Does Mortality Salience Play a Role in Homophobia?

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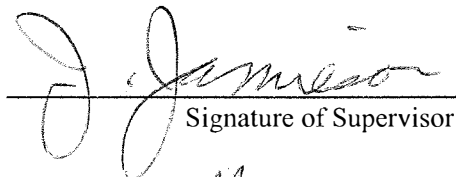# Lakehead
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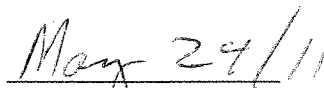OFFICE OF GRADUATE STUDIES

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DEDICATION

I would like to dedicate this thesis to all the LGBT kids out there who feel like giving up and who feel like death is their only way out. Stay strong and keep fighting, you can do amazing things if you never quit, I am proof of that.

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Abstract

Mortality salience (MS) occurs when a person experiences greater access to thoughts of his/her own eventual death causing fear; it is said that worldview defence structures are activated in an attempt to alleviate this fear. The purpose of this study was to determine the effects of mortality salience and viewing one of three sets of images (control, romantic or erotic gay imagery), on levels of homophobia. Eighty-nine male Lakehead University students were randomly assigned to one of six conditions (a 2 X 3 factorial design) and completed a questionnaire package. Neither MS nor image type had significant effects on homophobia scores. However, the MS manipulation also failed to affect the manipulation check (word completion task). While the gay images did not affect homophobia, they elicited strong negative emotional responses, particularly the erotic images, and the responses were strongly correlated with levels of homophobia. Also, religious fundamentalism and need for cognition were found to have significant independent relationships to homophobia.

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Does Mortality Salience Play a Role in Homophobia?

While acceptance of lesbian, gay, and bisexual (LGB) individuals has been increasing over the years, homophobia and homonegativity directed toward LGB people is still a problem (Herek, 2009). There are two main theories of homophobia: 1) An individual is curious about what a sexual encounter with someone of the same sex would be like and these thoughts are deeply troubling potentially causing the individual to publicly denounce all things LGB (Russell & Bohan, 2006), 2) Individuals may just have a phobic response to homosexuality in general and they are deeply afraid of what they perceive as not being the status quo (Russell & Bohan, 2006). The present study will examine another possible explanation of homophobia, namely that mortality salience (MS) (Greenberg, Pyszczynski & Solomon, 1986) may underlie homophobia. MS is the condition by which an individual has the knowledge of his/her mortality made salient within the periphery of his/her conscious mind. When an individual's mortality is made salient, his or her worldview defence structures are activated in an attempt to stave off the threat (Greenberg et al., 1986). The primary purpose of this study is to explore different underlying causes of homophobia, primarily, whether MS, either alone or in concert with exposure to gay imagery, affect reported levels of homophobia. A secondary purpose is to identify what roles religious fundamentalism and need for cognition play with regard to homophobia. Another secondary purpose is to determine how individuals emotionally respond to viewing erotic and romantic gay imagery. Are these emotional responses indicative of other potential causes of homophobia?

Homophobia

Homosexuality is defined as the attraction of a member of one sex to members of the same sex. However, sexual orientation exists on a continuum that ranges from exclusive

homosexuality through bisexuality to exclusive heterosexuality. One of the earliest conceptions of sexuality was conceived by Alfred Kinsey (1947). Kinsey theorized that sexuality was not static but instead fluctuated based on experiences and ranged across the aforementioned continuum. Kinsey developed his now famous seven point Likert-type scale with one representing exclusive heterosexual attraction, four representing equal heterosexual and homosexual attraction and seven representing exclusive homosexual attraction (Kinsey, 1947). Kinsey admits a seven point Likert scale is not perfect as a measure of sexual orientation however it does illustrate that sexuality can range quite significantly for different individuals.

Although there are no exact figures of what percentage of the population is actually LGB, there have been estimates made by researchers in the past. Sell, Wells, and Wypij (1995) found that within their samples 6.2%, 4.5%, and 10.7% of the men and 3.6%, 2.1%, and 3.6% of the women, from the United States, France, and the United Kingdom respectively, reported same sex contact over the past five years. Although this is quite dated, it is still one of the best estimates we have of the LGB population in North America and Europe.

Those who are heterosexual represent the overwhelming majority in society and, as with any difference occurring between majority and minority groups, prejudice is an issue. Prejudice is a preconceived judgement about another person or group based solely on their membership within a perceived outgroup (Mohipp & Morray, 2004; O'Donahue & Caselles, 1993). The specific type of prejudice expressed toward members of the LGB community is called homophobia, which is an aversion to the beliefs, values, and activities of LGB individuals. The negativity expressed can range from simple disagreements with the chosen romantic partners of LGB individuals all the way to violent demonstrations that demand criminalization of same sex acts (Morradi, 2006; O'Donahue & Caselles, 1993; Pascoe, 2005; Sandfort, Bos, & Vet, 2000).

In western society, if men do not conform to the strict gender roles laid out for them (i.e., act too feminine, or choose a career generally thought to be "meant for" women) they are almost immediately labelled as gay. Once labelled as gay, homophobic acts and behaviours (i.e., derogatory comments and assault) may be directed toward the individual regardless of whether or not the offender of the gender roles is actually gay or not (Van der Meer, 2004). In October 2010, five teenagers committed suicide within a single week after intense anti-gay taunting in the United States. It is evident this behaviour still occurs today and is, still a life threatening issue. The question thus becomes what are the origins of these behaviours and why do they endure?

Factors underlying homophobia. Russell and Bohan (2006) have hypothesized that there are two different subtypes of homophobia. The first and most common subtype is a defensive type exhibited in people who show strong aversions to homosexuality and LGB individuals themselves. These aversions are thought to be a part of reaction formation defence mechanism (originally conceptualized within psychoanalysis). This defence is activated when an individual experiences a troubling memory or impulse that he/she unconsciously blocks from being made salient in his/her conscious mind. It is believed that these people are attempting to increase their sense of security with regard to their sexuality by taking a stance firmly against homosexuality as a whole and LGB individuals. In essence, these individuals are reaffirming their own perceived heterosexuality to themselves and to the world. However, it is believed that these individuals are secretly wondering what an LGB relationship would be like or perhaps what it would be like to experiment sexually with a member of their own sex (Russell & Bohan, 2006). The second, less common subtype of homophobia is thought to deal with a more phobic response in individuals. Individuals exhibiting this second subtype become distracted, upset, and angry by the mere mention of homosexuality or someone who is or associates with LGB

individuals. This reaction can cause the individual to become intensely afraid and can influence him/her to seek escape from the situation or setting (Meier, Robinson, Gaither, & Heinert, 2006). It is of great importance to note that this subtype of homophobia is not associated with the denial mechanism described within the first subtype. An individual who exhibits this second subtype is not on any level thinking about the possibility of any experience with a member of his/her own sex (Russell & Bohan, 2006). There has been some research that provides evidence for the defensive subtype of homophobia via the use of images of gay men.

Gay imagery supports the defensive subtype of homophobia. In a study conducted by Adams, Wright, and Lohr (1996) both homophobic and non-homophobic heterosexual men were shown sexually explicit videos depicting heterosexual, lesbian, and gay male imagery. Before exposure to the imagery, all participants filled out questionnaires related to homophobia and aggression to determine if they were homophobic or not. As the participants were shown the videos, they were measured using a penile plethysmograph to measure volumetric changes in penile volume indicative of sexual arousal. The results indicated that both groups of males showed sexual arousal patterns when presented with heterosexual and lesbian erotic videos. Interestingly however, only the homophobic men showed an increase in sexual arousal when viewing the gay men erotic video. The authors concluded that homophobia in heterosexual men is associated with gay arousal and interest in the possibility of a sexual encounter with members of the same sex (Adams et al., 1996). This is indicative of the defensive subtype of homophobia described by Russell and Bohan (2006).

In another study conducted by Meier et al., (2006), heterosexual men were shown images of lesbians, heterosexual couples, gay men embracing or kissing, and control images. The length of time they would look at each stimulus was recorded. Participants also completed a sequential

priming task that was designed to implicitly measure their attitudes toward gay sex. Following

the viewing of all images, participants were asked to complete a self-deception questionnaire and

also the *Index of Homophobia*. As the authors predicted, participants high in self-deception and

who had high homophobia scores were significantly more likely to limit their exposure to the

gay images. For participants who measured low on self-deception, homophobia scores were not

related to viewing time of any of the images (Meier et al., 2006). With regard to the sequential

priming task, results indicated that those high in self-deception had implicit attitudes toward gay

individuals becoming more negative as their homophobia score increased. There was no such

interaction at work for those low in self-deception (Meier et al., 2006). In the study by Adams et

al., (1996) participants were not given the option to look away or avoid the stimuli as they were

in Meier et al., (1996) study. As a result, the authors conclude that the tendency of those who

rate high in self-deception and who also rate as homophobic avoided looking at images of gay

men. This avoidance was considered a defensive reaction to the images viewed. These findings

further support the idea of a defensive subtype of homophobia.

An alternative view of homophobia that also supports the defensive subtype has been

proposed by Kite and Whitely (1996, 1998). These authors focused on gender roles and their

influence in society as a potential catalyst for homophobia. Details can be found within the next

section.

Gender roles and their influence on homophobia. Archer and Rhodes (1989) and

Stroink (2004) have found that male gender roles are much more clearly defined than the more

ambiguous gender roles for women. The overall consequence of this is that men have a much

more detailed and concrete set of rules to follow throughout life but women do not possess a

niche with a concrete definition indicating the "proper" rules for behaviour throughout life. For

example, men are typically less involved with raising children and have a socially influenced need to act overtly masculine (e.g., playing contact sports, seemingly open to confrontation, overtly putting down members of an outgroup). Women however, not having such strict gender roles, may feel the need to act overtly feminine in public, or perhaps act more masculine, and yet others may be unsure how they are "supposed" to act (Harkless & Fowers, 2005; Stroink, 2004).

As a result, a common finding is that men also seem to believe their masculinity needs to remain secure and proven by relationships with women and by discussing details later with a group of other men. By not desiring physical relationships with women and thus not proving their masculinity, gay men are viewed as violating their male gender roles and rejecting their masculinity (O'Donahue & Caselles, 1993). The case for women is different because as mentioned, their gender roles are much less concrete. Women who stay at home, or have careers, or act overtly masculine or feminine are all still seen as being strong women but just existing at different points along the spectrum of acceptable female identity and behaviour (O'Donahue & Casselles, 1993). As with any spectrum there are extremes and the only time women tend to be labelled is when they fall within the perceived "butch" or highly masculine side. Outside of this "butch" range, women generally are seen as breaking down the walls of sexist persecution (Kite & Whitely, 1996). Due to the concrete gender roles, it is more likely for men to be targets of labelling and homophobic persecution for their violation of said gender roles.

Research has shown that some straight men label and harass gay men in an attempt to publicly assert their masculinity by reaffirming their status as women-craving heterosexual men (Kite & Whitely, 1996, 1998). It is believed this phenomenon occurs because straight men who adhere to their rigid gender roles feel threatened by the lack of conformity of gay men. This

causes them to potentially question their own strict adherence to gender roles, and such questioning is unacceptable to straight men. By portraying gay men as weak, less manly, and undesirable, straight men bolster themselves to feel more secure and stable with their own identities (Moradi, 2006; Russell & Bohan, 2006; Whitely, 2001). Lesbian women do not threaten the social status of straight men so the aversion directed toward gay men is generally not experienced with regard to lesbians. Studies have shown those straight men who enjoy pornography and strongly adhere to their gender roles often prefer pornographic depictions of lesbian sex and fantasize about sexual experiences involving themselves and two or more women (Kite & Whitely, 1996, 1998; Louderbeck & Whitely, 1997). Neither lesbian women nor gay men appear to cause conflict for the gender roles of straight women and lesbianism does not seem to cause women to feel threatened about their identity as women (Kite & Whitely, 1996, 1998). My own research has also replicated these findings showing that a straight undergraduate sample demonstrated significantly higher levels of homophobia toward gay men than lesbians. Results also indicated that straight men have higher overall homophobia scores compared to straight women (Bishop, 2008). Yet another line of research that supports the defensive subtype of homophobia relates to religious fundamentalism and how it affects homophobia.

Religious fundamentalism and its influence on homophobia. Religious fundamentalism is characterized as a strong belief in the doctrine and very specific teachings of one's particular faith, viewing it as the "one true faith" because it provides the desired structure in life some people require (Hunsberger, 1996). Although the literature suggests that the relationship between prejudice and religiousness is unclear (Hunsberger & Jackson, 2005), one specific aspect of religiousness, religious fundamentalism, is consistently found to be positively related to homophobia (Hill, Terrell, Cohen & Nagoshi, 2010; Hunsberger & Jackson, 2005;

Leak & Finken, 2011; Schwatrz & Lindley, 2005). For example, in a study by Leak and Finken (2011), structural equation modeling was employed to examine the relationships between different aspects of religiousness and prejudice. The results showed that there was a strong positive relationship between religious fundamentalism and homophobia, meaning that those high in religious fundamentalism reported higher levels of homophobia. This research shows that although homophobia can be heavily influenced by perceived violations of established gender roles, there is also a strong influence of fundamentalist beliefs in homophobia as well.

Hill et al. (2010) examined the indirect effects of religious fundamentalism on different forms of prejudice. Specifically related to homophobia, results indicated that need for cognition partially mediated the relationship between religious fundamentalism and homophobia. These findings are important because they serve to demonstrate that the impact of religious fundamentalism on homophobia may occur at least in part because of fundamentalists' lower need for cognition. Since the literature currently views religious fundamentalism as related both directly (Leak & Finken, 2011; Schwatrz & Lindley, 2005) and indirectly (Hill et al., 2010) it is important to examine both variables when examining factors that affect homophobia.

There are additional factors that have been found to influence homophobia that have been studied to varying degrees. An example is attachment style, the way one relates to others in the context of intimate relationships, and how this relates to homophobia (Gromley & Lopez, 2010). There are also other possibilities that have not been studied to date; one such possibility being that MS may affect reported levels of homophobia. The development of new and more effective ways to measure homophobia over the past 40 years has allowed researchers to continually refine the theories of what factors may be involved in influencing homophobia.

Measurement of homophobia. There have been several different methods developed to measure homophobia over the years. The first quantitative measure developed was by Hudson and Ricketts in the late 1970s called the *Index of Homophobia* (IOH). Hudson and Ricketts began by explicating the construct of homophobia as the attitudes expressed toward homosexuality and people's affective responses to LGB individuals. The authors decided upon a questionnaire format utilizing a five-point Likert scale. Many items were designed so participants would imagine situations in which they are emotionally invested while answering (i.e., a sibling or a friend coming out as LGB). By changing the emotional attachment for each of the questions it forced respondents to think about each of their responses and reflect on their own thoughts and feelings (Hudson & Ricketts, 1980).

The work by Hudson and Ricketts lead to the advent of other measures of homophobia. A very popular measure is the *Attitudes toward Lesbians and Gay Men scale* (ATLG; Herek, 1988). This measure utilized the same five-point Likert scale from Hudson and Ricketts's original work. The format of the test, however, was changed to determine if there was a difference between the reported attitudes toward gay men and lesbians. Items were updated and reworded with a new pool of items being factor analyzed to create a new measure capable of making the distinction between attitudes toward gay men and lesbians. Many of the items created are very simple and straightforward with items having remained reliable over the years and through societal changes (Herek, 1994, Whitely, 2002). A shorter version was introduced in 1994 known as the ATLG-S which has five questions pertaining to both gay men and lesbians (Herek, 1994).

A more contemporary measure of homophobia is the *Modern Homonegativity Scale* (MHS; Morrison & Morrison, 2002). This measure was developed in order to provide items that

are not so reactive. The aforementioned scales blatantly ask respondents to indicate if they have negative attitudes toward gays and lesbians and it is very easy to answer such questions in a manner that gives more socially desirable responses. The researchers suggest that the IOH and ATLG look at a specialized subtype of homophobia that is not necessarily valid for university level students. Finally, the items are relatively dated and deal with sensibilities related to morality and religious beliefs which may not be as valid as they were 20 plus years ago with present day prejudice surrounding more abstract concerns (e.g., should same sex spouses be entitled to spousal benefits?) (Morrison & Morrison, 2002). The MHS has gay men and lesbian subscales. Each subscale has 12 items which are answered using a five-point Likert type scale (1 = strongly disagree to 5 = strongly agree).

The MHS is preferable over the IOH and ATLG because it does a better job at eliminating the possibility that social desirability concerns will come into play. Rye and Meaney (2010) found that the MHS has internal consistency and validity values very slightly higher than those of the IOH and the ATLG. The authors mention that the greatest advantage the MHS has is that data show a normal distribution without the need for any further manipulation. This cannot be said for the IOH and the ATLG (Rye & Meaney, 2010).

Terror Management Theory and Mortality Salience

Terror management theory (TMT) is an elaboration on the early work of Becker (1973) which stated that the human body poses significant problems for humans because it reminds them of their animal limitations, particularly our finite lifespan (i.e., our inevitable death). TMT itself expands on Becker's work and offers the idea that the unique human awareness of death combined with the motivation to survive creates the potential for great fear (Greenberg, Pyszczynski, & Solomon, 1986). The creation of a sophisticated anxiety buffer that consists of

self-esteem and a cultural worldview assists humans in managing this fear. With regard to TMT, a cultural worldview is a communal view of reality that offers stability, meaning, order, and the promise of symbolic or even literal immortality to those who live up to the standards and values created by their culture. Self-esteem is similar in the sense that one believes he or she is living up to the standards and values paramount to the cultural worldview. These two concepts function together as an anxiety buffer reassuring a person that he or she is a valued member of a meaningful world while also providing protection against the fear of death (Cox, Goldenberg, Pyszczynski, & Weise, 2007).

Terror management theory has been tested using two different hypotheses, the anxiety-buffer hypothesis and the MS hypothesis. The anxiety-buffer hypothesis states that if the buffer protects one from anxiety, then strengthening this buffer should reduce the anxiety experienced during future threats. Heightened self-esteem has been shown effective in reducing a variety of defensive responses that thoughts of death can produce (Greenberg et al, 1992; Schmeichel et al., 2009). The MS hypothesis states that if people are protected from their death related thoughts by this anxiety buffer, then reminding people of their eventual death should increase the need for this anxiety buffer. By making people aware of their own mortality, it causes their worldview defences to strengthen thus providing greater protection from the threat. Research has shown that reminding people of their death can influence prejudicial tendencies (Greenberg et al., 1990), stereotypical beliefs (Renkema, Stapel, Maringer, & van Yperen; 2008; Schimel et al, 1999), aggression (McGregor et al., 1998), and phobic behaviours (Strachan et al., 2007).

The most common method for eliciting MS is to have participants answer two open-ended questions pertaining to their own death. These questions ask participants to describe in as much detail as possible what feelings they experience when they think of their own eventual

death and what they think will happen as they die (Greenberg et al., 1986; Schimel et al., 1999). As well, research has shown that subliminal presentation of death-related words can also provoke MS (Arndt, Greenberg, Pysczynski, & Solomon, 1997). The effects of MS are specific only to thoughts of a person's individual death. Thoughts of pain, social exclusion, paralysis, failure, or even the death of a loved one do not produce the same defensive pattern observed in people primed with thoughts of their own death (Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994; Greenberg et al, 1995).

       Measurement of Mortality Salience. A participant cannot simply be asked if he/she has had his/her mortality made salient as this process generally occurs within the unconscious mind. Rather a much more subjective approach is required in order to determine if mortality salience is at work. The method of choice to determine the level of mortality salience is utilization of a word completion task in which participants are asked to simply complete each of the word fragments provided with words that first come to mind (Cox et al., 2006; Greenberg et al., 1994). There are generally 20 word fragments provided of which five or six can be completed as words that depict some form of death imagery. For example, if a participant is presented with the fragment SK_ _L, two choices would be "skill" and "skull". The idea is that if participants more often respond with death related words than neutral choices then it is believed they are experiencing MS. Scoring of such a measure is established by simply counting how many of the five word fragments are completed as death related imagery. The greater the number of death related completions, the higher the score for MS (Cox et al., 2006; Greenberg et al., 1994).

       Mortality salience and social transgressions. Studies have shown that when people are reminded of their mortality, they judge those who commit some form of a perceived social transgression more harshly. In a study by Rosenblatt, Greenberg, Solomon, Pysczynski, and

Lyon (1989) both undergraduate students and municipal court judges proposed higher bail limits

for those who broke the law (in this case a prostitute) when their mortality was made salient.

These effects were only observed in those who had unfavourable views of prostitution to begin

with. The results indicate that having one's mortality made salient amplifies the reactions of

people who have unfavourable opinions of certain perceived moral transgressions. In a similar

study by Florian and Mikulancer (1997), participants who had their mortality made salient were

more likely to recommend greater punishments for those who made social transgressions.

A very important study by Lieberman, Arndt, Personius, and Cook (2001) demonstrated

that individuals who had their mortality made salient were more likely to support hate crime

legislation and support harsh punishments when no specific victim was mentioned, similar to the

findings reported above. However, if the victim of a hate crime was specified and if that

individual was perceived by the participant as a threat to his/her cultural worldview then he/she

was far less punitive toward the transgressor in these cases. These results indicate that when

morality is made salient, people do in fact frown upon moral transgressions unless the victim

described is a threat to their worldviews via perceived social transgressions. If this is the case,

these individuals see the attack as a form of defence of their worldview structures and are far less

punitive to those transgressors. There are many similarities to this idea of the judgement of social

transgressions being influenced by MS in the literature on disgust and creatureliness.

Disgust and creatureliness. Rozin, Haidt, and McCauley (1999) have suggested that

since humans are the only species cognitively aware of their inevitable death, distancing

themselves from other animals by expressions of disgust may allow people to symbolically deal

with their mortality concerns. Disgust, in humans, is considered to be an ideological response to

objects, conditions, or behaviours which are not themselves dangerous or unpleasant, but rather

offensive to oneself because of their nature or origin (Goldenberg et al., 2001). Research shows that core disgust is experienced by humans via animals (e.g., insects), body products (e.g., urine or feces), and various foods (e.g., animal brains; Rozin & Fallon, 1987). The argument here is that these objects are perceived as threatening because they give the impression of a closer relationship between humans and other animals than most are comfortable with. Aside from the aforementioned core disgust, other common conditions and behaviours that cause disgust are: poor hygiene (e.g., unpleasant body odour), inappropriate sex (e.g., sex with animals), gaping wounds, and exposure to death (e.g., exposure to a corpse; Rozin, Haidt, McCauley, Dunlop, & Ashmore, 1999).

Becker (1973) first suggested that humans have problems with their physical nature as it is a constant reminder of their animal limitations and fragility. Goldenberg, Psyzczynski, Greenberg, and Solomon (2000) explored the relationship between death anxiety and body nature concerns. Their research suggested that priming with physical aspects of sex functions as a symbolic reminder of an individual's physical nature. Results have shown that individuals high in neuroticism reported having strong aversions to the physical nature of sex but not the romantic aspects. Individuals high in neuroticism who were primed with only the physical nature of sex tended to show significantly higher MS than individuals who were primed about being in love with someone before the physical aspects of sex stimulus. Although these individuals high in neuroticism still showed MS activation, those receiving the romance prime prior to the physical nature of sex prime had significantly lower MS scores than those individuals who were only primed with physical nature of sex (Goldenberg et al., 2000). The researchers explain that individuals high in neuroticism find physical sex troubling because it activates death anxiety due to the symbolic reminder that humans are indeed animals. However, the authors

theorized that the idea of love allows for a sense of meaning for the relationship and allows for less overlap between their animal and human nature since the concept of love is innately human. Goldenberg, Cox, Pyszczynski, Greenberg, and Solomon (2002) sought to expand on the previous study and examined whether or not the physical aspects of sex provoking death anxiety was accounted for by the association between physical sex with animal-like behaviour.

"Creatureliness" is a term used to define the state in which humans are aware that they are very similar to animals with respect to drives, urges, and needs (Goldenberg et al., 2000). The authors theorized that reminding individuals of the similarities between themselves and other animals (i.e., creatureliness) would cause them to show elevated levels of MS, with no such reactions for those being reminded of the differences between humans and other animals. Results show that participants who received the creaturely prime scored the physical aspects of sex as less appealing than their counterparts who were told of the differences between themselves and animals. Another experiment made participants aware of the similarities or differences between humans and other animals and were then given items to read emphasizing either the physical or romantic aspects of sex. Results indicate that those who received the creatureliness prime followed by the brief descriptions of physical sex showed significantly greater MS than their counterparts who received the romantic aspects of sex following the creatureliness prime (Goldenberg et al., 2002).

As mentioned above, individuals reminded of the physical aspects of sex were more likely to show heightened MS but not when reminded of the romantic aspects of sex (Goldenberg et al., 2000). Also, the follow up study showed that individuals who were reminded of their similarities with animals rated the physical aspects of sex more negatively than those who had the differences between humans and other animals (Goldenberg et al., 2002). In both studies,

when individuals were able to establish a sense of meaning and purpose for sex (i.e. sex because of love), they were able to eliminate the threat of the actual act. The authors used statements that emphasized either the physical or romantic aspects of the participants' own sexual encounters; therefore participants were only ever exposed to their own presumably largely heterosexual experiences. The question thus becomes, if participants are exposed to erotic gay imagery that emphasizes the physical nature of sex will they show similar patterns of response? In other words, would viewing such imagery remind individuals of their own animal nature as it did in these studies?

The same questions exist for participants who would view romantic gay images. The previous studies suggest that romantic images would be perceived as less threatening than erotic images, buffering the mortality enhancing effects of the more creaturely images with a layer of cultural meaning. However, would images of gay men in romantic situations still have the same effect? Or could romantic images of gay men in their wedding photos be perceived as committing a social transgression that still causes threat? There has been no research looking at how viewing images of gay men emphasizing the physical aspects of sex and romantic aspects of love will be viewed by straight participants. In studies using heterosexual imagery, it would appear that focusing on the meaning of the sex was a method of defending against the threat of the animalistic nature of sex. Will this same defence structure exist when viewing images of gay men?

Religious fundamentalism and mortality salience. Being reminded of the romantic aspects of sex provides deeper meaning for the act which strengthens the anxiety buffer resulting in participants showing significantly less MS. Similar results have been found related to religious fundamentalism and how the deeper meaning it can provide for some people with

respect to their own death impacts mortality salience. Friedman and Rholes (2008) found that religious fundamentalism can bolster ones anxiety buffer and provide protection against anxiety. Results showed that individuals high in religious fundamentalism engaged in less world view defence when reminded of their mortality than their low fundamentalist counterparts. An exploration of the tone of the mortality salience manipulation writings showed that those high in religious fundamentalism responded in a more positive emotional tone and appeared to view their death in terms of acceptance. Religious fundamentalism thus appears to play a significant role in how mortality is experienced and thus in how much the person needs worldview defence as a way to offset existential terror. Do these findings have any implications for future MS research?

Given that religious fundamentalism is associated with higher homophobia but with lower need to defend one's worldview following mortality salience a possibility seems to be that an individual high in religious fundamentalism will likely not show heightened MS but will show greater levels of homophobia. Given the relationship among religious fundamentalism, mortality salience, and homophobia, and between need for cognition and religious fundamentalism, a study on the effects of mortality salience on homophobia should include these variables as covariates.

Mortality Salience as it Relates to Homophobia

There are two studies that have examined issues relevant to the question of whether MS plays a role in homophobia. These findings will be reviewed in this section. The first study (Nail, McGregor, Drinkwater, Steele, & Thompson, 2009) shows that MS can elicit anti-gay sentiment in some people. The second study (Schimel et al., 1999) also shows that MS can elicit homophobia in another subtype of people.

Nail et al. (2009) looked at how and if MS would affect an individuals' political affiliation. The researchers utilized open ended questions asking participants to describe how they feel about their inevitable death and what they think will happen to their body after they die to prime MS. Participants were also asked to indicate their political ideology. Participants completed five minutes of filler material and were then asked to rate a video which depicted the issue of benefits for a gay employee's spouse. They were then asked to answer whether they support same sex spousal benefits or not and to estimate what percentage of other Canadians might agree. The strength of the anti-gay sentiments was calculated by taking the product of support for same sex spousal benefits (yes or no) and estimated consensus on that opinion. The results indicated that the control group (i.e., those who did not experience death anxiety) maintained their liberal beliefs that individuals' same sex spouses should be awarded spousal benefits from an employer. However, those who claimed to be staunchly liberal but were in the MS condition actually showed a more conservative viewpoint (i.e., they did not support the idea that same sex spouses should be eligible to receive spousal benefits from a company) (Nail et al., 2009). These results show that MS can have an influence on one's political ideology in the short term (i.e., cause a shift from a liberal mindset to a more conservative stance). Also, this study illustrates how MS can influence thoughts and opinions of LGB individuals.

A group of studies conducted by Schimel et al. (1999) looked at MS and its effect on stereotypes, finding evidence that MS enhances stereotypic thinking and preferences. One of the five studies looked specifically at the effects of MS on views of gay men. There were two groups; one in which participants were primed with their inevitable death and the control group in which participants were primed with questions pertaining to television. Each member of these two groups was randomly assigned to one of two conditions where they were to read one of two

stories each describing a different 23 year old sophomore (i.e., a 2 X 2 between-groups design). All participants were asked to complete a scale to determine their need for closure (NFC) scores. The first group read a story about a stereotype consistent gay man who was described as being a theatre major, loves shopping, going to go-go bars, dancing, and attending plays and musicals. The second group read a story of similar length but it related to a stereotype inconsistent gay man who described himself as being an engineering major, loves to restore old cars, play basketball, lift weights and finishes by adding that he likes going "off-roading". Participants were then asked to complete two questions about liking and wanting to meet the described person on a 9-point Likert scale. Finally, participants were asked to rate the person described to them on 32 different traits, twenty of which (10 feminine and 10 masculine) were related to sex roles (Schimel et al., 1999).

The results indicate that there was no main effect of MS on how each of the gay men was rated. However, results did show a significant interaction for the participants high in NFC receiving the MS manipulation: those high in NFC rated the non-stereotypical gay man as more negative than the other groups. These findings show that, for those high in NFC, MS causes homophobia directed at those gay males who are exhibiting lifestyles that are inconsistent with expected gender roles and stereotypes. The authors theorize that lack of adherence to these perceived gender roles for males by some gay men is a particular threat to those high in NFC, and that increased homophobia is how they attempt cope with their MS by strengthening their cultural worldviews (Schimel et al., 1999). These findings are important because they show that need for closure can function as a moderator of MS and thus should be explored in future research.

These two studies show that MS can provoke homophobia for some people. However, the effects of MS on homophobia do not appear to be particularly strong and are not always present as main effects. The question therefore arises whether MS may elicit a stronger effect on homophobia under some conditions. Two such conditions might be exposure to gay romantic images and erotic gay images that mirror potential real life experiences. Seeing photos of gay men in clearly romantic (holding hands and getting married) or erotic (embracing passionately) situations may produce a stronger threat to straight men's worldview defence structures than the stimuli used in these two studies. One particular reason for studying the effects of such images is to help understand why gay men who openly display romantic involvement are sometimes subjected to homophobic related assaults (e.g., gay bashing; van der Meer, 2003). Could MS underlie such responses? Or could moderators such as religious fundamentalism and need for closure play a role in such responses?

Present Study

The focus of the present study was to explore the underlying causes of homophobia. The primary question was whether MS, either alone or with exposure to romantic and erotic gay imagery, would affect levels of homophobia. A secondary purpose was to identify what roles religious fundamentalism and need for cognition play with regard to homophobia. A final purpose was to determine how individuals emotionally respond when viewing erotic and romantic gay imagery. Participants were randomly assigned to receive either the mortality salience or control manipulation. All participants were then randomly assigned to view one of three sets of images: romantic images of gay men, mildly erotic images of gay men or control images (a 2 X 3 factorial design). Scales were embedded within the questionnaire package to

measure variables that may predict homophobia and/or moderate the impact of MS on homophobia. These scales also served to assist with the deception of the purpose of the study.

Method

Participants

The participants in this study consisted of 90 male students at Lakehead University in Thunder Bay, Ontario Canada. One case was discarded because part of the questionnaire was left blank. Forty-five participants received the mortality salience manipulation and of the 45: 15 viewed the romantic images, 14 viewed the erotic images and 16 viewed the control images. Forty-four participants received the control manipulation and of the 44: 15 viewed the romantic images, 14 viewed the erotic images and 15 viewed the control images. Participant's ages ranged from 18 to 49 with a mean age of 22.1 years with a standard deviation of 5.36. Average time of completion for participants was roughly 40 minutes, completion times ranged from 25 minutes to one hour.

Materials

The first page of the questionnaire package was a cover letter (Appendix A) that participants were instructed to read before proceeding. The second page of the questionnaire package was a consent form (Appendix C) and participants were asked to indicate their full name and provide their signature indicating they read the consent form and agreed to participate in this study. The consent form was detached and handed to the experimenter who placed it in a box. This study was completely anonymous and no identifying information was required. Participants were informed that as more participants filled out their consent forms, the pile would be shuffled each time to ensure consent forms could not be matched up to the order of the completed

questionnaires. One bonus percentage point was allocated to each participant enrolled in Introductory Psychology.

A demographics sheet (Appendix D) was provided at the beginning of the questionnaire package that asked various non-identifying questions. The information requested the participants' age and ethnicity. Participants were also asked to indicate their sexual orientation. The measure was modified from one used by Kinsey (1947) and had a seven-point Likert type scale with 1 indicating "completely homosexual", 4 indicating "an equal interest in both sexes" and 7 indicating "completely heterosexual".

The social desirability subscale from *Jackson's Personality Research Form, 3rd Ed.* (Jackson, 1989; Appendix E) was presented as a 16 item scale to be answered either true or false. Social desirability is the attempt by individuals to respond in ways that they feel are expected of them. The items in this scale are by design low in face validity so participants were less likely to be able to ascertain what was being measured (Jackson, 1989). The test manual reports internal consistency reliabilities for an odd-even split half of the AA and BB forms of the test as 0.82 for the social desirability subscale (Jackson, 1989).

The *Need for Closure scale* (NFC; Kruglanski, Webster & Klem, 1993) is a bipolar measure consisting of 42 items answered on a six point, forced choice, Likert type scale ranging from 1 (strongly disagree) to 6 (strongly agree; Appendix F). Cognitive closure is the desire for certain issues or events to follow a predictable pattern that does not deviate. The authors indicate that the NFC has been previously found to have a Cronbach's alpha of 0.84 (Kruglanski et al., 1993).

The *Eysenck Personality Questionnaire- Revised short form* (EPQ-RS; Eysenck, Eysenck, & Barrett, 1985; Appendix G) consists of 48 items across four different subscales to be

answered as either "yes" or "no". The four different subscales tap into neuroticism, psychoticism, extraversion and the fourth subscale is a lie scale. With respect to reliabilities for males, the authors report a Cronbach's alpha of 0.62 for the psychoticism subscale, a Cronbach's alpha of 0.88 for the extraversion subscale, a Cronbach's alpha of 0.84 for the neuroticism subscale and a Cronbach's alpha of 0.77 for the lie scale (Eysenck et al., 1989). These reliabilities were taken from the male scores from Sample B.

The *Revised Religious Fundamentalism scale* (RRFS; Appendix H) examines the level of adherence one observes toward the doctrine of his/her faith. The RRFS consists of 12 items to be answered on a forced choice eight point Likert type scale ranging from 1 (very strongly disagree) to 8 (very strongly agree). The authors report a Cronbach's alpha value of 0.91 for students.

The *Revised Need for Cognition scale* (NCS) examines how likely people are to engage in and enjoy problem solving tasks (Cacioppo, Petty, & Kao, 1984; Appendix I). The NCS consists of 18 items to be answered on a nine point Likert type scale ranging from 1 (very strongly disagree) to 9 (very strongly agree). The NCS has been found to have a Cronbach's alpha value of 0.90 (Cacioppo et al., 1984).

Homophobia was measured using the gay men subscale of the *Modern Homonegativity Scale* (MHS; Morrison & Morrison, 2002; Appendix J). This subscale consists of 12 items answered using a seven point Likert type scale from 1 "very strongly disagree" to 7 "very strongly agree." The authors reported finding a Cronbach's alpha of 0.91 for males completing the gay male subscale of the MHS (Morrison & Morrison, 2002).

The word completion task was a fill in the blanks type scale where participants completed a word for each item (Appendix K; Cox et al., 2007; Greenberg et al., 1994). Six of the 25 items

had the option of being completed with death related words i.e. SK_ _ L can be either skill or skull. Scores consisted of the total number of death-related words provided, which is meant to provide an indication of an individual's level of death thought accessibility (Cox et al., 2007; Greenberg et al., 1994).

The mortality salience (MS) manipulation was achieved by the random assignment of two open ended questions. Both groups were asked to answer two questions, in no more than five sentences, each in the provided space for each question. The questions for the mortality salience condition were: 1) Please describe the thoughts and feelings you experience when you think about your own death, 2) Please describe in as much detail as possible what you think will happen as you die and once you are physically dead (Appendix L; Nail et al, 2009; Schimel et al., 1999). The control group was asked two similar open ended questions related to watching television: 1) Please describe the thoughts and feelings you experience when you think about watching TV, 2) Please describe in as much detail as possible what you think will happen to you as you watch TV both physically and mentally (Appendix M; Nail et al, 2009; Schimel et al., 1999). Instructions were provided that indicated these responses were integral to the study and to make sure the questions were answered with as much detail as possible. The first two participants required additional instructions on how to provide responses for the open-ended questions. The information given verbally to those participants was transcribed onto sheets of paper that were inserted into the questionnaire packages so all subsequent participants received the same information (Appendices N & O).

Priming of gay imagery was achieved using three sets of six images. The first set of images had depictions of gay romance with two males being actively involved in what appears to be their own wedding (Appendices P-U). The second set of images had erotic depictions of gay

men embracing and kissing (Appendices V-A1). Eight graduate students were asked to rate 38 images based on their romanticism, eroticism, the perception of the relationship of those in the images, and how offensive they perceived the images to be. The eight graduate students answered four questions for each image (Appendix B1) and those images with the six highest romanticism and the six highest eroticism scores were included in this study. The control group for this task viewed six neutral images taken from the International Affective Picture System (IAPS; Lang, Bradley & Cuthbert, 2001). Special care was taken to include images that did not depict any human being and that also had arousal means of less than 2.4 on the male subjects' table (Appendices C1-H1). To ensure all images were viewed closely and not avoided as observed in the Meier et al. (2006) study, participants were asked to answer four questions about each image as it was viewed (Appendix I1). Questions asked participants to specify their affective responses as they viewed each of the images based on feelings of disgust, happiness, and anger experienced on a seven point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree), and also identify what they saw in each image in one complete sentence.

Two questions asked participants to rate the images they viewed (Appendix J1). The first question was "Did you enjoy viewing these images?" with the choices of "yes" or "no" provided. The second question was "How would you rate the images you viewed?" A seven point Likert scale was provided with responses from 1 (I very much enjoyed viewing these images) to 7 (I very much disliked viewing these images), followed by the prompt "please explain".

Procedure

Ethics approval for this study was received from the Research Ethics Board at Lakehead University. After a short presentation to each of the three introductory psychology classes, a list of lab times was provided along with the primary researcher's e-mail address. The potential

participants were informed that their participation would yield partial course credit provided by way of one additional percentage point added to the student's final grade in the course. The presentation consisted of the researcher briefly describing the study and stressing that only males were being sought for this study. Mild deception was employed to hide the true nature of the study. Potential participants were told that this study dealt with attitudes toward different social constructs. It was hoped that by hiding the true nature of the study, fewer participants would decline participating due to the subject matter. The title of the study was removed from all materials presented to potential participants and was not disclosed until they received a copy of the debriefing letter (Appendix B). Following the presentation, a copy of all the potential lab time offerings was posted and students were asked to come and sign up for one by writing their name and e-mail address so a reminder could be sent to each individual about his lab time. Potential participants were also given the primary researcher's e-mail address so that lab times could be scheduled via e-mail. Additional participants were also recruited via the use of the e-mail bulletin service for Lakehead University. Two separate draws of $50 cash were offered as an additional incentive for those who were not eligible for receiving bonus points.

Participants attended lab sessions one or two at a time as the lab used could be easily separated into two rooms via the use of a sliding door. Randomization was established via a randomized blocks design; a random number generator was used to create each of the blocks of six. The first number appearing in the block was the first questionnaire package selected for the first participant and from there packages were administered in a cyclical fashion starting with the selected number. Once all 6 conditions were satisfied from the first block a new randomized block would be started. There is an additional participant in the mortality salience control image group due to an error in assigning participants into groups and one fewer in the mortality salience

erotic images group due to the same error. As soon as they entered the lab, participants were asked to read the cover letter and sign the informed consent form if they chose to take part in the study. The informed consent form was placed in a box as participants watched to ensure they were aware that their consent form would not be associated with their questionnaire responses. Participants then sat at a desk and were asked to work through the questionnaire package. Before they began, participants were also asked to answer all questions honestly and attempt to resist the urge to answer in a manner they felt might benefit the study or present themselves as more socially desirable. A computer monitor was set up for when the participants were ready to view their set of images. Instructions asked participants to flag the primary researcher when they were ready to view the images and a slide show was started.

Participants first completed the demographics page. Next, participants were asked to complete the social desirability subscale of the Jackson PRF. The two additional scales that were included (the NFC and the EPQ-RS) examine variables (need for closure and neuroticism) that were found to be moderators of mortality salience and homophobia in previous studies (Goldenberg et al., 2000; Schimel et al., 1999). An added benefit of including these two scales is that they aided in the cover story that this study was looking at attitudes related to several different social constructs. It was important that these scales be presented before the MS manipulation as it ensures these responses were not influenced by the manipulation.

Once these two additional scales were completed, participants were asked to complete the MS or control manipulations depending on their randomly assigned group. All participants were informed prior to beginning the task that the loose sheet of paper inserted into the questionnaire package provided additional instructions on how to answer the two open ended questions.

Responses were written in the questionnaire package in pen and participants were reminded to not write on the loose sheet of paper.

Past research has shown that MS has the greatest effect when it is on the periphery of conscious awareness (Nail et al, 2009). As a result, a distracter task is included in research of this type to ensure the MS threat is no longer within participants' conscious awareness. Participants were next asked to complete the RRFS and the NCS in order to serve this purpose. Pilot testing was conducted to ensure the completion of these scales took enough time to adequately distract the participants. Aside from their function as a distracter, these two scales examined religious fundamentalism and need for cognition (similar to need for closure) which were found to be moderators of mortality salience and homophobia in previous research (Leak & Finke, 2011; Schimel et al., 1999). An added bonus in using these scales was that using the RRFS and the NCS assisted in the cover story being told to participants, examining attitudes toward various constructs.

Once the distracter task was completed, participants flagged the researcher who came over and flipped the page for them. Participants were informed they were going to be viewing a slide show that contained six images and were asked to answer the four questions presented for each image. The purpose of the four questions was to ensure participants viewed each of the images and did not avoid the gay images by limiting their exposure, as was observed by Meier et al., (2006). Participants were given control of the slideshow using the PCs mouse and were asked not to proceed to the next image until they had answered all four questions for the previous image. Once all six images had been presented, participants then were asked to power down the monitor and answer the two questions pertaining to their enjoyment of the viewing task and also

how much they liked the task. Once these questionnaires were answered, participants were asked to complete the last two pages of the questionnaire.

Participants were next asked to complete the word completion task to determine their levels of death thought accessibility. The instructions on the scale describe this page as being a pilot test for a scale to be included in a different study so as to hide the true purpose of the scale and what it was measuring. Once participants completed the word completion task, they were asked to complete the MHS which was the last scale.

Once completed, participants handed their questionnaires to the researcher who coded the questionnaire based on the group they were randomly assigned to using two letter coding (i.e., CE indicated a participant received the control manipulation and viewed the erotic images). Participants were informed that the questionnaires along with the consent forms would be shuffled continuously as more participants completed their questionnaire packages to ensure confidentiality. Participants were then partially debriefed without disclosing the true nature of the study to avoid contamination of pending participants. Participants were also asked if they could define Munchausen's by proxy, borderline personality disorder and terror management theory. If participants were able to define terror management, their questionnaire package was flagged with a mark at the top, but none of the participants were able to define Terror Management theory. After all data were collected, a full debriefing form was e-mailed to all participants.

Data Analysis

The word completion task was scored manually for each participant with the six words that could be completed as death related words being highlighted. A total score was calculated for the number of death related words reported. Data were entered into an SPSS file. Upon

completion of data entry, the total scores for all scales were computed using the statistical software package SPSS 17.0, reverse coding items as needed. The emotional ratings provided by each participant (happy, angry and disgust) were summed to create three composite scores.

The effects of mortality salience condition and image type on the word completion task were examined using a 2 X 3 between subjects ANOVA. This analysis allowed for an independent variable check to determine if the mortality salience manipulation elicited greater death thought accessibility. It also assessed the possibility that viewing gay images might cause an increase in mortality salience (death thought accessibility). The second analysis examined the effects of mortality salience condition and image type on homophobia scores using a 2 X 3 between subjects ANOVA.

Previous studies suggest that mortality salience may be moderated by religious fundamentalism (Friedman & Rholes, 2008) and need for closure (Schimel et al., 1999). Since data pertaining to religious fundamentalism and need for closure was readily available for all participants, two ANCOVAs were conducted on the mortality salience condition, image type viewed and word completion score with religious fundamentalism and need for closure as covariates. Also, as prior research regards religious fundamentalism as being related to homophobia (Leak & Finken, 2011), an ANCOVA was conducted on the homophobia scores using the MS condition and image type as the independent variable with the religious fundamentalism scores as a covariate. Since Hill et al. (2010) found that need for cognition may also play a role in influencing homophobia, a second ANCOVA was conducted with need for cognition as a covariate.

Correlations were calculated between the word completion scores and the following variables: the social desirability scores, the need for closure scores, the scores from the

psychoticism, neuroticism, extraversion, and lie subscales, the need for cognition scores and the religious fundamentalism scores. These analyses were conducted to determine whether any of these variables were related to mortality salience, i.e., reporting more death related words on the word completion task. An ANCOVA was conducted on the mortality salience condition, image type viewed, and word completion score using any variables significantly correlating with the word completion scores as covariates. Similar correlations were also conducted on the homophobia scores. Any variables found to be correlated with homophobia were used as covariates in a similar ANCOVA with homophobia scores as the dependent variable.

A one-way ANOVA was conducted to examine the effect of image type on the emotions experienced during the image viewing task. To determine if there were differences in the emotional responses based on image type, a Tukey's HSD was conducted. Also, to determine if the emotional effects observed in the one-way ANOVA were due to homophobia, a multiple regression was conducted. Finally, correlations of the emotional responses with homophobia were conducted to observe the direction and the strength of the relationship for each type of images.

Results

Sexual Orientation

With respect to the participants' sexual orientation, 61 (68.5%) reported being completely heterosexual with a value of 7, 22 (24.7%) reported a value 6, two (2.2%) reported a value of 5, no participants reported a value of 4, one (1.1%) reported a value of 3, two (2.2%) reported a value of 2 and one (1.1%) reported a value of 1.

Word Completion Task

To examine the effect of the mortality salience manipulation and image type on death thought accessibility as measured by the word completion task, a 2 x 3 between subjects ANOVA was conducted. No significant effects were found for mortality salience condition, $F(1, 83) = 0.000$, $p = 0.985$, or image type, $F(2, 83) = 0.759$, $p = 0.471$, or the interaction, $F(2, 83) = 1.344$, $p = 0.266$. Mean scores and standard deviations for the word completion task can be viewed in Table 1.

To explore why the mortality salience manipulation did not significantly affect death thought accessibility, several other analyses were done. The first analysis was an ANCOVA with religious fundamentalism as a covariate. Religious fundamentalism was not found to be a significant covariate, $F(1, 82) = 0.841$, $p = 0.362$ and did not affect the other findings. The second ANCOVA used need for closure as a covariate. Need for closure was not found to be a significant covariate, $F(1, 82) = 1.078$, $p = 0.302$ and did not affect the other findings. Finally, correlations between the word completion score and the other scales were conducted (see Table 2). Table 2 also includes the means and standard deviations for these measures. The only variable that produced a significant correlation with the word completion score was that of the psychoticism subscale of the *Eysenck Personality Questionnaire – Revised short form* (EPQ-RS). Those reporting higher levels of psychoticism were more likely to complete the word completion task with death related words.

To further explore the significant correlation between psychoticism and the word completion task, an ANCOVA was conducted on the mortality salience condition, image type and word completion scores with the psychoticism scores as a covariate. Psychoticism had a significant effect on the word completion scores, $F(1, 82) = 3.975$, $p = 0.05$, showing that those

Table 1

Means and Standard Deviations for Word Completion Task Scores of each group

	Mortality Salience			No Mortality Salience		
	M	*SD*	*N*	*M*	*SD*	*N*
Erotic	1.79	0.81	14	2.29	0.83	14
Romantic	1.87	1.06	15	1.73	1.28	15
Control	2.31	1.20	16	1.93	1.03	15

Note: scores can range from 0 to 6 on the Word Completion Task

Table 2

Dependent Variables Correlated with Potential Predictors of Homophobia (n = 89)

	M	SD	Homophobia Score		Word Completion Score	
	M	SD	r	p	r	p
Age	22.10	5.36	-0.216	0.042	-0.046	0.667
Sexual Orientation	6.48	1.11	0.247	0.020	0.112	0.296
Social Desirability	8.46	1.78	0.247	0.020	0.015	0.889
Need for Closure	158.34	18.07	0.300	0.004	-0.121	0.259
Religious Fundamentalism	-20.42	20.39	0.464	< 0.001	0.080	0.457
Need for Cognition	15.76	20.54	-0.403	< 0.001	-0.066	0.539
EPQ – Neuroticism	4.70	3.62	0.128	0.231	0.062	0.564
EPQ – Psychoticism	2.83	1.97	-0.059	0.585	0.240	0.023
EPQ – Extraversion	8.51	3.40	0.137	0.202	-0.097	0.366
EPQ – Lie	3.20	2.06	0.125	0.243	-0.099	0.356

reporting higher levels of psychoticism reported more death related words. However, even with this covariate removed, the main effects and interaction were still not significant.

Homophobia

To examine the effect of the mortality salience manipulation and image type on homophobia scores, a 2 x 3 between subjects ANOVA was conducted. There was no significant effect of mortality salience condition, $F(1, 83) = 0.430$, $p = 0.514$, or image type, $F(2, 83) = 0.610$, $p = 0.546$, or the interaction, $F(2, 83) = 0.952$, $p = 0.390$. Mean scores and standard deviations for the MHS total scores can be viewed in Table 3.

To further explore why MS condition and image type did not produce a significant effect on homophobia scores an ANCOVA was conducted on the mortality salience condition, image type and homophobia scores with the religious fundamentalism scores as a covariate. Religious fundamentalism had a significant effect on the homophobia scores, $F(1, 82) = 25.253$, $p < 0.001$, showing that those higher in religious fundamentalism reported higher homophobia scores. However, even with the effects of this covariate controlled, the main effects and interaction were still not significant. A second similar ANCOVA was conducted using need for cognition as a covariate. Need for cognition had a significant effect on the homophobia scores, $F(1, 82) = 16.277$, $p < 0.001$, showing that those lower in need for cognition reported higher homophobia scores. Again, even with the effects of this covariate controlled, the main effects and interaction were not significant. There was no correlation found between religious fundamentalism and need for cognition, $r = -0.100$, $p = 0.351$, indicating that these concepts are not related.

Correlations between the homophobia scores and all other variables were examined and six significant correlations were found (see Table 2). Older individuals were more likely to report lower homophobia scores than their younger counterparts. Individuals reporting their

Table 3

Means and Standard Deviations for Homophobia Scores of each group

	Mortality Salience			No Mortality Salience		
	M	*SD*	*N*	*M*	*SD*	*N*
Erotic	41.21	15.76	14	43.43	8.30	14
Romantic	41.93	14.04	15	41.33	14.61	15
Control	42.31	12.76	16	34.93	15.80	15

Note: Scores can range from 12 to 84 on the Modern Homonegativity Scale; higher scores indicate greater homophobia.

sexual orientation on the heterosexual side of the Kinsey scale were more likely to report higher

homophobia scores. Those scoring higher in social desirability were more likely to show higher

levels of homophobia. Individuals with a high need for closure were more likely to report higher

levels of homophobia. Coinciding with the results from the ANCOVAs above, those higher in

religious fundamentalism were more likely to report higher levels of homophobia and those

lower in need for cognition were more likely to report higher levels of homophobia.

To further explore these findings, an ANCOVA which included as covariates all six of

the variables significantly related to homophobia was conducted. There were still no significant

effects found for mortality salience condition, image type or the interaction. Only two of the six

covariates were significant. Religious fundamentalism, $F (1, 77) = 15.655, p < 0.001$, and need

for cognition, $F (1, 77) = 11.831, p = 0.001$, showed unique relationships to homophobia scores,

not shared with the other covariates.

Participants had been asked five different questions about their experiences viewing the

images assigned to them. A one-way ANOVA was conducted to examine the effect of image

type on each of five questions. In Table 4, the mean responses to each question are presented for

each group along with the F and p values. The results show that there was a significant effect of

image type on the experiences of happiness, disgust, enjoyment of the task and liking, but not on

anger. Post hoc testing using Tukey's HSD indicates that happiness ratings were significantly

lower for the erotic images but not for the romantic images compared to the control images.

Disgust scores were significantly higher for the erotic images than for the romantic and control

images. Enjoyment was significantly lower for the erotic images than for the romantic and

control images. Finally, liking was significantly lower for the erotic images than the control

Table 4

Means and F Values for Each question and Each Image Group

	Control		Romantic		Erotic		F	p
	X	SD	X	SD	X	SD		
Happy	22.35	6.49	24.77	9.52	18.75	9.88	3.488	0.035
Anger	11.45	6.37	12.87	8.32	13.75	8.30	0.675	0.512
Disgust	10.06	6.36	14.17	10.57	20.89	11.89	9.082	<0.001
Enjoyment	1.48	0.51	1.40	0.50	1.79	0.42	5.176	0.008
Liking	3.58	1.03	3.87	1.38	4.57	1.45	4.518	0.014

Note: Scores for Happy, Anger, and Disgust could range from 6 to 42. Scores for Enjoyment range from 1 to 2. Scores for Enjoyment could range from 1 to 7.

images but the romantic images were not different from either group. Clearly, the erotic images

provoked stronger negative emotional responses than the romantic images.

To explore whether these emotional responses are related to homophobia, a linear

multiple regression was conducted to evaluate (1) whether homophobia was significantly related

to the emotional responses, (2) whether the image type group differences would remain after

controlling for homophobia and (3) whether there was a significant interaction between

homophobia and image type. Two dummy variables were created to code group and two product

terms were created to code the group by homophobia interaction. The results of these analyses

are shown in Table 5. The findings show first that homophobia is significantly related to all five

emotional responses. Those higher in homophobia showed greater disgust and anger, and less

happiness, liking and enjoyment of the task. Second, the effect of image type remained

significant after homophobia was controlled for in each of the analyses, with the exception of

anger. Third, there was a significant interaction between homophobia and image type for four of

the emotions, with the exception of enjoyment.

To explore these interactions further, correlations between homophobia and each of the

five emotions was examined separately for each group (see Table 6). The results show that for

those who viewed control images, the emotional rankings were not related to homophobia.

However, for the romantic and erotic images (both gay images), strong correlations were found

between emotional responses and homophobia. Those with higher levels of homophobia also

reported more anger and disgust and less happiness, enjoyment and liking for the romantic

images. A similar pattern was apparent for the erotic images though the correlation for reported

anger only approached significance while enjoyment was not related to homophobia.

Table 5

Multiple Regressions Assessing the Effects of Homophobia on Emotional Responses to Images

	R^2change	df	F	p
Happy				
Homophobia (H)	0.255	1, 87	29.760	<0.001
Image Type (IT)	0.070	2, 85	4.390	0.015
H x IT	0.094	2, 83	6.706	0.002
Disgust				
Homophobia (H)	0.299	1, 87	37.077	<0.001
Image Type (IT)	0.133	2, 85	9.962	<0.001
H x IT	0.119	2, 83	10.950	<0.001
Enjoyment				
Homophobia (H)	0.190	1, 87	20.414	<0.001
Image Type (IT)	0.095	2, 85	5.639	0.005
H x IT	0.029	2, 83	1.731	0.183
Liking				
Homophobia (H)	0.335	1, 87	43.783	<0.001
Image Type (IT)	0.066	2, 85	4.665	0.012
H x IT	0.080	2, 83	6.390	0.003
Anger				
Homophobia (H)	0.240	1, 87	27.541	<0.001
Image Type (IT)	0.005	2, 85	0.281	0.755
H x IT	0.058	2, 83	3.448	0.036

Table 6

Correlations of Five Questions Asked with Homophobia

	Control		Romantic		Erotic	
	r	p	r	p	r	p
Happy	-0.182	0.328	-0.665	<0.000	-0.681	<0.001
Angry	0.298	0.104	0.750	<0.001	0.367	0.055
Disgusted	0.145	0.436	0.770	<0.001	0.691	<0.001
Enjoyment	0.328	0.071	0.675	<0.001	0.299	0.122
Liking	0.280	0.126	0.773	<0.001	0.672	<0.001

Discussion

The focus of the present study was to examine the underlying causes of homophobia with emphasis on whether mortality salience, either alone or in conjunction with romantic and erotic gay imagery, would affect levels of homophobia. The secondary purpose of the present study was to examine if religious fundamentalism and need for cognition influence homophobia. Finally, emotional reactions to the romantic and erotic gay imagery were examined. The results clearly show that neither mortality salience nor gay imagery had any effect on homophobia scores. However, in addition to religious fundamentalism and need for cognition, several variables were found to be related to homophobia. As well, significant negative emotional reactions were reported by individuals viewing the erotic gay images. Implications of these findings and discussion of some other significant findings are presented below.

Word Completion Task

The results indicate that the mortality salience manipulations did not in fact influence an individual's level of death thought accessibility as measured by the word completion task. Prior research has indicated that the two open ended questions provided to participants have elicited mortality salience (Greenberg et al., 1986; Schimel et al., 1999) but this was not the case in this study. Also, viewing gay images did not have an effect on the scores on the word completion task, nor was the interaction with mortality salience condition significant. These results show that none of the manipulations in this study influenced participants' death thought accessibility as assessed with the word completion task.

One possible explanation for the failure to observe mortality salience is that the sample used here were Canadian students, while the previous studies were conducted in the southern United States. Concerns with mortality are a major component of western religions and

Canadians are possibly less religious than those in the southern United States. A measure of religious fundamentalism was included in the study in order to evaluate the possibility that mortality salience effects might be moderated by religious fundamentalism. However, the ANCOVA showed religious fundamentalism did not affect the word completion task scores. Another possible explanation is that the sample is made up entirely of University students who may not have a high need for closure as an open mind is required for most types of scientific inquiry. However, the second ANCOVA showed that need for closure did not affect the word completion task scores either.

The only variable that correlated significantly with the word completion task was the psychoticism subscale from the *Eysenck Personality Questionnaire – Revised* short form. The subsequent ANCOVA showed that psychoticism had a unique independent effect on the word completion task scores. Individuals who were higher in psychoticism were more likely to report death related words on the word completion task. Since psychoticism describes a personality type in which individuals show higher levels of aggressiveness and hostility (Eysenck & Eysenck, 1977) it is not surprising that individuals high in psychoticism report more death related words. Overall, the findings provide no support for the effectiveness of these two open ended questions for provoking mortality salience. The reason for the failure to replicate previous findings is unclear; perhaps the word completion task should have been completed closer to the mortality salience prime.

Homophobia

No effects of the mortality salience manipulation or image type were found on homophobia. No support was found for the hypothesis that mortality salience would produce greater levels of homophobia. Viewing images of gay males either in romantic or erotic images

did not result in increased homophobia. The non-significant interaction showed that mortality salience did not augment a homophobic response to seeing gay males. These findings provide no support for the hypothesis that mortality salience could underlie homophobic responses to gay men. Including religious fundamentalism, need for cognition and other covariates did not change this conclusion. Given that the mortality salience manipulation did not affect death thought accessibility, these findings could reflect either a failure of the prime to activate mortality salience or a lack of effect of mortality salience on homophobia.

Religious fundamentalism was however, found to be positively correlated with homophobia as has been observed in previous studies (Schwartz & Lindley, 2005). This is not surprising as individuals who report greater religious fundamentalism would likely belong to a major religion and many major religions oppose homosexuality. Religious fundamentalists are those who strongly believe in the doctrine and very specific teachings of their particular faith viewing it as the "one true faith" (Hunsberger, 1996). The two largest world religions, Islam (Halstead & Lewicka, 1998) and Christianity (Punton, 2008), are typically against homosexuality and any "homosexual acts" so it is not unreasonable to conclude that those who very strongly believe in these faiths would show very strong levels of homophobia. Also, need for cognition was found to be negatively correlated with homophobia as has been observed in previous studies (Hill et al., 2010) Individuals low in need for cognition prefer aspects of their daily lives to require little cognitive effort; an experience or event that requires greater effort can cause agitation (Cacioppo et al., 1984). Perhaps gay men are a problem for these individuals since they are gay and show no interest in being with women which may cause greater cognitive effort to try and comprehend why this might be so. With gay men failing to adopt the traditional definition of being a man, those low in need for cognition may find this to be most unpleasant

provoking higher levels of homophobia. A literature search using the terms "need for cognition" and "homo*" yielded seven results, with only the Hill et al. (2010) article being relevant to homophobia. Additional research is required to adequately explain why a low need for cognition influences homophobia.

Perhaps the most important findings relate to the significant effects of gay images on the emotions experienced during the image viewing task. The one-way ANOVAs conducted revealed that the emotions reported during the image viewing task, with the exception of anger, were significantly influenced by image type. The results of the Tukey's HSD test indicated that the erotic images provided the only significant effects for four of the five reported emotions (disgust, happiness, liking and enjoyment).

The strongest results were found for disgust where the erotic images elicited significantly more disgust than the romantic or control images. Rozin, Haidt, and McCauley (1999) describe that what one defines as inappropriate sex can elicit disgust in individuals. If individuals associate the gay images viewed with inappropriate sex then it could be enough to elicit disgust in participants. Similarly, reported enjoyment of the image viewing task was significantly lower for the erotic than the romantic or control images. Results also indicate that there was significantly less liking for the erotic images than for the romantic or control images. It is possible that if individuals are offended by the images they are viewing or find the imagery to make them uncomfortable then they will report not enjoying or liking the image viewing task at all. Finally, the results indicate that viewing erotic images elicited significantly lower levels of happiness. Seligman's (2003) theory that happiness can be elicited by individuals perceiving that they belong to something bigger seems to help explain these findings. Unhappiness can be

described similarly as it is possible that individuals who do not find pleasure in belonging to a society where men can love other men and have it be okay.

It is possible that no significant results for anger were found because anger involves a motivated response to a perceived action against the self (Videbeck, 2006). Perhaps, since the images do not elicit feelings that the gay images are an action against the individual viewing the images then it is not likely they would report being angered by the images.

The multiple regressions were conducted to evaluate whether the emotional responses to the images were related to homophobia. The results showed that homophobia was significantly related to all five emotional responses. This indicates that those high in homophobia showed more negative emotions on all of the five measures.

Secondly, after homophobia was controlled for, the effect of image type still remained for all of the emotional responses except for anger. The results showed that the type of images viewed had a significant effect on four of the emotional reactions (happiness, disgust, liking and enjoyment) that were not related to homophobia. However, this conclusion must be viewed with caution since it is based on the assumption of homogeneity of regression. The findings showed significant violation of this assumption since a significant interaction between homophobia and image type was found for four of the five emotions except for enjoyment of the task. These findings indicate that the relationship between homophobia and emotional response was different for different images. Homophobia was only significantly correlated with emotional responses for the gay images as described below.

In order to further evaluate the relationship between these five emotions and homophobia, correlations of the five reported emotions with homophobia were examined separately for each group. The emotional responses reported when viewing the control images

did not correlate at all with the homophobia scores. This finding is not surprising since the control images depicted everyday objects and had no association with gay men and were carefully selected to ensure the rankings showed these images showed low reactivity in the normative sample.

Participants who reported an overall more negative emotional experience when viewing the romantic gay images were more likely to have significantly higher levels of homophobia. This should come as no surprise since it would be expected that if people reported the images made them uncomfortable that they would report greater levels of homophobia. These findings are related to images of gay weddings specifically and if individuals are against gay marriage or possibly feel it violates tenets of their religion then it is not surprising these participants would report being angered by these images. Although image type did not have a significant effect on anger, it is significantly correlated with homophobia for the romantic images.

Similar but weaker correlations with homophobia were found for the erotic gay images. Results show significant correlations for happiness, disgust and scores of liking the images, as well as a marginal correlation with anger. These results may seem contradictory, but when examining the means, the erotic gay images elicited the strongest negative emotions. These findings indicate that not just people high in homophobia found the erotic gay images disturbing, where as only those high in homophobia found the gay romantic images disturbing.

Other correlations with homophobia. Replicating the findings of Johnson, Brems, and Alford-Keating (1997), older college students were found to report lower levels of homophobia than their younger counterparts. Older participants who have been in University for several years would likely be exposed to greater amounts of information on campus about diversity which could have had an impact. First year students likely have not had much experience with

the Pride group on campus or have yet to meet any gay men to provide the experience that interacting with gay men is not a scary thing. Also, high school is an environment where it is appropriate and expected to disparage friends or other less popular peers or others using language that is designed to question ones sexual orientation (i.e., "fag" or "queer"). First year University students likely have not yet abandoned the high school mentality where being gay is "undesirable" and still see it as a weakness or a deficit in one's character.

As expected, those who reported being heterosexual showed greater levels of homophobia than individuals who did not classify themselves as heterosexual. Individuals who reported being anything but a six or seven on the Kinsey scale were not excluded from the analysis since there was a very real possibility that these individuals may experience internalized homophobia as described by Russell and Bohan (2006). Just because an individual reports their sexual orientation on the homosexual side of the spectrum in an anonymous and confidential study does not mean they are out in their everyday lives and perhaps some of these individuals have issues with being gay. Nevertheless, homophobia is most common in heterosexual males (Russell & Bohan, 2006)

The results also show that those with higher levels of social desirability report higher levels of homophobia. It is possible that those who are trying to respond in ways they think are expected would report greater scores on the *Modern Homonegativity Scale* if that is what they perceived the researchers as expecting. Another possibility is that individuals who attempt to make themselves appear more desirable are perhaps more conservative, with their reputation being important to them. Being in Thunder Bay, Ontario, a city where equality is not as highly valued as it is elsewhere, may elicit higher levels of homophobia as that is what is expected in the local culture. *The modern homonegativity scale* was selected because it was designed to

minimize the effects of social desirability in the responses (Morrison & Morrison, 2002). Based on the present findings, the assertion that social desirability would not play a role in the overall homophobia scores is incorrect.

The results also show that those with a higher need for closure also showed higher levels of homophobia. Those with a high need for closure prefer aspects of their daily lives fit a certain predefined pattern; anything deviating from this pattern can cause agitation (Kruglanski et al., 1993). Perhaps gay men are a problem for these individuals since they are gay and show no interest in being with women which is the traditional definition of a relationship for men. By failing to adopt the traditional definition of being a man, those high in need for closure can find this to be most unpleasant eliciting higher levels of homophobia. A literature search did not yield any studies conducted to date examining the relationship between need for closure and homophobia.

An ANCOVA was conducted using all six of the significant correlations above as covariates to further explore these findings (including religious fundamentalism and need for cognition). The results indicated that religious fundamentalism and need for cognition both showed unique relationships to the homophobia scores. These findings indicate that religious fundamentalism and need for cognition affect homophobia through different processes.

Perhaps those high in religious fundamentalism are an example of Russell and Bohan's (2006) defensive subtype of homophobia. If these individuals do wonder what it would be like to be with someone of the same gender, then a strong reaction formation is likely to come about because it would be considered wrong in the face of their religion. If this is the case, then the stronger levels of homophobia shown would be due to an implicit defence of their sexuality and reaffirming their belief in their faith. For those low in need for cognition, it is possible that

greater homophobia is observed due to the phobic subtype of homophobia hypothesized by

Russell and Bohan. Since those low in need for cognition enjoy tasks and activities that do not

require much cognitive effort, perhaps these people are completely unwilling to even entertain

the possibility that gay men really are not that different from themselves. By being completely

unwilling to consider similarities between themselves and gay men, it is likely that a more

irrational and phobic response to gay men would appear in the form of heightened homophobia.

Limitations

The main limitation is the failure of the mortality salience manipulation to affect death

thought accessibility as assessed with the word completion task, casting doubt on the

effectiveness of the manipulation. While this measure has been found to significantly reflect a

mortality salience manipulation in some studies, in other studies is has only appeared in the

presence of other personality factors (i.e., need for closure) (Goldenberg et al., 2000; Schimel et

al., 1999). Although the purpose of this measure is to detect the presence of death related

thoughts as indicated by how many death related words are reported, it may be susceptible to

other potential primes. One possibility relates to the ordering of the scales in the questionnaire

package. The *revised religious fundamentalism scale* and the *need for cognition scale* were both

presented after the mortality salience manipulation. These two scales have not been used in this

manner in previous studies. Perhaps by presenting a scale that deals with religious subjects, it

may have primed religious-type escapes from mortality thus leading to a dampening effect on the

death thought accessibility. If this was the case, then even if mortality salience had been briefly

heightened for those in the mortality salience condition, it would have been brought back down

by the opportunity to reflect on religious beliefs before completing the word completion task or

the homophobia measure. In future studies, a more common distracter task should be used such

as the PANAS (Goldenberg, Cooper, Heflick, Routledge, & Arndt, 2011; Pyszczynski & Kesebir, 2011).

Another limitation relates to the mortality salience and control manipulations used as many participants experienced difficulties in understanding what was being asked of them. More in depth pilot testing should have been implemented prior to beginning data collection using individuals more closely related to the demographic being studied. Perhaps an alternative mortality salience manipulation should have been employed to generate death thought accessibility in the experimental groups.

Finally, previous terror management research has looked at dependent variables that tend to be more "here and now" decisions or aspects of an attitude. Participants may be asked to rate a hypothetical person (Schimel et al., 1999) or provide an opinion on how severely a perpetrator of a social transgression should be punished (Florian & Mikulancer, 2007) as opposed to an attitude dimension. Perhaps homophobia as a dependent variable is too stable an internal attitude dimension and priming individuals with their mortality is not sufficient to affect attitudes of this type.

Directions for Future Research

One recommendation for further research is to expand the nature of this study to include images that include lesbians in similar situations and determine the emotional reactions elicited by these images in comparison to gay men. It would be interesting to discover if the negative emotions observed in this study toward gay men would translate to viewing images of lesbian women. It would also be prudent to include a sample of women and obtain their emotional reactions to the various stimuli as well. Although past research has shown that women have significantly lower levels of homophobia than men it would be interesting to see if this is

mirrored in the emotions experienced when viewing gay or lesbian images. Similarly, prior results have shown that straight men typically show significantly higher levels of homophobia toward gay men than they do to lesbian women. It would be interesting to determine if the negative emotions experienced by the men in this study translate to men who view images of lesbian women in comparable situations.

Another recommendation for further research is to look at other possibilities and explanations for why individuals might report greater death related words on the word completion task other than having greater death thought accessibility. The results in this study did not show that the mortality salience manipulation was successful in eliciting greater death thought accessibility. However, there was a significant correlation between psychoticism and the word completion task. These results indicate that other factors besides mortality salience may play a role in whether death related words are used to complete the word fragments instead of neutral words. Further research is needed to determine if a greater number of death related words are provided on the word completion task because of mortality salience or if personality factors play a larger role than expected.

Also, several individual factors (age, sexual orientation, social desirability, need for cognition, psychoticism on the EPQ-RS, religious fundamentalism, and need for cognition) showed significant correlations with homophobia. These findings are important because they begin to demonstrate what variables are related to homophobia and where we need to focus our attention when developing future programs to target homophobia in society. Further research is needed to determine what effect these different factors have on homophobia and what implications these effects may carry. Focus should be placed upon religious fundamentalism and need for cognition as the ANCOVA results indicate they each have a unique relationship to

homophobia. These relationships need to be explored further as they can be focal points in developing programs aimed at combating homophobia in western society. Also, more research on the emotional impacts of viewing images and how these result in different types of prejudice is needed. Emotional responses must be elicited within people; they are not random and thus must have a cause. If the cause of the emotional impacts on viewing images can be ascertained, then it will allow researchers to be able to better understand what factors underlie homophobia specifically, but also with respect to other forms of prejudice. Once these factors are identified, a two pronged approach at combating homophobia can result by focusing not only on the underlying factor, but also the resultant emotional impact as well.

Although no significant effects for mortality salience or gay imagery on homophobia scores were found, this research should not be completely abandoned. There are two main tenets of terror management theory, the anxiety buffer hypothesis and the mortality salience hypothesis (Greenberg et al, 1992; Schmeichel et al., 2009), with this study focusing only on the mortality salience hypothesis. Further research could examine these questions from the anxiety buffer perspective to determine if strengthening an individual's self-esteem or security within a meaningful world can lead to the experience of less homophobia. If individuals' self-esteem can be enhanced and lead to lower levels of homophobia this can be of great importance to future programs that combat homophobia and perhaps even other forms of prejudice.

Finally, as mentioned above, perhaps homophobia as the dependent variable measured by a scale is too stable an internal attitude. Future research may need to take this into account when coming up with other research designs. A decision making task based on a hypothetical scenario involving gay men or lesbians may be affected by the mortality salience manipulation much more strongly than the concept of homophobia itself. However, since this study was unable to

establish that the mortality salience manipulation worked, completely abandoning homophobia as the dependent variable is not recommended. Perhaps two versions of the smaller study described above can be conducted to test this theory. By having four groups, two would receive the mortality salience manipulation (the others the control manipulation) and two of those groups would complete the homophobia scale and the others would rate a hypothetical scenario instead. The results could be compared to determine if homophobia is too stable an internal attitude to be affected by the mortality salience manipulation.

Summary

This study failed to find significant effects of mortality salience or gay imagery on homophobia scores. As well, the manipulation check for mortality salience, the word completion task, which is supposed to tap into death related thoughts also was not affected by either manipulation. Therefore, it is possible that mortality salience was not adequately primed in the present study. However, it is clear that the gay images provoked significant emotional effects. The erotic images elicited significantly higher levels of disgust and lower levels of happiness, enjoyment and liking of the task than the romantic or control images. A significant interaction between homophobia and image type was found for four of the emotions, and significant relationships were found between homophobia and negative emotional responses toward the gay imagery. Also, six factors were significantly related to homophobia, two of which (religious fundamentalism and need for cognition) had independent effects. In conclusion, while no significant effects were found for either romantic or erotic gay images on homophobia scores, there was clear evidence that the erotic images produced negative emotional responses, especially in those who were homophobic.

There are many factors that may underlie homophobia and research to date has only begun to scratch the surface. This study has provided valuable information that can be used to better structure future endeavours within this line of research. It would appear that the emotional reactions to gay imagery are powerful and the factors that underlie these emotional reactions can better help us understand homophobia and develop ways to combat it.

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Appendix A

<u>Attitudes Toward Social Constructs (on Lakehead University letterhead)</u>

Dear Potential Participant,

I am a Masters of Science student in the experimental psychology program here at Lakehead University and I am conducting a research study on the different attitudes the general population exhibits toward other groups of people and what causes these attitudes. I am only interested in exploring these attitudes in males and there is no foreseeable harm in participating in this study.

In this study, you will be asked to attend an individual lab session fill out a few questionnaires that will relate to the ideas addressed above and will ask you to indicate your thoughts and feelings about various statements presented in each of the questionnaires as well as a simple demographics sheet. You will also be asked to view 6 images and report your perceptions of them. Upon the completion of the questionnaire package, you will receive one bonus percentage toward the final grade in your psychology course. This should take approximately 45 minutes.

This research has received approval from the Research Ethics Committee of Lakehead University. Myself and Dr. John Jamieson will be the only people to have access to any and all information you provide. Your responses to all the questionnaires are **COMPLETELY ANONYMOUS;** as well we will never ask your name or any other identifying information on the questionnaire package. The information you provide will be securely stored at Lakehead University for 5 years and then destroyed. If you are interested, you may obtain a summary of the findings by contacting me using the information below. Any reports will not disclose any personal information or any specific responses provided.

Participation in this study is **COMPLETELY VOLUNTARY.** If for any reason you do not want to complete the questionnaires, or any part of the study, you will not forced to do so. In addition, you are free to withdraw from the study without any penalty. If you wish to take part in this study, please fill out the consent form at the beginning of the online questionnaire package.

Please note that you must be 18 years of age or older in order to participate in this study. If you wish to receive more information regarding the study, or would like to be informed of the results of the study, please feel free to contact myself or Dr. Jamieson. I greatly appreciate your time and participation in this study.

Thank You,

CJ Bishop, MSc Experimental Psychology Candidate
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Appendix B

DOES MORTALITY SALIENCE PLAY A ROLE IN HOMOPHOBIA?
DEBRIEFING FORM (On Lakehead University Letterhead)
Dear Participant,

Thank you for participating in this study. Your responses will help psychologists better understand the factors that lead to homophobia and some of the reasons why people perceive gay men the way they do.

The first questionnaire you filled out after the demographic measure was a scale to determine how likely you are to answer questions in a socially desirable way. The next two questionnaires were simply filler questionnaires. In order to maintain the cover story that we were looking at multiple attitudes, these questionnaires were added to assist in that deception. The first questionnaire called the *Need for Closure Scale* looked at your need for closure that is "how strong is your desire to have events and experiences follow certain rules?" The next scale was the *Eysenck Personality Questionnaire – Revised Short Form* which looked at different facets of your personality. The benefit of using these scales is that if further data is required the results of these scales can be used to provide additional information.

There were six groups in this study. You may have received questions asking about your own death or about watching television. The questions asking about your death were designed to provoke death related thoughts. Next, you filled out the *Revised Religious Fundamentalism Scale* followed by the *Need for Cognition Scale* to distract you; research has shown that mortality salience manipulations work best if a participant is distracted for five minutes after answering the questions. Next there were three groups of images. One group depicted various objects, another depicted romantic images of gay couples, the final group depicted mildly erotic depictions of gay couples. To ensure you looked at each image carefully and did not simply skip through them we asked questions about every image. Finally, you rated your overall experience of viewing the images so we can see if there is a main effect of liking on viewing such images.

The word completion task where you filled in the blanks is designed to look at death thought accessibility. If you were asked the two questions related to your own death, this instrument should show us if you had greater access to death related thoughts showing our manipulation was successful.

The final scale looked at how you view gay men and what your current levels of homophobia were after all of the manipulations of the study took place.

Thank You Very Much for your time and participation! ☺ Results of this study can be sent via e-mail in response to an e-mail request. If any of these questions have caused you any distress or anxiety, please contact myself, Dr. Jamieson, or attend the student counselling centre located on campus across from Security. If you have any concerns regarding the ethical conduct of this study, please contact the Research Ethics Board, located on campus.

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Appendix C

Informed Consent Form (on Lakehead University letterhead)

This research looks at attitudes toward various social constructs and what factors may be affecting these attitudes. You will be asked to complete questionnaires and view images which will assess the positive or negative attitudes you may or may not portray toward different groups. The principle investigator for this study is C.J. Bishop, a Masters student from Lakehead University and the supervisor is Dr. John Jamieson from the Department of Psychology at Lakehead University.

By signing this form, I indicate that I understand:
1) That I must be 16 years of age or older in order to participate in this study.
2) That I am a volunteer and am free to withdraw at anytime without any penalty.
3) That there are no anticipated or foreseeable risks of participating in this study.
4) That the Information I provide will be anonymous and confidential, and will be securely stored in the Department of Psychology at Lakehead University for 5 years.
5) That I may receive a summary of the project once the study has been completed.
6) Any publications based on the information you provide will not include any personal information nor any specific responses given.

By placing my name below, I indicate that I understand the information above and I agree to participate in this study.

Name:_____

Signature:_____

Today's Date:_____

To receive BONUS MARK:

E-mail address:_____

Student Number:_____

Name of Professor and Course Number:

_____

Appendix D

Demographics

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

Age:_____

Ethnicity (please mark all that apply for you):
     _____White   _____Asian (Chinese, Japanese)
     _____ Black   _____South Asian (Indian, Pakistani)
     _____ Aboriginal (First Nations, Métis)   _____ Other (please specify below):
     _____ Hispanic
                                        _____

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

How do you perceive your own sexual orientation? **please note:** this is strictly a subjective measure of how you perceive yourself...please remember that this is completely anonymous and confidential and there is no way anyone, including myself can determine to whom these questionnaires belong.

Please enter a number using the scale below:_____

1	**2**	**3**	**4**	**5**	**6**	**7**
completely			**attracted to both**			**completely**
homosexual			**genders equally**			**heterosexual**

Appendix E

Jackson PRF — Desirability Scale

***Please answer each of the following items either TRUE (T) or FALSE (F) based on whichever is most correct for you personally.**

_____1) I am quite able to make correct decisions on difficult questions.

_____2) My life is full of interesting activities.

_____3) If someone gave me too much change, I would point it out.

_____4) I get along with people at parties quite well.

_____5) I am glad I grew up the way I did.

_____6) I am always prepared to do what is expected of me.

_____7) I am one of the lucky people who could talk with my parents about my problems.

_____8) I am careful to plan for my distant goals.

_____9) I am never able to do things as well as I should.

_____10) I believe people tell lies anytime it is to their advantage.

_____11) I would be willing to do something a little unfair to get something that was important to me.

_____12) I did many very bad things as a child.

_____13) I often question whether life is worthwhile.

_____14) My daily life includes many activities I dislike.

_____15) Many things make me feel uneasy.

_____ 16) I find it very difficult to concentrate.

Appendix F

Need for Closure Scale (NFC)

Please answer each of the following in the space provided using the following scale based on your level of agreement to each of the items:

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

1) I think that having clear rules and order at work is essential for success. _____

2) Even after I've made up my mind about something, I am always eager to consider a different opinion. _____

3) I don't like situations that are uncertain. _____

4) I dislike questions which could be answered in many different ways. _____

5) I like to have friends who are unpredictable. _____

6) I find that a well ordered life with regular hours suits my temperament. _____

7) When dining out, I like to go to places where I have been before so that I know what to expect. _____

8) I feel uncomfortable when I don't understand the reason why an event occurred in my life. _____

9) I feel irritated when one person disagrees with what everyone else in a group believes. _____

10) I hate to change my plans at the last minute. _____

11) I don't like to go into a situation without knowing what I can expect from it. _____

12) When I go shopping, I have difficulty deciding exactly what it is that I want. _____

13) When faced with a problem I usually see the other one best solution very quickly. _____

14) When I am confused about an important issue, I feel very upset. _____

15) I tend to put off making important decisions until the last possible moment. _____

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

16) I usually make important decisions quickly and confidently. _____

17) I would describe myself as indecisive. _____

18) I think it is fun to change my plans at the last moment. _____

19) I enjoy the uncertainty of going into a new situation without knowing what might happen. _____

20) My personal space is usually messy and disorganized. _____

21) In most social conflicts, I can easily see which side is right and which is wrong. _____

22) I tend to struggle with most decisions. _____

23) I believe that orderliness and organization are among the most important characteristics of a good student. _____

24) When considering most conflict situations, I can usually see how both sides could be right. _____

25) I don't like to be with people who are capable of unexpected actions. _____

26) I prefer to socialize with familiar friends because I know what to expect from them. _____

27) I think that I would learn best in a class that lacks clearly stated objectives and requirements. _____

28) When thinking about a problem, I consider as many different opinions on the issue as possible. _____

29) I like to know what people are thinking all the time. _____

30) I dislike it when a person's statement could mean many different things. _____

31) It's annoying to listen to someone who cannot seem to make up his or her mind. _____

32) I find that establishing a consistent routine enables me to enjoy life a little more. _____

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

33) I enjoy having a clear and structured mode of life. _____

34) I prefer interacting with people whose opinions are very different from my own. _____

35) I like to have a place for everything and everything in its place. _____

36) I feel uncomfortable when someone's meaning or intention is unclear to me. _____

37) When trying to solve a problem I often see so many possible options that it's confusing. _____

38) I always see many possible solutions to problems I face. _____

39) I'd rather know bad news than stay in a state of uncertainty. _____

40) I do not usually consult many different opinions before forming my own view. _____

41) I dislike unpredictable situations. _____

42) I dislike the routine aspects of my work/studies. _____

Appendix G

Eysenck Personality Questionnaire – Revised Short Form (EPQ-RS)

Please answer each of the following questions by circling EITHER: YES or NO

1) Does your mood often go up and down? YES / NO

2) Do you take much notice of what people think? YES / NO

3) Are you a talkative person? YES / NO

4) If you say you will do something, do you always keep your promise no matter how inconvenient it might be? YES / NO

5) Do you ever feel "just miserable" for no reason? YES / NO

6) Would being in debt worry you? YES / NO

7) Are you rather lively? YES / NO

8) Were you ever greedy by helping yourself to more than your share of anything? YES / NO

9) Are you an irritable person? YES / NO

10) Would you take drugs which may have strange or dangerous effects?

11) Do you enjoy meeting new people? YES / NO

12) Have you ever blamed someone for doing something you knew was really your fault? YES / NO

13) Are your feelings easily hurt? YES / NO

14) Do you prefer to go your own way rather than act by the rules? YES / NO

15) Can you easily let yourself go and enjoy yourself at a lively party? YES / NO

16) Are all your habits good and desirable ones? YES / NO

17) Do you often feel fed up? YES / NO

18) Do good manners and cleanliness matter much to you? YES / NO

19) Do you usually take the initiative in making new friends? YES / NO

20) Have you ever taken anything (even a pin or a button) that belonged to someone else? YES / NO

21) Would you call yourself a nervous person? YES / NO

22) Do you think marriage is old-fashioned and should be done away with? YES / NO

23) Can you easily get some life into a rather dull party?

24) Have you ever broken or lost something belonging to someone else? YES / NO

25) Are you a worrier? YES / NO

26) Do you enjoy co-operating with others? YES / NO

27) Do you tend to keep in the background on social occasions? YES / NO

28) Does it worry you if you know there are mistakes in your work? YES / NO

29) Have you ever said anything bad or nasty about anyone? YES / NO

30) Would you call yourself tense or "highly-strung"? YES / NO

31) Do you think people spend too much time safeguarding their future with savings and insurances? YES / NO

32) Do you like mixing with people? YES / NO

33) As a child were you ever cheeky to your parents? YES / NO

34) Do you worry too long after an embarrassing experience? YES / NO

35) Do you try not to be rude to people? YES / NO

36) DI you like plenty of bustle and excitement around you? YES / NO

37) Have you ever cheated at a game? YES / NO

38) Do you suffer from nerves? YES / NO

39) Would you like other people to be afraid of you? YES / NO

40) Have you ever taken advantage of someone? YES / NO

41) Are you mostly quiet when you are with other people? YES / NO

42) Do you often feel lonely? YES / NO

43) Is it better to follow society's rules than go your own way? YES / NO

44) Do other people think of you as being very lively? YES / NO

45) Do you always practice what you preach? YES / NO

46) Are you often troubled about feelings of guilt? YES / NO

47) Do you sometimes put off until tomorrow what you ought to do today? YES / NO

48) Can you get a party going? YES / NO

Appendix H

Revised Religious Fundamentalism Scale (RRFS)

Please answer each of the following in the space provided using the following scale based on your level of agreement with each item:

1	2	3	4	5	6	7	8
Very Strongly Disagree	Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree	Very Strongly Agree

1) God has given humanity a complete, unfailing guide to happiness and salvation, which must be totally followed. _____

2) No single book of religious writings contains all the intrinsic, fundamental truths about life. _____

3) The basic cause of evil in this world is Satan, who is still constantly and ferociously fighting against God. _____

4) It is more important to be a good person than to believe in God and the right religion. _____

5) There is a particular set of religious teachings in this world that are so true, you can't go any "deeper" because they are basic, bedrock message that God has given humanity. _____

6) When you get right down to it, there are basically only two kinds of people in the world: the Righteous, who will be rewarded by God; and the rest, who will not. _____

7) Scriptures may contain general truths, but they should NOT be considered completely, literally true from beginning to end. _____

8) To lead the best, most meaningful life, one must belong to the one, fundamentally true religion. _____

9) "Satan" is just the name people give to their own bad impulses. There really is no such thing as a diabolical "Prince of Darkness" who tempts us. _____

10) Whenever science and sacred scripture conflict, science must be wrong. _____

11) The fundamentals of God's religion should never be tampered with, or compromised with other's beliefs. _____

12) All of the religions in the world have flaws and wrong teachings. There is no perfectly true, right religion. _____

Appendix I

Need for Cognition Scale (NCS)

Please answer each of the following items in the space provided after each question using the following scale:

1	2	3	4	5	6	7	8	9
Very Strongly Disagree	Strongly Disagree	Moderately Disagree	Slightly Disagree	*Neither Agree Nor Disagree*	Slightly Agree	Moderately Agree	Strongly Agree	Very Strongly Agree

1) I would prefer complex instead of simple problems. ____

2) I like to have the responsibility of handling a situation that requires alot of thinking. ____

3) Thinking is not my idea of fun. ____

4) I would rather do something that requires little thought than something that is sure to challenge my thinking abilities. _____

5) I try to anticipate and avoid situations where there is likely a chance I will have to think in depth about something. _____

6) I find satisfaction in deliberating hard and for long hours. _____

7) I only think as hard as I have to. _____

8) I prefer to think about small, daily projects compared to long-term ones. _____

9) I like tasks that require little thought once I've learned them. _____

10) The idea of relying on thought to make my way to the top appeals to me. _____

11) I really enjoy a task that involves coming up with new solutions to problems. _____

12) Learning new ways to think doesn't excite me very much. _____

13) I prefer my life to be filled with puzzles that I must solve. _____

14) The notion of thinking abstractly is appealing to me. _____

15) I would prefer a task that is intellectual, difficult, and important compared to one that is somewhat important but does not require much thought. _____

16) I feel relief rather than satisfaction after completing a task that required a lot of mental effort. _____

17) It's enough for me that something gets the job done; I don't care how or why it works. _____

18) I usually end up deliberating about issues even when they do not affect me personally. _____

DO NOT TURN THE PAGE!

***PLEASE GET THE RESEARCHER TO BEGIN THE NEXT PART OF THIS STUDY FOR YOU*

Appendix J

Modern Homonegativity Scale – Gay Men Subscale (MHS)

Please answer each of the following using the scale provided in the space after each of the items based on your level of agreement.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Moderately 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 undergrad degrees in Gay and Lesbian studies is ridiculous. _____

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

6) Gay men still need to protest for equal rights. _____

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

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

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

10) Gay men should stop complaining about the ways 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 organizations. _____

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

Appendix K

Word Completion Task

We are simply pre-testing this questionnaire for future studies. Please complete the following by filling letters in the blanks to create words. Please fill in the blanks with the first word that comes to mind. Write one letter per blank. Some words may be plural. Thank you.

1. BUR _ _ D

2. PLA _ _

3. _ _ OK

4. WAT _ _

5. DE _ _

6. MU _ _

7. _ _ NG

8. B _ T _ LE

9. M _ J _ R

10. P _ _ TURE

11. FL _ W _ R

12. GRA _ _

13. K _ _ GS

14. CHA _ _

15. KI _ _ ED

16. CL _ _ K

17. TAB _ _

18. W _ _ DOW

19. SK _ _ L

20. TR _ _

21. P _ P _ R

22. COFF _ _

23. _ O _ SE

24. POST _ _

25. R _ DI _

Appendix L

Mortality Salience Manipulation

1) Please describe the thoughts and feelings you experience when you think about your own death in the space below:

2) Please describe in as much detail as possible what you will think will happen as you die and once you are physically dead in the space below:

Appendix M

Control Manipulation

1) Please describe the thoughts and feelings you experience when you think about watching TV in the space below:

2) Please describe in as much detail as possible what you will think happens to you (both physically and mentally) as you watch TV in the space below:

Appendix N

Additional Instructions for Mortality Salience Manipulation

You Will Die Eventually. You don't know when and you don't know how. But you will Die. I want you to try and think about how you will die eventually and about how there is absolutely nothing you can do about it. It is the one thing you cannot avoid in this life. Please describe your thoughts and feelings when you think about this. Please refrain from telling about your loved ones, I want to know YOUR feelings.

There are many different ways you can die (i.e. car wreck, old age etc.). Please keep this in mind and tell me what you think will happen to your physical body as you die. Please also describe what you think will happen to your physical body after you have died (i.e. funeral, cremation etc.)

Appendix O

Additional Instructions for Control Manipulation

You Will watch TV eventually even if it's not often. You might not know when. But you will watch TV (perhaps even an episode of something during a class). I want you to try and think about how you will watch TV eventually and there is little that can be done about it. It is one thing that you cannot avoid in this life. Please tell me your thoughts and feelings about this. Please tell me only YOUR feelings, not how others think about it.

There are many ways you can watch TV (i.e. sitting up, laying down etc.). Please keep this in mind tell me what you think happens to your physical body as you watch TV. Please also describe what will happen to your physical body after you have finished watching TV

Appendix P

Appendix Q

Appendix R

Appendix S

Appendix T

Appendix U

Appendix V

Appendix W

Appendix X

Appendix Y

Appendix Z

Appendix A1
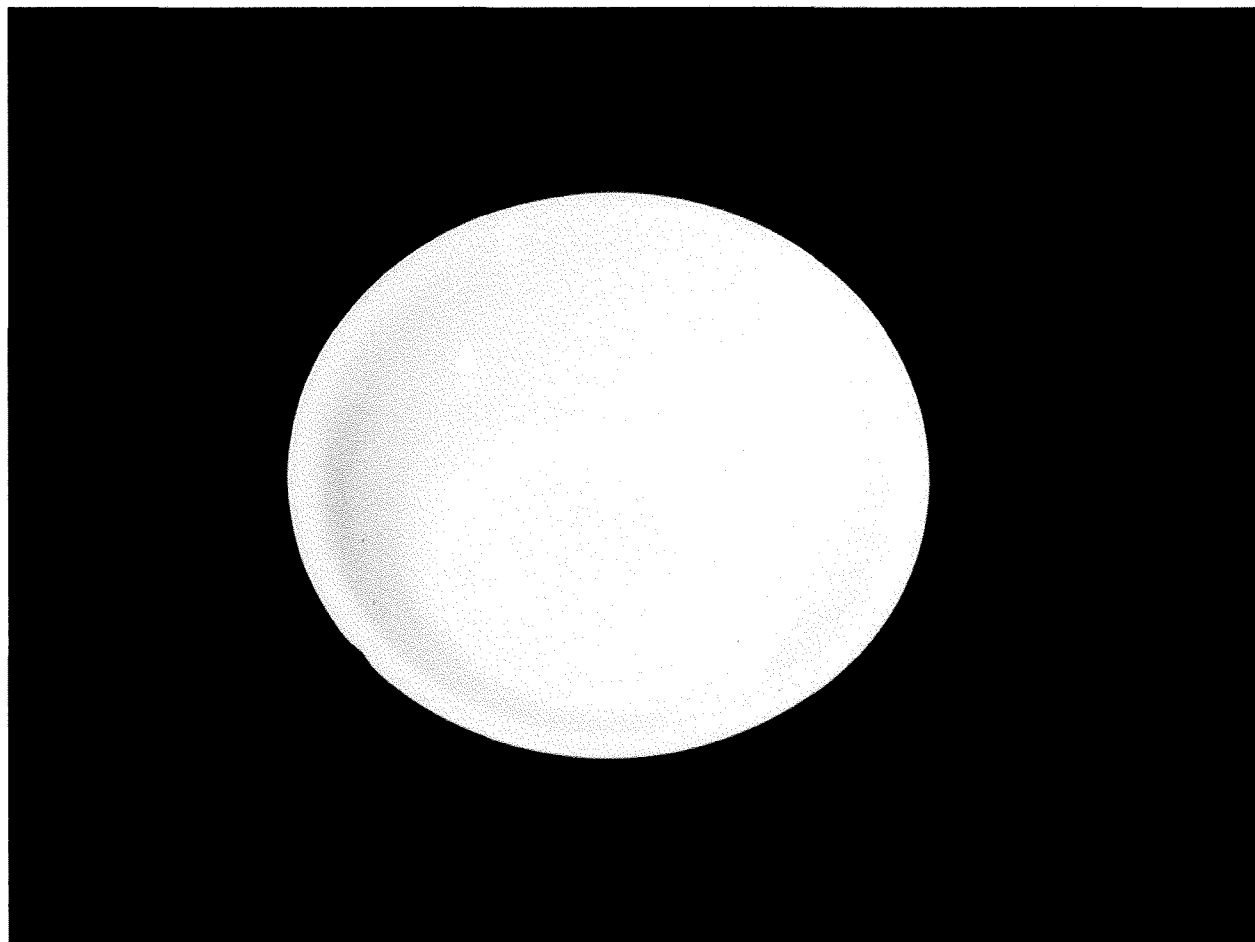
Appendix B1

Ranking of Images

For please each of the following questions for each of the images displayed in the accompanying slide show.

1) Looking at this picture...please indicate on a scale from 1-10 (with 1 being the lowest and 10 being the highest) how would you rank the romanticism of this image?

2) Looking at this picture...please indicate on a scale from 1-10 (with 1 being the lowest and 10 being the highest) how would you rank the eroticism of this image?

3) How would you classify the relationship of the individuals in this picture?
   a) Acquaintances
   b) Friends
   c) Partners
   d) Spouses

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?
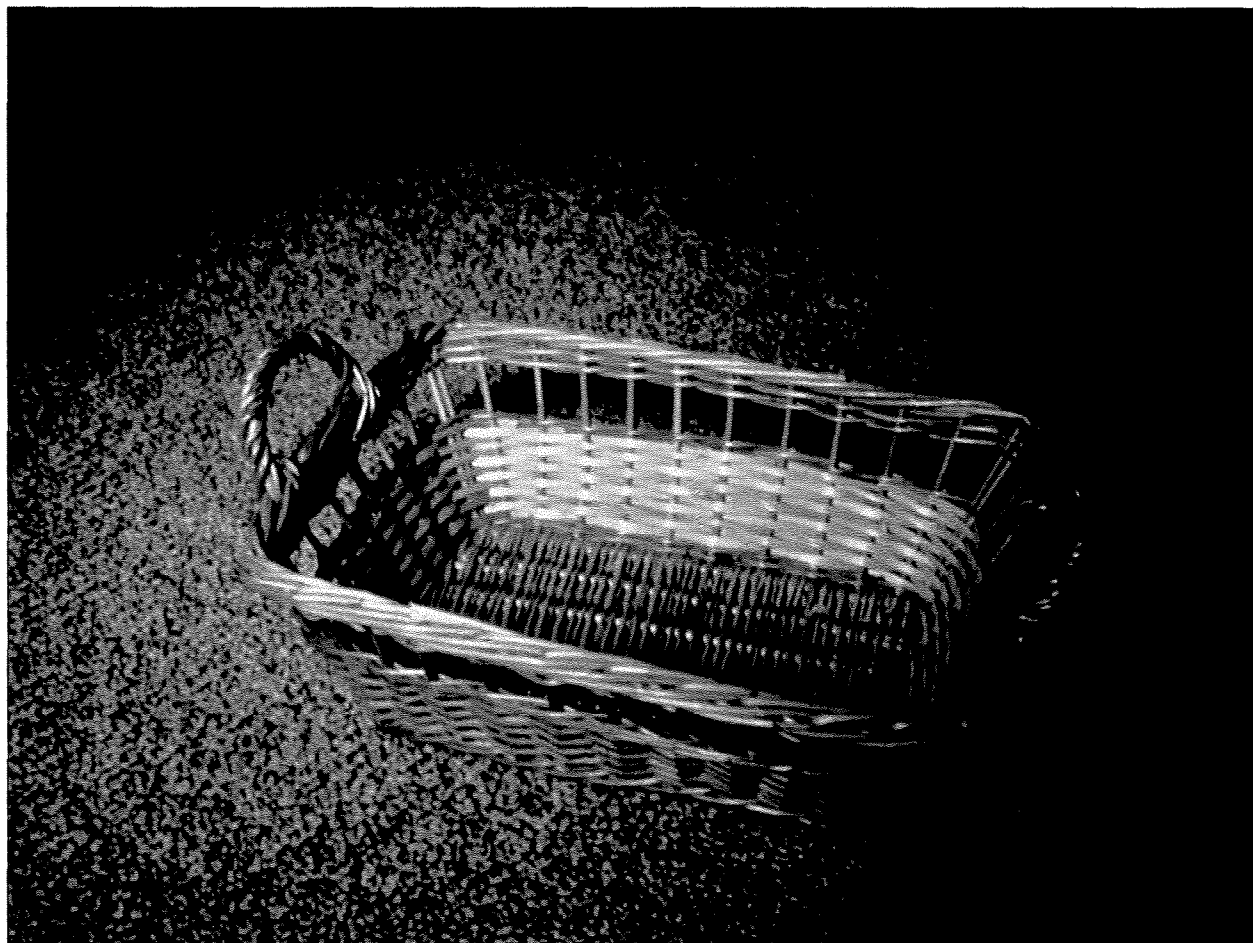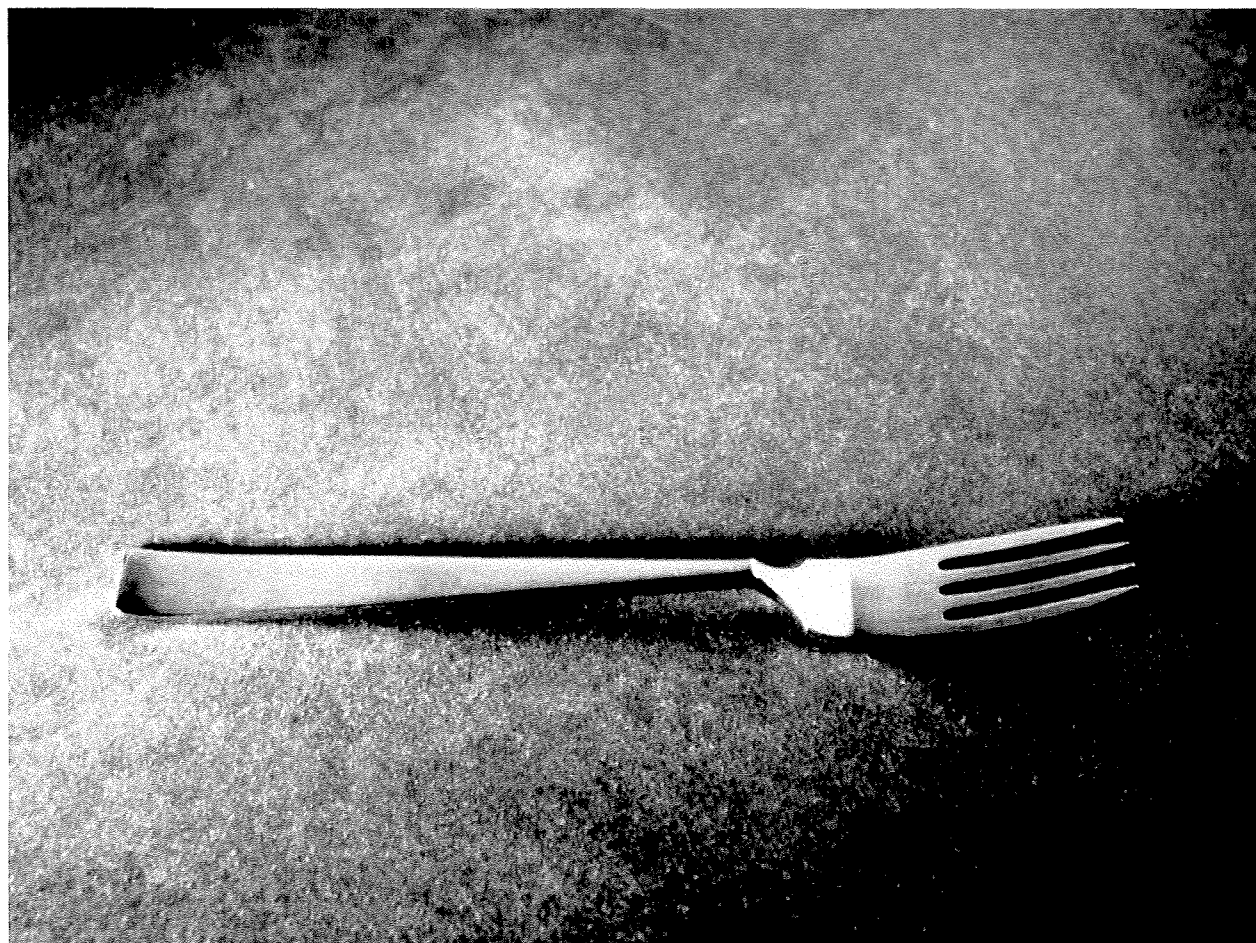
Appendix C1

Appendix D1

Appendix E1

Appendix F1

Appendix G1

Appendix H1

Appendix 11

Individual Ranking of Images

Please answer the first three questions using the scale below as a guide. Circle the number next to the best question that best describes your feelings. These questions deal with the image you are currently viewing.

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. 1 2 3 4 5 6 7

2) Looking at this picture makes me angry. 1 2 3 4 5 6 7

3) I think this picture is disgusting.   1 2 3 4 5 6 7

4) Please briefly describe what you see in this image.

Appendix J1

Media Evaluation

Please answer the following two questions in the spaces provided:

1) Did you enjoy viewing the images from the previous section? Circle one response.

   - Yes or no?

2) How would you rate your experience viewing these images? Please circle the number above the description that best describes your experience.

1	2	3	4	5	6	7
I very much enjoyed viewing these images	I enjoyed viewing these images	I sort of enjoyed viewing these images	I neither enjoyed nor hated viewing these images	I sort of disliked viewing these images	I disliked viewing these images	I very much disliked viewing these images