of two versions of two different scenarios (i.e., how much one would be willing to spend on soda at either a fancy resort or run-down grocery store and whether one would decide to skip a football game due to inclement weather if they either

purchased their tickets or if they received them as a gift from a friend). Embedded in the instructions of one of the items was a prompt asking participants to ignore the response options and instead click the *title* of the page. Participants who did so were flagged as having correctly answered the IMC versus those who did not; as mentioned, 46% of cases did not respond correctly. The authors then evaluated the results of each task by including both the entire sample and restricting it to only those who correctly answered the IMC. Results indicated that, for both tasks (i.e., soda price based on purchase location versus attending a football game due to inclement weather), statistically significant differences emerged when those cases that indicated satisficing were removed compared to when they were included (i.e., possible type II error). More specifically, when the satisficing respondents were deleted from the analysis, the authors found that participants were willing to pay significantly more for a soda at a fancy resort than a rundown grocery store and were less likely to skip a football game due to inclement weather when they purchased tickets with their *own* money. Ergo, it is advised that future research embeds at least one IMC item into the body of the questionnaire to detect satisficing in one's sample. Doing so will help ensure the utility of the data that has been collected from each participant.

Regarding future directions, since the value of the pressure sensitive mouse is still unclear (see above), alternative means of detecting affective responses would be beneficial. For example, facial electromyography (EMG) is a relatively cost effective and robust means of detecting affective responses. With Facial EMG, electrodes are strategically placed on the face to detect muscle movement that is indicative of the affective response of interest. For example, Whitton, Henry, Rendell, and Grisham (2014) demonstrated that movement of the levator labii muscles (i.e., responsible for movement of the nose and upper lip) is indicative of a disgust

response. The authors further noted that induction of disgust (achieved by having participants watch a 4-minute video clip of an individual repeatedly vomiting into a clear glass bowl) increased levator labii muscle movement in response to moral transgressions (i.e., 25 photographs depicting moral themes [e.g., a man beating a child]); however, induction of anger (via the recollection of a time participants remember being especially angry) did not increase facial muscle response to the same transgressions. Previous research has also demonstrated that facial EMG is capable of detecting both positive and negative affective states. More specifically, when viewing pleasant stimuli, the zygomaticus major muscles, which are found beneath the cheeks and rise when smiling, are evoked (Achaibou, Pourtois, Schwartz, & Vuilleumier, 2008). Conversely, when viewing aversive stimuli, the corrugator supercilii muscles, which are found beneath the eyebrows and move when frowning, are activated (Mavratzakis, Herbert, & Walla, 2016). The use of such a procedure would allow researchers to measure affective responses (e.g., disgust, happiness, or anger) to stimuli depicting everyday intimacies or symbolic threats between gay men and lesbian women without the concern of social desirability bias.

The tripartite model of sexual orientation described by Savin-Williams (2006) appears to have provided a more comprehensive means of deriving a heterosexual sample. Savin-Williams notes that reliance on a single self-identification sexual orientation item (e.g., selecting one's sexual orientation from a seven-point scale) is problematic because it is susceptible to self-presentation bias effects which can lead to participants being incorrectly categorized as heterosexual or gay/lesbian. For example, a hypothetical male participant may self-identify as heterosexual but his sexual behaviour may be entirely relegated to members of his own sex (for any number of reasons). While it would not be appropriate to label this individual as a gay male based on his self-identification, sufficient evidence would have emerged that indicates he is also

not heterosexual either. Therefore, when researchers are looking to test an exclusively heterosexual sample, such individuals providing conflicting information regarding their sexual orientation should not be included since their sexual and romantic behaviours do not coincide with their identity. This may lead to these participants reporting greater tolerance for sexual minority groups due to their disclosed same-sex behaviours and experiences.

Such a scenario emerged within the data in the present study. More specifically, while 86% of the sample in the current study self-identified as heterosexual, only 79% consistently reported an exclusively heterosexual orientation across all three indicators. While 7% of participants inconsistently reporting their sexual orientation across the three items may not appear to represent a large difference, if the majority of these individuals reported having experienced an orgasm with a same-sex partner at some point, then it seems plausible that he or she would be less likely to report strong homonegativity or negative affective responses to images depicting everyday intimacies or symbolic threats. In the present study, when self-identification was used in lieu of the tripartite model (effectively including the aforementioned 7% of cases), the statistically significant interaction found in the 2 X 3 X 4 MANCOVA disappeared. Therefore, it is recommended that Savin-William's tripartite model be used in future research where differences between groups comprised of heterosexual participants are being tested. Doing so will help ensure that participants who self-identify as heterosexual, yet may demonstrate more "fluid" sexual or romantic behaviours, do not influence the results.

In the current study, a multiplicative index (MI) was used to examine the combined outcome of affect valence and affect intensity in response to seven types of images (i.e., gay, lesbian, and heterosexual couples engaged in everyday intimacies or symbolic threats and control). In conjunction with treating the MI as an outcome variable, each of the two components

which comprised it were also treated as separate outcome variables. The convention within the literature when a MI is calculated using two previously established indicators of affective responses and/or endorsement of stereotypes is to not include the original indicators in the analyses. For example, Bishop, Kiss, Morrison, Rushe, and Specht (2014) examined gay men's stereotypic beliefs about drag queens and asked participants ($N = 118$ sexual minority men) to complete a stereotype checklist and a subsequent valence measure to determine if each stereotype was perceived as positive or negative. The scores from each of these measures were used to compute a MI which was then used in the analyses. Similarly, Morrison, Morrison, Harriman, and Jewell (2008) computed a MI using scores obtained from participants' endorsement of specific characteristics perceived to be related to indigenous men and women and the reported valence of each respective characteristic.

However, the same principles employed in these examples with regard to usage of *only* the MI are not applicable in the present study. Recall that both examples use previously established indicators to calculate their MIs (i.e., endorsement of characteristics multiplied by the reported valence of each). However, the present study was the first occasion where the pressure sensitive mouse was used as an indicator of affect intensity. As a result, had only the MI score been analyzed, it would not be clear whether any statistically significant results were due to: affect valence or affect intensity equally; whether affect valence or intensity provided greater influence; or whether only one of the measured responses had an effect while the other did not. Similarly, analyzing the pressure scores separately allowed for the determination of whether the technology was at all useful for the purpose of establishing affect intensity. Therefore, future research that wishes to employ the pressure sensitive mouse technology described here as an

indicator of affect intensity should ensure that the MI along with its contributing components are analyzed separately until evidence of the utility of the mouse can be unequivocally provided.

Finally, given the emergence of beliefs about public displays of affection as a statistically significant covariate of homonegativity, this relationship should be examined in greater detail. As mentioned, previous research has shown that measures of old-fashioned homonegativity (e.g., ATLG) are susceptible to floor effects (Morrison & Morrison, 2002; Rye & Meaney, 2010a). Furthermore, as it was created more than a decade ago, it is possible that the MHS is subject to a similar restriction of range. The results of the current study suggest that one covert way in which individuals may voice their disapproval of same-sex sexual behaviour is by asserting that they disapprove of *all* public displays of intimacy/affection.[2]

To further explore this potential association, the first step would be to develop a more comprehensive measure of attitudes toward public displays of affection (PDA) than was used in the current study. Care must be taken that the measure addresses forms of PDA in *general* as opposed to overtly identifying behaviours engaged in by a particular minority group (e.g., gay men and lesbian women). Once its psychometric properties are sufficiently assessed, the new measure could then be completed by participants following exposure to stimuli similar to those used in the present study. If randomly assigned participants evidence more negative attitudes toward PDA in response to sexual minority stimuli versus a heterosexual variant, but relatively low levels of homonegativity (as was found in the present study), it would be a strong indication that negativity toward gay/lesbian intimacy may manifest itself as a general rejection of *all* forms of intimacy.

4.4 Conclusion

The present study was unable to furnish evidence supporting the predictions that heterosexual male participants exposed to images depicting gay men engaged in everyday intimacies would report greater negative affect and homonegativity than those who viewed other stimuli (e.g., heterosexual couples performing everyday intimacies). It is possible that the non-sexual stimuli that was selected to minimize erotophobia was *too* anodyne due to the increasing representation of gay men in mainstream media. Future research should apply more rigorous pilot testing to potential stimuli and ensure the pilot sample is drawn from the population the researcher intends to study. In addition, the control images that were selected on the basis of possessing the lowest published arousal means elicited greater negative affect than the experimental photographs which calls into question the usefulness of the IAPS for such purposes. As a result, alternative sources of control stimuli should be sought. Ideally, researchers would pilot test their neutral stimuli in conjunction with their experimental content to ensure better quality. Satisficing was also found to be a concern in the present study which indicates the need to embed at least one instructional manipulation check (IMC) item to detect this type of response. Failure to do so may lead to either the occlusion of statistically significant findings (Type II error) or the erroneous reporting of results that are possibly indicative of Type I error. The tripartite model of sexual orientation described by Savin-Williams (2006) should be used to ensure that participants who may self-identify as heterosexual but evidence same-sex romantic and sexual behaviours are identified and removed from the analyses. Finally, the MHS and other indicators of modern homonegativity may have become vulnerable to the same floor effects as their old-fashioned variants. Future research should seek to further investigate the association between homonegativity and attitudes toward public displays of affection that emerged within

the present study. The latter may have become a useful means through which individuals can articulate their disapproval of same-sex intimate behaviour without having to openly condemn sexual minority individuals.

Notes

1. Gone, too, are the days when gay and lesbian people would clamour after any filmic representation no matter how negative (Jasonvit, 2008).

2. A similar effect was observed, anecdotally, when the researcher instructed a human sexuality course. During one class, a film that depicted explicit gay male sexual activity was shown and elicited strong objections and revulsion among the majority of students. Those students who opted to write about the film for their second assignment argued that the explicit sexual nature of the film was problematic but *none* indicated the gay nature of the content was the point of concern. Such objections rarely emerge in response to heterosexual depictions and it would be interesting to determine if a film depicting explicit heterosexual sex would elicit the same negative response.

References

Achaibou, A., Pourtois, G., Schwartz, S., & Vuilleumier, P. (2008). Simultaneous recording of EEG and facial muscle reactions during spontaneous emotional mimicry. *Neuropsychologica, 46*(4), 1104-1113. doi: 10.1016/j.neuropsychologia.2007.10.019

Adams, H. E., Wright, L. W., & Lohr, B. A. (1996). Is homophobia associated with homosexual arousal? *Journal of Abnormal Psychology, 105*(3), 440-445. doi:10.1037/0021-843X.105.3.440

Bernat, J. A., Calhoun, K. S., Adams, H. E., & Zeichner, A. (2001). Homophobia and physical aggression toward homosexual and heterosexual individuals. *The Journal of Abnormal Psychology, 110*(1), 179-187. doi:10.1037/0021-843X.110.1.179

Bennett, D. A. (2001). How can I deal with missing data in my study? *Australian and New Zealand Journal of Public Health, 25*(5), 464-469. doi: 10.1111/j.1467-842X.2001.tb00294.x

Bierly, M. M. (1985). Prejudice toward contemporary outgroups as a generalized attitude. *Journal of Applied Social Psychology, 15*(2), 189-199. doi: 10.1111/j.1559-1816.1985.tb02344.x

Bishop, C. (2015). Emotional reactions of heterosexual men to gay imagery. *Journal of Homosexuality, 62*(1), 51-66. doi: 10.1080/00918369.2014.957125

Bishop, C., Kiss, M., Morrison, T. G., Rushe, D. M., & Specht, J. (2014). The association between gay men's stereotypic beliefs about drag queens and their endorsement of hypermasculinity. *Journal of Homosexuality, 61*(4), 554-567. doi: 10.1080/00918369.2014.865464

Blake, B. F., Valdiserri, J., Neuendorf, K. A., & Nemeth, J. (2006). Validity of the SDS-17 measure of social desirability in the American context. *Personality and Individual Differences, 40,* 1625-1636. doi: 10.1016/j.paid.2005.12.007

Bosson, J. K., Weaver, J. R., Caswell, A., & Burnaford, R. M. (2012). Gender threats and men's antigay behaviors: The harmful effects of asserting heterosexuality. *Group Processes & Intergroup Relations, 15*(4), 471-486. doi: 10.1177/1368430211432893

Bradbury, S. L., Davis, A. K., Leith, J., Hinman, N., Ashrafioun, L., Burmeister, J. M., & Dworsky, D. (2015). Attitudes and beliefs about the acceptability and justness of peer victimization of lesbian and gay university students. *Journal of Homosexuality*. Advanced online publication. doi: 10.1080/00918369.2015.1112581

Breen, A. B., & Karpinski, A. (2013). Implicit and explicit attitudes toward gay males and lesbians among heterosexual males and females. *The Journal of Social Psychology, 153*(3), 351-374. doi: 10.1080/00224545.2012.739581

Brown, M. J., & Henriquez, E. (2011). Support for gay and lesbian civil rights: Development of a new scale. *Journal of Homosexuality, 58*(4), 462-475. doi: 10.1080/00918369.2011.555664

Bryant, F. B., Yarnold, P. R., & Grimm, L. G. (1996). Toward a measurement model of the Affect Intensity Measure: The three-factor structure. *Journal of Research in Personality, 30*, 223-247. doi: 10.1006/jrpe.1996.0015

Buechel, C., & Hegarty, P. (2007). Modern prejudice at work: Effects of homonegativity and the perceived erotic value of lesbians and gay men on heterosexuals' reactions to explicit and discrete couples. *Lesbian and Gay Psychology Review*, *8*, 71-82.

Cairns, T. T., & Champagne, M. M. (2002). The effects of gender and sexual orientation on the

    acceptability of public displays of affection. *FSU Journal of Behavioral Sciences, 5*(1).

    Retrieved from at: http://digitalcommons.framingham.edu/

    journal_of_behavioral_sciences/vol5/iss1/4

Clarke, V. (2016). Wearing a gay slogan t-shirt in the higher education classroom: A cautionary

    tale. *Feminism & Psychology, 26*(1), 3-10. doi: 10.1177/0959353515613812

Cohen, T. R., Hall, D. L., & Tuttle, J. (2009). Attitudes toward stereotypical versus

    counterstereotypical gay men and lesbians. *The Journal of Sex Research, 46*(4), 274-281.

    doi: 10.1080/00224490802666233

Cuenot, R. G. & Fugita, S. S. (1982) Perceived homosexuality: Measuring

    heterosexual attitudinal and nonverbal reactions. *Personality and Social Psychology*

    Bulletin, 8, 100-106. doi: 10.1177/014616728281016

D'Augelli, A. R., Hershberger, S. L., & Pilkington, N. W. (2001). Suicidality patterns and sexual

    orientation-related factors among lesbian, gay, and bisexual youths. *Suicide and Life-*

    Threatening Behavior, 31(3), 250-264. doi: 10.1521/suli.31.3.250.24246

Dasgupta, N., & Rivera, L. M. (2006). From automatic antigay prejudice to behavior: The

    moderating role of conscious beliefs about gender and behavioral control. *Journal of*

    Personality and Social Psychology, 91(2), 268-280. doi:10.1037/0022-3514.91.2.268

Doan, L., Miller, L. R., & Loehr, A. (2015). The power of love: The role of emotional

    attributions and standards in heterosexuals' attitudes toward lesbian and gay couples.

    Social Forces, 94(1), 401-425. doi: 10.1093/sf/sov047

Dworkin, A. (1989). Pornography: Men possessing women. New York: Putnam.

Eisenberg, N. Fabes, R. A., Schaller, M., Miller, P., Carlo, G., Poulin, R.. . . . Shell, R. (1991). Personality and socialization correlates of vicarious emotional responding. *Journal of Personality and Social Psychology, 61*, 459-470. doi: 10.1037/0022-3514.61.3.459

Ekman, P., & Friesen, W. V. (1976). *Pictures of facial affect*. Palo Alto, CA: Consulting Psychological Press.

Eskin, M., Kaynak-Demir, H., & Demir, S. (2005). Same-sex sexual orientation, childhood sexual abuse, and suicidal behavior in university students in Turkey. *Archives in Sexual Behavior, 34*(2), 185-195. doi: 10.1007/s10508-005-1796-8

Field, A., Miles, J., & Field, Z. (2012). *Discovering statistics using R*. Thousand Oaks, CA: Sage.

Fisher, W. A., Byrne, D., & White, L. A. (1983). Emotional barriers to contraception. In D. Byrne & W. A. Fisher (Eds.), *Adolescents, sex, and contraception* (pp. 207–239). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Franklin, K. (2000). Antigay behaviors among young adults: Prevalence, patterns and motivators in a non-criminal population. *Journal of Interpersonal Violence, 5*, 366-383. doi: 10.1177/088626000015004001

Galupo, M. P., Henise, S. B., & Davis, K. S. (2014). Transgender microaggressions in the context of friendship: Patterns of experience across friends' sexual orientation and gender identity. *Psychology of Sexual Orientation and Gender Diversity, 1*(4), 461-470. doi: 10.1037/sgd0000075

Geuens, M., & De Pelsmacker, P. (2002). Developing a Short Affect Intensity Scale. *Psychological Reports, 91*(2), 657-670. doi: 10.2466/pr0.2002.91.2.657

Gilad, C., & Stepanova, E. V. (2015). The effect if religious priming on attitudes toward lesbians and gay men. *Psy Chi Journal of Psychological Research, 20*(4), 188-196. Retrieved from https://www.researchgate.net/publication/285057728_Gilad_C_Stepanova _E_V_2015_The_effect_of_religious_priming_on_attitudes_toward_lesbians_and_gay_ men_Psi_Chi_Journal_of_Psychological_Research_20_4_188-196

GLAAD. (2016). *Where we are on TV Report: 2016-2017.* Retrieved from http://glaad.org/files/WWAT/WWAT_GLAAD_2016-2017.pdf

Gore, K. Y., Tobiasen, M. A., & Kayson, W. A. (1997). Effects of sex of caller, implied sexual orientation of caller, and urgency on altruistic response using the wrong number technique. *Psychological Reports, 80*(3), 927-930. doi: 10.2466/pr0.1997.80.3.927

Gowen, C. W., & Britt, T. W. (2006). The interactive effects of homosexual speech and sexual orientation on the stigmatization of men: Evidence for Expectancy Violation Theory. *Journal of Language and Social Psychology, 25*(4), 437-456. doi: 10.1177/0261927X06292769

Gray, C., Russell, P. & Blockley, S. (1991) The effects upon helping behaviour of wearing a pro-gay identification. *British Journal of Social Psychology, 30*, 171-178. doi: 10.1111/j.2044-8309.1991.tb00934.x

Greendlinger, V. (1985). Authoritarianism as a predictor of response to heterosexual and homosexual erotica. *The High School Journal, 68*(3), 183-186. Retrieved from http://www.jstor.org/stable/40365084

Grey, J. A., Robinson, B. E., Coleman, E., & Bockting, W. O. (2013). A systematic review of instruments that measure attitudes toward homosexual men. *The Journal of Sex Research, 50*(3-4), 329-352. doi: 10.1080/00224499.2012.746279

Haddock, G., & Zanna, M. (1998). Authoritarianism, values, and the favorability and structure of

    antigay attitudes. In G. M. Herek (Ed.), *Stigma and sexual orientation: Understanding*

    prejudice against lesbians, gay men, and bisexuals (pp. 82-107). Newbury Park, CA:

    Sage.

Hair Jr., J. F., Black, W. C., Babin, B. J., Anderson, R. E. (2010). *Multivariate data analysis* (7th

    ed.). Upper Saddle River, NJ: Pearson Prentice Hall.

Hebl, M. R., Foster, J., Mannix, L. M. & Dovidio, J. F. (2002) Formal and

    interpersonal discrimination: A field study of bias toward homosexual applications.

    Personality and Social Psychology Bulletin, 28, 815-825. doi:

    10.1177/0146167202289010

Hegarty, P. (2006). Where's the sex in sexual prejudice? *Gay and Lesbian Psychology Review,*

    7(3), 264-275.

Hendren, A., & Blank, H. (2009). Prejudiced behavior toward lesbians and gay men: A field

    experiment on everyday helping. *Social Psychology, 40*(4), 234-238. doi: 10.1027/1864-

    9335.40.4.234

Herek, G. M. (1988). Heterosexuals' attitudes toward lesbians and gay men: Correlates and

    gender differences. *The Journal of Sex Research, 25*(4), 451-477. doi:

    10.1080/00224498809551476

Herek, G. M. (2002). Gender gaps in public opinion about lesbians and gay men. *Public Opinion*

    Quarterly, 66(1), 40-66. doi: 10.1086/338409

Herek, G. M., & Capitanio, J. P. (1996). "Some of my best friends": Intergroup contact, concealable stigma, and heterosexuals' attitudes toward gay men and lesbians. *Personality and Social Psychology Bulletin, 22*(4), 412-424. doi: 10.1177/0146167296224007

Herbstrith, J. C., Tobin, R. M., Hesson-McInnis, M. S., & Schneider, W. J. (2013). Preservice teacher attitudes toward gay and lesbian parents. *School Psychology Quarterly, 28*(3), 183-194. doi: 10.1037/spq0000022

Jasonvit. (2008, October 21). *Sisters of the bride*. [Video File]. Retrieved from https://www.youtube.com/watch?v=0c4sj_IPPmM

Jewell, L. M., & Morrison, M. A. (2010). "But there's a million jokes about everybody…": Prevalence of, and reasons for, directing negative behaviors toward gay men on a Canadian university campus. *Journal of Interpersonal Violence, 25*(11), 2094-2112. doi: 10.1177/0886260509354499

Jewell, L. M. & Morrison, M. A. (2012). Making sense of homonegativity: Heterosexual men and women's understanding of their own prejudice and discrimination toward gay men. *Qualitative Research in Psychology, 9*, 351-370. doi: 10.1080/14780887.2011.586098

Kiebel, E. M., McFadden, S. L., & Herbstrith, J. C. (2016). Disgusted but not afraid: Feelings toward same-sex kissing reveal subtle homonegativity. *The Journal of Social Psychology.* Advance online publication. doi: 10.1080/00224545.2016.1184127

Kite, M. E., & Whitley, B. E., Jr. (1996). Sex differences in attitudes toward homosexual persons, behaviors, and civil rights: A meta-analysis. *Personality and Social Psychology Bulletin, 22*(4), 336-353. doi:10.1177/0146167296224002

Krosnick, J. A. (1991). Response strategies for coping with the cognitive demands of attitude measures in surveys. *Applied Cognitive Psychology, 5*(3), 213-236. doi: 10.1002/acp.2350050305

Kubicek, K., Beyer, W. J., Weiss, G., Iverson, E., & Kipke, M. D. (2010). In the dark: Young men's stories of sexual initiation in the absence of relevant sexual health information. *Health Education and Behavior, 37*, 243–263. doi: 10.1177/1090198109339993

Lang, P. J., Bradley, M. M., & Cuthbert, B. N. (2001). *International affective picture system (IAPS): Instruction manual and affective ratings.* Technical Report A-5, The Center for Research in Psychophysiology, University of Florida.

Larsen, R. J. (1984). Theory and measurement of affect intensity as an individual difference characteristic. *Dissertation Abstracts International, 85,* 2297B. (University Microfilms No. 84-22112)

Larsen, R. J. (2009). Affect intensity. In M. R. Leary & R. H. Hoyle (Eds.), *Handbook of individual differences in social behaviour* (pp. 241-254). New York, NY: The Guilford Press.

Larsen, R. J. & Diener, E. (1987). Affect intensity as an individual difference characteristic: A review. *Journal of Research in Personality, 21*, 1-39. doi: 10.1016/0092-6566(87)90023-7

Lather, P. (1999). To be fair of use: The work of reviewing. *Review of Educational Research, 69*(1), 2-7. Retrieved from http://www.jstor.org/stable/1170641

Levitt, E. E., & Hinesley, R. K. (1967). Some factors in the valences of erotic visual stimuli. *The Journal of Sex Research, 3*(1), 63-68. doi: 10.1080/00224496709550515

Lipp, M. (2013, June 19). Myths and stereotypes that dehumanize gay men must be challenged: Start with these 10! *Huffington Post*. Retrieved from http://www.huffingtonpost.com/ murray-lipp/gay-men-myths-stereotypes_b_3463172.html

Little, R. J. A. (1988). A test of missing completely at random for multivariate data with missing values. *Journal of the American Statistical Association, 83*(404), 1198-1202. doi: 10.2307/2290157

Mahaffey, A. L., Bryan, A., & Hutchison, K. E. (2005a). Sex differences in affective responses to homoerotic stimuli: Evidence for an unconscious bias among heterosexual men, but not heterosexual women. *Archives of Sexual Behavior, 34*(5), 537-545. doi:10.1007/s10508-005-6279-4

Mahaffey, A. L., Bryan, A., & Hutchison, K. E. (2005b). Using startle eye blink to measure the affective component of antigay bias. *Basic and Applied Social Psychology, 27*(1), 37-45. doi:10.1207/s15324834basp2701_4

Mahaffey, A. L., Bryan, A. D., Ito, T. A., & Hutchison, K. E. (2011). In search of the defensive function of sexual prejudice: Exploring antigay bias through shorter and longer lead startle eye blink. *Journal of Applied Social Psychology, 41*(1), 27-44. doi: 10.1111/j.1559-1816.2010.00700.x

Marchewka, A., Żurawski, Ł., Jednoróg, K., & Grabowska, A. (2014). The Nencki Affective Picture System (NAPS): Introduction to a novel, standardized, wide-range, high-quality, realistic picture database. *Behavior Research Methods, 46*(2), 596-610. doi: 10.3758/s13428-013-0379-1

Marteau, T., & Bekker, H. (1992). The development of a six-item short-form of the state scale of the Spielberger State-Trait Anxiety Inventory (STAI). *British Journal of Psychology, 31*(3), 301-306. doi: 10.1111/j.2044-8260.1992.tb00997.x

Mavratzakis, A., Herbert, C., & Walla, P. (2016). Emotional facial expressions evoke faster orienting responses, but weaker emotional responses at neural and behavioural levels compared to scenes: A simultaneous EEG and facial EMG study. *NeuroImage, 124*(Part A), 931-946. doi: 10.1016/j.neuroimage.2015.09.065

Mc. S. (2013, October 23). *Consenting adult 1985 ABC theater intro*. [Video File]. Retrieved from https://www.youtube.com/watch?v=qNJWCfqKm0I

McAleenan, P. (2014, July 15). HIV: 'the WHO is perpetuating gay stereotypes.' *The Telegraph*. Retrieved from http://www.telegraph.co.uk/men/active/mens-health/10967926/HIV-the-WHO-is-perpetuating-gay-stereotypes.html

McCutcheon, J., & Morrison, M. A. (2015). The effect of parental gender roles on students' attitudes toward lesbian, gay, and heterosexual adoptive couples. *Adoption Quarterly, 18*, 138-167. doi: 10.1080/10926755.2014.945702

McDermott, D. T., Morrison, T. G., McDonagh, L. K., & O'Doherty, A. M. C. (2012). A test of prejudice reduction towards lesbian women: The effects of imaginary contact on explicit and implicit homonegativity. In T. G. Morrison, M. A. Morrison, M. Carrigan., & D. T. McDermott (Eds.), *Sexual minority research in the new millennium*. (pp. 187–204). Hauppauge, NY: Nova Sciences.

Miller, A. E., MacDougall, J. D., Tarnopolsky, M. A., Sale, D. G. (1993). Gender differences in strength and muscle fiber characteristics. *European Journal of Applied Physiology and Occupational Physiology, 66*(3), 254-262. doi: 10.1007/BF00235103

Monto, M. A., & Supinski, J. (2014). Discomfort with homosexuality: A new measure captures differences in attitudes toward gay men and lesbians. *Journal of Homosexuality, 61*(6), 899-916. doi: 10.1080/00918369.2014.870816

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*(2), 15-37. doi: 10.1300/J082v43n02_02

Morrison, M. A., & Morrison, T. G. (2011). Sexual orientation bias toward gay men and lesbian women: Modern homonegative attitudes and their association with discriminatory behavioral intentions. *Journal of Applied Social Psychology, 41*(11), 2573-2599. doi: 10.1111/j.1559-1816.2011.00838.x

Morrison, M. A., Morrison, T. G., & Franklin, R. (2009). Modern and old-fashioned homonegativity among samples of Canadian and American university students. *Journal of Cross-Cultural Psychology, 40*(4), 523-542. doi: 10.1177/0022022109335053

Morrison, M. A., Morrison, T. G., Harriman, R. L., & Jewell, L. M. (2008). Old-fashioned and modern prejudice toward Aboriginals in Canada. In M. A. Morrison and T. G. Morrison's (Eds.), *The Psychology of Modern Prejudice* (pp. 277-311). New Yprk, NY: Nova Science Publishers.

Morrison, T. G., Kenny, P., & Harrington, A. (2005). Modern prejudice toward gay men and lesbian women: Assessing the viability of a measure of modern homonegative attitudes within an Irish context. *Genetic and Social General Psychology Monographs, 131*(3), 219-250. doi: 10.3200/MONO.131.3.219-250

Morrison, T. G., Parriag, A. V., & Morrison, M. A. (1999). The psychometric properties of the

    homonegativity scale. *Journal of Homosexuality, 37*(4), 111-126. doi:

    10.1300/J082v37n04_07

Mosher, D. L., & O'Grady, K. E. (1979). Homosexual threat, negative attitudes toward

    masturbation, sex guilt, and males' sexual and affective reactions to explicit sexual films.

    Journal of Consulting and Clinical Psychology, 47(5), 860-873. doi: 10.1037/0022-

    006X.47.5.860

Nevid, J. S. (1983). Exposure to homoerotic stimuli: Effects on attitudes and affects of

    heterosexual viewers. *The Journal of Social Psychology, 119*, 249-255. doi:

    10.1080/00224545.1983.9922828

Nicol, A. A. M., & Boies, K. (2006). Evidence of reliability and validity for the Universal

    Orientation Scale. *Psychological Reports, 99*, 930-932. doi: 10.2466/PR0.99.7.930-932

Olson, C. L. (1976). On choosing a test statistic in multivariate analysis of variance.

    Psychological Bulletin, 83(4), 579-586. doi: 10.1037/0033-2909.83.4.579

Oppenheimer, D. M., Meyvis, T., & Davidenko, N. (2009). Instructional manipulation checks:

    Detecting satisficing to increase statistical power. *Journal of Experimental Psychology,*

    45(4), 867-872. doi: 10.1016/j.jesp.2009.03.009

Osborne, J. W., & Overbay, A. (2004). The power of outliers (and why researchers should

    ALWAYS check for them). *Practical Assessment, Research and Evaluation, 9*(6), 1-8.

    Retrieved from http://pareonline.net/getvn.asp?v=9&n=6

Overby, L. M., & Barth, J. (2002). Contact, community context, and public attitudes toward gay

    men and lesbians. *Polity, 34*(4), 433-456. doi: 10.1086/POLv34n4ms3235412

Parrott, D. J., & Zeichner, A. (2005). Effects of sexual prejudice and anger on physical

 aggression toward gay and heterosexual men. *Psychology of Men & Masculinity, 6*(1), 3-

 17. doi:10.1037/1524-9220.6.1.3

Pearl, M. L., & Galupo, M. P. (2007). Development and validation of the Attitudes Toward

 Same-Sex Marriage Scale. *Journal of Homosexuality, 53*(3), 117-134. doi:

 10.1300/J082v53n03_07

Peterson, J. L., & Hyde, J. S. (2010). A meta-analytic review of research on gender differences in

 sexuality, 1993-2007. *Psychological Bulletin, 136,* 21-38. doi: 10.1037/a0017504

Pew Research Center (April 26, 2016). A wider ideological gap between more and less educated

 adults. *Pew Research Center: U.S. Politics and Policy*. Retrieved from

 http://www.people-press.org/2016/04/26/a-wider-ideological-gap-between-more-and-

 less-educated-adults/

Phillips, S. T., & Ziller, R. C. (1997). Toward a theory and measure of the nature of

 nonprejudice. *Journal of Personality and Social Psychology, 72*(2), 420-434. doi:

 10.1037/0022-3514.72.2.420

Piwowarski, T., Christopher, A., & Walter, M. (2011). The effect of mortality salience and belief

 in afterlife on the manifestation of homonegativity. *Mental Health, Religion, & Culture,*

 14(3), 271-279. doi: 10.1080/13674670903487393

Reynolds, C. J. (2001). *The sensing and measurement of frustration with computers* (Master's

 thesis, Massachusetts Institute of Technology, Cambridge, Massachusetts). Retrieved

 from http://affect.media.mit.edu/pdfs/01.reynolds.pdf

Richardson, L. (2000). Evaluating ethnography. *Qualitative Inquiry*, *6*(2), 253-255. doi:

 10.1177/107780040000600207

Rubin, M., Paolini, S., & Crisp, R. J. (2013). Linguistic description moderates the evaluations of counterstereotypical people. *Social Psychology, 44*(4), 289-298. doi: : 10.1027/1864-9335/a000114

Ruel, E., & Campbell, R. T. (2006). Homophobia and HIV/AIDS: Attitude change in the face of an epidemic. *Social Forces, 84*(4), 2167-2178. doi: 10.1353/sof.2006.0110

Rye, B. J., & Meaney, G. J. (2010a). Measuring homonegativity: A psychometric analysis. *Canadian Journal of Behavioural Science/Revue Canadienne Des Sciences Du Comportement, 42*(3), 158-167. doi:10.1037/a0018237

Rye, B. J., & Meaney, G. J. (2010b). Self-defense, sexism, and etiological beliefs: Predictors of attitudes toward gay and lesbian adoption. *Journal of GLBT Family Studies, 6*(1), 1-24. doi: 10.1080/15504280903472485

Savin-Williams, R. C. (2006). Who's gay? Does it matter? *Current Directions in Psychological Science, 15*(1), 40-44. doi: 10.1111/j.0963-7214.2006.00403.x

Schaaff, K., Degen, R., Adler, N., & Adam, M. (2012). Measuring affect using a standard mouse device. *Biomed Tech, 57*(1), 761-764. doi: 10.1515/bmt-2012-4013

Schiappa, E., Gregg, P. D., & Hewes, D. E. (2005). The Parasocial Contact Hypothesis. *Communication Monographs, 72*(1), 92-115. doi: 10.1080/0363775052000342544

Schiappa, E., Gregg, P. B., & Hewes, D. E. (2006). Can one TV show make a difference? A Will & Grace and the Parasocial Contact Hypothesis. *Journal of Homosexuality, 51*(4), 15-37. doi: 10.1300/J082v51n04_02

Sherry, A. (2006). Discriminant analysis in counseling psychology research. *The Counseling Psychologist, 34*(5), 661-683. doi: 10.1177/0011000006287103

Shields, S. A., & Harriman, R. E. (1984). Fear of male homosexuality: Cardiac responses of low

    and high homonegative males. *Journal of Homosexuality, 10*(1-2), 53-67. doi:

    10.1300/J082v10n01_04

Siebert, D. C., Chonody, J., Siebert, C. F., & Rutledge, S. E. (2014). The importance of

    confirmatory validation: Short version of the Attitudes Toward Lesbians and Gay Men

    Scale. *Journal of the Society for Social Work and Research, 5*(2), 189-210. doi:

    10.1086/676519

Stephan, W. G., & Stephan, C. W. (2000). An integrated threat theory of prejudice. In S.

    Oskamp (Ed.), *Reducing prejudice and discrimination* (23-45). Mahwah, NJ: Psychology

    Press.

Stöber, J. (2001). The Social Desirability Scale-17 (SDS-17): Convergent validity, discriminant

    validity, and relationship with age. *European Journal of Psychological Assessment,*

    17(3), 222-232. doi: 10.1027//1015-5759.17.3.222

Sun, C., Bridges, A., Johnson, J. A., & Ezzell, M. B. (2016). Pornography and the male sexual

    script: An analysis of consumption and sexual relations. *Archives of Sexual Behavior,*

    45(4), 983-994. doi: 10.1007/s10508-014-0391-2

Tabachnik, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston, MA:

    Pearson/Allyn & Bacon.

Talaska, C. A., Fiske, S. T., & Chaiken, S. (2008). Legitimating racial discrimination: Emotions,

    not beliefs, best predict discrimination in a meta-analysis. *Social Justice Research, 21*(3),

    263-296. doi: 10.1007/s11211-008-0071-2

Thompson, E. R. (2007). Development and validation of an internationally reliable short-form of the Positive and Negative Affect Schedule (PANAS). *Journal of Cross-Cultural Psychology, 38*(2), 227-242. doi: 10.1177/0022022106297301

Tluczek, A., Henriques, J. B., & Brown, R. L. (2009). Support for the reliability and validity of a six-item anxiety scale derived from the State-Trait Anxiety Inventory. *Journal of Nursing Measurement, 17*(1), 19-28. doi: 10.1891/1061-3749.17.1.19

Tougas, F., Brown, R., Beaton, A. M., & Joly, S. (1995). Neosexism: Plus ça change, plus c'est pareil. *Personality and Social Psychology Bulletin, 21*(8), 842-849. doi : 10.1177/0146167295218007

Tsang, E. (1994) Investigating the effect of race and apparent lesbianism upon helping behaviour. *Feminism & Psychology, 4*(3), 469-471. doi: 10.1177/0959353594043019

Tsang, J.-A., & Rowatt, W. C. (2007). The relationship between religious orientation, right-wing authoritarianism, and implicit sexual prejudice. *The International Journal for the Psychology of Religion, 17*(2), 99-120. doi: 10.1080/10508610701244122

Turnbull, D., & Brown, M. (1977). Attitudes towards homosexuality and male and female reactions to homosexual and heterosexual slides. *Canadian Journal of Behavioural Science, 9*(1), 68-80. doi: 10.1037/h0081610

Udry, J. R., & Chantala, K. (2005). Risk factors differ according to same-sex and opposite-sex interest. *Journal of Biosocial Science, 37*(4), 481-497. doi: 10.1017/S0021932004006765

Vrana, S. R. (1994). Startle reflex response during sensory modality specific disgust, anger, and neutral imagery. *Journal of Psychophysiology, 8*, 211-218. Retrieved from https://www.researchgate.net/publication/225028229_Startle_reflex_response_during_sensory_modality_specific_disgust_anger_and_neutral_imagery

Warne, R. T. (2014). A primer on multivariate analysis of variance (MANOVA) for behavioral scientists. *Practical Assessment, Research & Evaluation, 19*(17). Retrieved from http://pareonline.net/getvn.asp?v=19&n=17

Watson, D., & Clark, L. A. (1994). *The PANAS-X: Manual for the Positive and Negative Affect Schedule – Expanded form*. Retrieved from http://ir.uiowa.edu/cgi/viewcontent.cgi?article=1011&context=psychology_pubs

Weinfurt, K. P., Bryant, F. B., & Yarnold, P. R. (1994). The factor structure of the Affect Intensity Measure: In search of a measurement model. *Journal of Research in Personality, 28*, 314-331. doi: 10.1006/jrpe.1994.1023

Wells, J. W. (1992). Heterosexual university students' perceptions of homosexual behavior. *Annals of Sex Research, 5*, 171-179. doi: 10.1007/BF00849740

West, K., & Cowell, N. M. (2015). Predictors of prejudice against lesbians and gay men in Jamaica. *The Journal of Sex Research, 52*(3), 296-305. doi: 10.1080/00224499.2013.853725

West, S. G., Finch, J. F., & Curran, P. J. (1995). Structural equation models with nonnormal variables: Problems and remedies. In R. H. Hoyle's (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 56-75). Thousand Oaks, NJ: Sage.

Whitton, A. E., Henry, J. D., Rendell, P. G., & Grisham, J. R. (2014). Disgust, but not anger

> provocation, enhances levator labii superiosis activity during exposure to moral

> transgressions. *Biological Psychology, 96*, 48-56. doi: 10.1016/j.biopsycho.2013.11.012

Will. (2012, January 9). 13 myths and misconceptions about gay men. *Queereka!* Retrieved from

> https://queereka.com/2012/01/09/13-myths-and-misconceptions-about-gay-men/

Witvliet, C. V., & Vrana, S. R. (1995). Psychophysiological responses as indices of affective

> dimensions. *Psychophysiology, 32*(5), 436-443. doi: 10.1111/j.1469-8986.1995.tb02094.x

Woodford, M. R., Howell, M. L., Silverschanz, P., & Yu, L. (2012). "That's so gay!":

> Examining the covariates of hearing this expression among gay, lesbian, and bisexual

> college students. *Journal of American College Health, 60*(6), 429-434. doi:

> 10.1080/07448481.2012.673519

Worthington, R. L., Dillon, F. R., & Becker-Schutte, A. M. (2005). Development, reliability, and

> validity of the Lesbian, Gay, and Bisexual Knowledge and Attitudes Scale for

> Heterosexuals (LGB-KASH). *Journal of Counselling Psychology, 52*(1), 104-118. doi:

> 0.1037/0022-0167.52.1.104

Zaikman, Y., Marks, M. J., Young, T. M., & Zeiber, J. A. (2016). Gender role violations and the

> sexual double standard. *Journal of Homosexuality, 63*(12), 1608-1629. doi:

> 10.1037/a0028240

Zeichner, A., & Reidy, D. E. (2009). Are homophobic men attracted to or repulsed by

> homosexual men? Effects of gay male erotica on anger, fear, happiness, and disgust.

> *Psychology of Men and Masculinity, 10*(3), 231-236. doi: 10.1037/a0014955

Zwolinski, J. (2014). Does inclusion after ostracism influence the persistence of affective distress? *Group Dynamics: Theory, Research, and Practice, 18*(4), 282-301. doi: 10.1037/gdn0000012

Table 1. Checklist for Assumptions for Each Hypothesis

Assumptions	H1/H4	H2/H5	H3/H6	H7/H8	H9/H10	H11
Independent Random Sampling	✓	✓	✓	✓	✓	✓
Level and Measurement of Variables	✓	✓	✓	✓	✓	✓
Absence of Multicollinearity	✓	N/A	N/A	N/A	N/A	N/A
Normality	X	X	✓	X	✓	N/A
Homogeneity of (Co)Variance	X	X	X	✓	X	N/A
Relationship between CV and DV	✓	N/A	✓	✓	✓	✓

Table 2. Pearson Product Moment Correlations Among the Variables in the Current Study

	Happy	Anger	Disgust	Surprise	Fear	Sadness	H	SDS-17	SAI-S	UOS	PDA	Valence	Intensity	MI
Happy	1													
Anger	-.639**	1												
Disgust	-.599**	.802**	1											
Surprise	-.274**	.272**	.231**	1										
Fear	-.467**	.659**	.539**	.326**	1									
Sadness	-.569**	.739**	.652**	.298**	.713**	1								
H	-.379**	.498**	.534**	.193**	.385**	.422**	1							
SDS-17	-.116	.085	.093	.050	.072	-.044	.069	1						
SAI-S	-.118	.158*	.085	.150*	.161*	.171**	.060	-.027	1					
UOS	.054	-.166*	-.082	-.069	-.060	-.082	-.111	.093	-.196**	1				
PDA	-.148*	.178**	.243**	.022	.131*	.187**	.324**	-.060	.098	-.066	1			
Valence	.790**	-.653**	-.637**	-.282**	-.491**	-.549**	-.415**	-.102	-.079	.011	-.125	1		
Intensity	.012	-.038	-.070	-.072	-.074	-.104	-.068	.093	-.203**	.091	-.004	-.004	1	
MI	.783**	-.646**	-.625**	-.279**	-.469**	-.538**	-.401**	-.100	-.149*	.007	-.115	.987**	.133*	1

Note: ** Correlation is significant at .01; * Correlation is significant at .05; H = composite homonegativity score; MI = Valence x Intensity multiplicative index

Table 3. Means and Standard Deviations for Explicit Measures Stratified by Gender

	Male		Female			
	M	SD	*M*	SD	*t*	*p*
Happy	4.98	1.34	5.17	1.33	-1.10	.273
Anger	1.80	0.99	1.52	0.65	2.59	.010
Disgust	1.73	1.03	1.62	0.86	0.90	.372
Surprise	2.91	1.13	2.93	1.09	-0.11	.913
Fear	1.63	0.89	1.46	0.61	1.77	.078
Sadness	1.85	1.09	1.78	1.03	0.50	.618
H	10.94	3.96	10.22	4.44	1.34	.182
SDS-17	7.50	3.08	6.65	2.72	2.27	.024
SAI-S	9.20	2.90	10.44	2.94	-3.30	.001
UOS	70.09	6.34	69.99	5.74	0.14	.892
PDA	13.84	5.63	15.22	5.36	-1.95	.053
Valence	72.67	18.77	75.95	19.14	-1.33	.184
Intensity	19.28	2.07	18.26	1.65	4.22	< .001
MI	443.50	354.58	478.07	339.12	-0.76	.446

Note: SDS-17 = *Social Desirability Scale-17* (Stöber, 2001); MHS = *Modern Homonegativity Scale* (MHS-G = gay male subscale and MHS-L = lesbian female subscale) (Morrison & Morrison, 2002); ATLG-S = *Attitudes toward Lesbians and Gay Men – Short Form* (ATG-S = gay male subscale and ATL-S = lesbian female subscale) (Herek, 1988); UOS = *Universal Orientation Scale* (Phillips & Ziller, 1997); SAI-S = *State Anxiety Inventory – Short Form* (Marteau & Bekker, 1992); and PDA = *Perceptions of Public Displays of Affection* items developed for the current study.

Table 4. Alpha coefficients for each of the measures for male, female, and all participants.

Scale	All (*N* = 241) α	Male (*n* = 118) A	Female (*n* = 123) α
SDS-17	.65 (95% CI = .58-.71)	.68 (95% CI = .59-.76)	.60 (95% CI = .49-.70)
MHS	X	X	X
MHS-G	.91 (95% CI = .90-.93)	.89 (95% CI = .86-.92)	.93 (95% CI = .90-.94)
MHS-L	.92 (95% CI = .91-.94)	.90 (95% CI = .87-.93)	.94 (95% CI = .92-.95)
ATLG-S	X	X	X
ATG-S	.87 (95% CI = .84-.89)	.86 (95% CI = .81-.90)	.88 (95% CI = .84-.91)
ATL-S	.86 (95% CI = .83-.89)	.87 (95% CI = .83-.90)	.85 (95% CI = .81-.89)
UOS	.58 (95% CI = .50-.65)	.59 (95% CI = .48-.69)	.57 (95% CI = .45-.67)
SAI-S	.76 (95% CI = .72-.81)	.78 (95% CI = .71-.83)	.74 (95% CI = .66-.80)
PDA	.89 (95% CI = .87-.91)	.91 (95% CI = .89-.94)	.87 (95% CI = .83-.91)

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Note: SDS-17 = *Social Desirability Scale-17* (Stöber, 2001); MHS = *Modern Homonegativity Scale* (MHS-G = gay male subscale and MHS-L =

lesbian female subscale) (Morrison & Morrison, 2002); ATLG-S = *Attitudes toward Lesbians and Gay Men – Short Form* (ATG-S = gay male

subscale and ATL-S = lesbian female subscale) (Herek, 1988); UOS = *Universal Orientation Scale* (Phillips & Ziller, 1997); SAI-S = *State*

Anxiety Inventory – Short Form (Marteau & Bekker, 1992); and PDA = *Perceptions of Public Displays of Affection* items developed for the

current study.

Table 5.1. 2 X 2 X 3 MANCOVA Multivariate Statistics for Hypotheses 1 and 4

Source	Value*	F	Df	p	η2^
Anger	.50	39.36	4, 155	< .001	.50
PDA	.03	1.23	4, 155	.300	.03
State Anxiety	.02	0.62	4, 155	.648	.02
Gender	.04	1.54	4, 155	.194	.04
Threat Type	.14	6.14	4, 155	< .001	.14
Image Type	.15	3.07	8, 312	.002	.07
Gender X Threat Type	.02	0.75	4, 155	.557	.02
Gender X Image Type	.05	0.90	8, 312	.519	.02
Threat Type X Image Type	.14	2.84	8, 312	.005	.07
Gender X Threat Type X Image Type	.03	0.61	8, 312	.774	.02

Dependent Variables: Disgust, Surprise, Fear, and Sadness

* Pillai's Trace; ^ Partial η2

Table 5.1.1. DDA as Post Hoc Testing for Threat Type X Image Type in Hypotheses 1 and 4

Everyday Intimacies

Function 1

Wilks' Lambda = 0.76; $\chi2$ (8) = 21.95, p = .005

Affective State	SDC	SC	PDRC
Disgust	0.843	0.427	0.360
Surprise	0.652	0.565	0.368
Fear	0.521	-0.036	-0.019
Sadness	-1.356	-0.214	0.290

Function 2

Wilks' Lambda = 0.96; $\chi2$ (3) = 3.64, p = .303

Affective State	SDC	SC	PDRC
Disgust	0.356	0.704	0.251
Surprise	0.197	0.413	0.081
Fear	-0.896	0.578	-0.518
Sadness	1.381	0.858	1.185

Group Centroids

	F1	F2
Gay	-.208	-.281
Lesbian	.654	.069
Heterosexual	-.503	.225

Symbolic Threats

Function 1

Wilks' Lambda = 0.84; $\chi2$ (8) = 14.81, p = .063

Affective State	SDC	SC	PDRC
Disgust	0.089	-0.122	-0.011
Surprise	0.711	0.667	0.474
Fear	-1.156	-0.524	0.606
Sadness	0.570	-0.131	-0.075

Function 2

Wilks' Lambda = 0.96; $\chi2$ (3) = 3.41 p = .332

Affective State	SDC	SC	PDRC
Disgust	-1.401	-0.447	0.626
Surprise	0.342	0.316	0.108
Fear	0.600	0.247	0.148
Sadness	0.651	0.181	0.118

Group Centroids

	F1	F2
Gay	.496	.008
Lesbian	-.272	-.293
Heterosexual	-.301	.219

Note: SDC = Standardized Discriminant Coefficient; SC = Structure Coefficient; PDRC = Parallel Discriminant Ratio Coefficient

Table 5.2. 2 X 2 X 3 ANCOVA Statistics for Hypotheses 2 and 5

Source	df	F	p	η2*
PDA	1, 189	24.96	< .001	.12
Gender	1, 189	4.14	.043	.02
Threat Type	1, 189	0.06	.808	< .01
Image Type	2, 189	0.03	.972	< .001
Gender X Threat Type	1, 189	2.57	.111	.01
Gender X Image Type	2, 189	0.21	.810	< .01
Threat Type X Image Type	2, 189	0.26	.773	< .01
Gender X Threat Type X Image Type	2, 189	0.60	.549	.01

Dependent Variable: Homonegativity

* Partial η2

Table 5.3. 2 X 2 X 3 ANOVA Statistics for Hypotheses 3 and 6

Source	df	F	p	η2*
Gender	1, 190	2.68	.104	.01
Threat Type	1, 190	4.71	.031	.02
Image Type	2, 190	6.81	.001	.07
Gender X Threat Type	1, 190	0.34	.560	< .01
Gender X Image Type	2, 190	0.78	.462	.01
Threat Type X Image Type	2, 190	0.03	.976	< .01
Gender X Threat Type X Image Type	2, 190	2.36	.097	.02

Dependent Variable: Affect Valence (feeling thermometer scores)

* Partial η2

Table 5.4. 2 X 2 X 3 ANCOVA Statistics for Hypotheses 7 and 8

Source	df	F	p	η2*
State Anxiety	1, 185	2.58	.110	.01
Gender	1, 185	17.63	< .001	.09
Threat Type	1, 185	0.64	.426	< .01
Image Type	2, 185	0.96	.383	.01
Gender X Threat Type	1, 185	0.89	.347	.01
Gender X Image Type	2, 185	0.04	.958	< .01
Threat Type X Image Type	2, 185	0.24	.785	< .01
Gender X Threat Type X Image Type	2, 185	3.01	.052	.03

Dependent Variable: Affect Intensity (mouse pressure)

* Partial η2

Table 5.5. 2 X 2 X 3 ANCOVA Statistics for Hypotheses 9 and 10

Source	df	F	p	η2*
State Anxiety	1, 186	1.57	.212	.01
Gender	1, 186	1.89	.171	.01
Threat Type	1, 186	6.35	.013	.03
Image Type	2, 186	6.71	.002	.07
Gender X Threat Type	1, 186	0.61	.436	< .01
Gender X Image Type	2, 186	0.90	.407	.01
Threat Type X Image Type	2, 186	0.05	.949	< .01
Gender X Threat Type X Image Type	2, 186	2.40	.094	.03

Dependent Variable: Multiplicative Index (valence X intensity)

* Partial η2

Table 5.6.1. Bivariate Correlations between Behaviour Change and All Other Variables for

Hypothesis 11

	Beh Change
Happy	-.006
Anger	-.017
Disgust	.003
Surprise	-.026
Fear	-.021
Sadness	.050
H	-.081
SDS-17	-.026
SAI-S	.108
UOS	-.037
PDA	-.007
Valence	-.094
Intensity	-.151[*]
MI	-.098

Note: [*] Correlation is significant at .05; H = composite homonegativity score; MI = Valence x

Intensity multiplicative index

Table 5.6.2. 2 X 2 X 3 Logistic Regression Results for Hypothesis 11

Source	B	Std. Error	Wald	df	p	Exp(B)	LBCI	UPCI
Block 1								
Affect Intensity	.160	.077	4.281	1	.039	1.173	1.008	1.365
Block 2								
Affect Intensity	.076	.088	.735	1	.391	1.079	.907	1.282
Gender(1)	-.578	.174	11.056	1	.001	.561	.399	.789
Threat Type(1)	.271	.166	2.660	1	.103	1.311	.947	1.817
Image Type			4.771	2	.092			
Image Type(1)	-.568	.419	1.835	1	.176	.567	.249	1.298
Image Type(2)	.353	.381	.858	1	.354	1.423	.674	3.005
Threat Type(1) X Gender(1)	.136	.166	.672	1	.412	1.146	.827	1.588
Image Type X Gender			1.762	2	.414			
Image Type(1) X Gender(1)	-.538	.419	1.644	1	.200	.584	.257	1.329
Image Type(2) X Gender(1)	-.102	.381	.072	1	.789	.903	.428	1.904
Image Type X Threat Type			3.841	2	.147			
Image Type(1) X Threat Type(1)	-.821	.419	3.832	1	.050	.440	.194	1.001
Image Type(2) X Threat Type(1)	-.302	.381	.627	1	.429	.740	.351	1.561
Image Type X Threat Type X Gender			.273	2	.872			
Image Type(1) X Threat Type(1) X Gender(1)	.195	.424	.211	1	.646	1.215	.529	2.790
Image Type(2) X Threat Type(1) X Gender(1)	.163	.380	.185	1	.667	1.178	.559	2.481

Note: Image Type(1) = dummy variable 1 that represents the comparison between participants who viewed images of gay men and those who viewed lesbian women; Image Type(2) = dummy variable 2 that represents the comparison between participants who viewed images of gay men and those who viewed heterosexual couples; Image Type is the multicategorical variable prior to being dummy coded.

Appendix A

Affective Responses to Depictions of Social Groups & Objects

Consent Form (on USASK letterhead)

Principal Investigator: CJ Bishop, PhD Candidate

Supervisor: Dr. Todd G. Morrison

The purpose of this study is to establish whether being exposed to imagery depicting varying social constructs is sufficient to elicit an emotional response in the viewer. Involvement in this study will require that you complete a computerised questionnaire package where you will be exposed to various images depicting social groups and objects. All data collected during this stage will be entered into SPSS for subsequent analysis. Upon completion of the questionnaire package, you will be asked to participate in a one-on-one interview with CJ Bishop (principal investigator). The responses provided during the interview will be video-recorded and later transcribed. The transcripts then will be analysed for themes.

By signing below, you indicate that you understand:

1) You will complete a computerised questionnaire package within an interview setting followed by a one-on-one interview.
2) You are at least 16 years of age.
3) You are a volunteer and free to withdraw or stop responding at any time, if you so choose. If, at any point, you feel uncomfortable or do not wish to continue, you are under no obligation to do so and may leave at any time. Your participation or withdrawal from this study will in no way affect your academic standing and/or any possible relationship you might have with any of the research personnel.
4) You may request that any data not be used in any of the analyses.
5) There is an interview that will take place near the end of this session that will be video recorded for quality assurance purposes. Random portions of your videotaped interview will be reviewed by an independent researcher to ensure adherence to all study protocols. Your video recording will not be identified using your name or student number; instead, the number that corresponds to the order of your participation will be the only identifier. You may request that the video recording be stopped at any point.
6) The researcher will undertake all reasonable measures to safeguard the confidentiality of the data provided in both the questionnaire and interview.
7) There are no known risks associated with taking part in this type of research (e.g., completing questionnaires and participating in an interview afterward).
8) Once all data have been collected, you may request a summary of the findings by submitting an e-mail request to social.constructs@usask.ca.
9) Any publications and/or conference presentations based on the data gathered from this study will not include any personally identifying information. Direct quotations (taken from the interviews) may be used; however, to reiterate, no personally identifying details will appear.

10) In the event that taking part in this study causes stress or concern of any sort, it is recommended that you contact U of S Student Counselling Services (306-966-4920; 3rd Floor of Place Riel). If you find that you require more immediate assistance, you may also contact the Saskatoon Crisis Intervention Service (306-933-6200).
11) If you would like to keep the contact information listed below, a copy can be obtained from the researcher facilitating your lab session.
12) This lab session will last approximately 60 minutes.
13) Bonus percentage points will be added to the final grades of eligible Introductory Psychology Students. No other remuneration will be provided for involvement in this study.
14) This study has been approved on ethical grounds by the University of Saskatchewan's Behavioural Research Ethics Board.

Name (Print): _____

Signature: _____

Today's Date: _____

Information required for Bonus Points:

Class Section:_____ **Professor:**_____

Student #: _____

If you have questions or concerns, please contact either CJ Bishop (the student investigator) or his supervisor, Dr. Todd Morrison. Any questions regarding your rights as a participant may be addressed to the committee through the Research Ethics Office using the information provided below.

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Research Ethics Board
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ethics.office@usask.ca

The Relationship between Affective Reactions to Same-Sex Imagery and Behavioural Indices of Homonegativity

Debriefing Form (printed on USASK letterhead)

Principal Investigator: CJ Bishop, PhD Candidate

Supervisor: Dr. Todd G. Morrison

Dear Participant:

Thank you for participating in this study. Your responses will assist researchers better understand the factors underlying homonegativity and why some individuals view gay men and lesbian women in a decidedly negative manner.

The first questionnaire that you filled out following the demographic items was a scale to determine whether or not you are prone to self-presentation biases (i.e., are you likely to respond in socially desirable way). The next measure is a psychometrically sound indicant of homonegativity which examines how respondents view both gay men and lesbian women. The third measure is an index of affect intensity which measures how strongly you experience your emotional reactions.

There are four groups in this study and you were randomly assigned to one of these groups. Group one viewed images depicting gay male couples; group two viewed images depicting lesbian female couples; group three saw images of heterosexual couples; and, finally, group four looked at control images consisting of common household items.

The interview portion is designed to measure subtle, non-verbal discriminatory behaviour. You will recall that the researcher disclosed he is a gay male during the interview. The provision of this information was designed to determine if you become agitated or uncomfortable after being made aware that you were being interviewed by a gay man. The videotaped interview will be analysed for non-verbal behaviours indicative of negative affect such as: eye contact with the researcher, body posture, apparent comfort level, etc. Please note that in the event that you felt uncomfortable following the disclosure of the researcher's sexual orientation, research suggests that this type of discomfort is a fairly common occurrence.

Thank you very much for your time and participation! The results of this study, when they are available, can be requested via e-mail. Although unanticipated, if you find yourself experiencing any distress or anxiety as a result of participating in this study, please contact Student Health and Counselling Services located on campus (3rd floor Place Riel; 306-966-4920). If you have any concerns regarding the ethical conduct of this study, please contact the Research Ethics Board, located on campus.

CJ Bishop, PhD Candidate   Dr. Todd Morrison   Research Ethics Board

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Appendix C

Control Images

Appendix D

Pilot Testing Questions for Marriage/Commitment Ceremony Photographs

Please answer each of the following questions for each of the images provided. Responses may be recorded using the associated Excel file.

1) Looking at this picture...please indicate on a scale from 1-10 (with 1 being the lowest and 10 being the highest) how well you feel this image corresponds to the "traditional" notion of marriage?

2) Looking at this picture...please indicate on a scale from 1-10 (with 1 being the lowest and 10 being the highest) how common do you think it is to see gay male (*lesbian female or heterosexual)* couples engage in this behaviour?

3) If you had no information regarding the individuals being depicted, how do you think you might classify their relationship based on the options below?
    1) Acquaintances
    2) Friends
    3) Siblings
    4) Partners

4) Looking at this picture...please indicate on a scale from 1-10 (with 1 being the lowest and 10 being the highest) your perception of the romanticism of this image?

5) Looking at this picture...please indicate on a scale from 1-10 (with 1 being "not at all" and 10 being "extremely offensive") how offensive you find this image?

Appendix E

Gay Men – Marriage Images

Appendix F

Lesbian Women – Marriage Images

Appendix G

Heterosexual Couples – Marriage Images

Appendix H

Mean Scores and Standard Deviations for Selected Symbolic Threat Images (Weddings)

Image	Item[a]	Gay Male		Lesbian Female		Heterosexual	
		M	*SD*	*M*	*SD*	*M*	*SD*
1	1	6.9	2.4	6.0	2.2	9.9	0.4
	2	7.1	1.2	5.0	2.8	9.1	1.9
	3	4.0	0.0	3.5	1.2	4.0	0.0
	4	4.6	2.8	8.5	1.5	5.3	1.0
	5	1.0	0.0	1.0	0.0	1.1	0.4
2	1	6.7	2.6	5.3	3.1	9.6	0.8
	2	7.3	1.6	5.0	2.3	9.0	1.9
	3	4.0	0.0	3.5	1.2	4.0	0.0
	4	6.3	1.6	7.5	1.9	6.0	1.9
	5	1.0	0.0	1.0	0.0	1.1	0.4
3	1	6.3	2.6	5.0	2.9	8.9	1.5
	2	6.6	1.6	5.3	2.9	8.7	1.9
	3	4.0	0.0	3.5	1.2	4.0	0.0
	4	6.0	1.8	8.2	1.2	6.3	1.8
	5	1.0	0.0	1.0	0.0	1.1	0.4

a. See Appendix D for item text.

Appendix I

Pilot Testing Questions for Family Photographs

Please answer each of the following questions for each of the images provided. Responses may be recorded using the associated Excel file.

1) Looking at this picture...please indicate on a scale from 1-10 (with 1 being the lowest and 10 being the highest) how well you feel this image corresponds to the notion of a "traditional" family?

2) Looking at this picture...please indicate on a scale from 1-10 (with 1 being the lowest and 10 being the highest) how common you think it is to see such a scene in public?

3) If you had no information regarding the individuals being depicted, how do you think you might classify their relationship based on the options below?
    1) Nuclear Family
    2) Immediate Family (e.g., siblings)
    3) Extended Family (e.g., cousins)
    4) Friends

4) Looking at this picture...please indicate on a scale from 1-10 (with 1 being the lowest and 10 being the highest) how likely bystanders would see this image and code it as a "family"?

5) Looking at this picture...please indicate on a scale from 1-10 (with 1 being "not at all" and 10 being "extremely offensive") how offensive you find this image?

Appendix J

Gay Men – Family Images

Appendix K

Lesbian Women – Family Photographs

Appendix L

Heterosexual Couples – Family Photos

Appendix M

Mean Scores and Standard Deviations for Symbolic Threat Images (Family Photos)

Image	Item[a]	Gay Male		Lesbian Female		Heterosexual	
		M	*SD*	*M*	*SD*	*M*	*SD*
1	1	6.3	2.2	4.5	2.7	9.1	1.1
	2	4.6	2.5	6.3	1.8	8.7	1.0
	3	1.0	0.0	1.0	0.0	1.0	0.0
	4	6.0	2.9	6.5	1.5	9.4	1.5
	5	1.0	0.0	1.0	0.0	1.0	0.0
2	1	6.0	2.9	4.2	2.1	9.0	1.2
	2	4.4	2.9	5.0	2.8	7.7	1.6
	3	1.1	0.4	1.0	0.0	1.1	0.4
	4	5.6	2.2	7.5	1.9	9.6	1.1
	5	1.0	0.0	1.0	0.0	1.0	0.0
3	1	5.1	3.0	3.7	2.3	8.7	1.8
	2	3.3	2.6	3.7	2.5	7.0	1.8
	3	1.1	0.4	1.0	0.0	1.0	0.0
	4	6.6	2.6	7.5	1.9	9.4	0.8
	5	1.4	0.8	1.0	0.0	1.0	0.0

a.   See Appendix I for item text.

Appendix N

Pilot Questions for Gay Male and Lesbian Female Everyday Intimacies Images

Please answer each of the following questions for each of the images provided. Responses may be recorded using the associated Excel file.

1) Looking at this picture...please indicate on a scale from 1-10 (with 1 being the lowest and 10 being the highest) how likely do you think it would be to see heterosexual couples perform this behaviour in public?

2) Looking at this picture...please indicate on a scale from 1-10 (with 1 being the lowest and 10 being the highest) how likely do you think it would be to see gay male (*lesbian female*) couples perform this behaviour in public?

3) If you had no information regarding the individuals being depicted, how do you think you might classify their relationship based on the options below?
   1) Acquaintances
   2) Friends
   3) Siblings
   4) Partners

4) Looking at this picture...please indicate on a scale from 1-10 (with 1 being the lowest and 10 being the highest) how sexually explicit do you find this image?

5) Looking at this picture...please indicate on a scale from 1-10 (with 1 being "not at all" and 10 being "extremely offensive") how offensive you find this image?

Pilot Questions for Heterosexual Couple Everyday Intimacies Images

Please answer each of the following questions for each of the images provided. Responses may be recorded using the associated Excel file.

1) Looking at this picture...please indicate on a scale from 1-10 (with 1 being the lowest and 10 being the highest) how likely do you think it would be to see this behaviour in public?

2) If you had no information regarding the individuals being depicted, how do you think you might classify their relationship based on the options below?
   1) Acquaintances
   2) Friends
   3) Siblings
   4) Partners

3) Looking at this picture...please indicate on a scale from 1-10 (with 1 being the lowest and 10 being the highest) how sexually explicit do you find this image?

4) Looking at this picture...please indicate on a scale from 1-10 (with 1 being "not at all" and 10 being "extremely offensive") how offensive you find this image?

Appendix P

Gay Men – Everyday Intimacies Images

Appendix Q

Lesbian Women – Everyday Intimacies Images

Appendix R

Heterosexual Couples – Everyday Intimacies Images

Appendix S

Mean Scores and Standard Deviations for Selected Everyday Intimacies Images

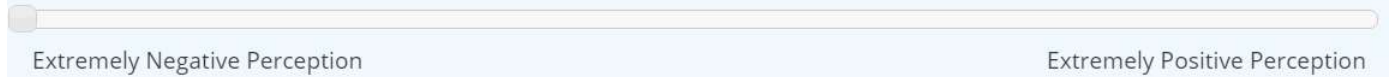| Image	Item[a]	Gay Male		Lesbian Female		Heterosexual	
		M	*SD*	*M*	*SD*	*M*	*SD*
1	1	7.9	1.6	8.7	1.2	6.3	3.1
	2	4.1	2.0	7.3	2.3	X	X
	3	4.0	0.0	3.3	1.0	4.0	0.0
	4	2.3	1.3	1.8	1.3	1.7	1.1
	5	1.1	0.9	1.0	0.0	1.1	0.4
2	1	7.9	1.6	8.0	2.2	6.3	3.0
	2	3.6	1.5	5.8	2.8	X	X
	3	4.0	0.0	3.5	1.2	4.0	0.0
	4	2.3	1.0	2.5	1.6	1.3	0.5
	5	1.1	0.7	1.2	0.4	1.0	0.0
3	1	7.7	1.7	8.0	2.1	6.0	3.1
	2	3.7	2.0	5.2	3.1	X	X
	3	4.0	0.0	2.8	1.3	4.0	0.0
	4	2.3	0.8	3.3	2.2	1.6	0.5
	5	1.1	0.9	1.2	0.4	1.0	0.0
4	1	7.7	2.2	7.7	3.0	6.0	3.6
	2	3.0	1.6	6.0	2.8	X	X
	3	4.0	0.0	3.5	1.2	4.0	0.0
	4	2.3	0.8	2.2	1.9	1.6	0.8
	5	1.1	0.9	1.0	0.0	1.4	0.5
5	1	6.9	2.3	7.3	2.1	4.7	2.7
	2	3.0	1.9	5.3	2.5	X	X
	3	4.0	0.0	3.5	1.2	4.0	0.0
	4	3.1	1.3	2.7	1.9	1.4	0.5
	5	1.1	0.9	1.2	0.4	1.0	0.0
6	1	6.6	2.3	6.2	2.6	3.4	2.7
	2	2.9	1.6	4.8	3.1	X	X
	3	4.0	0.0	3.5	1.2	4.0	0.0
	4	2.7	1.3	2.5	1.6	1.7	0.5
	5	1.1	0.9	1.2	0.4	1.0	0.0

a. See Appendix N for gay and lesbian items; Appendix O for heterosexual items.

Appendix T

Feeling Thermometer

Please indicate your perception of the above image by using the mouse to place the square slider between the two end points of the bar, which range from 0 (Extremely Negative Perception) to 100 (Extremely Positive Perception).

Clicking on the square slider will provide the numeric position of each spot on the bar.

Extremely Negative Perception   Extremely Positive Perception

Appendix U

Six Affect Related Items

Please indicate your level of agreement with each of the following item using the options provided.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree

1) Looking at this picture makes me happy.

2) Looking at this picture makes me angry.

3) I think this picture is disgusting.

4) I was surprised to see this picture.

5) Looking at this picture makes me feel afraid.

6) Looking at this picture makes me sad.

Appendix V

The Social Desirability Scale-17 (SDS-17)

Below you will find a list of statements. Please read each statement carefully and decide if that statement describes you or nor. If it describes you, check the word "true"; if not, check the word "false."

1) I sometimes litter.*

2) I always admit my mistakes openly and face the potential negative consequences.

3) In traffic I am always polite and considerate of others.

4) I always accept others' opinions, even when they don't agree with my own.

5) I take out my bad moods on others now and then.*

6) There has been an occasion when I took advantage of someone else.*

7) In conversations I always listen attentively and let others finish their sentences.

8) I never hesitate to help someone in case of emergency.

9) When I have made a promise, I keep it – no ifs, ands, or buts.

10) I occasionally speak badly of others behind their back.*

11) I would never live off other people.

12) I always stay friendly and courteous with other people, even when I am stressed out.

13) During arguments I always stay objective and matter-of-fact.

14) There has been at least one occasion when I failed to return an item that I borrowed.*

15) I always eat a healthy diet.

16) Sometimes I only help because I expect something in return.*

* = reverse-coded

Appendix W

Please answer each of the following items using the scale below:

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree

1) Many gay men use their sexual orientation so that they can obtain special privileges.

2) Gay men seem to focus on the ways in which they differ from heterosexuals, and ignore the ways in which they are the same.

3) Gay men do not have all the rights they need.*

4) The notion of universities providing students with undergraduate degrees in Gay and Lesbian Studies is ridiculous.

5) Gay men still need to protest for equal rights.*

6) Gay men should stop shoving their lifestyle down other people's throats.

7) If gay men want to be treated like everyone else, then they need to stop making such a fuss about their sexuality/culture.

8) Celebrations such as "Gay Pride Day" are ridiculous because they assume that an individual's sexual orientation should constitute a source of pride.

9) Gay men who are "out of the closet" should be admired for their courage.*

10) Gay men should stop complaining about the way they are treated in society, and simply get on with their lives.

11) In today's tough economic times, Canadians' tax dollars shouldn't be used to support gay men's organisations.

12) Gay men have become far too confrontational in their demand for equal rights.

* = reverse-coded

Appendix X

Modern Homonegativity Scale – Lesbian Women Subscale (MHS-L)

Please answer each of the following items using the scale below:

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree

1) Many lesbian women use their sexual orientation so that they can obtain special privileges.

2) Lesbian women seem to focus on the ways in which they differ from heterosexuals, and ignore the ways in which they are the same.

3) Lesbian women do not have all the rights they need.*

4) The notion of universities providing students with undergraduate degrees in Gay and Lesbian Studies is ridiculous.

5) Lesbian women still need to protest for equal rights.*

6) Lesbian women should stop shoving their lifestyle down other people's throats.

7) If lesbian women want to be treated like everyone else, then they need to stop making such a fuss about their sexuality/culture.

8) Celebrations such as "Gay Pride Day" are ridiculous because they assume that an individual's sexual orientation should constitute a source of pride.

9) Lesbian women who are "out of the closet" should be admired for their courage.*

10) Lesbian women should stop complaining about the way they are treated in society, and simply get on with their lives.

11) In today's tough economic times, Canadians' tax dollars shouldn't be used to support lesbian women's organisations.

12) Lesbian women have become far too confrontational in their demand for equal rights.

* = reverse-coded

Appendix Y

Attitudes toward Lesbians Subscale – Short Form

Please indicate your level of agreement with each of the following items using the options provided:

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree

1) I think lesbian women are disgusting.

2) Female homosexuality is a perversion.

3) Female homosexuality is a natural expression of sexuality in women.*

4) Sex between two women is just plain wrong.

5) Female homosexuality is merely a different kind of lifestyle that should not be condemned.*

* = reverse-coded

Attitudes toward Gay Men Subscale – Short Form

Please indicate your level of agreement with each of the following items using the options provided:

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree

1) I think male homosexuals are disgusting.

2) Male homosexuality is a perversion.

3) Male homosexuality is a natural expression of sexuality in men.*

4) Sex between two men is just plain wrong.

5) Male homosexuality is merely a different kind of lifestyle that should not be condemned.*

* = reverse-coded

Appendix A1

Universal Orientation Scale

Please indicate your level of agreement to each of the following items by selecting one of the options provided.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

1) The similarities between males and females are greater than the differences.

2) I tend to value similarities over differences when I meet someone.

3) At one level of thinking we are all of a kind.

4) I can understand almost anyone because I'm a little like everyone.

5) Little differences among people mean a lot.*

6) I can see myself fitting into many groups.

7) There is potential for good and evil in all of us.

8) When I look into the eyes of others I see myself.

9) I could never get accustomed to living in another country.*

10) When I first meet someone I tend to notice differences between myself and the other person.*

11) "Between" describes my position with regard to groups better than does "in" and "out."

12) The same "spirit" dwells in everyone.

13) Older persons are very different than I am.*

14) I can tell a great deal about a person by knowing their gender.*

15) There is a certain beauty in everyone.

16) I can tell a great deal about a person by knowing their gender.*

17) Men and women will never totally understand each other because of their inborn differences.*

18) Everyone in the world is very much alike because in the end we all die.

19) I have difficulty relating to persons who are much younger than I.*

20) When I meet someone I tend to notice similarities between myself and the other person.

* = reverse-coded

Appendix B1

State Anxiety Inventory – Short Form

Read each statement and select the appropriate response to indicate how you feel **right now**, that is, at this very moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

1	2	3	4
Not at all	A little	Somewhat	Very much so

1) I feel calm.*

2) I feel tense.

3) I feel upset.

4) I am relaxed.*

5) I feel content.*

6) I am worried.

 * = reverse-coded

Attitudes toward PDA Measure

Please indicate your level of agreement with each of the following items using the options provided:

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree

1) I don't care if they're gay or straight, public displays of affecting are revolting to me.

2) Public displays of affection between a man and a woman are gross.

3) Anything more than holding hands between couples in public is inappropriate.

4) I hate it when people flaunt their relationship by engaging in public displays of affection.

Appendix D1

Demographic Information

Instructions: Please fill in all of the information listed below, so that we may obtain some very general information about those participating in this study.

Age:_____

Sex:

   1. Male
   2. Female
   3. Other (please specify): _____

Ethnicity (please select all that apply to you):

   1. White
   2. Black
   3. Aboriginal (First Nations, Métis)
   4. Hispanic
   5. Asian (Chinese, Japanese, etc.)
   6. South Asian (Indian, Pakistani, etc.)
   7. Arab/Middle Eastern
   8. Other (please specify): _____

Birth Country: _____ (please specify); if not Canada, how old were you when your family immigrated to Canada? _____

Which of the following best described your Religious Affiliation?

   1. Protestant Catholic
   2. Roman Catholic
   3. Evangelical Christian
   4. Muslim
   5. Jewish
   6. Hindu
   7. Buddhist
   8. Atheist
   9. Other (please specify): _____

How often do you attend religious services?

1. More than once a week
2. Once a week
3. A couple times a month
4. Once a month
5. Every few months
6. Only on special occasions or family events
7. Never

Based on the scale provided below which estimates where the main Federal parties in Canada fall on the political spectrum, how would you describe your political ideology/party affiliation?

1. Green Party
2. NDP
3. Liberal
4. Conservative
5. Other
6. No Affiliation

Thinking about your views on social and economic issues, OVERALL, would you classify yourself as:

1. Very Liberal
2. Liberal
3. Somewhat Liberal
4. Neither Liberal nor Conservative
5. Somewhat Conservative
6. Conservative
7. Very Conservative

Please indicate which of the following options you feel best describes your sexual orientation:

1. Asexual
2. Gay/Lesbian
3. Bisexual, but mostly Gay/Lesbian
4. Bisexual, equally Gay/Lesbian and Heterosexual
5. Bisexual, but mostly Heterosexual
6. Heterosexual
7. I don't know for sure
8. Other: _____

Have you ever had a relationship with someone of your own sex which resulted in sexual orgasm?

1. Yes
2. No
3. I do not desire any sexual relationships

Have you ever had a romantic attraction to a male?

1. Yes
2. No
3. I do not experience romantic attraction to anyone

Have you ever had a romantic attraction to a female?

1. Yes
2. No
3. I do not experience romantic attraction to anyone

Please enter the code of the post-it provided by the researcher. Thank You!

_____

Appendix F1

Video Recording Release Form

(Printed on USASK letterhead)

I, _____, acknowledge that I have been informed that the
        (please print your name)
interview in which I participated for this study, was video recorded. I have been provided with
the opportunity to view the recording of my interview and have been informed of my right to
have the recording deleted should I so desire. I have also been informed that my video recording
will not be identified with my name or student number; instead, it will be identified with the
number that corresponds to the order in which I participated.

I hereby authorise the release of my video recording to CJ Bishop and Dr. Todd Morrison to be
used in the manner described in the debriefing session. At my request, I have received a copy of
this Video Recording Release form for my own records.

_____   _____
Name of Participant   Date

_____   _____
Signature of Participant   Signature of Researcher