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THE IMPACT OF FRIENDSHIP CLOSENESS AND HEGEMONIC MASCULINITY ON  
GROUP PERPETRATED ANTIGAY AGGRESSION

by

ADAM D. HUDEPOHL

Under the Direction of Dominic J. Parrott, Ph. D.

ABSTRACT

The purpose of this study was to empirically evaluate hypothesized risk factors for the perpetration of antigay aggression. Specifically, the independent and interactive effects of endorsement of hegemonic male role norms and peer group relational factors (i.e., closeness) were examined as individual and situational risk factors for antigay aggression, within the framework of the General Aggression Model (GAM). Dyads of friends were recruited for participation in the study. Participants completed questionnaires that included measures of hegemonic masculinity and friendship closeness. The dyads of friends then viewed a video depicting male-male intimacy and competed in the TAP together against a fictitious gay opponent. Results showed that endorsement of the toughness norm was associated with both

higher average shock intensity and proportion of highest shock selected. However, neither measure of relationship closeness served as a significant moderator of this relation.

**INDEX WORDS:** Aggression, Violence, Hate crimes, Antigay violence, GLBT studies, Group aggression, Masculine role norms, Hegemonic masculinity, Peer groups, Friendship, Closeness

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by

ADAM D. HUDEPOHL

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy

in the College of Arts and Sciences

Georgia State University

2011

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Adam David Hudepohl  
2011

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by

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DEDICATION

This manuscript is dedicated to my friend Ignacio Franco.

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The manuscript could not have been completed without the patience and support of my wife Margaret Banks Hudepohl. I am indebted to her for providing me with a long sought after sense of belonging.



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## INTRODUCTION

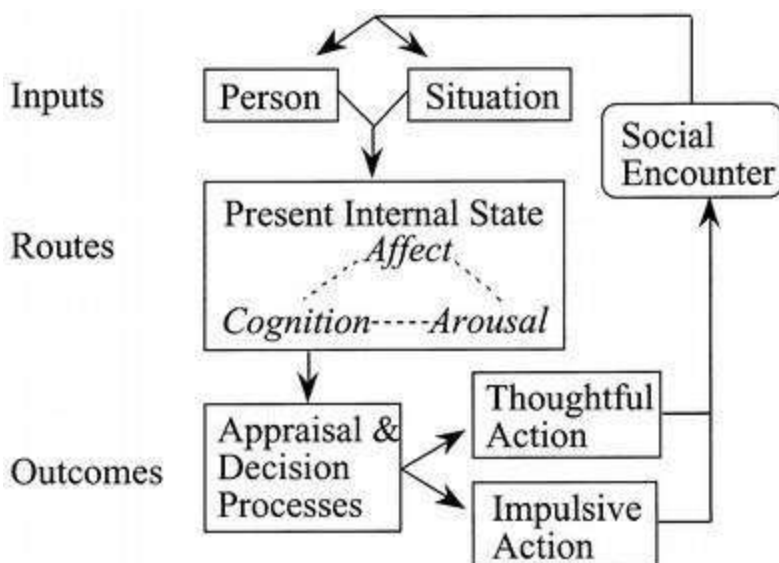
Persecution based on sexual orientation is a nearly universal experience for young gay men and lesbians, with 86% of a national survey reporting harassment at school in the past year (GLASEN, 2007). Violence perpetrated against gay men and lesbians continues to be a significant public health issue, as recent data indicate that antigay assaults and murders have failed to significantly decline in recent years despite increased public attention to the problem (NCAVP, 1998-2006). Approximately one in five sexual minority adults have experienced a crime against their person or property as a result of their sexual orientation and close to 50% report being verbally abused (Herek, 2009). It is particularly disturbing when one considers that victims of antigay assaults are less likely to report these crimes to law enforcement when compared to victims of other hate motivated crimes (Dunbar, 2006; Herek, Gillis, & Cogan, 1999; NCAVP, 2003), especially as crimes become more violent (Dunbar, 2006). Although violent hate crimes (e.g., murder, rape, and assault) garner the majority of media attention, these crimes are just the “tip of the iceberg.” Estimates suggest that countless cases of antigay intimidation, discrimination, and verbal harassment likely occur every day, yet go unreported (NCAVP, 2005). Indeed, the true extent of the problem is largely unknown.

Data suggest that the detrimental effects of antigay violence on members of the GLBTQ community are quite severe. For instance, an extensive survey study found that gay and lesbian victims of hate crimes experienced more symptoms of depression, anger, anxiety, and posttraumatic stress in comparison to victims of nonbiased crimes (Herek et al., 1999). In addition, Dunbar (2006) reported that victims of hate crimes based on sexual orientation suffered a greater severity of violence and experienced more detrimental personal effects than victims of other bias motivated crimes. Thus, the impact of antigay violence represents a significant public

health disparity and is a barrier to improving the health of sexual minority individuals. While researching and developing ways to help sexual minorities recover from and cope with the experience of discrimination and violence is undoubtedly important, a comprehensive plan for reducing antigay violence must also include a better understanding of the individuals who perpetrate these crimes.

### *Conceptualizing Antigay Violence*

In an extensive review of the antigay aggression literature, Parrott (2008) highlighted the utility of organizing risk factors for antigay aggression within the parsimonious theoretical framework of the General Aggression Model (Anderson & Bushman, 2002). In this model, an aggressive response is determined by inputs, an individual's present internal state, and appraisal processes. Inputs describe features that can be grouped into either individual (i.e., biological, psychological) or situational (i.e., environmental and social) factors. These input variables influence behavior through the activation of associatively linked cognitive, affective, and physiological networks (i.e., present internal state). Appraisals are based upon the relative activation of these routes and, ultimately, inform one's decision to aggress. For example, an individual's experience of anger serves to mediate the causal relation between individual and situational inputs and subsequent aggressive behavior. Thus, individual differences and situational factors can predispose an individual to an amalgam of affective, cognitive, and physiological responses that may lead to aggression. This theoretical framework effectively organizes the investigation of risk factors for antigay aggression. More importantly, it identifies a number of variables in a "chain of events" that are likely to precede an act of antigay aggression. See Figure 1 for a graphical depiction of this model.



*Figure 1. The General Aggression Model.*

#### *Individual Risk Factors*

Theories of antigay aggression have advanced several potential links comprising this chain of events. Guided by these theories, a developing empirical literature has identified dispositional variables which appear to constitute risk factors for engagement in antigay violence including *psychopathy* (Parrott and Zeichner, 2006; Patel, Long, McCammon, & Wuensch, 1995), *right wing authoritarianism* (Whitley & Lee, 2000; Wilkinson, 2004), and *age* and *gender*, with extant literature showing that the vast majority of antigay assaults are committed by young men. Indeed, the National Coalition of Anti-Violence Programs (NCAVP, 2006) reported that amongst offenders whose gender could be determined, 87% were men. The majority of the remaining risk factors that have been the subject of scientific inquiry share common ground in that they are all related to gender role adherence and traditional beliefs about gender roles.

*Sexual prejudice.* Sexual prejudice, which reflects “all negative attitudes based on sexual orientation” (Herek, 2000a, p. 19), has been associated with the perpetration of antigay aggression (Franklin, 2000). Theorists contend that sexual prejudice most likely facilitates antigay

aggression in men who are exposed to intimate or sexual interactions between two men (Gentry, 1987; Herek, 1988; Kite, 1994; Kite & Whitley, 1998). This supposition is consistent with the view that sexual prejudice and antigay aggression function to enforce gender and societal norms (Franklin, 2004; Harry, 1990; Herek, 2000; Kimmel, Gergen, & Davis, 1997) and likely emerge from rigid adherence to traditional gender norms (Parrott, 2009; Parrott, Peterson, Vincent, & Bakeman, 2008). Indeed, researchers have long pointed out that the male gender role is defined by contrasts and that these contrasts are maintained through the segregation and persecution of women and gay men as the non-masculine “other” (Franklin, 2000, 2004; Franklin & Herek, 1998; Kimmel, 2000; Kimmel et al., 1997; Kimmel & Mahler, 2003). Heterosexual men may be motivated to enforce this contrast for a number of reasons, including traditional beliefs about marriage and family (Hegarty, Pratto, & Lemieux, 2004), beliefs that gay men are carriers of HIV (Pryor, Reeder, Yeadon, & Hesson-McInnis, 2004), to avoid unwanted sexual advances (Herek, 2000), and to gain status and avoid emasculation at the hands of their peers (Franklin, 2000; Harry, 1990; Kimmel, 1997). Both lab (Bernat, Calhoun, Adams, & Zeichner, 2001; Parrott, 2009; Parrott & Zeichner, 2005) and survey research (Franklin, 2000; Parrott & Peterson, 2008; Patel, Long, McCammon, & Wuensch, 1995; Roderick, McCammon, Long, & Allred, 1998) has supported an association between sexual prejudice and aggression towards sexual minorities.

*Masculine gender role stress (MGRS)*. Eisler, Skidmore, and Ward (1988) defined this construct as the stress that results from “a threat to male competence” (pg. 134). They posited that men who endorse high, as opposed to low, levels of masculine gender role stress will experience significantly more stress in situations that require stereotypically feminine behavior and thus violate the traditional male gender role norm. Consistent with this view, masculine gender role stress has been empirically linked to men’s experience of distinct emotions that reflect the



experience of stress (i.e., anger and anxiety; Eisler et al., 1988; Moore & Stuart, 2004). Evidence supporting a link between antigay aggression and MGRS has been mixed. Using a laboratory-based aggression paradigm, Parrott (2009) found a direct link between MGRS and aggression against a heterosexual male opponent, but not a gay male, opponent. However, survey research conducted by Parrott and colleagues (2008) found that MGRS partially mediated the effect of endorsement of specific male gender norms (i.e., status and antifemininity) on anger in response to gay men. Furthermore, MGRS has been linked to past perpetration of antigay aggression (Vincent, Parrott, & Peterson, in press). In this study, MGRS was also associated with antigay anger in response to a vignette depicting a non-intimate interaction between two gay men, but only amongst men who were high in sexual prejudice. As such, antigay anger partially mediated the effect of MGRS on the frequency of past antigay aggression.

*Adherence to traditional gender norms.* Adherence to traditional gender norms has been examined as both a unitary and multidimensional construct. *Hypermasculinity* is a unitary construct and can be defined as an excessive identification with and endorsement of the masculine gender role (Mosher & Sirkin, 1984). Laboratory research has shown a link between hypermasculinity and increases in anger when men are exposed to male-male erotica, relative to male-female, erotica (Parrott & Zeichner, 2008). In addition, following exposure to male-male intimate relationship behavior (i.e., male-male erotica), hypermasculinity has been shown to predict physical aggression toward a gay, but not a heterosexual, man (Parrott & Zeichner, 2008). Relatedly, survey data collected by Whitley (2001) showed a positive relationship between hypermasculinity and self-reported perpetration of antigay behaviors. Again, while more research is needed in this area, extreme adherence to traditional masculine gender roles (i.e., hypermasculinity) appears to be an important determinant of antigay aggression.

Endorsement of *male role norms* is a multidimensional construct and converging evidence from both survey- and laboratory-based research suggests that adherence to traditional gender roles is related to higher levels of aggression (Cohn & Zeichner, 2006; Fitzpatrick, Salgado, Suvak, King, & King, 2004; Jakupcak, Lisak, & Roemer, 2002; Mahalik, Locke, Scott, Gottfried, & Freitas, 2003). In addition, pertinent literature indicates that commonly observed gender differences in aggressive behavior, in which men are typically found to be more aggressive than women, are better explained by adherence to traditional gender roles (Richardson & Hammock, 2007). Most importantly, attempts to adhere to traditional male gender norms may impart negative consequences (Good et al., 1994). These data demonstrate that new insights into the causes of antigay aggression may be revealed by investigating beliefs about gender roles and its concomitants.

Empirical focus on gender role beliefs is particularly relevant given that one primary motivation for aggression toward sexual minorities is to enforce clear divisions between traditional male and female gender roles (Franklin, 2000, 2004; Franklin & Herek, 1998). Indeed, Parrott (2009) proposed that perpetrators of antigay violence who are motivated by gender role enforcement endorse traditional beliefs about the male gender role. Adherence to these traditional male role norms has been described as “hegemonic masculinity,” which is a culturally derived ideal that allows men to affirm their masculine identity by establishing power and dominance over others (Connell & Messerschmidt, 2005; Franklin, 1998; Hamner, 1992; Kite & Whitley, 1998). According to Connell (2000), hegemonic masculinity is socially constructed and dominates subordinate forms of masculinity (defined relationally by those that are not hegemonic) based on force, as well as cultural consent, institutionalization, and the delegitimation of alternatives. Thus, subordinate masculinities can take many forms, such as complicit (i.e., men who do not practice

hegemonic practices but in their lack of protest, reap the benefits nonetheless), effeminate, and marginalized (e.g., masculine identity in minority groups). Connell argues that hegemonic masculinity stems from a historical process, and is not a self-reproducing system but instead needs to be maintained through various mechanisms. For Connell, these mechanisms are wide-ranging, but include homophobic assaults and murders, as well as teasing boys for “sissiness.”

Hegemonic masculinity has been consistently linked to aggression (Connell & Messerschmidt, 2005). Men are expected to live up to an ideal of masculinity, and their masculine identity is grounded in the possession of power over other groups and the clear distinction between themselves and groups that are categorically different. The most important differentiation in this conceptualization is between masculinity and femininity. However, the roots of masculinity are not grounded in gender alone, as heterosexuality is also an integral part of this ideal (Herek, 1986). Thus, women and gay men are both segregated and persecuted by heterosexual men as the non-masculine “other” (Franklin, 2000, 2004; Franklin & Herek, 1998; Kimmel, 2000; Kimmel et al., 1997; Kimmel & Mahler, 2003).

Thus, male gender norms and masculinity are dependent on contrasts. Kaufman (1997) has described masculinity as “terrifyingly fragile” because it only exists as an ideology. This ideology must be demonstrated through behavior. As such, men must continually “prove” their masculinity to those around them. By this rationale, men who endorse hegemonic male role norms are more likely to feel a powerful need to prove their masculinity more often and in more extreme ways, such as the use of violence.

A commonly used tool for examining adherence to traditional beliefs about the male gender role (i.e., hegemonic masculinity) is the Male Role Norms Scale, which assesses adherence to three separate, albeit related, constructs. Status refers to a man’s need for achievement and the

attainment of respect from other men. Toughness encompasses the essentiality of men displaying physical, emotional, and mental toughness, as well as self-reliance. Finally, antifemininity reflects the belief that men should avoid any behavior that could be classified as stereotypically feminine (Thomson & Pleck, 1986). Survey research has supported a link between endorsement of these norms and antigay aggression (Whitley, 2001), and has also demonstrated that the status and antifemininity norms have an indirect effect (through sexual prejudice) on anger in response to gay men (Parrott et. al., 2008). Laboratory research has supported a similar indirect pathway, predicting anger and aggression in response to gay men (Parrott, 2009). Of note, in both survey and laboratory research, the toughness norm was not related to anger or aggression in response to gay men.

*Neurobiological factors: Neuroanatomy, neurotransmitters, and psychopharmacology.*

Individual risk factors for antigay aggression likely include neurobiological factors as well. Although aggression against sexual minorities has not been researched from this important viewpoint, an examination of what is known about the neural underpinnings of aggression and rage is likely to facilitate the development of more dynamic research strategies aimed at understanding aggression against specific targets. The collaboration of multiple disciplines in the field of psychology is important in this regard due to the fact that the neural substrates and neurochemistry involved vary based on the function of the aggressive act (Moyer, 1976; Siegel, 2005). In other words, it is important to have some understanding of the perpetrators motive in order to study aggression from a neurobiological standpoint. Generally, work in this area has been conducted using animal models, primarily cats and monkeys, although human studies have been conducted as well.

The two functions of aggression that have received the most attention in research using animal models are *predation* and *defensive rage* (Siegel, Bhatt, Bhatt, & Zalcman, 2007). The amygdala, hypothalamus, and PAG play important roles in both types of aggression. Defensive rage is defined as the response of an animal to a threat, such as another member of the same species occupying its territory. The pathways responsible for defensive rage are thought to arise in the anterior medial hypothalamus, which in turn projects to the dorsolateral aspect of the rostral half of the PAG. The anterior medial hypothalamus receives input from various sources important for the modulation of the defensive rage response, primarily the ventromedial nucleus of the hypothalamus and the limbic system. The PAG then projects to areas important for the autonomic and somatomotor aspects of defensive rage behavior (Siegel et al., 2007).

The pathways responsible for predation arise from the lateral hypothalamus and project to the ventrolateral aspect of the PAG, ventral tegmental area, central tegmental fields, locus coeruleus, and motor and sensory nuclei of the trigeminal complex. These areas are important in the production of an attack on another animal, such as biting and stalking behaviors (Siegel et al., 2007). Interestingly, it is thought that the pathways responsible for these types of aggression are not only independent of one another, but actually have inhibitory mechanisms that suppress the opposite pathway. The medial hypothalamus has a GABAergic neuron that projects to the lateral hypothalamus, while the lateral hypothalamus has a similar GABAergic neuron that projects to the medial hypothalamus (Cheu & Siegel, 1998; Han, Shaikh, & Siegel, 1996).

The amygdala modulates both forms of aggression via excitatory and inhibitory pathways. Excitatory pathways for defensive rage project from both the medial and basal nuclei of the amygdala. The medial nucleus projects to the medial hypothalamus (which in turn projects to the dorsolateral PAG), while the basal nucleus projects directly to the dorsolateral PAG. Excitation

of the medial amygdala also suppresses predatory attack via a disynaptic pathway connecting this region to the lateral hypothalamus (through the medial hypothalamus). Excitation of the lateral amygdala results in predatory attack, which is thought to be a result of its connections with the lateral hypothalamus (Siegel et al., 2007).

The prefrontal cortex can also modulate aggressive behavior via its connections to limbic structures such as the amygdala. Reduced metabolic activity in the prefrontal cortex has been found in patients with personality disorders who display high levels of aggression (New et al., 2004). Additionally, the prefrontal cortex has been shown to be essential in executive functioning, such as impulse control (Cummings, 1995). Poor executive function has in turn been repeatedly linked to higher levels of aggression and violence (Hoaken et al., 2003; Morgan & Lilienfeld, 2000). Interestingly, poor executive function may be related specifically to violent crime. After controlling for intelligence, researchers found that poor executive function was linked to frequency and severity of violent crime, but not non-violent crime, in a population of incarcerated individuals (Hancock, Tapscott, & Hoaken, 2010).

In humans, predatory aggression is often referred to as proactive or instrumental aggression, reflecting the idea that the primary goal of aggression is to achieve a goal other than the infliction of harm to the victim. Instrumental aggression often involves premeditation and planning. This type of aggression has often been linked to psychopathy and is often carried out in the absence of emotional arousal (Glenn & Raine, 2009). The analogous terms for defensive rage in humans are reactive, affective, and hostile aggression (Siegel & Victoroff, 2009). Similar to animal models, humans who engage in this type of aggression experience a dramatic increase in sympathetic activation. There is a pronounced lack of cortical activation, in comparison with predatory or instrumental aggression. This response is aversive in nature and is designed to cause

the organism to remove the threatening stimulus from the environment. Siegel and Victoroff (2009) point out that aggression in humans is a far more complicated phenomenon than it is in cats and that multiple forms of aggression may be in play at one time. Indeed, Bushman and Anderson (2001) argued that the hostile-instrumental aggression dichotomy should be abandoned because it does not account for aggression perpetrated for multiple motives and is confounded by the automatic-controlled information processing dichotomy. Similarly, there is a high inter-correlation between these forms of aggression (for a review, see, Little, Brauner, Jones, Nock, & Hawley, 2003). Unfortunately, there has been a lack of research comparing and contrasting the neural underpinnings of these forms of aggression in humans.

The obvious question as it relates to the proposed study is, “Does antigay aggression constitute defensive rage or predation?” Unfortunately, the state of the literature does not allow for a definitive answer to this question. However, based on the literature reviewed thus far, it seems likely that there exist individual differences in the neural underpinnings of antigay aggression. For example, to the extent that an individual is consciously aware that they are engaging in antigay aggression in order to maintain their masculine status and subsequently their place in their peer group, antigay aggression may be instrumental in nature. However, one could also make the case that antigay aggression constitutes components of hostile aggression in that there is often an increase in anger (Parrott & Peterson, 2008; Parrott & Zeichner, 2008), and the aggression is often in response to a perceived threat (i.e., to the individual’s place in their peer group) in the environment (i.e., the presence of a gay man).

A large variety of neurotransmitters have been identified as playing an important role in aggressive behavior. Although a full review of these systems is beyond the scope of proposed project, it is useful to discuss those that have been the subject of the majority of research in this

area, as well as those that have been targeted by pharmaceutical strategies aimed at reducing aggression. These include GABA, glutamate, acetylcholine, dopamine, norepinephrine, and serotonin. GABA, the brain's primary inhibitory neurotransmitter, is involved in the suppression of the aggression system not in current use by the organism (Shaikh & Siegel, 1990). Glutamate, the brain's primary excitatory neurotransmitter, is involved in the activation of the defensive rage response (Siegel et al., 2007). Acetylcholine, norepinephrine, and dopamine also potentiate aggressive behavior. Serotonin can have both excitatory and inhibitory effects on defensive rage depending on the type of receptor activated. Activation of 5-HT<sub>2</sub> receptors facilitates defensive rage while activation of 5-HT<sub>1A</sub> receptors inhibits this form of aggression (Hassanain, Bhatt, & Siegel, 2003).

Pharmaceuticals used to target these various systems in an attempt to reduce aggressive behavior in humans have had mixed success. Several antiepileptic agents have been used to augment GABA in the brain in an attempt to reduce aggressive behavior. Valproic acid (Lindenmayer & Kotsaftis, 2000), topiramate (Nickel et al., 2004), and divalproex (Hollander, Swann, Coccaro, Jiang, & Smith, 2005) have all shown some potential in reducing aggressive behavior, although the conclusions that can be drawn from these studies are limited due to various methodological issues such as small sample size, presence of non-specific effects, and lack of double-blind placebo controls.

Antipsychotic medications, including clozapine, risperidone, and olanzapine, have also been shown to reduce aggressive behavior in patients with schizophrenia. These drugs all act through dopamine receptors as antagonists, although many affect other monoamine receptors as well. This limits our ability to attribute reduction in aggressive behavior after administration of these drugs to alterations of dopamine levels alone. Of these, clozapine has the most support in



terms of efficacy (Volavka et al., 2004). However, not all drugs that act as dopamine antagonists are effective in reducing aggressive behavior and little is known about the mechanisms responsible for these differential effects (Sigel et al, 2007).

Medications which alter serotonin levels have been the subject of the most intense scientific inquiry. An inverse relation between serotonin levels and aggressive behavior has been established via multiple experimental strategies including the manipulation of tryptophan levels (Bjork et al., 2000), measurement of serotonin metabolites in the CSF, and administration of the drug fenfluramine, which allows for an indirect measure of serotonin levels via measurement of hormones in the blood stream (Coccaro et al., 1998). Selective serotonin reuptake inhibitors, such as fluoxetine, which increase the availability of serotonin in the extracellular space, have been shown to reduce aggressive behavior in humans, relative to placebo (Coccaro & Kavoussi, 1997). Others such as paroxetine have been shown to be related to reduced response to provocation in aggressive individuals (Berman, McCloskey, Fanning, Schumacher, & Coccaro, 2009). These results were supported by a second study that examined the independent and interactive effects of serotonin augmentation (via paroxetine administration) and alcohol intoxication (see below) on aggression in men. Although main effects were observed for alcohol intoxication and serotonin augmentation, the interaction of the two was not significant (McCloskey, Berman, Echevarria, & Coccaro, 2009).

Unfortunately, little is known about how these various neurotransmitters interact in the brain in the production of an aggressive response. In addition, due to their lack of neuro-anatomical and neuro-chemical specificity many of these drugs carry significant side-effect profiles which are likely to limit their effectiveness in reducing aggressive behavior and the willingness of

at-risk individuals to take them. Finally, little is known about how these drugs may differentially affect aggression based on the target of the perpetrator or the purpose of the aggressive act.

### *Situational Risk Factors*

The literature reviewed thus far raises an important question: In what context do perpetrators of antigay violence most feel the need to prove or display their masculinity and enforce traditional gender role norms? As stipulated by the GAM, there are also a variety of situational risk factors that are likely to interact with individual risk factors and merit attention in the study of antigay violence (Parrott, 2008). Risk factors that have been identified include *alcohol use and intoxication* (Franklin, 2000; Parrott, Gallagher, Vincent, & Bakeman, 2010), *exposure to gender role violations* (Parrott & Zeichner, 2005), and *masculinity threat* (Talley & Bettencourt, 2008). However, there is an additional situational risk factor that has received little attention in the investigation of antigay violence despite its potential importance.

*Group perpetrated antigay violence.* The aforementioned research has focused primarily on the individual perpetration of antigay violence. This is problematic for two reasons. First, research shows that an alarming amount of antigay violence is committed by groups of men. These groups often consist of two or three offenders (NCAVP, 2006). In a large sample of college students, Franklin (2000) found that three quarters of the individuals who disclosed aggression against a gay individual reported doing so while in the context of a group. Parrott and colleagues (2010) reported that 87% of all male-perpetrated aggression against sexual minorities was committed simultaneously by small groups of men or by one male in front of peers. Likewise, data on antigay assaults collected by the NCAVP shows that nearly a third of reported cases were perpetrated by groups (NCAVP, 1998-2006). To be clear, this study is not intended to compare individually and group perpetrated aggression. Research on group aggression has generally

shown that individuals react more aggressively when provoked in the context of a group than when provoked alone (Jaffe & Yinon, 1979; Meier & Hinsz, 2004). The prevalence of group perpetrated antigay aggression has been established, and as such it seems far more important to look at characteristics of the relationships in these groups that may contribute to an act of antigay violence.

Second, research on individuals ignores factors which may only occur as a function of membership in a heterosexual male peer group. Groups of course can influence an individual's behavior. In his famous work, *The Nature of Prejudice*, Allport (1954) explores the formations of in-groups, and discusses the case of "Sam," a boy who has to engage in a fight in order to be accepted by his peer group. Allport asserts that the function of this fight is for Sam to show his "toughness" to his peer group and concludes that "some in-group memberships need to be fought for" (p. 33). According to the theory of normative influence, groups influence an individual's behavior as a function of social pressure from others. This social pressure is increased when group members are accountable to the group for their behavior (Deutsch & Gerard, 1955). For example, Kimmel (2000) posited that men constantly watch and rank one another and then decide if an individual should be granted manhood status. Thus, it is not enough to prove manhood to one's self. It is perhaps more important to display one's manhood to another man or a group. Kimmel (2000) argued further that men are not motivated by fear of gay men. Rather, they are motivated by fear of one another. More specifically, men fear that other men will emasculate them and show the world that they do not live up to society's ideal of how a man should think, behave, and feel. This fear causes men to exaggerate stereotypical masculine attributes in order to prove to others that they are indeed masculine. Men from socially disadvantaged backgrounds may be even more likely to engage in this behavior as a result of their marginalized social status

(Tomsen, 2002). By endorsing hegemonic male role norms, men therefore are implicitly encouraged, even expected, to separate themselves from those who are unmanly, namely women and gay men.

The extreme example of exerting this separation is through the use of violence. Not surprisingly, violence is often viewed and rated as the most evident symbol of manhood (Kimmel, 2000). Violence committed against women and gay men serves as a dramatized demonstration of one's manhood (Franklin, 2000, 2004; Franklin & Herek, 1998; Harry, 1990; Kimmel, 2000; Kimmel & Mahler, 2003). In accordance with this view, Franklin (2000) identified *peer dynamics* as the most salient motivation for antigay behavior, accounting for three times more variance than *antigay ideology*. Similar to Herek's definition of *sexual prejudice*, Franklin operationally defined *antigay ideology* as "negative attitudes towards homosexuality such as disgust, hatred, religious and moral values, and the belief that homosexuals spread AIDS" (pg. 347). *Peer dynamics*, however, was classified as "the desire to feel closer to friends, to live up to friend's expectations, and to prove toughness and heterosexuality to friends" (pg. 347). Thus, it stands to reason that the more insecure a man feels in his peer group, the more he may be driven to commit an act of antigay violence to secure his place amongst his peers. As such, a better understanding of relationship characteristics within male peer groups may help elucidate the interplay of risk factors that result in an act of antigay violence.

*Relationship factors.* One possible explanation may lie in the extent to which men feel close to and secure in their relationships with male peers. The developmental literature has repeatedly identified peer rejection and early aggressive behavior as risk factors for later antisocial behaviors, including aggression and violence (Bierman & Wargo, 1995; Coie, Lochman, Terry, & Hyman, 1992; Kupersmidt & Coie, 1990; Miller-Johnson, Coie, Maumary-Gremaud, Lochman, &

Terry, 1999). The relation between friendship and increased aggression is complicated, however. Antisocial behavior in childhood has been consistently found to be associated with peer rejection (Coie & Kupersmidt, 1983; Dodge, 1983). However, aggressive and/or deviant children are generally drawn to similar peers (Elliot, 1994; Simons, Wu, Conger, & Lorenz, 1994), a finding that has been found in children as young as preschool age. Subsequent inclusion in an aggressive peer group is then associated with further increases in aggression. The opposite is also true, with non-deviant children being more likely to form friendships with non-deviant peers (Snyder, Horsch, & Childs, 1997).

However, numerous researchers have pointed out that it is important to look at the *quality* of friendships (e.g., closeness, security) as opposed to *the number of friends or time spent with friends* in order to further our understanding of the effects of peer relationship on adjustment (Berndt, 1982; Hartup & Stevens, 1997). Friendship quality has been shown to moderate the relationship between externalizing problems and bullying, such that children with a higher quality best friendship were less likely to bully their peers in comparison to those with a lower quality best friendship (Bollmer, Milich, Harris, & Maras, 2005). Friendship quality has also been shown to be a protective factor that attenuates the relation between negative parenting and externalizing behaviors (Lansford, Criss, Pettit, Dodge, & Bates, 2003). In this study, adolescents with low quality friendships exposed to negative parenting were more vulnerable to the detrimental influence of peers they perceived to be highly antisocial.

These data contradict the view that aggression perpetrated by antisocial or delinquent peers is, at least in part, due to *close relationships* with other delinquent youth. Indeed, while deviant youth may have friendships with other deviant youth, Marcus (1996) asserted that these friendships are often of lower quality (i.e., less closeness and support, more conflict) in

comparison to those of conventional peers. Similarly, friendships among more antisocial early adolescents are lower in quality when compared to those of less antisocial early adolescents (Dishion, Andrews, & Crosby, 1995). In comparison, research suggests that higher quality friendships are related to increases in self-esteem and decreases in delinquency, hostility, school problems, and psychiatric symptomatology (Buhrmester, 1990; Hirsch & DuBois, 1992). Quality peer relationships may also provide adolescents with opportunities for disclosure, security, and support that they may not get elsewhere (i.e., at home) (Furman & Robbins, 1985; Ladd, 1999). Aggression is thought to be related to negative friendship features (e.g., conflict), and not to positive features (e.g., closeness) (Berndt & Keefe, 1995).

While there is considerably less contemporary research examining the relation between relationship quality (e.g., closeness, security) and violence in adults, numerous theorists have purported that social support may mitigate the likelihood of violence (Cook, 1975; Klassen & O'Connor, 1988). In addition, a paucity of research has examined how relationship closeness may affect an individual's likelihood to aggress against a specific target, such as a sexual minority. Furthermore, it is possible that relationship factors (e.g., closeness) may interact with individual level risk factors (e.g., adherence to hegemonic male role norms) to more accurately identify individuals at risk for committing an act of antigay violence.

The clinical implications of this are important. If closeness is identified as a moderator that reduces the contributory influence of endorsement of hegemonic norms on antigay aggression, then this variable can be readily targeted in individual and group based psychotherapy. It may also help to identify individuals with poor quality friendships who may be at risk for committing an act of antigay violence.

### *Theoretical Integration*

Recent survey data indicate that antigay violence is frequently perpetrated by groups of men and is a significant public health concern (Franklin, 2000; Parrott et. al., 2010). Given the sizable proportion of antigay assaults that are group perpetrated, it is surprising that no study to date has examined the factors that may portend these acts. Moreover, it is unknown how, or if, individually and group perpetrated antigay aggression are motivated by similar processes.

Research is sorely needed to address these issues.

While it is likely that multiple factors influence an individual's decision to act aggressively towards a gay man, the literature suggests that one "chain of events" may be particularly salient within the context of the GAM. Specifically, an individual in the company of a male peer member (i.e., *peer dynamics*) who exhibits a high level of adherence to hegemonic male role norms may be more likely to engage in an act of antigay violence. This display of aggression functions to reaffirm an individual's masculinity (i.e., antifemininity) and secures his place within his peer group (i.e., status). However, the quality of an individual's relationship with his peer (i.e., closeness) is likely to moderate this relationship. Specifically, in the presence of male friend to whom a man *does not* feel close and secure, men's endorsement of the antifemininity and status norms should predict aggression toward a gay man because he fears that he will be emasculated, denigrated, and potentially ousted from the peer group. In contrast, in the presence of a male friend to whom a man *does* feel close and secure, endorsement of these masculine norms should more weakly predict (or be unrelated) to aggression toward a gay man due to a lack of fear that he will be ousted from the peer group. In summary, pertinent theories identify adherence to hegemonic male role norms and peer group relational factors (e.g., closeness) as individual and situational risk factors for antigay aggression, respectively, within the framework of the GAM. Of

course, there is also the possibility that closeness could facilitate aggression, perhaps as a result of shared knowledge in the dyad as to their level of adherence to hegemonic male role norms.

However, the literature reviewed above does not support this alternative hypothesis and seems to more strongly support the idea that relationship closeness will serve as a protective factor against aggression.

### *The Proposed Study*

The purpose of the proposed study is to empirically evaluate the independent and interactive effects of these hypothesized risk factors in the perpetration of antigay aggression when in the presence of a male peer. An archival data set obtained from a larger investigation of determinants of aggression toward gay men will be utilized to evaluate original hypotheses. In this project, participants were recruited for a two-part study. In Part 1, they completed a battery of self-report questionnaires. In Part 2, which occurred on a separate day, participants, along with a friend, viewed a video that depicted male-male intimate relationship behaviors and then competed in the Taylor Aggression Paradigm (Taylor, 1967) against a gay male opponent. Of course this study is merely a first step in elucidating an important causal pathway towards antigay violence. Future studies need to include experimental manipulations of the sexual orientation of the opponent, number of individuals in a group of friends, and the relationship between the participants (i.e., friends and strangers).

Based on the reviewed literature, several hypotheses were advanced.

*Hypothesis 1.* Adherence to the status and antifemininity male role norms will be positively related to antigay aggression, whereas no association between adherence to the toughness norm and antigay aggression is expected. There will be no relation between adherence to male role norms and an individual's rating of relationship closeness with his male peer.



*Hypothesis 2.* An individual's rating of relationship closeness will moderate the relation between adherence to hegemonic role norms and antigay aggression. More specifically, it is predicted that greater adherence to the status and antifemininity norms will more strongly predict antigay aggression amongst individuals that endorse lower levels of relationship closeness.

## METHOD

This study utilized archival data drawn from a larger investigation on risk factors for aggression toward gay men. Thus, while the specific methods and procedures described below could not be modified, the research questions and hypotheses to be addressed were novel and the proposed analytic plan was developed specifically to address these aims. The study used a correlational design (i.e., no variables were manipulated). Adherence to male role norms and relationship closeness were assessed in all participants and the independent and interactive relations of these variables with antigay aggression were examined. All participants received partial course credit or \$10 per hour for their participation. This study was approved by the university's Institutional Review Board.

### *Participants and Recruitment*

Participants were recruited from the Department of Psychology undergraduate research pool at Georgia State University and from the general student body. They responded via an online scheduling system, fliers hanging in various locations on campus, or computer advertisements, to a study titled, "The Effects of Interpersonal Relationships on Motor Reactivity." Participants were informed that they would be asked to complete a questionnaire battery (Session 1) and participate in a separate session on another day (Session 2). Participants were afforded the option to not complete the second session. The recruitment advertisement informed participants that they were required to bring a "good friend" with them to the laboratory. Regardless of participation in Session 2, all participants received course credit or \$10 for completing Session 1.

Research shows that the typical perpetrators of antigay violence are heterosexual males in their late teens or twenties (Harry, 1990; NCAVP, 2006). As such, only heterosexual men

between the ages of 18-30 were deemed eligible for the second session. A heterosexual orientation was confirmed during Session 1 via (1) a single item that assessed participants' self-identified sexual orientation, and (2) the Kinsey Heterosexual-Homosexual Rating scale (Kinsey, Pomeroy, & Martin, 1948). On this latter measure, only participants who endorsed exclusive sexual arousal to women (i.e., no reported sexual arousal to men) and sexual experiences that occurred predominantly with women were included (see below for further justification of cutoff thresholds). As such, they were deemed ineligible for Session 2. Non-English speakers and participants who reported knowing someone who had completed the study were also excluded. All participants deemed ineligible for Session 2 or who elected not to complete Session 2 were debriefed and compensated at the conclusion of Session 1. If only one member of a dyad was deemed ineligible, the eligible member was asked if he had another friend who would like to participate in the study. This new dyad member then completed Session 1 on a separate day.

A power analysis (Erdfelder, 1996) was utilized to determine the number of participants needed to detect a two-way interaction, which requires the most power of the hypothesized effects. Previous research on the relation between male role norms and aggression toward gay men has observed large effects (e.g., Parrott, 2009; Parrott & Zeichner, 2008). Based on this research, a conservative effect size in the moderate range ( $f^2 = .15$ ) was chosen. The parameters for the power analysis were set at alpha = .05 and power = .80. On the basis of these parameters, it was determined that 49 participants would be needed in the final sample.

As stated above, this study drew on archival data from a larger investigation of antigay violence. A total of 299 men were originally recruited. Of these, 48 participants did not report a heterosexual orientation and/or reported sexual arousal or behavior with men. As such, they were excluded from subsequent analyses and participation in the second part of the study. Of these 251

eligible participants, 34 did not return to their scheduled experimental session. Of the 217 men who completed the experimental session, 50 were deemed eligible for inclusion in this analysis due to the fact that they competed against a gay opponent in the presence of a friend. Of these 50 participants, 2 were not deceived and were subsequently excluded from the study. The final usable sample consisted of 48 men, aged 18-30, who self-identified as exclusively heterosexual. See Table I for demographic information of the final usable sample.

Table 1 *Demographic Variable of Usable Sample*

Variable	M	SD
Age	19.65	1.83
Education level (years)	14.30	1.25
Family yearly income	\$36,042	\$26,305
Race (%)		
White, non-Hispanic	41.7	
African American	52.1	
Asian American	2.1	
More than one race	2.1	
Other	2.1	
Relationship status (%)		
Single, never married	95.8	
Living with partner	4.2	

### *Preliminary Checks and Questionnaire Battery*

When participants arrived for Session 1, the experimenter led them to a small room and verified their age by requesting to see a valid ID. Informed consent was then obtained. Participants then completed a battery of self-report questionnaires presented on a computer using MediaLab 2000 software (Empirisoft Research Software, Philadelphia, PA).

*Demographic form.* This form was used to assess age, race, education, marital status, self-identified sexual orientation, and income level.

*Kinsey Heterosexual-Homosexual Rating Scale (KRS; Kinsey et al., 1948).* The KRS is a 7–point, Likert style scale used to assess sexual orientation along a continuum. Participants are asked to report their behavioral experiences and sexual arousal from “exclusively heterosexual” to “exclusively homosexual.” Savin-Williams (2006) argued that sexual orientation is most reliably assessed when multiple components of sexual orientation are congruent. It is suggested that the highest priority be given to indices of sexual arousal rather than self-identification and reports of sexual behavior. Indeed, these latter components of sexual orientation are more susceptible to social context effects, self-report biases, and variable meanings. Thus, the criteria for exclusion based on reported behavior was not as strict as reported arousal. Therefore, only men who reported exclusively heterosexual arousal and primarily heterosexual behavior were included in the final sample. Indeed, any further reduction in the stringency of the exclusion criteria may unnecessarily increase variability in the sample.

*Male Role Norms Scale (MRN Scale; Thompson & Pleck, 1986).* This 26-item self-report inventory was used to determine the degree to which men endorsed three distinct components of masculine ideology. Status refers to a man’s need for achievement and the attainment of respect from other men. Toughness encompasses the essentiality of men displaying physical, emotional, and mental toughness, as well as self-reliance. Finally, antifemininity reflects the belief that men should avoid any behavior that could be classified as stereotypically feminine. Participants rate their level of agreement with a series of statements pertaining to one of these three components on a Likert style scale ranging from 1 (strongly disagree) to 7 (strongly agree), with higher scores reflecting higher endorsement of these components. Research has demonstrated that this scale has adequate discriminant and convergent validity (Thompson & Pleck, 1986).

*Session 2 Materials*

*Inclusion of Other in the Self Scale (IOS; Aron, Aron, & Smollan, 1992).* The IOS is a single item pictorial representation of closeness in a relationship. Participants choose one out of a series of seven pictures that depict two circles with increasing overlap. One circle represents the self, while one circle represents the other member of a relationship. The IOS has been shown to have an alternate form reliability of .92 and a two week test-retest reliability of .85 when it is used to assess closeness in friendships. It has been shown to have adequate convergent, discriminant, and predictive validity (Aron, Aron, & Smollan, 1992). In order to further validate the use of the IOS in this study, a second measure of friendship closeness will be utilized.

*Companionship Awareness Test (CAT).* The CAT was developed specifically for the proposed study to ensure that individuals in the Friend condition are indeed friends. This 10-item, open ended questionnaire reflects familiarity and companionship between two people. The answers given by one participant were checked against the answers given to the same questions by the friend of that participant (e.g., “What is the name of your current or most recent girlfriend/boyfriend?”, “What is the name of your friend’s current or most recent girlfriend/boyfriend?”). Scores on this measure were examined to assess the degree to which they correlated with IOS scores and, as such, confirm that the IOS is a valid measure of closeness with this population. This served to ensure that the two participants were indeed familiar with one another to the degree to which a self-described friendship would imply.

*Taylor Aggression Paradigm (TAP; Taylor, 1967).* During the second session, a modified version of the TAP (Taylor, 1967) was used to assess direct physical aggression. In traditional versions of the TAP, participants compete in a reaction time task where electrical shocks are administered to and received from a “fictitious” opponent. In the present study, the TAP was modified to assess aggression in a group context (i.e., the Group TAP). A Precision Regulated

Animal Shocker (Coulbourn, Allentown, PA) was used to generate the shocks. The computer software that controls the task was developed by Vibranz Creative Group (Lexington, KY).

In the Group TAP, dyads of friends are seated at a table in a small room. The members of the dyad are within view of one another and are allowed to converse throughout the TAP. On the table facing each participant is a computer screen and keyboard. The numbers “1” through “10” on a computer keyboard are labeled from “low” to “high” to allow the participants to determine varying levels of shock to administer. The keyboard and monitor are connected to a computer located in an adjacent control room out of the participant’s view. The task is presented as a reaction time competition, in which the participants compete as a team against a fictitious participant who is ostensibly “seated in an adjacent room.” Participants are told that the faster of their two reaction times will be compared to their opponent’s reaction time in order to determine the winner of a given trial. As a part of the competition, electrical shocks are received from and ostensibly administered to the fictitious opponent. In addition, participants are told that their opponent will receive, in succession, both shocks administered by each member of the group. Physical aggression is operationalized in two ways. Average shock intensity is the average shock delivered for trials in which the participant administers a shock. Proportion of highest shocks is the ratio of highest shock selected (i.e., 10) versus all other shocks.

Although this specific, modified version of the TAP has not been used before, multiple studies have shown the TAP to be a sound paradigm for assessing direct physical aggression that has both discriminant and convergent validity (Bernstein et al., 1987; Giancola & Chermack, 1998; Pedersen et al., 2002).

*Opponent sexual orientation manipulation.* Prior to the pain threshold assessment in Session 2 (see below), the experimenter recorded certain information from the participants (i.e.,

first name, year in school, major, and relationship status) with a video camera to ostensibly be shown to their opponent. Participants were told that they would receive similar information about their opponent. Participants answered these demographic questions separately while in the same room with their friend. Immediately prior to the reaction time task, participants viewed a 20-sec video that portrayed their opponent (a confederate) as a gay man. Presentation of the video served to introduce the opponent's sexual orientation and to reinforce further to participants that they were competing against another person. This video displayed the confederate answering the questions outlined above. When asked about his relationship status, the fictitious opponent (a taped confederate) responded, "I've been dating my boyfriend Mike for about one year." In this way, the video served the dual purpose of convincing the participant(s) that they were indeed competing against an opponent and subtly informed the participant(s) as to their opponent's sexual orientation.

*Exposure to male-male intimate behavior.* Participants were asked to watch a three-minute stimulus video depicting typical intimate relationship behavior for gay men (e.g., kissing, displays of affection, marriage). This video served to elicit feelings about homosexuality from the participants. It did not portray material that was sexually explicit, and the researcher made every effort to ensure that the activities depicted in the video reflected relationship behavior that people may be exposed to in everyday life. While previous studies have used male-male erotica as a stimulus video for similar purposes (Parrott & Zeichner, 2005), recent research indicates that men experience similar increases in negative affect after watching videos of everyday male-male intimate relationship behavior (Hudepohl, Parrott, & Zeichner, 2010). Indeed, this video may be more ecologically valid than sexual erotica, in that it reflects intimate relationship behavior that is more likely to be seen in public settings.



### *Procedure*

The study was divided into two sessions. Session 1 consisted of a series of preliminary checks and a questionnaire battery. Session 2 (completed approximately one week later) consisted of the Group TAP and additional self-report measures. Participants were informed that the study was designed to examine the effects of interpersonal relationships on reaction time under competitive conditions. Informed consent was obtained separately for each session.

Within a week of Session 1, participants returned to the lab for the second session. Informed consent was provided and the IOS was completed by both participants in rooms separate from their friend. Both participants were then escorted to the same room to complete the reaction time task. Participants then had their demographic interview filmed. Immediately prior to the reaction time task, the researcher left the room under the guise of needing to collect similar information from the opponent. The recording and subsequent display of the demographic videos served to enhance the deception and introduce the opponent's sexual orientation as a gay male.

After an adequate delay to ensure that the participants believed information about their opponent was being gathered, the experimenter returned to the room. Two shock electrodes were attached to participants' index and middle finger of their non-dominant hand using Velcro straps. Instructions for the reaction time task were then provided. They were informed that shortly after the words "Get Ready" appeared on the screen, the words "Press the Spacebar" would appear at which time they had to press, and hold down, the spacebar. Following this, the words "Release the Spacebar" would appear at which time they had to lift their fingers off of the spacebar as quickly as possible. A "win" was signaled by the words "*You Won. You Get to Give a Shock*" and a "loss" was signaled by the words "*You Lost. You Get a Shock.*" A winning trial

allowed both participants to deliver an independent shock to their opponent and a losing trial resulted in the dyad receiving successive shocks from their opponent at an identical intensity level. Participants were told that they had a choice of 10 different shock intensities to administer at the end of each winning trial for a duration of their choosing. Participants could not elect to not shock their opponent. However, participants were told that shock button “#1” would deliver a low intensity shock that is best characterized as “very mild” and “definitely not painful.” The experimenter then left the room to ostensibly provide the same information to the opponent.

After another adequate delay, the experimenter contacted the participant(s) via intercom from a control room. Participants’ pain thresholds were then assessed to determine the intensity parameters for the shocks they would receive. First, participants heard the confederate having his pain threshold assessed. In actuality, an audiotape was played in which a confederate who served as the fictitious opponent read a script of his own pain assessment. This aspect of the procedure served to reinforce to participants that they were competing against another individual. Next, participants’ pain thresholds were assessed in succession. This was accomplished via the administration of short duration shocks (one second) that increased in intensity in a stepwise manner from the lowest available shock setting, which is imperceptible, until the shocks reached a subjectively reported “painful” level. Participants were instructed to inform the experimenter when the shocks were “first detectable” and then when they reached a “painful” level. The threshold determination procedure was conducted while participants were seated in the testing room and the experimenter was in the adjacent control room. They communicated through an intercom.

Immediately prior to the reaction time task, participants viewed the demographic interview of their opponent. Participants then completed the Group TAP. Participants received visual

feedback on the screen matching their level of shock administered, the level of shock administered by their friend, and the level of shock received from their opponent. The competition consisted of two blocks of trials. In the first block, there were 16 trials (8 wins and 8 losses) during the low provocation sequence (Intensity 1-2, Mean = 1.5). Next, there were two transitional trials, both losses, where the participant received a “5” and a “6” in order to create the illusion of a natural escalation in provocation. In the second block, there were 16 trials (8 wins and 8 losses) during the high provocation sequence (Intensity 9-10, Mean = 9.5). Although provocation was not examined as a variable of interest, low and high provocation conditions were included for two reasons. First, the presentation of low, followed by high, provocation likely increased the belief that participants were competing against another individual. Indeed, the consistent receipt of an extremely high shock (e.g., a “10”) throughout the task may likely have been viewed with suspicion. Second, relying solely on a high provocation condition may have introduced ceiling effects, as it is somewhat natural for participants to respond “in kind” to intense physical provocation. All shocks lasted for a duration of one second.

In actuality, reaction time was not measured and the competitive task was used to lead participants to believe that they were engaging in an adversarial interaction with another individual. A randomly generated win/loss sequence was predetermined and incorporated into the computer program that executed the task. All participants received the same sequence. A computer controlled the initiation of trials, administration of shocks to participants, and recording of their responses.

#### *Debriefing and Compensation*

Participants were given a thorough written and verbal debriefing in separate rooms. However, prior to debriefing, open ended questions were utilized separately for each participant

to assess the effectiveness of the deception manipulation (e.g., presence of a real opponent, opponent's sexual orientation). For example, participants were asked "What was your overall impression of your opponent during the task today?" The main criteria for exclusion were the participant's belief that his opponent was fictitious and that the task was really a measure of aggression. Next, participants were informed that they did not actually administer a shock to a real person and that their opponent was fictitious. Participants also received an explanation as to why the deception was necessary and time was set aside to answer any questions or address any concerns the participant had. Participants were compensated with one credit per hour toward the fulfillment of their class requirement or \$10 per hour. See Figure 2 for an overview of these procedures.

- ▶ Day 1
  - Questionnaire Battery
- ▶ Day 2
  - Informed Consent
  - IOS
  - Taping of Demographic Interview
  - Viewing of Stimulus Video
  - Viewing of "opponent's" demographic video
  - TAP
  - Debriefing

*Figure 2. Overview of Procedures*

## RESULTS

### *Overview*

Multilevel modeling (MLM) was used to evaluate primary hypotheses involving outcome variables whose measurement violated the assumption of independent observation (explained below), whereas linear regression analyses were performed to evaluate primary hypotheses involving outcome variables whose measurement did not violate this assumption.

*Use of multilevel modeling (MLM).* Traditional statistical analyses (e.g., ANOVA, multiple regression) are based on the fundamental assumption of independence of observation for each participant (Kenny, Kashy, & Cook, 2006). In a study that includes dyads, this assumption of independence is likely violated. That is, the characteristics or behaviors of one member of a dyad potentially influence the outcome variable for that member of the dyad (i.e., actor effect) as well as the other member of the dyad (i.e., partner effect), and vice-versa. Of course, in many studies, including the current one, assessing the interdependence of variables that affect outcomes based on dynamic relationships is one of the main objectives of the study. Violation of this assumption is called nonindependence. Attempts to analyze nonindependent data with traditional analytic techniques are problematic for a number of reasons, including biased tests of significance and standardized measures as well as a loss of precision. Furthermore, selecting only one member of the dyad for analysis, as some researchers have done, is problematic as well due to a loss of statistical power and the potential for different effects based upon which dyad member is removed. This is especially pertinent when one considers that in the current study, no obvious way of selecting a member of a dyad (e.g., gender) was present and thus this decision would be arbitrary (Campbell & Kashy, 2002; Kenny et al., 2006).

To address these limitations, Kenny et al. (2006) proposed using multilevel level modeling (MLM) to analyze dyadic data. In this approach, the first step is to test for nonindependence in the dependent variable of interest. Assuming that nonindependence is present, the next step is to divide data into two levels. Data can be divided into levels based on units. In the case of the proposed analysis, level one units are individual subjects and level two units are the dyads of friends. Dividing data in this manner allows us to determine the variance in the outcome measure that is a product of the two levels. Thus, differences in the outcome variable can be more accurately attributed to changes in one level by controlling for changes in the second level (Poteat, 2008).

*Preliminary Analyses.*

A correlation matrix with the MRNS, the IOS, and the CAT was computed. If the CAT and IOS are highly correlated (e.g.,  $r > .50$ ), these two variables should be standardized and summed in order to create a “combined” moderator. If they are not highly correlated, separate analyses should be conducted with each as a moderator. The results of this analyses showed that the IOS and CAT were correlated,  $r(46) = .44, p < .01$ , but not at the .50 level. As such, each was treated as a separate moderator<sup>1</sup>. Next, as described above, the first step in MLM analysis is to test for nonindependence. Thus, an intraclass correlation coefficient was calculated for a given dependent variable (i.e., average shock intensity, proportion of highest shock selected, IOS, and CAT). Kenny et al. (2006) recommend testing this statistic using a liberal alpha of .20. As expected, results of these analyses revealed that nonindependence was present in all models for average shock intensity,  $F(23, 24) = 2.46-2.62, p = .02-.03$ , and proportion of highest shock selected,  $F(23, 24) = 2.24-2.56, p = .03-.06$ . While the assumption of independence was confirmed in all models for the CAT,  $F(23, 24) = 1.19-1.40, p = .42-.67$ , analyses revealed that

nonindependence was present in all models for the IOS,  $F(23, 24) = 2.21-2.43, p = .04-.06$ . As such, use of MLM was deemed appropriate to test hypotheses in which average shock intensity, proportion of highest shock selected, and IOS was the dependent variable, whereas traditional linear regression was used to test hypotheses in which the CAT was the dependent variable.

Table 2 *Variables of Interest*

Variable	M	SD	Possible Low-High Scores	Actual Range
IOS	3.79	1.60	1-7	6.0
CAT	5.40	1.47	1-8	7.0
Male Role Norms				
Antifemininity	24.06	8.03	7-49	31.0
Status	49.85	9.01	11-77	44.0
Toughness	34.15	8.83	8-56	38.0
Average Shock Intensity	5.15	2.16	1-10	8.4
Proportion of 10's	0.30	0.24	0-1	.94

*Primary Hypotheses.*

Hypothesis 1 posited that (a) adherence to the status and antifemininity male role norms would be positively related to antigay aggression, whereas no association between adherence to the toughness norm and antigay aggression was expected and that (b) there would be no relation between adherence to male role norms and an individual's rating of relationship closeness with his male peer. Hypothesis 2 stated that an individual's rating of relationship closeness would moderate the relation between adherence to hegemonic role norms and antigay aggression. More specifically, it was predicted that greater adherence to the status and antifemininity norms would more strongly predict antigay aggression amongst individuals that endorse lower levels of relationship closeness.

To test these hypotheses, the following analyses were conducted. First, prior to computing all regression models (i.e., MLM or traditional hierarchical regression), raw scores for the male role norms subscales and IOS were first converted to *z*-scores. Standardizing these first-order variables automatically centers the values (i.e., deviation scores with a mean of zero) which reduces multicollinearity between interaction terms and their constituent lower-order terms (Aiken & West, 1991).

Second, the relations between endorsement of male role norms and relationship closeness were examined (Hypothesis 1, part b). These analyses did not require MLM for the CAT but did require MLM for the IOS. As such, Pearson product-moment correlation coefficients were computed for the CAT and each of the three male role norms subscales. No relation was observed between the CAT and the Toughness or Antifemininity norms. However, a significant relation was observed between the CAT and the Status norm,  $r(46) = .30, p = .04$ , such that higher CAT scores were associated with higher endorsement of Status. Using MLM, the results failed to reveal a significant relation between the IOS and any of the three male role norms subscales.

Next, the independent and interactive effects of relationship closeness and adherence to hegemonic role norms on antigay aggression were examined. Each of the three norms was entered and analyzed within its own individual model. All main effects were entered into the model in Step 1 (Hypothesis 1, part a), followed by the addition of the interaction term in Step 2 (Hypothesis 2). This resulted in a final model comprised of three variables. Hierarchical models were computed separately for each criterion variable (i.e., average shock intensity, proportion of highest shock).



*Average shock intensity.* For average shock intensity using IOS as a moderator, Step 1 models failed to detect significant main effects for IOS, Status, or Antifemininity. A significant main effect was observed for Toughness ( $b = .60$ ,  $SE = .27$ ,  $t(38.78) = 2.18$ ,  $p = .04$ ), such that higher endorsement of the Toughness norm was associated with higher average shock intensity during the TAP. However, in Step 2 analyses, the Toughness X IOS interaction was not significant, nor was the interaction terms between the IOS and the other two male role norms.

For average shock intensity using CAT as a moderator, no main effects were detected for CAT, Status, or Antifemininity. A significant main effect was observed for Toughness ( $b = .60$ ,  $SE = .27$ ,  $t(38.78) = 2.18$ ,  $p = .04$ ), such that higher endorsement of the Toughness norm was associated with higher average shock intensity during the TAP. However, in Step 2 analyses, the Toughness X CAT interaction was not significant, nor was the interaction terms between the CAT and the other two male role norms.

*Proportion of highest shock.* These analyses were repeated for proportion of highest shock. Again, using IOS as a moderator, no main effects was detected for IOS, Status, or Antifemininity. A significant main effect was observed for Toughness ( $b = .06$ ,  $SE = .03$ ,  $t(40.34) = 1.99$ ,  $p = .05$ ), such that higher endorsement of the Toughness norm was associated with the selection of a higher proportion of highest shock during the TAP. However, in Step 2 analyses, the Toughness X IOS interaction was not significant, nor was the interaction terms between the IOS and the other two male role norms.

For proportion of highest shock using CAT as a moderator, no main effects were detected for CAT, Status, or Antifemininity. A significant main effect was observed for Toughness ( $b = .06$ ,  $SE = .03$ ,  $t(39.64) = 2.0$ ,  $p = .05$ ), such that higher endorsement of the Toughness norm was associated with the selection of a higher proportion of highest shock during the TAP. However,

in Step 2 analyses, the Toughness X CAT interaction was not significant, nor was the interaction terms between the CAT and the other two male role norms.

Table 3 *Variability of Dyadic Differences*

Variable	M	SD	Actual Range
IOS	1.42	1.02	0-3
Male Role Norms			
Antifemininity	8.13	5.14	0-21
Status	9.88	7.37	1-24
Toughness	9.46	7.67	0-28
Average Shock Intensity	1.64	1.66	0.06-7.19
Proportion of 10's	0.17	0.18	0-0.88

## DISCUSSION

The purpose of this study was to empirically evaluate hypothesized risk factors for the perpetration of antigay aggression. Specifically, the independent and interactive effects of endorsement of hegemonic male role norms and peer group relational factors (i.e., closeness) were examined as individual and situational risk factors for antigay aggression, within the framework of the GAM.

### *Hypothesis 1*

It was predicted that adherence to the status and antifemininity male role norms would be positively related to antigay aggression, whereas no association between adherence to the toughness norm and antigay aggression was expected. In addition, no relation between adherence to male role norms and an individual's rating of relationship closeness with his male peer was expected. Results generally did not support these hypotheses.

Unexpectedly, in models that included the IOS and CAT as moderators, significant main effects of toughness on aggression were observed, such that higher endorsement of the toughness norm was associated with higher levels of aggression toward the gay male opponent. These findings differ with earlier work that has highlighted the importance of the status and antifemininity norms in the casual pathway toward antigay aggression (Parrott et. al., 2008; Parrott, 2009). One possible explanation for this difference may lie in the present study's examination of these relations in the group context, whereas previous studies in this area have been limited to the individual context. Perpetrators in a group context purportedly engage in antigay violence in order to "prove both toughness and heterosexuality to friends" (Franklin, 1998, p. 12). Thus, it is perhaps unsurprising that endorsement of the toughness norm is related to antigay violence in the group, but not the individual, context.

The present study did not examine the mechanism(s) by which endorsement of the toughness norm facilitated antigay aggression. Consistent with the GAM, one well studied mechanism linking norm adherence and antigay aggression is anger. For instance, studies indicate that endorsement of the antifemininity and status norms is associated with antigay anger and aggression in an individual context (Parrott, 2009). In contrast, numerous theorists have asserted that endorsement of the toughness norm likely plays a role in antigay aggression, albeit not through the elicitation of anger (Parrott et al., 2008). It should also be noted that Davies (2004) found a positive correlation between endorsement of the toughness norm and negative affective reactions to gay men. Thus, it remains unclear whether perpetrators who are motivated to prove their toughness need to become angry in order to aggress against a gay target. As noted earlier, this question is further complicated because previous work did not examine these effects within the context of the peer group. Future research should consider the role of anger when examining the relation between hegemonic male role norms and aggression and ascertain how this relation changes as a result of group context (i.e., individual vs. peer group).

### *Hypothesis 2*

It was predicted that an individual's rating of relationship closeness would moderate the relation between adherence to hegemonic role norms and antigay aggression. More specifically, it was predicted that greater adherence to the status and antifemininity norms would more strongly predict antigay aggression amongst individuals that endorsed lower levels of relationship closeness. Results failed to support this hypothesis. Specifically, neither measure of relationship closeness (i.e., IOS, CAT) served as a significant moderator between endorsement of hegemonic male role norms and antigay aggression.

The lack of support for the role of relationship closeness in the elicitation of group perpetrated antigay violence was unexpected. It is possible that relationship closeness truly is not an important environmental factor in an individual's decision to aggress against a gay target within a group context. However, as stated above, peer dynamics appear to be a highly salient factor that influences men to aggress in order to maintain their place in their peer group (e.g., Franklin, 2000). This discrepancy between pertinent theory and the current findings raises a number of possibilities.

First, it may be that the masculine gender role is so fragile, so elusive, that it must continually be proved, regardless of an individual's level of comfort and acceptance within their peer group. Stated another way, the societal norm that men must separate themselves from that which is feminine may be so powerful that a man can rarely, if ever truly achieve a secure position within his friend network and must continually demonstrate his abhorrence for the non-masculine "other."

Second, it may be that another, as yet unexplored, characteristic of the peer group is more important than relationship closeness or knowledge about your peers in the elicitation of antigay violence. Future research should take a multifaceted approach to measuring friendship quality.

Third, the employed measures of relationship closeness, the IOS and CAT, may not have been ideal for this of investigation. Although the IOS has been shown to have adequate reliability and validity with young adults (Aron et al., 1992), there was a concern that the overlapping circles describing the self and other may not have been fully understood by some participants and may have made other participants uncomfortable in endorsing a high level of overlap. The reason behind this concern has to do with the fact that participants were recruited for a study that was to measure "relationship closeness" and were told that they may watch a video depicting male-male

intimacy. As such, there may have been a degree of interference caused by some men being motivated to say that they were not “close” to their friend because being close may be equated with being “gay.” A second, more traditional measure of closeness should be employed in future research to rule out this possibility. One possibility would be the Relationship Closeness Inventory (Berscheid, Snyder, & Omoto, 1989). This Likert-style scale allows friends to rate their relationships on the basis of three factors, the frequency of their interactions, the diversity of activities that the friends engage in, and the strength of the impact of the friends on each other.

Finally, the sample size and statistical analyses of the current study did not allow for the examination of a potentially important type of relationship between male peers, the unrequited friendship. If antigay violence does serve as a tool to secure one’s place in a peer group, it may only be individuals who desire a closer level of friendship that engage in antigay violence. For example, friend A may feel close to friend B, but know that friend B does not view them the same way. Thus, while this individual (friend A) would rate the relationship as high on closeness *and* desire such closeness, this rating does not accurately capture the dynamic interplay of how these two friends view one another. Collectively, these varied possibilities make it clear that future research is needed to better account for the complex dynamics of friendships in research on group-perpetrated antigay aggression.

### *Limitations*

There were a number of limitations in the current study that should be mentioned. One limitation is the lack of diversity in the education level of the sample. All participants were enrolled in college at the time they participated in the study. It is possible that individuals who are not in college may differ from those in college in terms of their attitudes towards gay men and their likelihood of committing an act of violence against a gay man. For instance, the vast

majority of our sample was drawn from men who were in the first two years of college. Qualitatively, this is often a time when individuals have more freedom about whom they interact with than they have previously. In addition, individuals who attend college are often leaving the insular existence of high school and the family home and are being exposed to new ideas and diverse individuals different from themselves for the first time. Men existing in this context may feel less of a need to prove their masculinity and position in a peer group for a number of reasons including, having more options about which peers to spend time with, changing viewpoints, and experiencing less social pressure. Future research could address these limitations by including a sample that is more representative of the entire population of men between the ages of 18-30.

Similarly, future research should also include adolescent males who are under the age of 18. Many of these individuals would presumably still be in high school and subject to pressure from the same group of friends on a near daily basis. These men may also have a more fragile masculine identity and feel more of a need to prove themselves to their peer group. This is especially relevant to the current line of research due to the fact that antigay bullying of adolescents normally takes place in a group context (Rivers, 2001). Adolescent peer groups that are highly aggressive are also the most likely to hold negative attitudes of sexual minorities, and use more antigay epithets (Poteat, 2008). Adolescent victims who are bullied by being called “gay” also experience greater psychological distress, more intense verbal and physical abuse, and have more negative perceptions of their school than victims of other types of bullying (Swearer, Turner, Givens, & Pollack, 2008).

Another potential limitation to the current study was the reliance on dyads. Much of the reviewed literature pertains to the effect of the male peer group on aggression toward gay men (e.g., Franklin, 2000). Of course, a dyad is not the same as a peer group per se, and there may be

important differences between dyads and larger peer groups that are important in furthering our understanding of antigay violence. For example, the dynamics of a relationship between two individuals could be dramatically altered by the addition of a third person, even if all the individuals would describe themselves as friends. Future research should include larger groups of participants who are friends as a more complete way of examining peer groups.

Finally, there were a number of limitations related to the lack of a naturalistic setting in the laboratory environment. The most notable of these limitations was the use of a video to expose participants to male-male intimate behavior. This use of this video meant that the individuals engaging in male-male intimacy and the confederate were distinct entities. However, in a naturalistic setting it is reasonable to assume that the individuals engaging in male-male intimacy and the targets of aggression are often synonymous. Research projects that have been conducted in our lab since this time have overcome this limitation by employing student actors to enact skits that allow for the embodiment of the exposure to male-male intimacy in the person of the confederate.

Some researchers have argued that external validity is not as important and that laboratory research cannot be truly representative and must be artificial in nature (Berkowitz & Donnerstein, 1982; Mook, 1983). Furthermore these researchers argue that being able to generalize to a population is not always relevant when one is testing the application of theory in a laboratory setting. While these arguments have some merit, if researchers are unable to engage in programmatic research that eventually leads to results that have some bearing on a population, then it is difficult to justify allocating resources to continue in this way. An alternative and perhaps more productive strategy would be to attempt to increase mundane realism while maintaining experimental realism.



### *Future Directions*

In addition to the limitations listed above, future research needs to employ sample sizes and statistical techniques that allow for a more nuanced examination of the attitudes held by individuals within a group and how these affect the behavior of all members within a group. Similar to the inability to examine the role of the “unrequited friendship,” it was also not possible to look at the dynamic interplay of a variety of other dispositional attitudes, mainly endorsement of hegemonic male role norms. It is likely that there are many attributes of both partners which interact to influence individual-level behaviors, including aggression. For example, empirical investigations of group aggression have led to the conclusion that individuals in a group are more aggressive due to group polarization, or the strengthening of a group’s dominant behavioral tendency following group discussion (Jaffe & Yinon, 1979; Meir & Hinsz, 2004). More recently, research with dyads has shown that partner trait aggressiveness predicted participants’ aggressive behavior such that aggressive individuals can actually create hostile aggressive escalation situations for themselves and those around them (Anderson, Buckley, & Carnagey, 2008). As such, men who endorse low levels of hegemonic male role norms may be differentially influenced by the attitudes of their partner in a way for which the current statistical analysis did not account. Future research must gather sample sizes that allow for the examination of how the combined attitudes of the dyad coalesce to influence behavior. One possible method would be to record the initial group tendency and then track it to see if it becomes polarized over time.

### *Exploratory Analyses*

Although the current sample size did not allow for the kind of nuanced analysis discussed above, an exploratory, qualitative view of the data indicates that there may be considerable promise in this approach. Specifically, two new variables were created based on the participant’s

perceived closeness (i.e., a combination of the IOS and CAT scores) with their friend and their friend's perceived closeness with the participant. Participants with a combined closeness score below the 33<sup>rd</sup> and above the 66<sup>th</sup> percentile were assigned to low and high perceived closeness groups. Similarly, participants whose friend had closeness scores below the 33<sup>rd</sup> and above the 66<sup>th</sup> percentile were assigned to low and high friend perceived closeness groups. This allowed for an examination of mean aggression scores for participants in four different combinations of friendship closeness (e.g., low/low, low/high, high/high, and high/low). Although the number of participants in each cell is quite small, it appears as if there is some preliminary support for the idea that it is important to examine unrequited friendships, as individuals who were in a dyad where there was a discrepancy in how they rated the friendship (i.e., high/low), appear to have been the most aggressive. Interestingly, this was the case regardless of whether they were the individual who ranked the friendship high or low. This analysis is depicted in Table 4. Note, the aggression scores depicted in this table are for the participant only (listed first), not both members of the combination.

Table 4 *Aggression Scores for Different Combinations of Friendship Closeness*

Combination (Participant/Friend)	Mean Shock Intensity		Proportion of 10s	
	M	SD	M	SD
Low/Low ( <i>N</i> =6)	5.06	2.56	0.28	0.25
Low/High ( <i>N</i> =3)	7.17	2.02	0.44	0.44
High/High ( <i>N</i> =8)	5.23	1.16	0.23	0.11
High/Low ( <i>N</i> =3)	7.21	1.71	0.42	0.40

In addition, in order to examine if dyadic variability in the closeness and male role norms measures would be related to dyadic variability in aggression scores, a difference score was calculated for each dyad for both aggression measures as well as the measures of closeness and

male role norms. The interrelationships of these variables were then examined. Interestingly, this correlation matrix did not yield a single significant correlation between variability in any dispositional/relationship measure and variability in any measure of aggression. Although these results must be interpreted with a great deal of caution, it suggests that although individuals may endorse masculine norms differently than a friend, those differences do not translate to the expression of aggression within the dyadic context. Thus, one of the dyad members may engage in behavior (either aggressive or nonaggressive) that is inconsistent with his beliefs/views. Relatedly, a qualitative look at Table 3 shows that the mean differences in aggression scores within a dyad are quite small, even though the mean differences in dispositional variables are sizable. Of course these items are on different scales so it is difficult to draw any firm conclusions. Nevertheless, it suggests a level of group polarization that has been noted by other group aggression researchers (Jaffe & Yinon, 1979; Meir & Hinsz, 2004).

### *Conclusions*

In summary, results of the present study suggest endorsement of the toughness norm is an important factor in the elicitation of antigay aggression within a group context. Specifically, endorsement of this norm was associated with both higher average shock intensity and proportion of highest shock selected. In the current study neither measure of relationship closeness served as a significant moderator of this relation. However, the lack of significant findings indicates that future research must make improvements in ecological validity, construct measurement, and in the recruitment of larger sample sizes that allow for statistical analyses that are able to examine the dynamic interplay of factors in a group context that account for an act of antigay violence.

## REFERENCES

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*: Sage Publications, Inc.
- Allport, G. W. (1954). *The nature of prejudice*. Boston: Addison-Wesley.
- Anderson, C. A., Buckley, K. E., & Carnagey, N. L. (2008). Creating your own hostile environment: A laboratory examination of trait aggressiveness and the violence escalation cycle. *Personality and Social Psychology Bulletin*, 34(4), 462-473.
- Anderson, C. A., & Bushman, B. J. (2002). Human aggression. *Annual Review of Psychology*, 53(1), 27.
- Aron, A., Aron E. N., & Smollan, D. (1992). Inclusion of other in the self scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology*, 63, 596-612.
- Berkowitz, L. & Donnerstein, E. (1982). External validity is more than skin deep: Some answers to criticisms of laboratory experiments. *American Psychologist*, 37(3), 245-257.
- Berman, M., McCloskey, M., Fanning, J., Schumacher, J., & Coccaro, E. (2009). Serotonin augmentation reduces response to attack in aggressive individuals. *Psychological Science*, 20(6), 714-720.
- Bernat, J. A., Calhoun, K. S., Adams, H. E., & Zeichner, A. (2001). Homophobia and physical aggression toward homosexual and heterosexual individuals. *Journal of Abnormal Psychology*, 110(1), 179.
- Bernstein, S., Richardson, D., & Hammock, G. (1987). Convergent and discriminant validity of the Taylor and Buss measures of physical aggression. *Aggressive Behavior*, 13(1), 15.
- Berndt, T., & Keefe, K. (1995). Friends' influence on adolescents' adjustment to school. *Child Development*, 66(5), 1312-1329.

- Berscheid, E., Snyder, M., & Omoto, A. (1989). The relationship closeness inventory: Assessing the closeness of interpersonal relationships. *Journal of Personality and Social Psychology, 57*(5), 792-807.
- Bierman, K., & Wargo, J. (1995). Predicting the longitudinal course associated with aggressive-rejected, aggressive (nonrejected), and rejected (nonaggressive) status. *Development and Psychopathology, 7*(4), 669-682.
- Bollmer, J., Milich, R., Harris, M., & Maras, M. (2005). A Friend in need: The role of friendship quality as a protective factor in peer victimization and bullying. *Journal of Interpersonal Violence, 20*(6), 701-712.
- Buhrmester, D. (1990). Intimacy of friendship, interpersonal competence, and adjustment during preadolescence and adolescence. *Child Development, 61*(4), 1101-1111.
- Campbell, L., & Kashy, D. (2002). Estimating actor, partner, and interaction effects for dyadic data using PROC MIXED and HLM: A user-friendly guide. *Personal Relationships, 9*(3), 327-342.
- Cohn, A., & Zeichner, A. (2006). Effects of masculine identity and gender role stress on aggression in men. *Psychology of Men & Masculinity, 7*(4), 179-190.
- Coie, J., & Kupersmidt, J. (1983). A behavioral analysis of emerging social status in boys' groups. *Child Development, 54*(6), 1400-1416.
- Coie, J., Lochman, J., Terry, R., & Hyman, C. (1992). Predicting early adolescent disorder from childhood aggression and peer rejection. *Journal of Consulting and Clinical Psychology, 60*(5), 783-792.
- Connell, R., & Messerschmidt, J. (2005). Hegemonic masculinity: Rethinking the concept. *Gender & Society, 19*(6), 829-859.

- Cook, P. (1975). The correctional carrot: Better jobs for parolees. *Policy Analysis, 1*, 11-54.
- Davies, M. (2004). Correlates of negative attitudes toward gay men: Sexism, male role norms, and male sexuality. *Journal of Sex Research, 41*(3), 259-266.
- Deutsch, M., & Gerard, H. (1955). A study of normative and informational social influences upon individual judgment. *The Journal of Abnormal and Social Psychology, 51*(3), 629-636.
- Dishion, T., Andrews, D., & Crosby, L. (1995). Antisocial boys and their friends in early adolescence: Relationship characteristics, quality, and interactional process. *Child Development, 66*(1), 139-151.
- Dodge, K. (1983). Behavioral antecedents of peer social status. *Child Development, 54*(6), 1386-1399.
- Dunbar, E. (2006). Race, gender, and sexual orientation in hate crime victimization: Identity politics or identity risk? *Violence and Victims, 21*(3), 323.
- Eisler, R. M., Skidmore, J. R., & Ward, C. H. (1988). Masculine gender-role stress: Predictor of anger, anxiety, and health-risk behaviors. *Journal of Personality Assessment, 52*(1), 133.
- Erdfelder, E., Faul, F., & Buchner, A. (1996). Gpower: A general power analysis program. *Behavior Research Methods, Instruments, & Computers.*
- Fitzpatrick, M., Salgado, D., Suvak, M., King, L., & King, D. (2004). Associations of gender and gender-role ideology with behavioral and attitudinal features of intimate partner aggression. *Psychology of Men & Masculinity, 5*(2), 91-102.
- Franklin, K. (2000). Antigay behaviors among young adults: Prevalence, patterns, and motivators in a noncriminal population. *Journal of Interpersonal Violence, 15*(4), 339.
- Franklin, K. (2004). Enacting masculinity: Antigay violence and group rape as participatory theater. *Sexuality Research & Social Policy: A Journal of the NSRC, 1*(2), 25.

- Franklin, K., & Herek, G. M. (1998). Unassuming motivations: Contextualizing the narratives of antigay assailants. In *Stigma and sexual orientation: Understanding prejudice against lesbians, gay men, and bisexuals*. (pp. 1): Sage Publications, Inc.
- Furman, W., Robbins, P. (1985). What's the point? Issues in the selection of treatment objectives. In *Children's Peer Relations: Issues in Assessment and Intervention* (pp. 41-54). New York: Springer-Verlag.
- Gentry, C. S. (1987). Social distance regarding male and female homosexuals. *Journal of Social Psychology, 127*, 199–208.
- Giancola, P. R., & Chermack, S. T. (1998). Construct validity of laboratory aggression paradigms: A response to Tedeschi and Quigley (1996). *Aggression and Violent Behavior, 3*(3), 237.
- Good, G.E., Robertson, J.M., O'Neil, J.M., Fitzgerald, L.F., Stevens, M., DeBord, K.A., Bartels, K.M., & Braverman, D.G. (1994). Male gender role conflict: Psychometric issues and relations to psychological distress. *Journal of Counseling Psychology, 42*, 3-10.
- Hamner, K. M. (1992). Gay-bashing: A social identity analysis of violence against lesbians and gay men. In G. M. Herek & K. T. Berrill (Eds.), *Hate crimes: Confronting violence against lesbians and gay men* (pp. 179–190). Newbury Park, CA: Sage.
- Harry, J. (1990). Conceptualizing antigay violence. *Journal of Interpersonal Violence, 5*, 350-358.
- Hartup, W., & Stevens, N. (1997). Friendships and adaptation in the life course. *Psychological Bulletin, 121*(3), 355-370.

- Hegarty, P., Pratto, F., & Lemieux, A.F. (2004). Heterosexist ambivalence and heterocentric norms: Drinking in intergroup discomfort. *Group Processes & Intergroup Relations*, 7, 119-130.
- Herek, G.M. (1988). Heterosexuals' attitudes toward lesbians and gay men: Correlates and gender differences. *The Journal of Sex Research*, 25, 451-477.
- Herek, G. M. (2000). The psychology of sexual prejudice. *Current Directions in Psychological Science*, 9(1), 19.
- Herek, G. M. (2004). Beyond 'homophobia': Thinking about sexual prejudice and stigma in the twenty-first century. *Sexuality Research & Social Policy: A Journal of the NSRC*, 1(2), 6.
- Herek, G. M. (2009). Hate crimes and stigma-related experiences among sexual minority adults in the United States: Prevalence estimates from a national probability sample. *Journal of Interpersonal Violence*, 24(1), 54-74.
- Herek, G. M., Gillis, J. R., & Cogan, J. C. (1999). Psychological sequelae of hate-crime victimization among lesbian, gay, and bisexual adults. *Journal of Consulting and Clinical Psychology*, 67(6), 945.
- Hirsch, B., & DuBois, D. (1992). The relation of peer social support and psychological symptomatology during the transition to junior high school: A two-year longitudinal analysis. *American Journal of Community Psychology*, 20(3), 333-347.
- Hudepohl, A. D., Parrott, D. J., & Zeichner, A. (2010). Heterosexual men's anger in response to male homosexuality: Effects of erotic and non-erotic depictions of male-male intimacy and sexual prejudice. *Journal of Homosexuality*, 57, 1021-1037.



- Jakupcak, M., Lisak, D., & Roemer, L. (2002). The role of masculine ideology and masculine gender role stress in men's perpetration of relationship violence. *Psychology of Men & Masculinity*, 3(2), 97-106.
- Kaufman, M. (1997). The construction of masculinity and the triad of men's violence. In L. L. O. T. J. R. Schiffman (Ed.), *Gender violence: Interdisciplinary perspectives* (pp. 30-51). New York: University Press.
- Kenny, D.A., Kashy, K.A., & Cook, W.L. (2006). *Dyadic data analysis*. New York, NY: Guilford Press.
- Kimmel, M.S. (1997). Masculinity as homophobia: Fear, shame, and silence in the construction of gender identity. In M.M. Gergen and S.N. Davis (Eds.), *Toward a new psychology of gender* (pp. 223-242). New York: Routledge.
- Kimmel, M. S. (2000). *The gendered society*. New York: Oxford University Press.
- Kimmel, M. S., Gergen, M. M., & Davis, S. N. (1997). Masculinity as homophobia: Fear, shame and silence in the construction of gender identity. In *Toward a new psychology of gender*. (pp. 223): Taylor & Frances/Routledge.
- Kimmel, M. S., & Mahler, M. (2003). Adolescent masculinity, homophobia, and violence: Random school shootings, 1982-2001. *American Behavioral Scientist*, 46(10), 1439.
- Kinsey, A. C., Pomeroy, W. B., & Martin, C.E. (1948). *Sexual behavior in the human male*. Philadelphia: W. B. Saunders.
- Kite, M. E. (1994). When perceptions meet reality: Individual differences in reactions to lesbians and gay men. In B. Greene & G. M. Herek (Eds.), *Contemporary perspectives on gay and lesbian psychology* (pp. 25-33). Newbury Park, CA: Sage.

- Kite, M. E., & Whitley, B. E. (1998). Do heterosexual women and men differ in their attitudes toward homosexuality? A conceptual and methodological analysis. In G. M. Herek (Ed.), *Stigma and sexual orientation: Understanding prejudice against lesbians, gay men, and bisexuals* (pp. 39–61). Thousand Oaks, CA: Sage.
- Klassen, D., & O'Connor, W. (1988). A prospective study of predictors of violence in adult male mental health admissions. *Law and Human Behavior, 12*(2), 143-158.
- Kosciw, J.G., Diaz, E.M., & Greytak, E.A. (2008). *The 2007 national school climate survey: The experiences of lesbian, gay, bisexual and transgender youth in our nation's schools*. New York: Gay, Lesbian, and Straight Education Network.
- Kupersmidt, J., & Coie, J. (1990). Preadolescent peer status, aggression, and school adjustment as predictors of externalizing problems in adolescence. *Child Development, 61*(5), 1350-1362.
- Ladd, G. (1999). Peer relationships and social competence during early and middle childhood. *Annual Review of Psychology, 50*333-359.
- Lansford, J., Criss, M., Pettit, G., Dodge, K., & Bates, J. (2003). Friendship quality, peer group affiliation, and peer antisocial behavior as moderators of the link between negative parenting and adolescent externalizing behavior. *Journal of Research on Adolescence, 13*(2), 161-184.
- Mahalik, J., Locke, B., Ludlow, L., Diemer, M., Scott, R., Gottfried, M., & Freitas, G. (2003). Development of the Conformity to Masculine Norms Inventory. *Psychology of Men & Masculinity, 4*(1), 3-25.
- Marcus, R. (1996). The friendships of delinquents. *Adolescence, 31*(121), 145-158.

- McCloskey, M., Berman, M., Echevarria, D., & Coccaro, E. (2009). Effects of acute alcohol intoxication and paroxetine on aggression in men. *Alcoholism: Clinical and Experimental Research*, 33(4), 581-590.
- Miller-Johnson, S., Coie, J., Maumary-Gremaud, A., Lochman, J., & Terry, R. (1999). Relationship between childhood peer rejection and aggression and adolescent delinquency severity and type among African American youth. *Journal of Emotional and Behavioral Disorders*, 7(3), 137-146.
- Mook, D. (1983). In defense of external invalidity. *American Psychologist*, 38(4), 379-387.
- Moore, T. M., & Stuart, G. L. (2004). Effects of masculine gender role stress on men's cognitive, affective, physiological, and aggressive responses to intimate conflict situations. *Psychology of Men & Masculinity*, 5(2), 132.
- Mosher, D. L., & Sirkin, M. (1984). Measuring a macho personality constellation. *Journal of Research in Personality*, 18(2), 150.
- NCAVP. (1998). Anti-lesbian, gay, bisexual and transgender violence in 2005. New York: National Coalition of Anti-Violence Programs.
- NCAVP. (1999). Anti-lesbian, gay, bisexual and transgender violence in 2005. New York: National Coalition of Anti-Violence Programs.
- NCAVP. (2000). Anti-lesbian, gay, bisexual and transgender violence in 2000. New York: National Coalition of Anti-Violence Programs.
- NCAVP. (2001). Anti-lesbian, gay, bisexual and transgender violence in 2003. New York: National Coalition of Anti-Violence Programs.
- NCAVP. (2002). Anti-lesbian, gay, bisexual and transgender violence in 2002. New York: National Coalition of Anti-Violence Programs.

- NCAVP. (2003). 2003 preliminary report, national coalition of anti-violence programs. New York: National Coalition of Anti-Violence Programs.
- NCAVP. (2004). Anti-lesbian, gay, bisexual and transgender violence in 2004. New York: National Coalition of Anti-Violence Programs.
- NCAVP. (2005). Anti-lesbian, gay, bisexual and transgender violence in 2005. New York: National Coalition of Anti-Violence Programs.
- NCAVP. (2006). Anti-lesbian, gay, bisexual and transgender violence in 2005. New York: National Coalition of Anti-Violence Programs.
- Parrott, D. (2008). A theoretical framework for antigay aggression: Review of established and hypothesized effects within the context of the general aggression model. *Clinical Psychology Review, 28*(6), 933-951.
- Parrott, D. (2009). Aggression toward gay men as gender role enforcement: Effects of male role norms, sexual prejudice, and masculine gender role stress. *Journal of Personality, 77*(4), 1137-1166.
- Parrott, D.J., Gallagher, K.E., Vincent, W., & Bakeman, R. (In press). The link between alcohol use and aggression toward sexual minorities: An event-based analysis. *Psychology of Addictive Behavior*.
- Parrott, D.J., & Peterson, J.L. (2008). What motivates hate crimes based on sexual orientation?: Mediating effects of anger on antigay aggression. *Aggressive Behavior, 34*, 306-318.
- Parrott, D., Peterson, J., Vincent, W., & Bakeman, R. (2008). Correlates of anger in response to gay men: Effects of male gender role beliefs, sexual prejudice, and masculine gender role stress. *Psychology of Men & Masculinity, 9*(3), 167-178.

- Parrott, D. J., & Zeichner, A. (2005). Effects of sexual prejudice and anger on physical aggression toward gay and heterosexual men. *Psychology of Men & Masculinity*, 6(1), 3.
- Parrott, D., & Zeichner, A. (2006). Effect of psychopathy on physical aggression toward gay and heterosexual men. *Journal of Interpersonal Violence*, 21(3), 390-410.
- Parrott, D. J., & Zeichner, A. (2008). Determinants of anger and physical aggression based on sexual orientation: An experimental examination of hypermasculinity and exposure to male gender role violations. *Archives of Sexual Behavior*.
- Patel, S., Long, T. E., McCammon, S. L., & Wuensch, K. L. (1995). Personality and emotional correlates of self-reported antigay behaviors. *Journal of Interpersonal Violence*, 10(3), 354.
- Pedersen, W. C., Aviles, F. E., Ito, T. A., Miller, N., & Pollock, V. E. (2002). Psychological experimentation on alcohol-induced human aggression. *Aggression and Violent Behavior*, 7(3), 293.
- Poteat, V. (2008). Contextual and moderating effects of the peer group climate on use of homophobic epithets. *School Psychology Review*, 37(2), 188-201.
- Pryor, J.B., Reeder, G.D., Yeadon, C., & Hesson-McInnis, M. (2004). A dual-process model of reactions to perceived stigma. *Journal of Personality and Social Psychology*, 87, 436-452.
- Richardson, D.R., & Hammock, G.S. (2007). Social context of human aggression: Are we paying too much attention to gender? *Aggression and Violent Behavior*, 12, 417-426.
- Rivers, I. (2001). The bullying of sexual minorities at school: Its nature and long-term correlates. *Educational and Child Psychology*, 18(1), 32-46.

- Roderick, T., McCammon, S.L., Long, T.E., & Allred, L.J. (1998). Behavioral aspects of homonegativity. *Journal of Homosexuality, 36*, 79-88.
- Savin-Williams, R.C. (2006). Who's gay? Does it matter? *Psychological Science, 15*, 40-44.
- Snyder, J., Horsch, E., & Childs, J. (1997). Peer relationships of young children: Affiliative choices and the shaping of aggressive behavior. *Journal of Clinical Child Psychology, 26*(2), 145-156.
- Swearer, S., Turner, R., Givens, J., & Pollack, W. (2008). 'You're so gay!': Do different forms of bullying matter for adolescent males? *School Psychology Review, 37*(2), 160-173.
- Taylor, S. P. (1967). Aggressive behavior and physiological arousal as a function of provocation and the tendency to inhibit aggression. *Journal of Personality, 35*(2), 297.
- Thompson, E., & Pleck, J. (1986). The structure of male role norms. *American Behavioral Scientist, 29*(5), 531-543.
- Tomsen, S. (2002). Victims, perpetrators, and fatal scenarios: A research note on anti-homosexual male homicides. *International Review of Victimology, 9*, 253-271.
- Wilkinson, W. W. (2004). Religiosity, authoritarianism, and homophobia: A multidimensional approach. *International Journal for the Psychology of Religion, 14*, 55-67.
- Whitley, B. E., Jr. (2001). Gender-role variables and attitudes toward homosexuality. *Sex Roles, 45*(11), 691.

## Footnote

<sup>1</sup>In addition, using a combined moderator did not change the pattern of results in any way.

APPENDIX A  
DEMOGRAPHIC INFORMATION



## Demographics Form

Age: \_\_\_\_\_

Years of Education including kindergarten: \_\_\_\_\_

Marital Status (please check one)

- Single (never married)  
 Married  
 Not married but living with intimate partner  
 Divorced  
 Widowed  
 Separated

How do you describe your ethnicity?

- Hispanic or Latino  
 Non-Hispanic or Non-Latino

How do you describe your race?

- American Indian or Alaska Native  
 Asian  
 Native Hawaiian or Other Pacific Islander  
 Black or African American  
 White  
 More Than One Race

Please indicate your sexual orientation:      Heterosexual      Homosexual      Bisexual

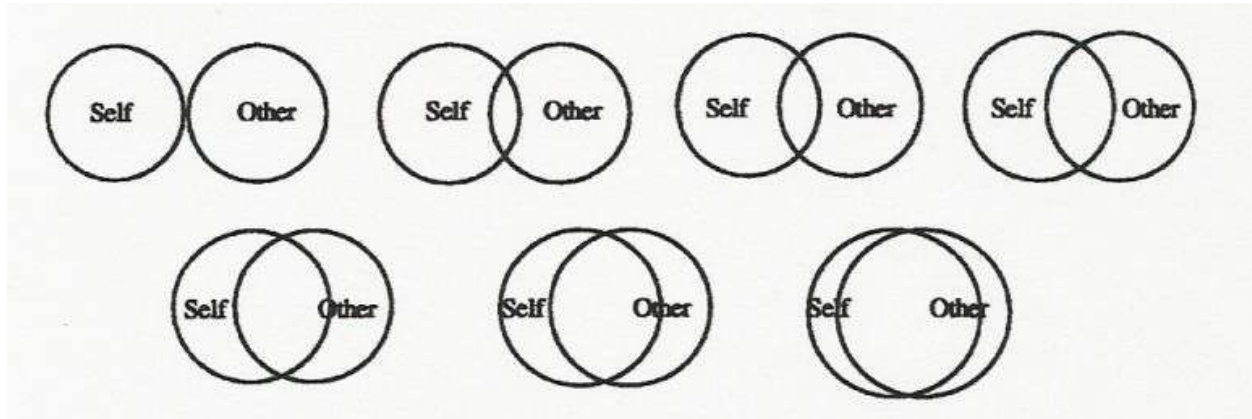
YOUR average yearly income if you support yourself or your parents' average yearly income if they support you (please check one).

- |  |  |
|--|--|
| <input type="checkbox"/> \$0-\$5,000       | <input type="checkbox"/> \$40,000-\$50,000 |
| <input type="checkbox"/> \$5,000-\$10,000  | <input type="checkbox"/> \$50,000-\$60,000 |
| <input type="checkbox"/> \$10,000-\$20,000 | <input type="checkbox"/> \$60,000-\$70,000 |
| <input type="checkbox"/> \$20,000-\$30,000 | <input type="checkbox"/> \$70,000+         |
| <input type="checkbox"/> \$30,000-\$40,000 |  |

APPENDIX B  
INCLUSION OF OTHER IN THE SELF SCALE

Inclusion of Other in the Self (IOS) Scale

INSTRUCTIONS: Please circle the picture below that best describes your relationship with your teammate.



APPENDIX C

KINSEY HETEROSEXUAL-HOMOSEXUAL RATING SCALE

### **Kinsey Heterosexual-Homosexual Rating Scale**

Which of the following 8 statements best describes your past sexual experiences? Please rate yourself in terms of overt actions only, not in terms of psychological or sexual arousal. Read ALL responses before indicating your answer. Circle only ONE response.

1. All sexual experiences have been with females. No physical contacts with other males have resulted in erection or orgasm.
2. Most sexual experiences have been with females, but infrequent physical contacts with other males has resulted in erection or orgasm.
3. Most sexual experiences have been with other females, but quite a bit of sexual contact with other males has occurred. However, sexual experiences with females are more numerous.
4. Equal sexual contact has occurred with males and females.
5. Most sexual experiences have been with males, but a fair amount of sexual experience with females has also occurred.
6. Most sexual experiences have been with males, but infrequent physical contacts with females has resulted in erection or orgasm.
7. All sexual experiences have been with males. No physical contacts with females have resulted in erection or orgasm.

Which of the following 7 statements best describes your psychological reactions? Please rate yourself in terms of sexual arousal only, not overt experiences. Read ALL responses before indicating an answer. Circle only ONE response.

1. All sexual arousal occurs in response to female sexual contact or fantasies involving sexual contact with females.
2. Most sexual arousal occurs in response to female sexual contact or fantasies involving sexual contact with females. However, infrequent male sexual contact or fantasies involving sexual contact with other males has resulted in sexual arousal, but these reactions are weaker than the sexual arousal that results from female sexual contact.
3. Most sexual arousal occurs in response to female sexual contact or fantasies involving sexual contact with females, but definite sexual arousal also occurs in response to male sexual contact or fantasies about sexual contact with males. However, sexual arousal to females is stronger.
4. Equal sexual arousal occurs in response to sexual contact or fantasies with males and females.
5. Most sexual arousal occurs in response to sexual fantasies or contact with males, but a fair amount of sexual arousal to females has also occurred.
6. Most sexual arousal has occurred in response to sexual contact or fantasies with males. However, infrequent sexual arousal has occurred in response to female sexual contact or fantasies involving sexual contact with females.
7. All sexual arousal occurs in response to male sexual contact or fantasies involving sexual contact with males.

APPENDIX D  
MALE ROLE NORMS SCALE

### MRNS

**Instructions:** This questionnaire is designed to assess your beliefs with regards to the role of men in society. It is not a test, so there are no right or wrong answers. Answer each item by circling the number after each question as follows:

	Strongly Disagree						Strongly Agree
1. Success in his work has to be a man's central goal in this life.	1	2	3	4	5	6	7
2. The best way for a young man to get respect of other people is to get a job, take it seriously, and do it well.	1	2	3	4	5	6	7
3. When a man is feeling a little pain he should try not to let it show very much.	1	2	3	4	5	6	7
4. It bothers me when a man does something that I consider 'feminine.'	1	2	3	4	5	6	7
5. A man owes it to his family to work at the best-paying job he can get.	1	2	3	4	5	6	7
6. Nobody respects a man very much who frequently talks about his worries, fears, and problems.	1	2	3	4	5	6	7
7. A man whose hobbies are cooking, sewing, and going to the ballet probably wouldn't appeal to me.	1	2	3	4	5	6	7
8. A man should generally work overtime to make more money whenever he has the chance.	1	2	3	4	5	6	7
9. A good motto for a man would be "When the going gets tough, the tough get going."	1	2	3	4	5	6	7
10. It is a bit embarrassing for a man to have a job that is usually filled by a woman.	1	2	3	4	5	6	7
11. A man always deserves the respect of his wife and children.	1	2	3	4	5	6	7
12. I think that a young man should try to become physically tough, even if he's not big.	1	2	3	4	5	6	7
13. Unless he is really desperate, I would probably advise a man to keep looking rather than accept a job as a secretary.	1	2	3	4	5	6	7
14. It is essential for a man to always have the respect and admiration of everyone who knows him.	1	2	3	4	5	6	7

15. Fists are sometimes the only way to get out of a bad situation. 1 2 3 4 5 6 7
16. If I heard about a man who was a hairdresser and a gourmet cook, I might wonder how masculine he was. 1 2 3 4 5 6 7
17. A real man enjoys a bit of danger now and then. 1 2 3 4 5 6 7
18. A man should never back down in the face of trouble. 1 2 3 4 5 6 7
19. I always like a man who's totally sure of himself. 1 2 3 4 5 6 7
20. In some kinds of situations a man should be ready to use his fists, even if his wife or his girlfriend would object. 1 2 3 4 5 6 7
21. I think it's extremely good for a boy to be taught to cook, sew, clean the house, and take care of younger children. 1 2 3 4 5 6 7
22. A man should always refuse to get into a fight, even if there seems to be no way to avoid it. 1 2 3 4 5 6 7
23. A man should always think everything out coolly and logically, and have rational reasons for everything he does. 1 2 3 4 5 6 7
24. A man should always try to project an air of confidence even if he really doesn't feel confident inside. 1 2 3 4 5 6 7
25. I might find it a little silly or embarrassing if a male friend of mine cried over a sad love scene in a movie. 1 2 3 4 5 6 7
26. A man must stand on his own two feet and never depend on other people to help him do things. 1 2 3 4 5 6 7



APPENDIX E  
COMPANIONSHIP AWARENESS TEST

CAT

Questions about YOU	Questions about your FRIEND
1.) What is the name of <b>your</b> most recent/current girlfriend or boyfriend?	1.) What is the name of <b>your friend's</b> most recent/current girlfriend or boyfriend?
2.) What is the name of <b>your</b> home town and state of origin?	2.) What is the name of <b>your friend's</b> home town and state of origin?
3.) What kind of car do <b>you</b> drive? If you do not drive, please say so.	3.) What kind of car does <b>your friend</b> drive? If your friend does not drive, please say so.
4.) What is <b>your</b> major? If undecided, please state this.	4.) What is <b>your friend's</b> major? If undecided, please state this.
5.) How would you describe <b>your</b> religious affiliation?	5.) How would you describe <b>your friend's</b> religious affiliation?
6.) What kind(s) of music do <b>you</b> like to listen to?	6.) What kind(s) of music does <b>your friend</b> like to listen to?
7.) What is <b>your</b> middle name?	7.) What is <b>your friend's</b> middle name?
8.) What neighborhood do <b>you</b> currently live in?	8.) What neighborhood does <b>your friend</b> currently live in?
Combined Items	
9.) Please name five activities that you enjoy doing with your friend? a.) _____ b.) _____ c.) _____ d.) _____ e.) _____ 10.) What are the first names of three friends that you have in common? a.) _____ b.) _____ c.) _____	