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Anonymity and Anti-Gay Aggression in an Online Sample: The Effect of an Audience on Gender Role Enforcement

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by

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Under the Direction of Sarah L. Cook

ABSTRACT

This study tested the hypotheses that 1) authoritarian and traditionally masculine men respond to depictions of male-male intimacy with anger, 2) this anger predicts aggression toward gay men, and 3) anonymity moderates this effect. Data from 978 men were collected from Amazon Mechanical Turk, an online participant pool and survey delivery mechanism. Results from SEM analyses confirmed hypotheses 1 and 2, indicating that traditionally masculine and authoritarian men experience anger in response to a video clip depicting male-male intimacy, b = .22, SE = .08, $p < .01$, and that this anger predicts greater aggression against a gay male target than a heterosexual target, b = .53, SE = .17, $p < .01$. The hypothesis that anonymity influences the link between anger and aggression was not supported.

INDEX WORDS: Right-wing authoritarianism, Anti-gay aggression, Male role norms, Masculinity, Anonymity, Homophobia, Anti-femininity, Aggression

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DEDICATION

This dissertation is dedicated to the memory of John and Vera Goodnight.

“The reward for work well done is the opportunity to do more.” - Jonas Salk

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1 INTRODUCTION

Aggression toward gay men is a widespread problem in the United States. Although most forms of violent crimes have decreased in the U.S. since 1996, rates of anti-gay violence increased each year until 2011 (Federal Bureau of Investigation, 2012) and have remained consistently high up to the present day (National Coalition of Anti-Violence Programs, 2015). The high degree of anti-gay violence is especially troubling given that hate crimes directed against gay men are nearly three times more likely to be physically violent crimes, such as assault and homicide, as opposed to vandalism or other crimes directed against property (Stotzer, 2007). Overall, gay men experience the highest rate of physical violence of any sexual, religious, or ethnic minority group, being assaulted twice as often as lesbians and five times more often than any religious or ethnic minority group (Stotzer, 2012).

The high degree of violence experienced by gay men has a dramatic impact on survivors, their families, and their communities (Haas et al., 2010; Klomek et al., 2011; Shields, Whitaker, Glassman, Franks, & Howard, 2012). Victims of violence are more than two times more likely than non-victims to attempt suicide (Swahn et al., 2008) and survivors of anti-gay hate crimes are more likely to experience negative psychological consequences, such as depression, anger, anxiety, and post-traumatic stress, compared to victims of nonbiased crimes (Herek, Gillis, & Cogan, 1999; Mills et al., 2004). Clearly, anti-gay aggression has dramatic consequences, and is therefore a social problem deserving of continued attention.

Effective prevention interventions can help prevent violence toward gay men, but these interventions require an understanding of the causes of anti-gay aggression. The

present study seeks to contribute to understanding of anti-gay aggression by testing the mechanism of traditional masculinity (Goodnight, Cook, Parrott, & Peterson, 2013; Parrott, 2009), test whether anonymity moderates the relationship between masculinity and aggression, and develop and test a new method to measure aggression in an online setting. The central hypotheses of the present study are that traditionally masculine men will respond to gender-role violations (e.g., male/male intimacy) with anti-gay aggression, and that increased anonymity will strengthen this relationship. Knowing whether the effect of traditional masculinity on anti-gay aggression is moderated by anonymity will have real-world implications as it would indicate that reducing perceived anonymity (e.g. linking public profiles, installing security cameras) may reduce the likelihood of aggression. The specific aims of the present study are to 1) test the hypothesis that increased anonymity will moderate anti-gay aggression resulting from gender-role enforcement, and 2) to further develop and test a novel experimental aggression paradigm for use in online samples.

1.1 Definitions

Prior to any discussion of anti-gay aggression, it is necessary to first clarify the meaning of terms, as constructs such as aggression, violence, or homophobia have specific definitions in the anti-gay aggression literature which may differ from those of other disciplines or common usage. The terms that require special attention include: aggression, violence, and sexual prejudice.

1.1.1 Aggression

Aggression is defined as behavior intending to harm another individual who does not wished to be harmed (Anderson & Bushman, 2002). The action must have the

immediate intent of causing harm, and the perpetrator must believe that this action will harm the target, even if no harm comes to pass. This definition does not include self-harm (e.g. suicide) or forms of harm directed against another person who is not motivated to avoid them (e.g. voluntary euthanasia). Incidents of unintentional harm (e.g. vehicular manslaughter) also do not constitute aggression, because they do not have the immediate intent of causing harm.

Instrumental and Hostile Aggression. A distinction is often made in the aggression literature between instrumental aggression, which is proactive, premeditated, and goal-oriented (e.g. a bank robbery), and hostile aggression, which is reactive and impulsive (e.g. hitting someone in response to verbal provocation). However, given that the definition of aggression comprises all actions with the immediate intent of causing harm, and both instrumental and hostile aggression have the same immediate goal of causing harm, the distinction between these forms of aggression can be reduced to a difference in their ultimate goals. Instrumental aggression has an ultimate goal of accomplishing something in addition to harm, such as expressing a political view or establishing a power hierarchy, whereas the goal of hostile aggression is only to cause harm. As both forms of aggression share the same immediate goal of causing harm, instrumental aggression can be conceived as a special case of hostile aggression that has an additional goal other than harm.

1.1.2 Violence

All violence is aggression, but not all aggression is violence – violence is defined as an extreme form of physical aggression, intended to cause serious harm, severe injury, or death (Anderson & Huesmann, 2003). Only extreme forms of aggression constitute

violent acts, but violence is not a distinct construct from aggression, and instead represents the extreme end of the aggression spectrum.

1.1.3 Sexual Prejudice

Sexual prejudice is defined as "negative attitudes toward an individual because of her or his sexual orientation (Herek, 2000)". This is referred to colloquially as "homophobia." However, the term "homophobia" incorrectly implies that anti-gay attitudes are necessarily the result of fear. The term sexual prejudice is therefore preferable as it does not imply any a priori assumptions regarding the origin of the prejudice.

1.2 Theoretical Overview

Seminal work in the area of anti-gay aggression has identified four factors that explain the majority (64%) of variance in physical and verbal aggression directed toward gay men and lesbians (Franklin, 2000). These factors generally explain individual-level hostility and aggression as the confluence of broad sociocultural factors, such as cultural hostility toward homosexuality and societal norms regarding masculinity, with smaller group and individual-level factors, such as peer norms and personal beliefs about masculinity (e.g. traditional masculine gender-role norms). These factors include peer dynamics, anti-gay ideology, thrill-seeking, and self-defense (Franklin, 2000). Subsequent research has consistently confirmed that anti-gay ideology and peer dynamics are major predictors of anti-gay violence, but there has been less support for thrill seeking and self-defense (Parrott, 2008). Therefore, for the present study, priority will be given to theories regarding anti-gay ideology and peer dynamics.

1.2.1 Anti-Gay Ideology

One of the most well supported theories for anti-gay discrimination, aggression, and violence explains anti-gay behaviors as the result of anti-gay ideology – the prevalence of negative cultural messages about gay men and lesbians contributes to an environment that facilitates aggression against gay people (Herek, 2000, 2009b). These messages, broadly referred to as *sexual stigma*, permeate religious, legal, and professional institutions, and are manifested through cultural customs and social norms throughout society (Herek, Chopp, & Strohl, 2007; Herek, 2009a). Commonly referred to as heterosexism, sexual stigma is defined in the literature as the "negative regard, inferior status, and relative powerlessness that society collectively accords to nonheterosexual behavior, identity, relationship, or community" (Herek, 2000). Sexual stigma, and institutions that privilege heterosexuals over homosexuals, provide a context and environment that supports, affirms, and contributes to violence and aggression toward gay men and lesbians.

Cultural messages conveying anti-gay ideology may be accepted or rejected at an individual level. The individual-level acceptance of sexual stigma by heterosexuals is referred to as *sexual prejudice*. Sexual prejudice includes negative beliefs and attitudes regarding sexual minorities, such as the belief that gay men are immoral, untrustworthy, dangerous, or disgusting (Herek, 1988, 2007). Cultural-level sexual stigma provides the environment that fosters individual-level sexual prejudice, and the individual-level acceptance of these prejudicial views provides the context for anti-gay aggression and violence (Herek, 1992, 2009a). So although sexual stigma makes aggression toward gay

men and lesbians more likely, it is the internalization of this anti-gay ideology at the individual level that leads to aggression.

In the context of the sexual stigma framework, anti-gay aggression is referred to as *enacted stigma* – a behavioral expression of sexual prejudice (Herek, 2007, 2009b). Harassment, aggression, shunning, ostracism, and physical violence are conceptualized as the overt, behavioral expressions of individual-level sexual prejudice, which itself is conceptualized as individual-level acceptance of broad, cultural-level anti-gay messages, social norms and institutional customs. Therefore, anti-gay ideology at the cultural level (stigma) influences people at the individual level (prejudice), who then express their views at the interpersonal level using aggression, violence, and other means.

Numerous survey-based studies conducted using undergraduate samples have consistently demonstrated sexual prejudice to be positively associated with self-reports of past acts of anti-gay aggression (Franklin, 2000; Parrott, Peterson, Vincent, & Bakeman, 2008; Patel, Long, McCammon, & Wuensch, 1995; Roderick, McCammon, Long, & Allred, 1998). Additionally, laboratory-based studies conducted with heterosexual male undergraduates have shown that sexually prejudiced men tend to administer more severe electric shocks to gay male opponents compared to heterosexual male opponents (Bernat, Calhoun, Adams, & Zeichner, 2001), and that heterosexual men experimentally exposed to male-male erotica, a violation of the traditional male gender role, tend to express more aggression toward gay men than a control group exposed to male-female intimacy (Parrott & Zeichner, 2005). These experiments demonstrate that sexually prejudiced men display higher levels of aggressive behavior than non-prejudiced men toward gay opponents relative to heterosexual opponents. Additionally, the association between

sexual prejudice and antigay aggression was not observed following exposure to male–female erotica (Parrott & Zeichner, 2005), leading to the conclusion that exposure to male gender role violations contributes to an emotional mediator that is necessary for the enactment of internal sexual prejudice as outward aggression.

Sexual prejudice forms the basis for emotional reactions to sexual minorities (Herek, 2009b), and these emotional reactions predict aggression (Parrott & Peterson, 2008). Sexually prejudiced men report more anger when exposed to violations of the male gender role, relative to unprejudiced men (Bernat et al., 2001; Ernulf & Innala, 1987; Parrott, Zeichner, & Hoover, 2006; Parrott & Zeichner, 2005; Van de Ven, Bornholt, & Bailey, 1996). Studies using the startle response, or startle eye blink method, have demonstrated an observational, physiological link between sexual prejudice and negative affective reactions after exposure to pictures of nude men or nude gay male couples (Mahaffey, Bryan, & Hutchison, 2005a, 2005b). The startle response is a defensive response to sudden or threatening stimuli, and is associated with negative affect. Because the startle response is reflexive these results rule out the possibility of self-report bias and offer consistent, compelling evidence that exposure to male gender role violations predicts negative affect for sexually prejudiced men, which is relevant to the relationship between sexual prejudice and anti-gay aggression (Bernat et al., 2001; Parrott & Peterson, 2008; Parrott et al., 2006; Parrott & Zeichner, 2005).

1.2.2 Peer Dynamics

Group-level factors play a significant role in anti-gay aggression (Herek, 2009b). Approximately 75% of perpetrators of anti-gay attacks report aggressing while in a group, and peer influence is responsible for 35% of the variance in reported motivations

for anti-gay aggression (Franklin, 2000). Interestingly, anti-gay perpetrators who report aggressing due to peer influence sometimes express favorable views toward gay men and lesbians, indicating that some motivation other than prejudice must be at work.

The impact of peer dynamics can explain the desire of perpetrators to use anti-gay aggression as a way to live up to the social expectations of their peers, to feel closer to other members of their in-group, and to prove their toughness and heterosexuality. In one survey of college students' motivations for anti-gay behaviors (Franklin, 2000) the effect of peer dynamics was the strongest predictor, explaining 35% of the variance.

Peer influence is especially important for men, as the construct of traditional masculinity contains both the social expectation of heterosexuality and of toughness (Thompson & Pleck, 1986). The social pressure to appear masculine, coupled with a definition of masculine that is fundamentally anti-gay, leads some men to enact sexual stigma as a way of demonstrating their heterosexuality and masculinity (Herek, 1986; Kimmel, 2004). Importantly, many perpetrators that report peer dynamics as the rationale for their anti-gay attitudes also report feeling unable to change their behavior, and perceive no choice but to go along with the group (Herek, 1986; Kimmel, 2004).

1.2.2.1 Gender Role Enforcement

A promising theory that explains anti-gay aggression is gender-role enforcement theory (Parrott, 2008). This theory describes anti-gay aggression as a form of gender-role policing: traditionally masculine men use violence to censure behavior they perceive as non-masculine. Men who subscribe to traditional masculine gender role beliefs – a set of norms that values status, toughness and anti-femininity (Thompson, Pleck, & Ferrera, 1992; Thompson & Pleck, 1986) – tend to engage in more anti-gay aggression than non-

traditional men (Parrott, Peterson, & Bakeman, 2011; Parrott, 2009; Wilkinson, 2004). Gay men are commonly perceived as being less masculine than heterosexual men (Kite & Whitley, 1996), and traditionally masculine men tend to perceive non-traditional masculinity as threatening (Kimmel, 2004). Traditionally masculine men react to perceived threats with outward expressions of masculinity, including physical aggression (Bosson, Vandello, Burnaford, Weaver, & Arzu Wasti, 2009).

1.2.3 Other Theories

Thrill-seeking behavior (Franklin, 2000) and psychoanalytic theory also offer explanations for anti-gay aggression (Parrott, 2008). Thrill-seeking describes perpetration of anti-gay aggression as a way for perpetrators to relieve boredom, and that perpetrators view their acts as humorous or fun. Psychoanalytic theory suggests that hostile reactions to gay men are the result of internal fears of homosexual attraction, hence the term "homophobia." However, neither thrill-seeking nor the psychoanalytic hypothesis have been well supported by subsequent research (Parrott, 2008). Therefore, in the present study, thrill-seeking and psychoanalytic theory will not be given priority.

1.3 Theoretical Framework

In the present study anti-gay aggression will be conceptualized using the I^3 meta-theoretical framework (Slotter & Finkel, 2011), a relatively new conceptualization for the study of human aggression. The I^3 model is described as a metatheory because its function is to serve as a general framework for guiding the development of research questions related to human behavior, and not to generate specific research hypotheses (Finkel, 2014). The I^3 model describes behavior, such as aggression, as the result of an interaction between instigating, impelling and inhibiting factors. Instigating factors are

provocations or cues present in the environment (e.g. a gay man). According to I^3 theory, an aggressor responds to an instigator with aggression only when internal factors that impel aggression (e.g. anger) are not effectively restrained by factors that inhibit aggression (e.g. fear of punishment). Aggression is therefore conceptualized as a three-way interaction, and either an increase in impelling factors or a decrease in inhibiting factors will contribute to aggression. Although I^3 has applications in all research on human behavior, it has been most widely utilized in the study of aggression, and especially domestic violence (Denson, DeWall, & Finkel, 2012; Finkel & Eckhardt, 2011; Li, Nie, Boardley, Dou, & Situ, 2015).

1.3.1 Instigating Factor

Aggression can only occur when a target for harm is available. Anti-gay aggression is defined as aggression directed toward someone due to that person's perceived non-heterosexual sexual orientation. In the context of I^3 theory exposure to a gay male or male-male intimacy (Parrott & Zeichner, 2008) can be conceptualized as an instigating factor for anti-gay aggression as they present a trigger for the activation of impelling factors. For the purposes of this study anti-gay aggression will be defined as aggression directed at gay men, and the instigating factors (male-male intimacy and a gay male target) will be manipulated by presenting a video stimulus depicting either male-male intimacy or male-female intimacy and modifying the stated sexuality of a male target for aggression.

1.3.2 Impelling Factors

The presence of an instigating factor does not always result in an aggressive outcome, and aggression will only occur when impelling factors outweigh the inhibiting

factors that restrain aggression. Gender-role enforcement theory proposes that male role norms are a factor that impels aggression against gay men. Survey (Goodnight et al., 2013; Parrott et al., 2011, 2008) and laboratory research (Parrott, 2009) has provided evidence for the relationship between male role norms and anti-gay aggression, and has also identified other factors that impel aggression, such as right-wing authoritarianism (Altemeyer, 1996, 2006).

1.3.2.1 Traditional masculine gender role beliefs.

Traditional men subscribe to a set of norms that values status, toughness and anti-femininity (Thompson et al., 1992; Thompson & Pleck, 1986). The norm of anti-femininity reflects the belief that masculine men must eschew feminine traits and behaviors (i.e. a man shouldn't cook, sew or attend the ballet). The status norm reflects the idea that men should be respected and admired (i.e., a man deserves the respect of his family). Toughness is the idea that men must be physically tough and willing to become aggressive (i.e., a man should be ready to use his fists). Traditionally masculine men hold more negative attitudes regarding gay men (Parrott et al., 2008) and engage in more anti-gay aggression than non-traditional men (Parrott et al., 2011).

Recent scholarship has considered the three dimensions of traditional masculinity separately and shown that they differentially predict anti-gay aggression (Goodnight et al., 2013; Wilkinson, 2004). In survey-based studies with undergraduate male samples, anti-femininity and status have been consistently found to predict anti-gay aggression. However, there has been limited evidence to link the dimension of toughness with anti-gay aggression in the context of gender-role enforcement. Anti-femininity is typically the strongest predictor among the dimensions of masculinity (Goodnight et al., 2013).

Anti-feminine men consider avoiding feminine traits and behaviors to be the definition of masculinity, and consider men who embrace femininity to be gender deviant (Thompson & Pleck, 1986). Gay men, because they are perceived to have more feminine characteristics that straight men (Kite & Deaux, 1987), are therefore seen as gender deviant by anti-feminine men. Anti-feminine men perceive gender deviance as a personal threat to their masculine identity (Kimmel, 2004) and respond with hostility and aggression (Bosson et al., 2009).

1.3.2.2 Right-wing authoritarianism.

Traditional thinking tends not to be limited to a single aspect of personality; men who adopt traditional beliefs regarding their gender role tend to be traditional in other areas of their lives (Altemeyer, 2006). Right-wing authoritarianism is the tendency to submit to authority figures, adhere to conventional norms, and be hostile toward people who do not adhere to the same norms; right-wing authoritarianism tends to be high among men who subscribe to traditional gender role beliefs, and authoritarianism predicts aggression and violence towards out-groups such as gay men (Wilkinson, 2004).

People high in right-wing authoritarianism tend to prefer members of their in-group and to express their preference through prejudice towards out-groups (Altemeyer, 1996, 2006). They also tend to aggress against those who defy traditional values (Hunsberger, 1996). Gay men, a minority out-group that defies traditional conceptions of gender and sexuality, are therefore particularly likely targets for aggression from right-wing authoritarians because gay men are often seen as violating both the in-group bias and traditional sensibilities of people high in RWA (Altemeyer & Hunsberger, 1992; Blashill & Powlishta, 2009; Kite & Whitley, 1996)

1.3.2.3 Anger.

All aggression has the same proximal goal, which is to harm another person, but the ultimate goals of aggression may vary. Aggression may be used to avoid or eliminate a threat, and it may also be used to achieve some personal benefit (DeWall, Anderson, & Bushman, 2011). Gender-role enforcement is caused by a threat response; traditionally masculine men consider gay men to be a threat to the traditional male role (Wilkinson, 2004), and respond to this perceived threat with anger and aggression (Kimmel, 2004). In the context of the I^3 model, anti-gay aggression can be explained as individual-level differences in threat response resulting to exposure to a gay man. Perpetrators of anti-gay aggression experience the same situation (e.g. being exposed to gay men) as non-perpetrators, but respond with anti-gay anger.

Traditionally masculine men express their anger by reinforcing group boundaries that exclude gay men. Anti-gay aggression serves to alleviate anti-gay anger by reifying group boundaries with heterosexual men in the superior group (Herek, 1986; Parrott & Peterson, 2008), and anti-gay aggression can be used by traditional men to define boundaries that exclude gay men, thereby reducing their perception of threat. Survey-based (Parrott et al., 2011, 2008) and experimental research (Parrott, 2009) demonstrates this effect, showing that traditionally masculine men tend to adopt more sexually prejudiced views that place themselves in the accepted in-group, and that these traditional men express their prejudice using anti-gay aggression.

1.3.3 Inhibiting Factor

Traditional masculinity will predict aggression against gay men only when impelling factors (traditional masculinity, right-wing authoritarianism, anti-gay threat)

are strong enough to override inhibiting factors that prevent aggression, such as fear of consequences (Slotter & Finkel, 2011). Consistent with the justification-suppression model of prejudice (Crandall & Eshleman, 2003), external factors (e.g. consequences, norms) moderate the effect of internal beliefs (i.e. impellors) on aggression. Prohibitions against violence, such as laws and social norms, typically inhibit aggressive impulses because the threat of consequences increases the salience of nonaggressive actions (Hirsh, Galinsky, & Zhong, 2011). Conversely, anonymity reduces the perceived likelihood of consequences, thereby reducing the threat and increasing the salience of aggressive actions in the mind (Zimbardo, 1969).

Anonymity reflects a belief that one cannot be identified, and therefore cannot be held accountable for actions. Typically, a consideration of the consequences of aggressive actions makes nonaggressive responses more likely (Hirsh et al., 2011). The belief that one cannot be held accountable for actions reduces social desirability concerns (Fisher, 1993), which makes aggressive responses more likely. In terms of I^3 theory anonymity can be considered an inhibiting factor, as high and low anonymity will moderate the strength of the relationship between the internal impelling factors that provoke aggression and the external instigating factors that trigger it. If the perception of anonymity is low, aggression will be less likely because the possibility of consequences will appear to be higher, but if anonymity is high aggression should be more likely to occur in response to an environmental trigger for those high in impelling factors.

Anonymity has consistently decreased inhibition in experimental, survey-based and observational research (Hirsh et al., 2011; Suler, 2004), and changes in anonymity moderate the effect of anger and authoritarianism on punishment (Lerner, Goldberg, &

Tetlock, 1998). Perceived anonymity of decision making can be experimentally manipulated (Tetlock & Boettger, 1989; Tetlock, 1985), but has never been tested in regard to gender-role enforcement theory or anti-gay aggression.

1.4 The Present Study

The hypothesis of the present study is that traditionally masculine men will be more likely than non-traditional men to aggress against a gay man vs a straight man, and that the perception of anonymity will moderate this effect. Gender-role enforcement theory predicts that traditionally masculine men will aggress against a gay man because they perceive gay men as a personal threat to their masculinity. The consideration of potential consequences inhibits aggression, and therefore decreased anonymity should decrease aggression as well. In terms of I^3 theory, anonymity will serve as an inhibiting factor, and will interact with the impelling factors of right-wing authoritarianism and traditional masculine gender-role beliefs in response to the instigating factor of exposure to male-male intimacy and a gay male target for aggression.

Knowing whether anonymity influences gender role enforcement has important implications for violence prevention, as it suggests a potential point of intervention. If reducing anonymity acts as an inhibiting factor for aggression, as predicted, interventions that aim to reduce the anonymity of perpetrators may be able to stop anti-gay bullying and curtail the negative consequences resulting from anti-gay aggression, such as physical injury, psychological distress, and self-harm among gay and bisexual men.

2 METHOD

2.1 Sample

The final sample consisted of 978 men recruited through Amazon Mechanical Turk – an online participant pool and survey delivery mechanism. Mechanical Turk produces data of comparable quality to traditional methods (Buhrmester, Kwang, & Gosling, 2011). As the present study was intended to inform criminal justice policy in the US, only data from users in the US were used in the final analysis. The results of the present study are not expected to generalize to women or gay/bisexual men who engage in anti-gay aggression; therefore, data collection was limited to self-identified heterosexual men. Mechanical Turk users accessing the site from outside the US were screened out using an option within Amazon Turk to only display recruitment materials to users within the US, and participants who report being either "female," "gay," or "bisexual" on a demographics screener did not receive the experimental manipulation or survey battery.

2.2 Design

The study utilized a **randomized experimental research design** to test the causal claim that anger and aggression are caused by exposure to gender-role violations and that this relationship is moderated by anonymity. Three variables were experimentally manipulated: exposure to gender-role violations, anonymity perception, and sexuality of opponent. Randomly assigning participants into the experimental and control groups reduced the probability of potential confounds by balancing participants across conditions.

Gender-Role Violation Stimulus. Half of the participants, in the **male/male intimacy experimental group,** were exposed to a traditional masculine gender-role violation, a video of male/male intimacy. The other half of participants, in the **male/female intimacy control group**, were exposed to a similar video that depicted male/female intimacy and involved no gender-role violation. Both videos depicted a romantic couple meeting at an airport, dating, and eventually getting married. The content of the videos was similar, with the most obvious difference being the sex/sexuality of the couples. These videos have been used in past research on gender-role enforcement and anti-gay aggression stimulus to provoke anti-gay anger (Parrott, 2009).

Anonymity Stimulus. Half of the participants in the **low perceived anonymity experimental group** received a prime indicating that their ID numbers would be collected and that their responses were subject to review. The remaining participants in the **high perceived anonymity control group** received a prime indicating that their responses were anonymous and would not be connected to any identifier**.**

2.3 Constructs

Consistent with I^3 theory, the following constructs and associated operational definitions are separated conceptually into impelling, inhibiting and outcome factors.

2.3.1 Impelling Factors

Traditional masculine gender-role beliefs were assessed using the ***Male Role Norms Scale*** (Thompson & Pleck, 1986). This inventory consisted of 26 Likert-type items that measure three dimensions of traditional masculinity. These include **Status**, or the belief that men must be respected (e.g., "A man should always try to project an air of confidence even if he really doesn't feel confident inside"), **Toughness**, which reflects

the belief that men should be physically tough and inclined to be aggressive (e.g., "A good motto for a man would be 'When the going gets tough, the tough get going'"), and **Anti-femininity**, which reflects the belief that men should avoid stereotypically feminine activities (e.g., "It bothers me when a man does something that I consider 'feminine'"). This measure is based on the four dimensions of the male role norm suggested by Brannon (1976), but subsequent research has supported the three-factor model (Thompson et al., 1992; Thompson & Pleck, 1986). Previous research with a similar sample found reliability for the status, toughness and anti-femininity subscales of .83, .74 and .81 respectively (Goodnight et al., 2013). In the present study, the MRNS demonstrated excellent overall reliability (α = .92), and good reliability for status (α = .87), toughness (α = .80), and anti-femininity subscales (α = .86).

Right-wing authoritarianism was measured using the ***Right-Wing Authoritarianism Scale*** (RWAS; Altemeyer, 2006), a 30-item Likert-type questionnaire that assesses participants' agreement or disagreement with statements such as "What our country needs most is discipline, with everyone following our leaders in unity" and "The 'old-fashioned ways' and 'old-fashioned values' still show the best way to life". Greater agreement with the statements indicates a higher level of traditionalism, conventionalism, and aggression toward out-group members, which are all characteristics of right-wing authoritarianism. Previous research using the RWAS has demonstrated high reliability with undergraduate samples (Altemeyer & Hunsberger, 1992; Whitley, 1999). In the present study, the RWA demonstrated excellent reliability (α = .95).

Anger was measured using the ***Positive and Negative Affect Schedule – Expanded Form*** (PANAS-X; Watson & Clark, 1994), a 60-item measure that assesses

emotional states within a specified timeframe. The PANAS-X is simply a list of 60 emotions; participants are asked to indicate the extent to which they have experienced each emotion within the specified timeframe on a five-point Likert-type scale. Responses range from "1 – Very Slightly or Not at All" to "5 – Extremely". The measure consists of two general dimensions (positive and negative affect), and eleven subscales. Each subscale measures a different aspect of positive and negative emotion: fear, sadness, joviality, and hostility, among others. For the present study the six-question ***anger-hostility subscale*** will be used as a measure of anger, and participants will be instructed to report their experience of emotion at the *present moment*.

2.3.2 Inhibiting Factor

Perception of Anonymity was experimentally manipulated by the inclusion of a statement regarding the privacy of responses. In the low perceived anonymity condition participants received the statement "Your Amazon Turk identification number will be collected for our records, and your responses may be reviewed by a member of our staff." Participants in the high anonymity control group received the message "Your responses are completely anonymous. Your Amazon Turk ID will not be collected."

2.3.3 Experimental Paradigm

Anti-gay Aggression was measured using a new ***experimental paradigm*** for the measurement of aggression piloted in the present study. In this new paradigm, participants were asked to select streaming videos that must be watched and ostensibly reviewed by other participants. The list of videos included mostly neutral content (e.g. videos of cats, people skateboarding, etc.), but a subset of the videos are highly

unpleasant and disgusting. The selection of the disgusting videos, rather than the neutral ones, reflects a willful intent to subject another person to an unpleasant stimulus.

Purposefully subjecting another person to an unpleasant stimulus is a widely accepted definition of aggression (Anderson & Bushman, 2002), and is the operational definition of aggression used in most experimental measures of aggression (Taylor aggression paradigm; Ferguson & Rueda, 2009; Giancola & Parrott, 2008; hot sauce paradigm; Lieberman, Solomon, Greenberg, & McGregor, 1999; Ritter & Eslea, 2005). Furthermore, aggressing by sending unpleasant pictures or videos is common online, and is perceived by victims as being more impactful than aggression via text, email or phone (Slonje & Smith, 2008). The decision to send disgusting videos rather than neutral ones in the present study can therefore reasonably be used as a proxy for aggression.

The proposed experimental paradigm is an extension of a validated laboratory paradigm used in research on sexual aggression (Parrott et al., 2012), but the proposed paradigm has two major advantages over traditional laboratory paradigms: 1) it takes place entirely online, thereby allowing for the collection of data much more quickly and inexpensively than traditional laboratory-based research methods, and 2) it has high ecological validity due to the realism of the crowd-sourcing task and aggressive outcome (video selection). In addition to addressing the present hypotheses, developing and piloting this experimental paradigm is one of the overarching goals of the present study. Tests for the concurrent and construct validity of the new paradigm will be conducted using the SBS-R and RWAS, respectively, and the aversive videos selected were pilot tested prior to data collection to ensure that participants recognized them as aversive.

2.4 **Procedure**

For the present study, participants were told they are participating in a "crowdsourcing" project that uses input from thousands of users to complete a task that cannot be performed by computers (such as transcribing scanned text). Their task was ostensibly to add text descriptions to streaming videos from a massive collection of content for a new video-hosting site. Their participation in this "human-intelligence task" was merely a cover for the aggression paradigm, which required them to select videos that, they were told, would be reviewed and described by another participant. At the start of the procedure, participants were asked to complete a profile, allegedly for the new video-hosting site. This profile was actually a survey of demographic questions regarding participant age, ethnicity, sexuality, and a baseline assessment of affect (PANAS-X).

After completing the initial surveys, participants were instructed to watch three streaming videos, seemingly drawn randomly from the collection of hosted videos. They were asked to review these videos, each about three minutes in length, and then write a short text description (no fewer than 150 words) and select three relevant tags (keywords) from a list of options. The last of these three videos was the experimental stimulus, and differed across **experimental conditions**. The **experimental group** saw a video depicting male-male intimacy, and the **control group** saw a similar video that depicted male-female intimacy. After exposure to the stimulus, participants in both conditions received the PANAS-X measure to test for changes in hostile affect following exposure.

After reviewing and describing these three videos, participants were instructed to review and rate descriptions made by two other participants as part of a data-check procedure. At this point, participants received a message indicating either 1) that their

unique Amazon ID had been collected and that a member of staff may review their responses (low anonymity group) or 2) that their responses were anonymous and that their Amazon Turk IDs were not collected (high anonymity group). After this stimulus, participants were shown a profile description (like the one they wrote for themselves) that displayed the age, ethnicity, and sexuality for another participant. The profiles that participants reviewed were identical except for the reported sexuality of the other alleged participants, which was "straight/heterosexual" for participants in the heterosexual target condition, and "gay/homosexual" for participants in the gay male target condition.

Participants were shown an array of ten videos; seven of these ten videos were neutral or pleasant content, and the remaining three were distressing, disturbing or disgusting content. Participants were then instructed to select three of the ten videos to be reviewed by the owner of the visible profile. Selecting a video did not require the research participant to watch the video himself; the videos were, in fact, not directly viewable to the research participant. However, the nature of the videos was clear from their titles and small thumbnail images. Anti-gay aggression was operationalized as the number of aversive videos chosen for the gay male opponent versus the straight male opponent. Values can range from 0 to 3, with higher scores reflecting more aggression toward a gay male opponent than toward a straight opponent.

After reviewing the two profiles and selecting videos to be watched by other participants, participants were then be asked to complete the final battery of questionnaires, including questions about their right-wing authoritarianism (RWAS), traditional masculinity (MRNS). These surveys were administered at the end of the procedure so as not to give away the intent of the study.

All surveys were administered through Qualtrics, a web-based survey management website. Qualtrics allows substantial survey customization and modification, and all surveys were "branded" with a consistent color-scheme and logo to give the appearance of a legitimate web-business. Qualtrics allows for the development of highly sophisticated surveys, including the randomization of survey order and directly embedding videos into questionnaires. No additional website was necessary for collecting demographic information, presenting stimuli, or administering measures, and the present study took place entirely online.

2.5 Analysis Strategy

Before any hypotheses regarding aggression could be tested, the novel experimental aggression paradigm was first evaluated for adequate reliability. A significant correlation between the experimental paradigm and a measure known to predict anti-gay aggression, such as the RWAS (Altemeyer, 2006; Wilkinson, 2004), was conducted to demonstrate the construct validity of the measure. If the new aggression paradigm demonstrated construct validity this would provide adequate evidence that the paradigm is an effective measure of aggression, and hypothesized models could be tested.

Hypothesis testing utilized a model building approach, starting with a smaller, partial model (Figure 1) and building incrementally toward the final model (Figure 5). The use of sequential, non-contingent models will allow for many of the goals of the study to be accomplished even if the initial hypotheses turn out to be unsupported or the new measurement paradigm proves to be invalid.

Analyses will begin with an initial model (Figure 1) to establish whether traditionally masculine men express more anger than non-traditional men on average, and

whether this effect is mediated by right-wing authoritarianism. The second model (Figure 2) will expand upon the first model, and test the hypothesis that depictions of male-male intimacy will predict higher anger for traditional and authoritarian men relative to non-authoritarian and non-traditional men (hypothesis one).

The third model (Figure 3) will attempt to replicate the findings of previous research (Goodnight et al., 2013) and test whether traditional masculine gender role norms predict aggression against gay men, and whether this effect is mediated by right-wing authoritarianism. The fourth model (Figure 4) will test the hypothesis that anger resulting from traditionally masculine and right-wing authoritarian men's exposure to male-male intimacy predicts increased aggression towards a gay male target, but not toward a heterosexual target (hypothesis two).

The fifth and final model (Figure 5) will test the hypothesis that perceived anonymity will moderate the effect of anger on aggression.

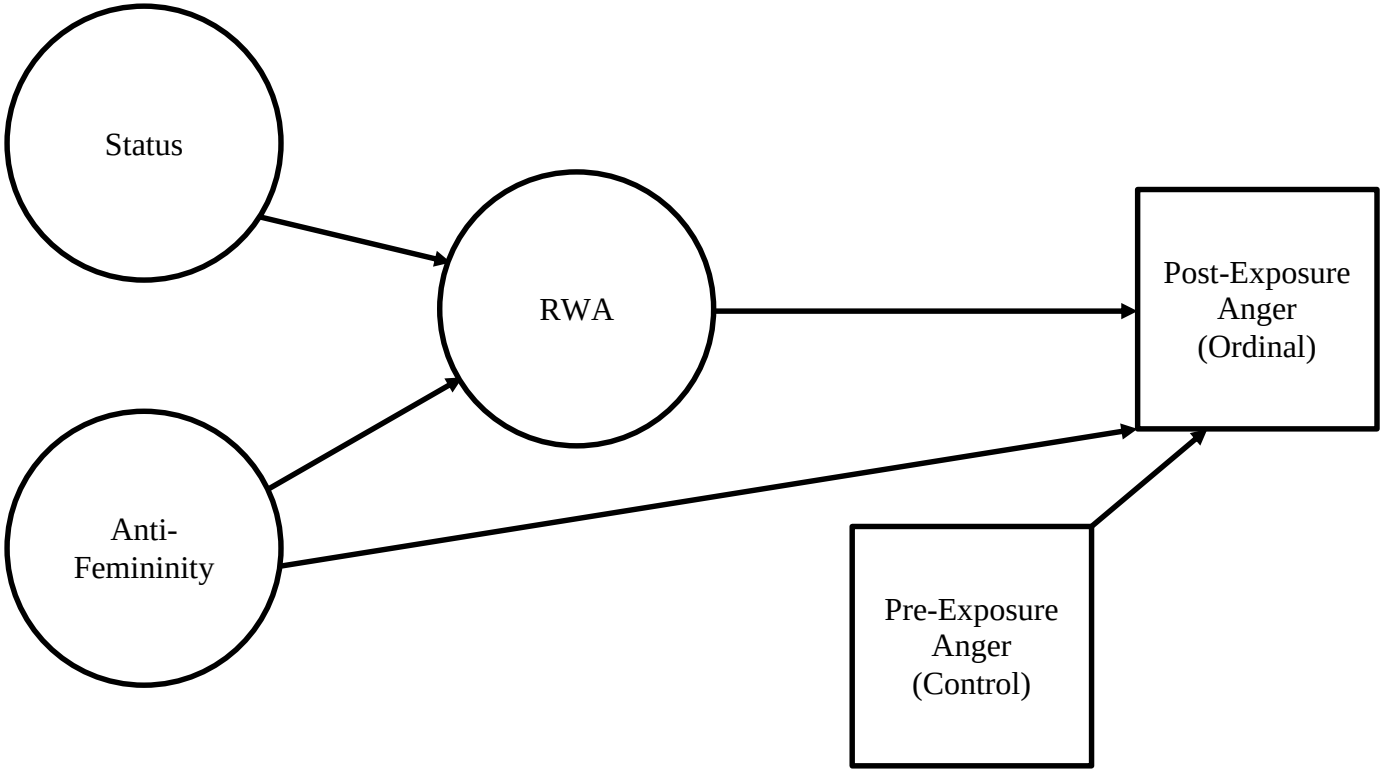

Figure 1. Predicted Model 1 – The Effect of Anti-Femininity, Status, and Right-Wing Authoritarianism on Change in Anger

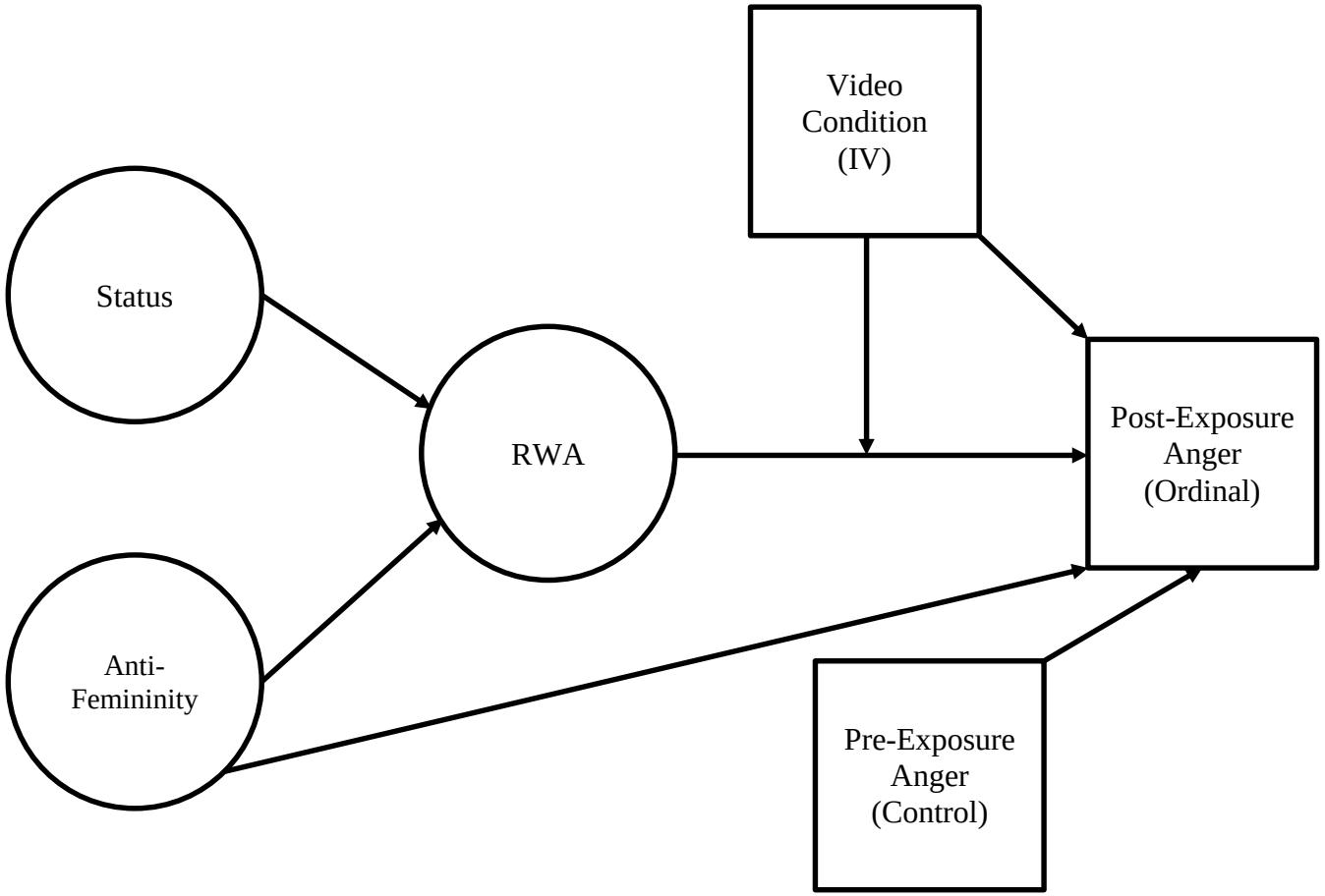

Figure 2. Predicted Model 2 – The Effect of Anti-Femininity, Status, and Right-Wing Authoritarianism on Change in Anger by Video Condition

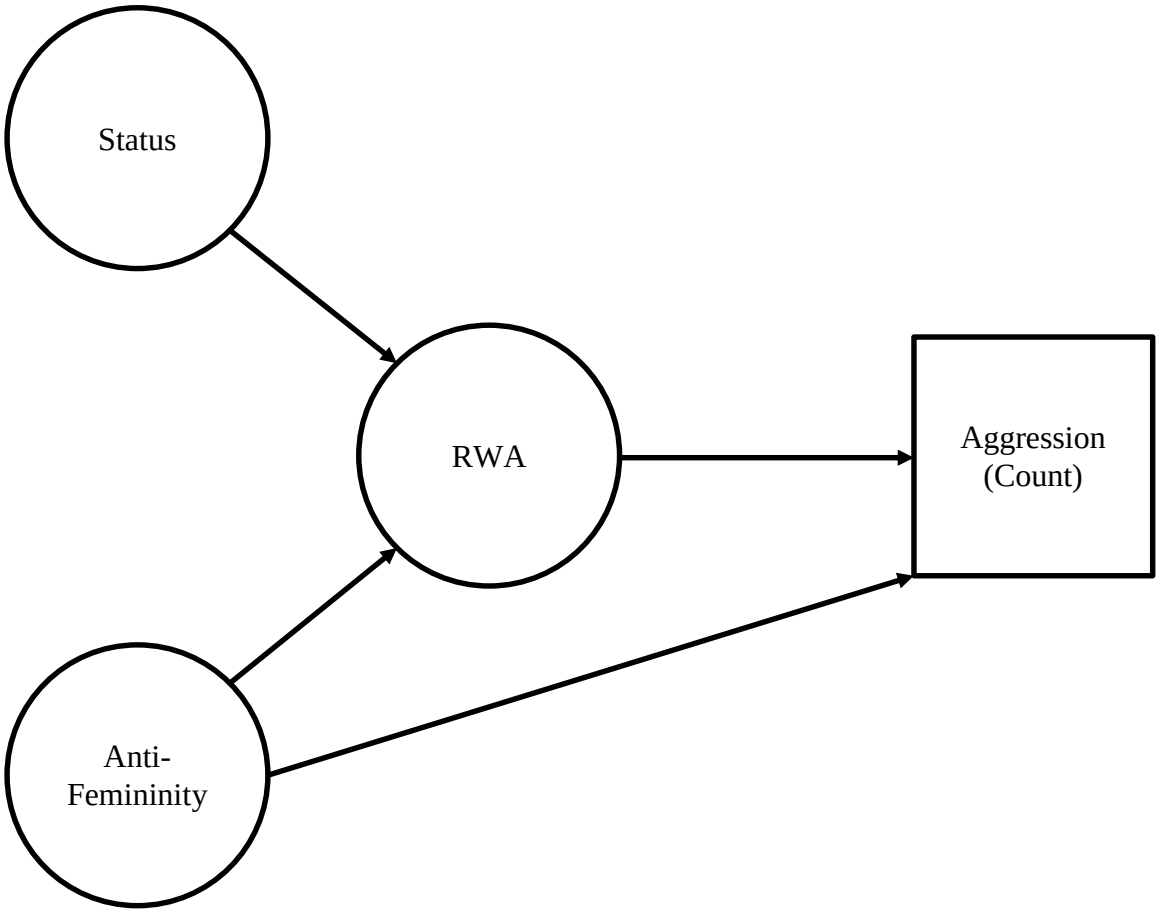

Figure 3. Predicted Model 3 – The Effect of Anti-Femininity, Status, and Right-Wing Authoritarianism on Aggression

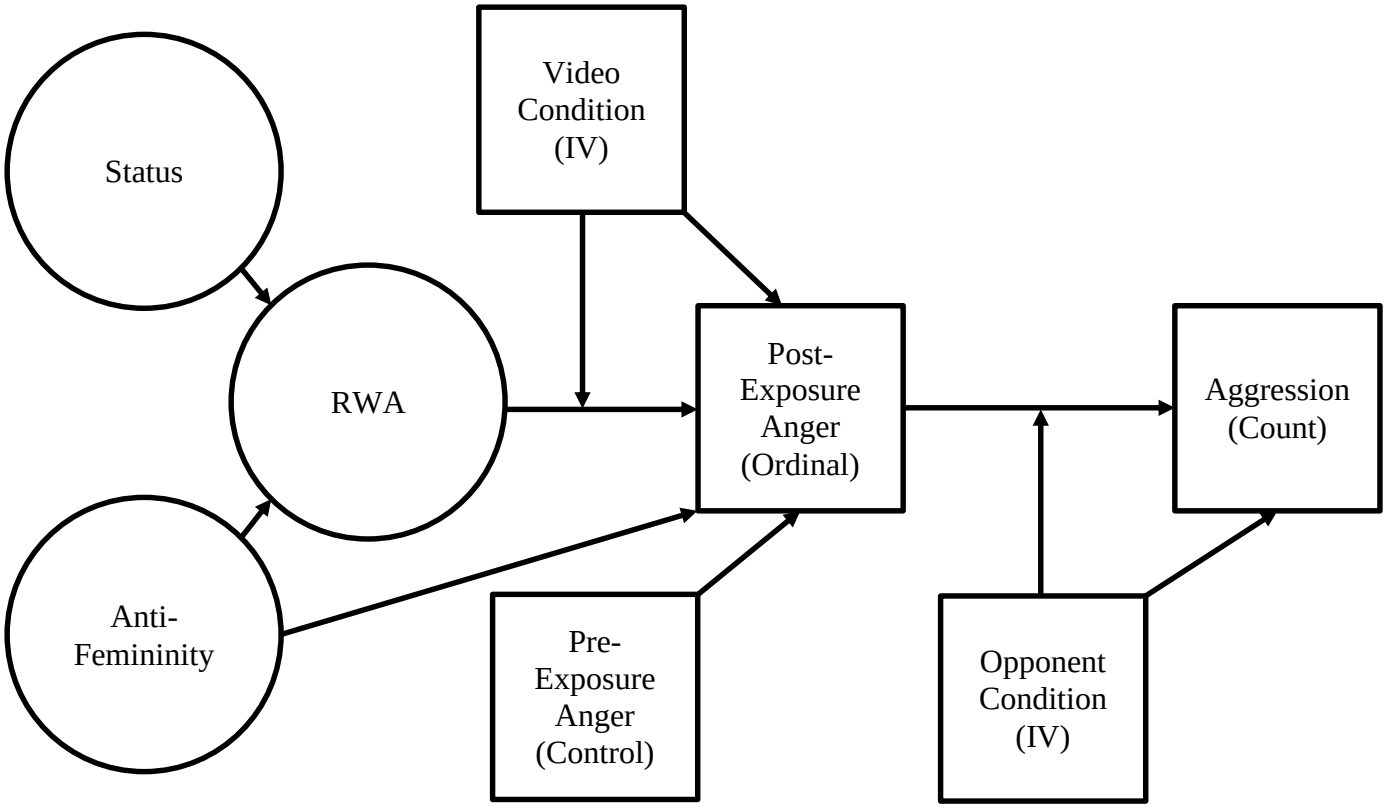

Figure 4. Predicted Model 4 – The Effect of Traditional Masculinity on Anti-Gay Aggression via and Right-Wing Authoritarianism and Anger Change

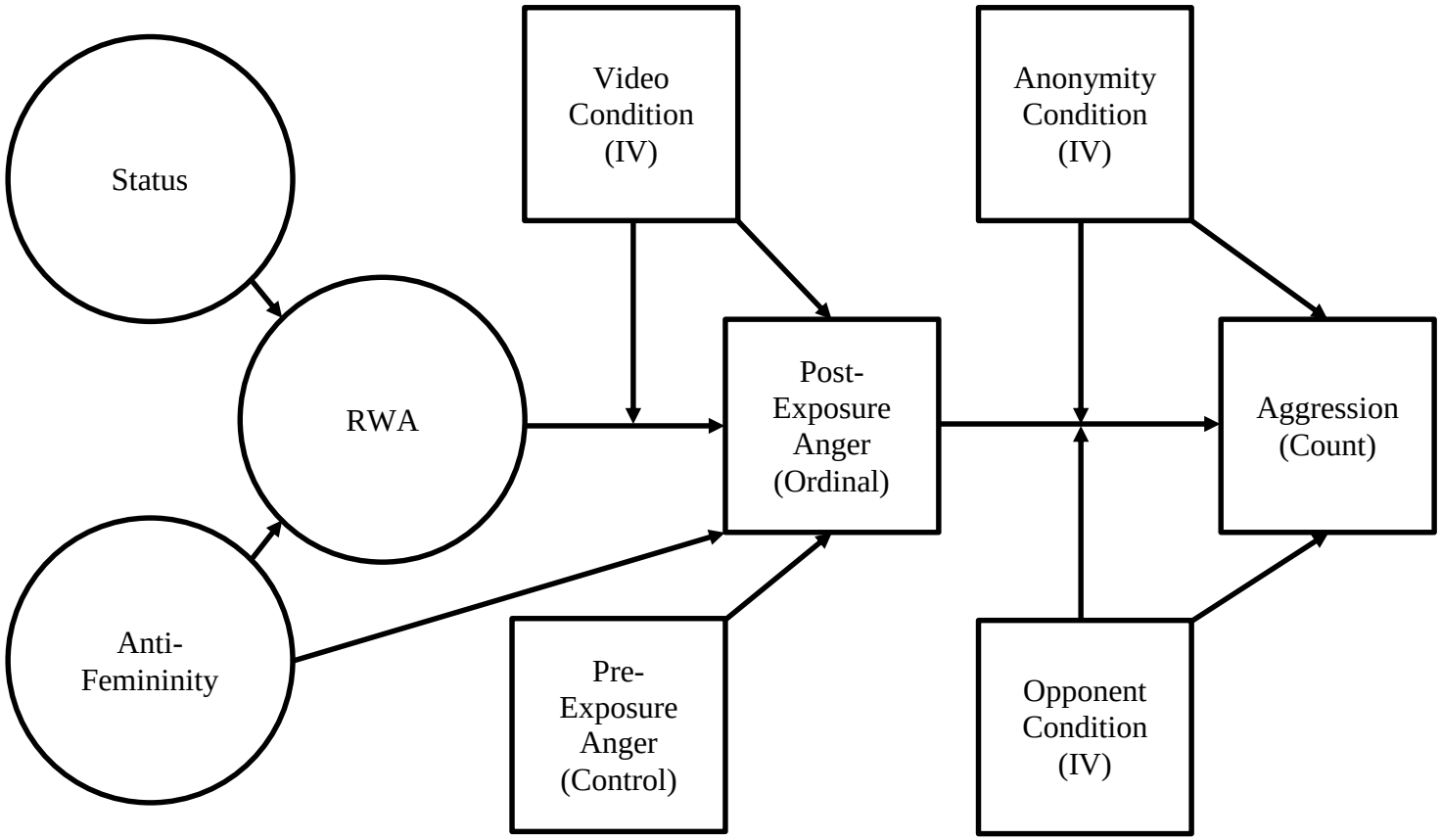

Figure 5. Predicted Model 5 – The Effect of Anti-Femininity, Status, and Right-Wing Authoritarianism on Change in Anger

3 RESULTS

The raw dataset downloaded from Qualtrics originally consisted of 4,340 cases, one for each attempted survey. However, this included cases for all participants who attempted but did not complete the full survey, did not meet edibility criteria, who closed the survey before completing, or had data that was unusable for various reasons. The final dataset used in the present study consisted of 978 participants.

3.1 Data Cleaning Process

In the initial screening questions, 1,455 of the 4,350 participants reported their gender as female, and an additional 351 participants did not report their gender. Both were screened out and did not receive the full survey. Of the remaining 2,534 participants who reported “male” as their gender in the screening questions, 23 reported being unwilling to see disturbing content and were screened out. The remaining 2,511 participants received the full survey.

Of these 2,511 participants who began the survey, 1,819 participants were paid for survey completion. Of these 1,819 participants, 1,772 participants had completed all surveys. The remaining 47 participants did not complete all surveys but, as stipulated by the informed consent form, were able to withdraw without penalty and were entitled to full payment after completing any part of the survey, as required by the IRB.

Of the 1,772 participants that completed all surveys, 22 reported their gender as female at the end of the survey. This may have indicated either that they were not paying close attention to their answers, or that they were aware of the screening criteria and had intentionally misrepresented their gender to avoid being screened out. Regardless, data

from these 22 participants, plus an additional 27 participants who did not report their gender in the demographics section, were removed, leaving 1,723 participants.

Eighty of the remaining 1,723 participants identified as gay, 74 as bisexual, 6 as queer, 15 as questioning, and 17 as other. Because only data from heterosexual men was intended for use, only the data from the 1,531 participants that identified as "Straight/Heterosexual" were included in the present sample.

Although Amazon Mechanical Turk was set to advertise the study only to participants inside the US, the data included some responses from self-reported international participants. These cases included 118 participants from Asia, 13 participants from Europe, 4 participants from Canada, and 5 participants from elsewhere in the world. An additional 8 participants did not report their location. Of the 1,383 participants that indicated they were from the U.S. 4 did not report the state where they reside, and 1 reported that they did not live in the U.S. Only data from the 1,378 participants that reported they were from states within the U.S. were used in the present study.

In the informed consent documentation, participants were informed that they could still receive credit and decline to allow their data to be used. 27 participants opted for this option, and chose not to allow their data to be used. In accordance with their wishes, data from these participants were removed, resulting in a dataset of 1,351 participants.

Three-hundred and seventy-three survey attempts were from IP addresses that appeared in the dataset multiple times, indicating repeated attempts at survey completion.

To help ensure that no single participant was overrepresented in the dataset, all data from duplicate IP addresses was removed, resulting in a final dataset of 978 participants.

3.2 Descriptive Statistics

Although the final analyses were performed with Mplus using structural equation modeling, data were first inspected in SPSS v. 23. Descriptive statistics and Pearson correlations among the study variables are presented in Table 1. Anti-femininity, RWA, anger, and self-reported past anti-gay acts were significantly correlated with one another at $p < .01$. The status norm did not correlate with anger at pre ($r = .04$, $p = .24$) or post-exposure ($r = .05$, $p = .13$), but status was correlated with all remaining study variables at $p < .01$.

The final sample ($n = 978$) was relatively ethnically diverse compared to typical undergraduate samples, with about 76.3% of the participants reporting their ethnicity as White, 7.7% identifying as Hispanic or Latino, 6.3% identifying as Asian or Pacific Islander, 5.6% identifying as Black, 2.1% identifying as Multi-racial, and 2% identifying as other. The majority of the sample (52.3%) reported living in the suburbs, with 30.1% reporting living in urban areas and 17.6% in rural areas. About 40.3% of participants were single, 38.3% were married, 12.3% reported cohabitating with a romantic partner, 6.3% reported being either divorced or separated, and 2.8% chose not to report their relationship status.

The vast majority of the sample (82%) reported having at least some college education, with almost half the sample (48.9%) reporting having achieved a 4-year degree or higher. Overall, 34.4% reported having a 4-year degree, 33.1% had some experience in college, 10.9 % had only high-school education, 10.5% had achieved a

Master's degree, 6.1% had attended a 2-year vocational or technical school, 4% had received a MD, JD, or PhD, and 0.9% did not report having graduated high-school.

The mean age of participants was 32.6 years old, with a standard deviation of 9.88 years. Participant age was positively skewed, with reported ages ranging from 18 to 84, but the majority of participants being between 25 and 39 years old.

3.3 Assumption Tests

3.3.1 Validity of the Aggression Outcome

Consideration of the descriptive statistics for the novel aggression outcome indicated that this variable, like most measures of aggression, was highly positively skewed, with a skewness statistic of 6.92 (*SE* = .08). The vast majority (97.2%) of the sample did not elect to show their opponent any graphically disturbing images.

However, comparing participants that chose to show their opponent graphic images to those that did not chose to show their opponent graphic images (2.8% of the sample) revealed significant differences between groups. Due to the vastly unequal sample sizes, equal variances could not be assumed for these two groups, and a Student's t-test was therefore inappropriate. However, Welch's *t*-test, a variation of the *t*-test that is robust to violations of equality of variances, indicated that participants who chose to show their opponent graphic images reported on average significantly higher levels of right-wing authoritarianism (*M* = -20.56, *SD* = 44.08) compared to participants that chose neutral/positive images (*M* = -45.56, *SD* = 48.14), *t* (27.79) = -2.89, *p* = .01. Participants who chose disturbing images also reported significantly higher levels of the traditional masculine norm of status (*M* = 51.89, *SD* = 10.51) compared to those that chose neutral images (*M* = 46.23, *SD* = 11.49), *t* (27.79) = -2.89, *p* = .01. Although the difference in

anti-femininity between participants who chose disturbing images (M = 24.04, SD = 9.11) compared to those that chose neutral images (M = 21.07, SD = 8.67) was in the predicted direction, it was a non-significant difference, t (27.36) = -1.67, p = .11. Importantly, participants who chose to aggress against an opponent also reported having engaged in significantly more instances of anti-gay hostility and aggression in the past (M = 33.67, SD = 18.89) compared to participants that chose neutral images (M = 24.62, SD = 10.63), t (26.47) = -2.48, p = .02.

A chi-square test of independence was performed in SPSS ver. 23 to test for a systematic relationship between the number of disturbing videos shown to the target of aggression (0-3) and study predictor variables (RWA, anti-femininity, and status orientation). Study variables were dichotomized using a median split to form "high" and "low" groups. Chi-square tests demonstrated a link between RWA and aggression, $\chi^2(3) = 8.34$, p = .04, status and aggression, $\chi^2(3) = 11.56$, $p < .01$, but not between anti-femininity and aggression, $\chi^2(3) = 3.8$, p = .28 (See Table 2 for full results).

Results of the chi-square tests and Welch's t-tests indicate that, although the graphic images were very infrequently selected, the choice of the images was meaningful as they corresponded to other measures theoretically linked to anti-gay aggression, such as right-wing authoritarianism and traditional masculinity. Furthermore, the selection of the images was associated with scores on a measure of past engagement in acts of anti-gay hostility and aggression. These results provided adequate evidence of the validity of the novel aggression paradigm, indicating that it was reasonable for use in subsequent tests.

3.3.2 Lack of Multivariate Outliers

Outliers were identified using Mahalanobis distance, a multivariate statistic used to describe the influence of each participant on regression estimates (Field, 2013). Mahalanobis distances were computed using SPSS ver. 23. An exploratory regression analysis was carried out with mean centered variables for pre-exposure anger, anti-femininity, status, and RWA, on post-exposure anger. Mahalanobis distances roughly follow a chi-square distribution (Field, 2013) with *df* equal to the number of predictors (Tabachnick & Fidell, 2001). The probability for each Mahalanobis score ($df = 4$) was found for each participant, and all outliers with less than a $p < .001$ probability were removed from the dataset, as per recommendations (Tabachnick & Fidell, 2001). Thirteen outliers were identified and removed from the dataset for subsequent analyses.

3.3.3 Normality

Normality of the outcome variable is required for analysis of variance (ANOVA), and normality of residuals are an assumption of SEM. Normal P-P plots of residuals from an exploratory regression analysis showed that residuals deviated from normality (See Figure 6), and a histogram of anger showed that this deviation was likely resulting from the non-normality of the outcome (See Figure 7).

Non-normality of residuals can often be reduced by transforming the outcome variable using a Box-Cox transformation (Field, 2013), and given the high degree of positive skew, square root and natural log transformations were attempted. Although this transformation improved the normality of residuals there was still a noticeable deviation from normality. However, change scores of the difference between pre-exposure anger and post-exposure anger appeared to be normally distributed (See Figure 8). Given that

the goal of the planned ANOVA was to test study hypotheses by evaluating the effect of study variables on change in participant anger post-exposure, change scores were used in subsequent ANOVA tests to meet the assumption of normality.

Inspection of histograms of residuals from exploratory regression analyses in SPSS ver. 23 and SEM analyses in Mplus 6.12 showed that residuals for models using both change scores and estimates for latent variables deviated from normality. Therefore, Logistic regression and Poisson regression were used in subsequent SEM analyses to account for this violation of the assumption of normality. The outcome of anger (See Figure 7) was treated as an ordered categorical outcome with 10 levels (the maximum allowed by Mplus), and aggression was treated as a count of the number of unpleasant videos selected (0-3).

3.3.4 Dispersion

SEM models using the Poisson distribution make an assumption regarding the degree of dispersion, or variability, expected in the model, and overdispersion reflects the presence of greater variability than expected in the dataset (Long, 1997). A violation of this assumption can result in depressed standard errors (Swartout, Thompson, Koss, & Su, 2015). Tests of dispersion in each of the SEM models including count outcomes found significantly higher degrees of dispersion than were expected for the Poisson distribution. An alternative distribution, the negative binomial distribution, was substituted for the Poisson distribution, as the use of this distribution is also acceptable for count data but does not make the same assumptions of equal dispersion required for the Poisson (Long, 1997; Swartout et al., 2015).

3.3.5 Multicollinearity

High correlations between study variables in SEM could inflate error variance, which can impact statistical results. Mean-centering is recommended to reduce the impact of potential multicollinearity, and the latent variables estimated by Mplus are mean-centered by default. To test for potential multicollinearity, diagnostic statistics were computed using an exploratory regression model in SPSS ver. 23. Tolerance statistics ranged from .29 to .95, and variance inflation factor (VIF) scores ranged from 1.05 to 3.46, both of which were within the acceptable range (Tolerance > .1; VIF < 4; Field, 2013; Tabachnick & Fidell, 2001).

3.3.6 Linearity of Relationships

Scatterplots of univariate relationships between predictors and the outcome variable were requested in SPSS ver. 23. The lack of any visible curvature to the Loess lines and the similarity of the Loess lines to OLS lines indicated the absence of any polynomial effect.

3.3.7 Heteroscedasticity

Homogeneity of variance is expected across all levels of predictor variables. Partial plots were requested for all univariate relationships with residuals in SPSS ver. 23, and a visual inspection of these plots showed visibly similar levels of variability across levels of the predictors, indicating homoscedasticity.

3.4 **Analysis of Variance**

To determine whether video stimulus influenced change in aggression, analysis of variance tests with post-exposure anger as the outcome variable were planned in SPSS ver. 23. Four ANOVA models were tested in total, each including the effect of video

stimulus condition (control or experiment) on change in anger from pre to post exposure. The first model included only the effect of condition on change in anger (Figure 9), and each of the other three models included one additional predictor variable: anti-femininity (Figure 10), status (Figure 11), and RWA (Figure 12). Each of the predictor variables were dichotomous, created by performing a median split on the original continuous measure to separate the sample into "high" and "low" categories for each of the respective measures.

The initial one-way ANOVA carried out to test whether change in anger scores was influenced by experimental video condition showed that video condition had a significant impact on change in anger, F (1, 974) = 26.02, $p < .01$. The three additional two-way ANOVA tests, each including a single study variable, video condition, and interaction on anger, demonstrated significant interactions between video condition and anti-femininity, F (1, 972) = 16.29, $p < .01$, video condition and status, F (1, 972) = 5.59, $p = .02$, and video condition and RWA, F (1, 971) = 23.34, $p < .01$. These tests indicated that the manipulation was effective, and that both the IV and outcome were suitable for use in subsequent SEM analyses.

3.5 Structural Equation Modeling

Hypothesis tests were conducted using a series of sequential models utilizing a structural equation modeling approach. Structural equation modeling (SEM) is a method for evaluating relationships between unobserved latent variables, and is essentially a combination of factor analysis and path analysis. Factor analysis uses a set of observed indicator variables to estimate unobserved latent variables (measurement model), and

path analysis is then used to estimate the regression coefficients between these latent variables (structural model).

3.5.1 Measurement Model

Before any structural models can be tested, the goodness-of-fit of the measurement model must first be established. The measurement model is effectively a confirmatory factor model consisting of all items for all measures (factor indicators) regressed on their associated latent factors. A good fitting measurement model is a prerequisite to conducting structural tests – how well the indicators map on to the latent factors demonstrates whether the estimated latent factors are accurate and trustworthy, similar to tests of measurement reliability.

Tests of the measurement model initially demonstrated a poor fit with the data, χ^2 (1642) = 10113.48, $p < .01$, $RMSEA = .07$, $p^{RMSEA<.05} < .01$, $CFI = .777$, $SRMR = .08$. Evaluation of factor loadings showed that loadings for some indicators were below accepted cutoffs (Stevens, 2009), which may have impacted model fit (See Table 3).

These poor-loading items were systematically removed to improve the fit of the measurement model. Thresholds for cutoffs were set initially at a standardized factor loading of 0.55, indicating a “good” factor loading (Tabachnick & Fidell, 2001). This cutoff resulted in the removal of three items: one from the anti-femininity subscale of the male role norms scale, and two from the right-wing authoritarianism scale (MRNS item 21, and RWA items 6 and 23; See

APPENDIX: MEASURES).

Although this model demonstrated marginal improvement in goodness-of-fit, χ^2 (1474) = 8881.168, $p < .01$, *RMSEA* = .07, $p^{RMSEA<.05} < .01$, *CFI* = .80, *SRMR* = .07, model fit was still not adequate to conduct the planned structural tests. Therefore the cutoffs for factor loadings were increased from 0.55 ("good") to 0.63 ("very good") to increase the quality of the measurement model (Tabachnick & Fidell, 2001).

This resulted in the removal of an additional 15 items, for a total of 18 items removed. The majority (13) were removed from the right-wing authoritarianism scale, and the remaining five items were from the male role norms scale. This change resulted in a substantial improvement in goodness-of-fit, χ^2 (769) = 3441.28, $p < .01$, *RMSEA* = .06, $p^{RMSEA<.05} < .01$, *CFI* = .90, *SRMR* = .05 (See Table 4 for factor loadings).

After the removal of poor-fitting items, all factors had more than four indicators loading at above 0.6, thereby indicating that all factors could be considered to be reliable (Field, 2013; Guadagnoli & Velicer, 1988). Both SRMR and RMSEA demonstrated model fit above recommended cutoffs (Hu & Bentler, 1999), and therefore the measurement model was accepted for subsequent analyses.

3.5.2 Model 1 – Male Norms on Anger via RWA

A series of structural equation models were evaluated using Mplus 6.12 to test the hypothesis that right-wing authoritarian and traditionally masculine men respond to depictions of male-male intimacy with anger and aggression. This analysis consisted of multiple statistical models evaluated sequentially.

The first model consisted of post-exposure anger regressed on pre-exposure anger (control variable), right-wing authoritarianism, and anti-femininity, with right-wing

authoritarianism regressed on status (See Figure 1). Given its deviation from normality, post-exposure anger was treated as an ordered categorical variable. The analysis was conducted using means and variance adjusted weighted least squares (WLSMV) estimation and delta parameterization.

The structural model fit the data well according to an absolute measure of model fit, $RMSEA = .05$, $p^{RMSEA<.05} = .27$, but demonstrated poor incremental fit, $CFI = .74$. However, a test of the absolute fit of the baseline model, $\chi^2 (465) = 4929.18$, $RMSEA = .1$, indicated that incremental fit indices may not be informative due to the goodness-of-fit of the null model (RMSEA < .16; Kenny, 2011). Therefore, given the goodness of absolute fit (RMSEA < .6; Hu & Bentler, 1999), the model was accepted.

Results confirmed the hypotheses that anger would be significantly positively predicted by RWA ($b = .11$, $SE = .02$, $p < .01$), and that RWA would be significantly predicted by both anti-femininity, $b = .78$, $SE = .08$, $p < .01$, and status, $b = .3$, $SE = .07$, $p < .01$. The direct effect of anti-femininity on anger was also significant, $b = .09$, $SE = .04$, $p = .02$, after controlling for the effect of RWA (See Figure 13).

Due to the treatment of the anger outcome as categorical, tests of the indirect effect could not be requested in Mplus 6.12. Therefore, estimates of the indirect effect were computed by hand using the Sobel method (Baron & Kenny, 1986). Results showed that RWA mediates the relationship between anger and both anti-femininity, $b^{indirect} = 4.18$, $SE = .02$, $p < .01$, and status, $b^{indirect} = 3.18$, $SE = .01$, $p < .01$.

3.5.3 Model 2 – Male Norms and RWA on Anger by Video Condition

The second model evaluated the hypothesis that right-wing authoritarian and traditionally masculine men would respond to a video depicting male-male intimacy with

higher anger, compared to non-authoritarian and non-traditional men. This model consisted of the same variables and path structure as the first model, but included an additional binary variable representing the experimental condition (0 = male-female intimacy control, 1 = male-male intimacy experimental condition), as well as a term representing the interaction between RWA and condition (See Figure 2).

Due to the inclusion of an interaction between a latent (RWA) and observed variable (video condition), the second model was in essence a multilevel model consisting of both fixed and random effects (See Figure 2). Analyses were conducted using TYPE=RANDOM, maximum likelihood estimation with robust standard errors (MLR) and the logit link function for the categorical outcome. Due to the multilevel nature of this model, fit statistics were not provided. However, model selection and comparison criteria were provided, *AIC* = 104626.33, *BIC* = 105132.92.

Model results indicated that, as hypothesized, there was a significant interaction between RWA and video condition, $b = .35$, $SE = .07$, $p < .01$, indicating that the effect of RWA on anger differed significantly between control and experimental groups (See Figure 14). A probe of the simple slopes for video condition showed that, as hypothesized, RWA positively predicted anger for participants in the male-male exposure condition, $b = .31$, $SE = .06$, $p < .01$, but not for participants in the male-female exposure condition, $b = -.04$, $SE = .06$, $p = .44$.

3.5.4 Model 3 – Male Norms on AGA via RWA

The third model tested the hypothesis that right-wing authoritarian and traditionally masculine men would engage in more aggressive behavior toward a gay male opponent compared to non-authoritarian and non-traditional men. This model

consisted of the same predictor variables and path structure as the first model, but included aggression as the outcome instead of anger (See Figure 3). The analysis was limited to only participants who were presented with a gay male target for aggression (*n* = 501). The analysis was conducted using MLR estimation in Mplus 6.12.

Results showed that RWA had a significant impact on anti-gay aggression (AGA), *b* = .5, *SE* = .16, *p* < .01, but that anti-femininity did not, *b* = -.19, *SE* = .33, *p* = .58. However, RWA was significantly positively associated with both anti-femininity, *b* = -.86, *SE* = .12, *p* < .01, and status, *b* = .38, *SE* = .17, *p* = .02, indicating a potential mediation effect (Fritz & MacKinnon, 2007). Estimates of the indirect effects computed using the Sobel method showed that anti-femininity, *t* = 2.84, *SE* = .15, *p* < .01, but not status, *b* = 1.85, *SE* = .1, *p* = .06, indirectly influenced AGA via RWA (See Figure 15).

3.5.5 Model 4 – Male Norms and RWA on Anger and AGA

The fourth model tested the hypothesis that anger resulting from exposure to male-male intimacy would increase the likelihood to aggress toward a gay opponent, but not toward a straight opponent. This model consisted of all variables from model 2, but included the additional outcome of aggression (count variable), target sexual orientation (dichotomous IV), and a product term representing the hypothesized interaction between anger and opponent sexuality (See Figure 4). This model used MLR estimation with numeric integration and the logit link function in Mplus 2.16.

Results showed that, as in model two, the interaction between RWA and video condition on post-exposure anger was significant, *b* = .22, *SE* = .08, *p* < .01, indicating that RWA significantly positively predicted anger for participants in the male-male intimacy group, *b* = .31, *SE* = .06, *p* < .01, but not for the male-female intimacy

condition, b = -.04, SE = .05, p = .44. RWA was significantly predicted by both anti-femininity, b = .83, SE = .08, p < .01, and status, b = .37, SE = .09, p < .01, and the direct effect of anti-femininity on anger was also significant, b = .22, SE = .08, p < .01. Tests of mediation using the Sobel method were conducted for the male-male intimacy condition, demonstrating an indirect effect of both anti-femininity, b = 4.59, SE = .05, p < .01, and status, b = 3.22, SE = .04, p < .01.

There was a significant interaction between post-exposure anger and opponent sexuality, b = .53, SE = .17, p < .01, indicating that, as hypothesized, the sexuality of the opponent moderated the relationship between post-exposure anger and aggression. Also as hypothesized, post-exposure anger did not positively predict aggression against heterosexual opponents, and in fact demonstrated a statistically significant negative effect, b = -.37, SE = .14, p = .01, indicating that higher anger predicted less aggression toward a heterosexual opponent. For gay male opponents the effect of anger on aggression was in the opposite direction, as predicted, but was marginally non-significant, b = .16, SE = .09, p = .07 (See Figure 16).

3.5.6 Model 5 – Anonymity and Anger on AGA

The final model tested the hypothesized three-way interaction between anonymity, anger, and opponent sexuality. This model consisted of the same variables as model 4, but also included anonymity (dichotomous IV), and product terms to represent the two-way interactions between anonymity and anger, anonymity and opponent sexuality, and the three-way interaction between anonymity, anger, and opponent sexuality (See Figure 5). The analysis was conducted using MLR estimation in Mplus 6.1 with the logit link function.

The predicted three-way interaction was non-significant, b = -.22, SE = .33, p = .51, indicating no significant moderating effect of anonymity on the relationship between anger and opponent sexuality on aggression. The two-way interaction between anger and opponent sexuality was still significant, b = .59, SE = .21, p = .01, but all two-way interactions that involved anonymity were non-significant, and the direct effect of anonymity on aggression was marginally non-significant, b = -1.41, SE = .74, p = .058.

Table 1. Means, Standard Deviations, and Zero-Order Correlations for All Variables

		1	2	3	4	5	6
1.	Anti-Femininity Norm (MRNS-AF)	--					
2.	Status Norm (MRNS-S)	.492*	--				
3.	Right Wing Authoritarianism (RWAS)	.597*	.377*	--			
4.	Pre-Exposure Anger (PANASX-Hostility)	.169**	.037	.188*	--		
5.	Post-Exposure Anger (PANASX-Hostility)	.268*	.049	.314*	.750*	--	
6.	Anti-Gay Acts (SRBS-R)	.333*	.153*	.338*	.439*	.510*	--
M		21.15	46.38	-40.81	7.71	7.76	24.87
SD		8.69	11.49	45.14	3.19	3.38	11.02

Note: $n = 978$, $^{*}p < .01$, MRNS-AF = Male Role Norms Scale – Anti-Femininity Subscale; MRNS-S = Male Role Norms Scale – Status Subscale; RWAS = Right-Wing Authoritarianism Scale; PANAS-X Hostility = Positive and Negative Affect Scale Expanded Version – Hostility Subscale; SRBS-R = Self-Report of Behavior Scale – Revised.

Table 2. Frequencies and Chi-Square Test of Independence Results for Level of Aggression Outcome by Dichotomized Predictor Variables

Aggression	RWAS		MRNS-S		MRNS-AF	
	Low	High	Low	High	Low	High
1 Video	2	7	1	8	2	7
2 Videos	3	3	1	5	3	3
3 Videos	2	10	3	9	5	7
No Videos	482	467	486	465	499	452
Low/High Comparison	RWAS		MRNS-S		MRNS-AF	
$\chi 2$	8.34*		11.56*		3.8	
df	3		3		3	
p	0.04		0.01		0.28	

Note: $n = 978$, $^*p < .05$, MRNS-AF = Male Role Norms Scale – Anti-Femininity Subscale; MRNS-S = Male Role Norms Scale – Status Subscale; RWAS = Right-Wing Authoritarianism Scale; Predictor variables were dichotomized using a median split

Table 3. Standardized Factor Loadings for Initial Measurement Model

Anger (Pre)		Anger (Post)		Right-Wing Authoritarianism			
PANAS1	0.775	PANAS1	0.819	RWA1	0.77	**RWA16**	**0.56***
PANAS2	0.81	PANAS2	0.824	RWA2	0.66	RWA17	0.83
PANAS3	0.699	PANAS3	0.719	RWA3	0.68	**RWA18**	**0.55***
PANAS4	0.737	PANAS4	0.778	RWA4	0.66	**RWA19**	**0.56***
PANAS5	0.645	PANAS5	0.664	RWA5	0.83	RWA20	0.76
PANAS6	0.752	PANAS6	0.774	**RWA6**	**0.53****	RWA21	0.7
				RWA7	**0.59***	**RWA22**	**0.59***
Status		Anti-Femininity		RWA8	0.82	**RWA23**	**0.54****
MRNS1	0.68	MRNS4	0.75	**RWA9**	**0.57***	RWA24	0.69
MRNS2	**0.56***	MRNS7	0.72	RWA10	0.73	**RWA25**	**0.56***
MRNS5	0.72	MRNS10	0.79	**RWA11**	**0.56***	RWA26	0.83
MRNS8	0.69	MRNS13	0.78	RWA12	0.75	**RWA27**	**0.6***
MRNS11	**0.57***	MRNS16	0.71	**RWA13**	**0.59***	RWA28	0.8
MRNS14	0.73	**MRNS21**	**0.41****	RWA14	0.82	**RWA29**	**0.61***
MRNS18	0.64	MRNS25	0.65	RWA15	0.81	RWA30	0.75
MRNS19	**0.62***						
MRNS24	**0.57***						
MRNS26	0.66						

Note: Bold indicates removal from measurement model preceding structural tests; ** indicates factor loading below 0.55 cutoff; * indicates factor loading below .64 cutoff; factor loadings standardized using STDYX standardization in Mplus ver. 6.12.

Table 4. Standardized Factor Loadings from Revised Measurement Model

Anger (Pre)		Anger (Post)		Right-Wing Authoritarianism			
PANAS1	0.78	PANAS1	0.82	RWA1	0.8	RWA15	0.83
PANAS2	0.81	PANAS2	0.83	RWA2	0.56	RWA17	0.86
PANAS3	0.7	PANAS3	0.72	RWA3	0.69	RWA20	0.79
PANAS4	0.74	PANAS4	0.78	RWA4	0.56	RWA21	0.72
PANAS5	0.65	PANAS5	0.66	RWA5	0.86	RWA24	0.72
PANAS6	0.75	PANAS6	0.78	RWA8	0.83	RWA26	0.85
				RWA10	0.72	RWA28	0.84
Status		Anti-Femininity		RWA12	0.79	RWA30	0.79
MRNS1	0.66	MRNS4	0.76	RWA14	0.8		
MRNS5	0.7	MRNS7	0.72				
MRNS8	0.7	MRNS10	0.79				
MRNS14	0.73	MRNS13	0.78				
MRNS18	0.64	MRNS16	0.71				
MRNS26	0.67	MRNS25	0.65				

Note: Factor loadings standardized using STDYX standardization in Mplus ver. 6.12.

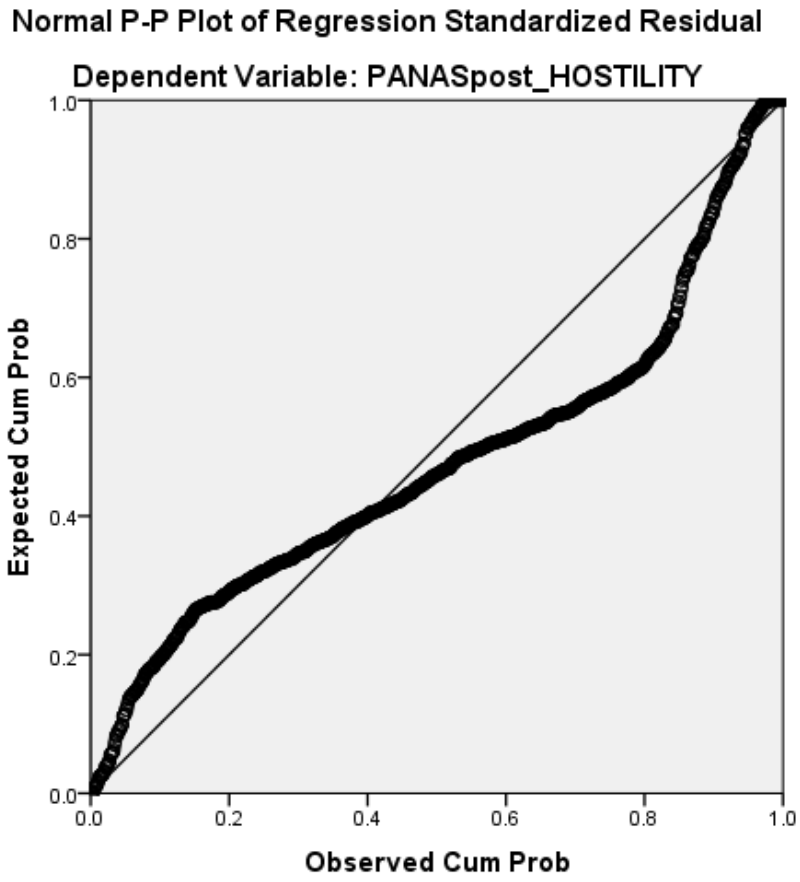

Figure 6. Normality Plot from Regression Diagnostic Test using Untransformed Outcome Variable and Full Sample

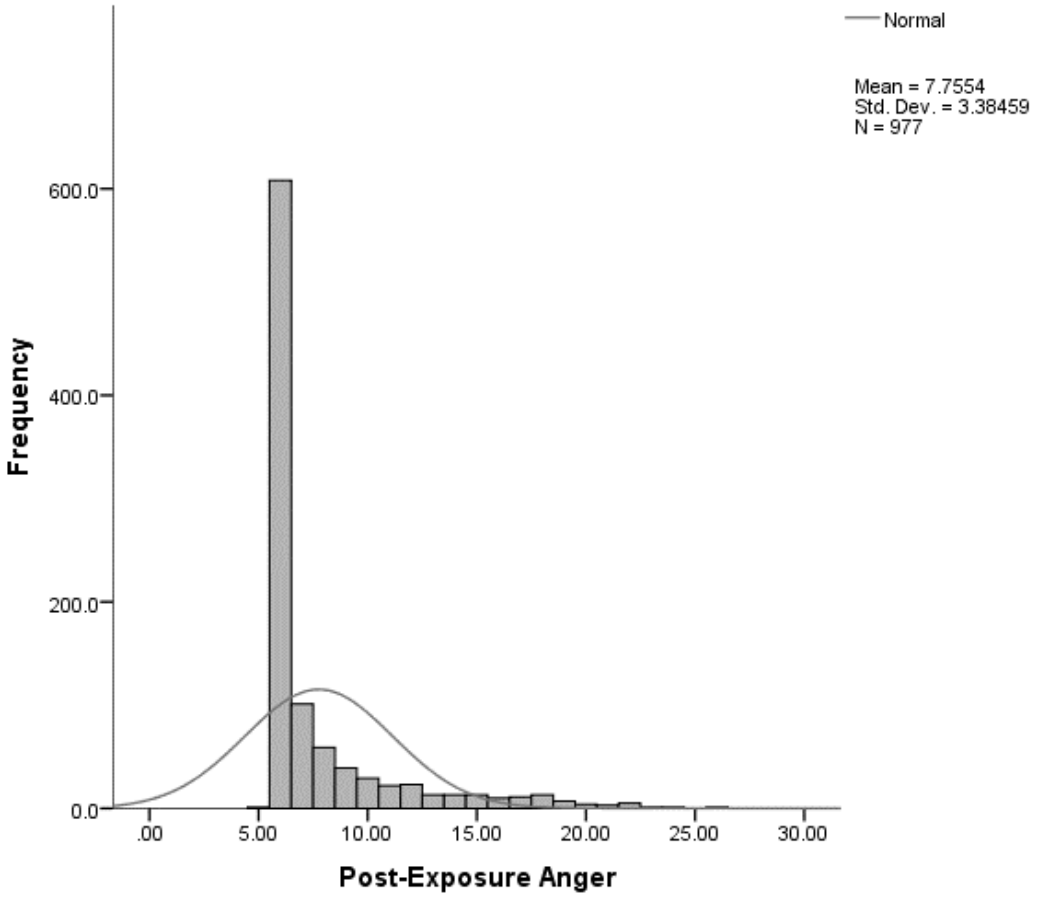

Figure 7. Frequency Distribution of Post-Exposure Anger with Normal Curve

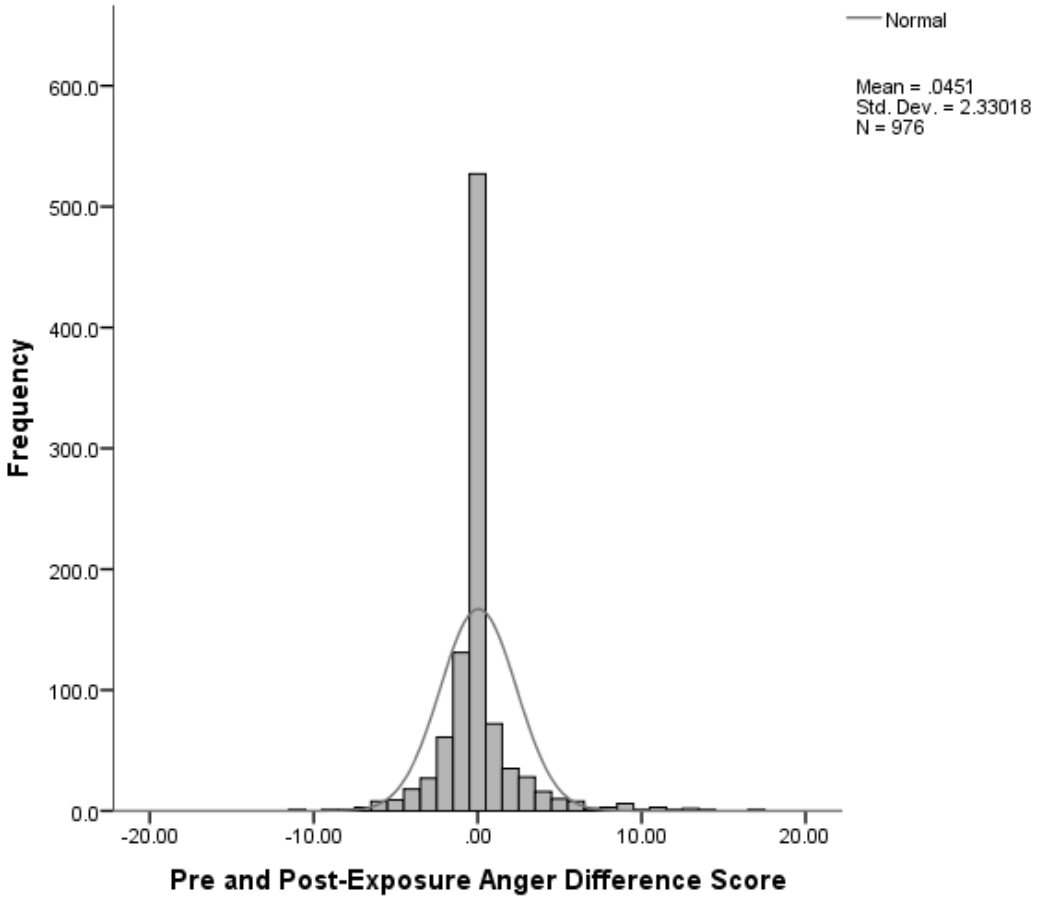

Figure 8. Frequency of Difference Scores for Pre and Post-Exposure Anger

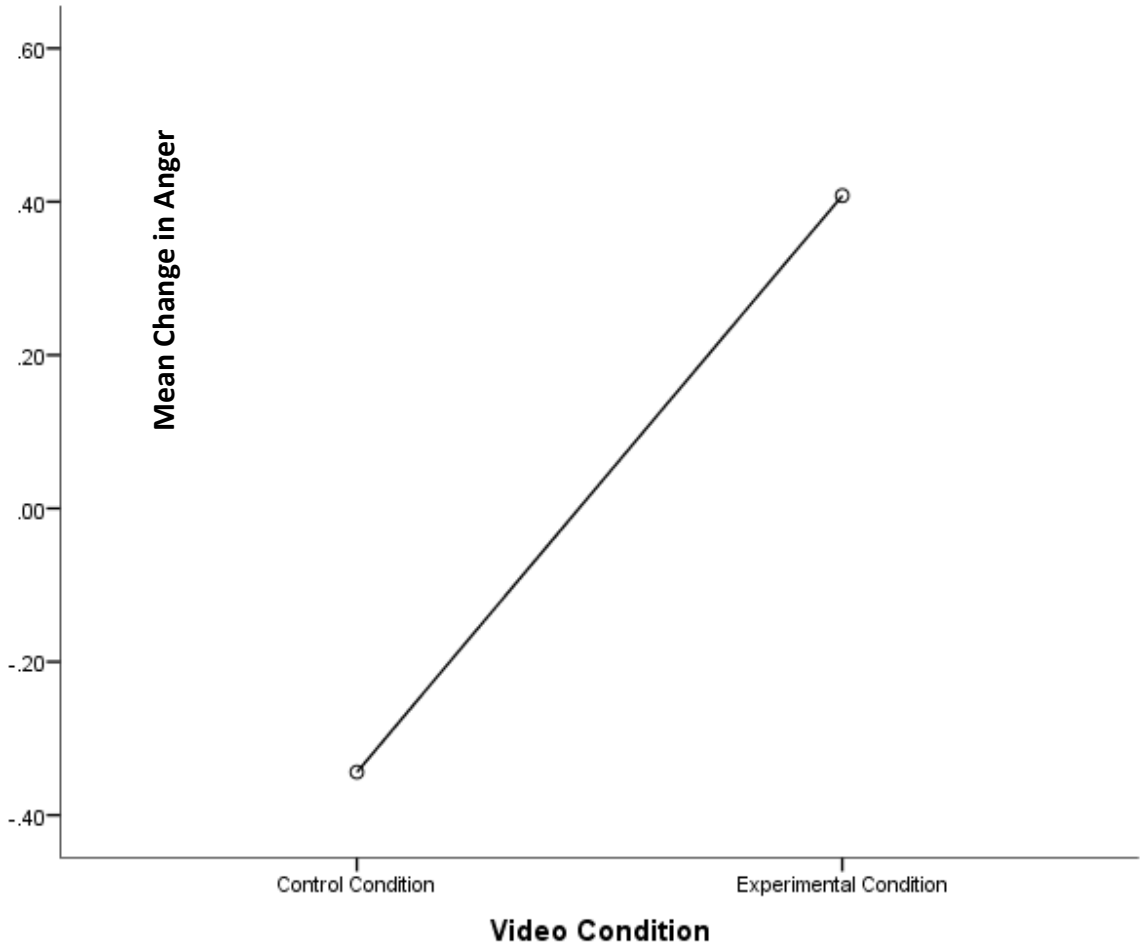

Figure 9. Effect of Video Condition on Mean Change in Anger

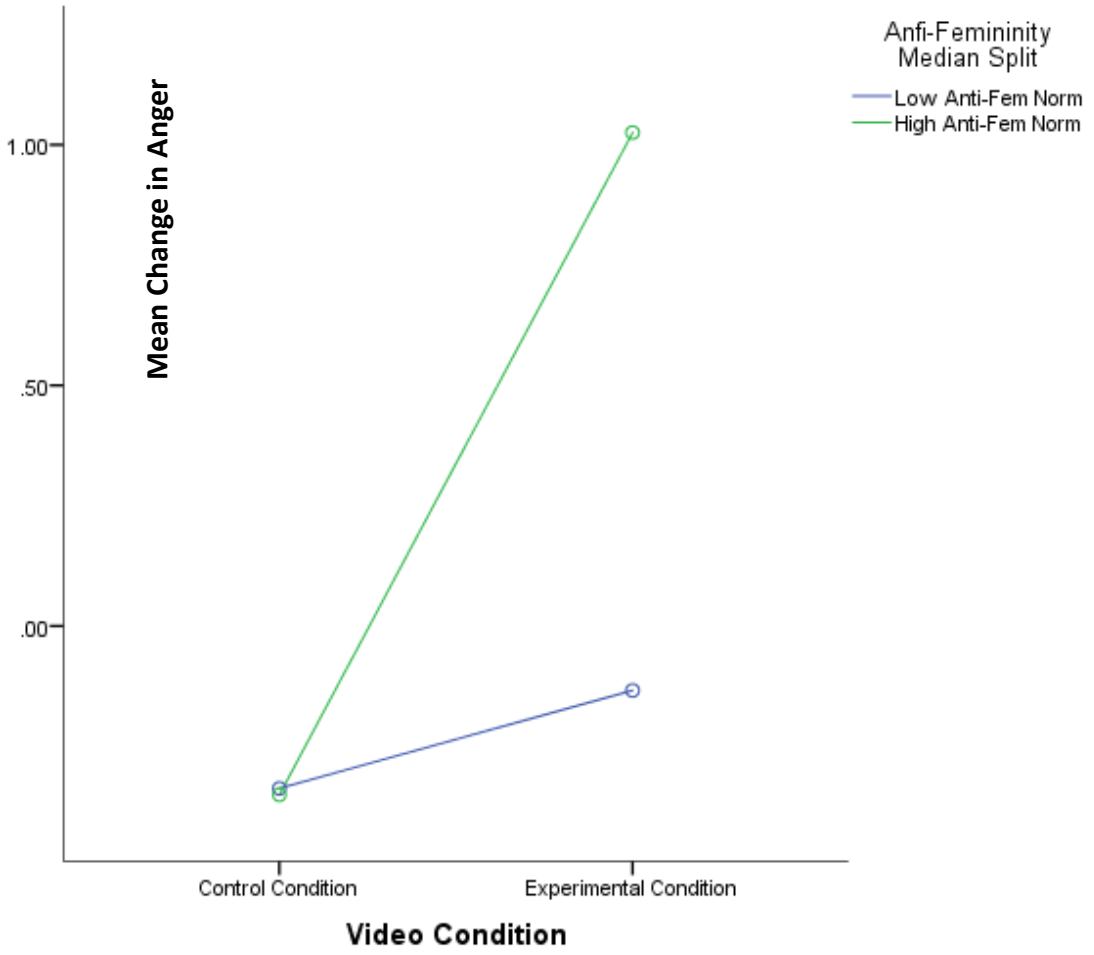

Figure 10. Effect of Video Condition and Anti-Femininity on Change in Anger

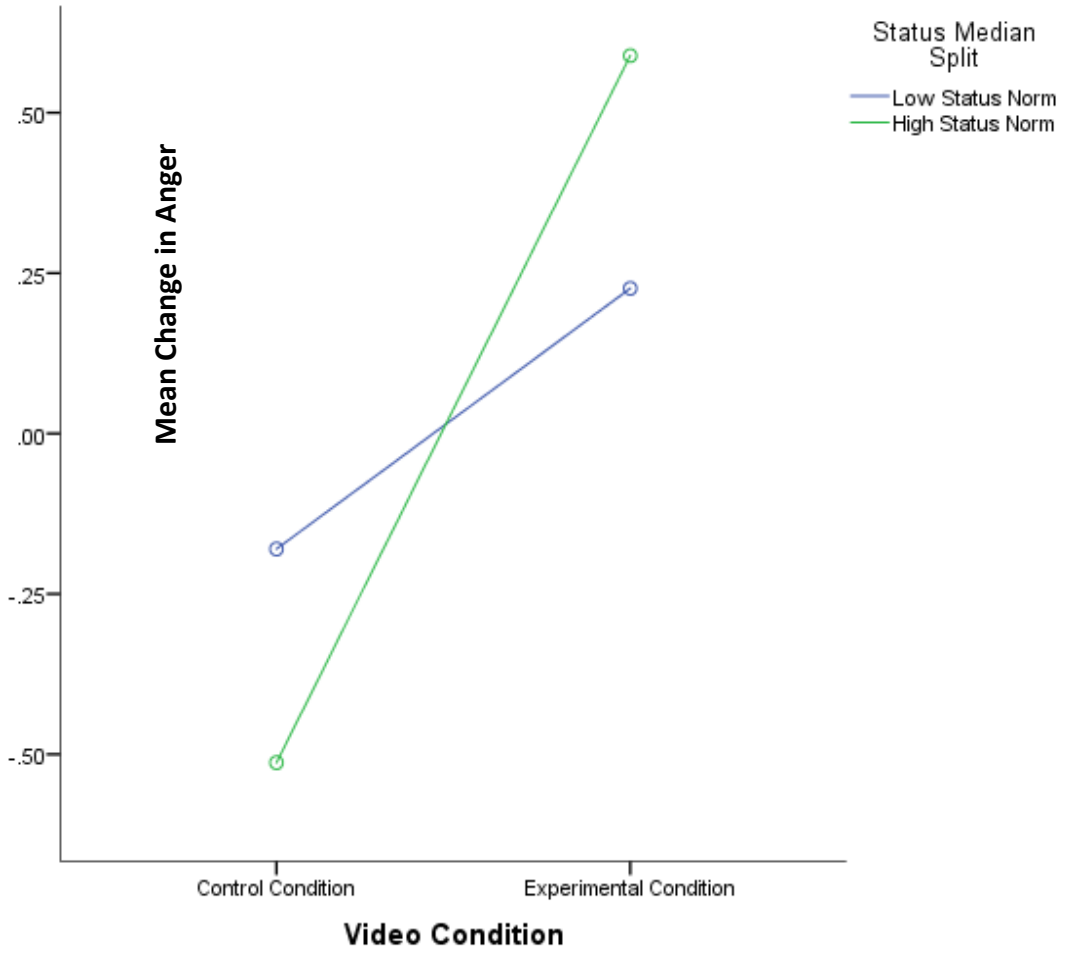

Figure 11. Effect of Video Condition and Status on Change in Anger

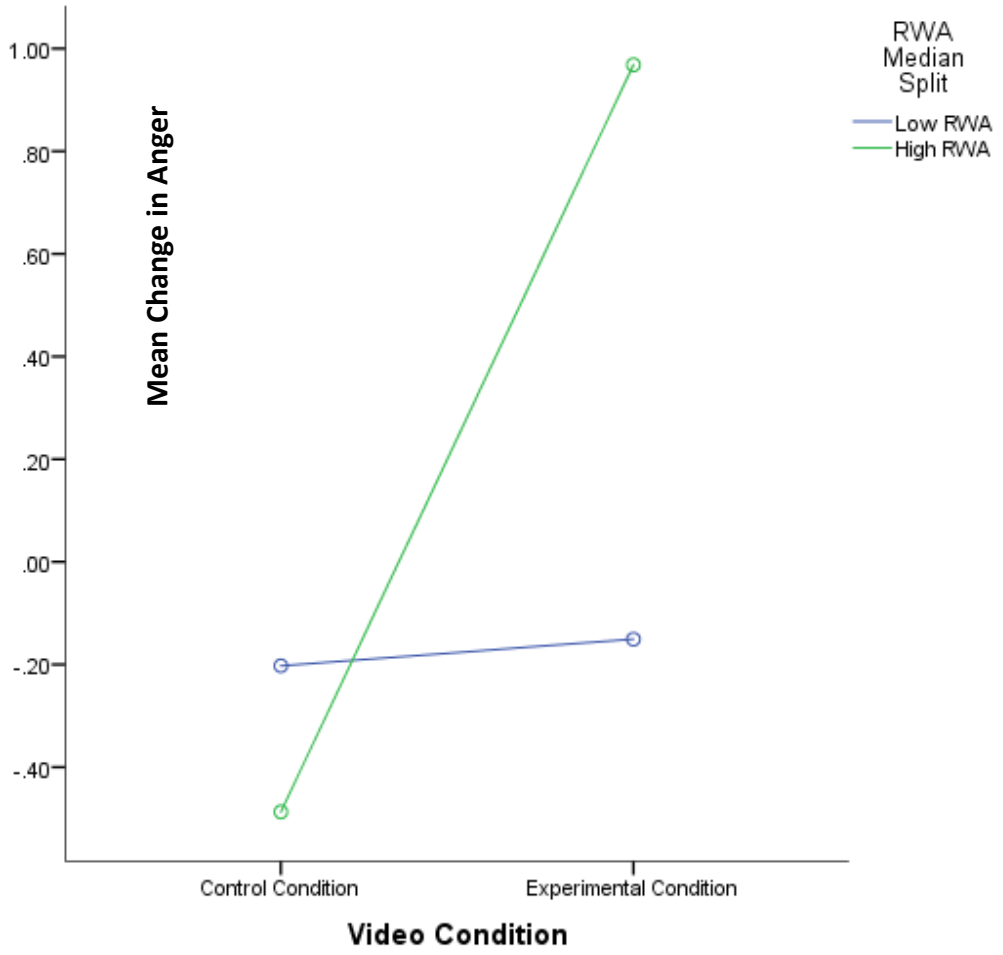

Figure 12. Effect of Video Condition and Right-Wing Authoritarianism on Change in Anger

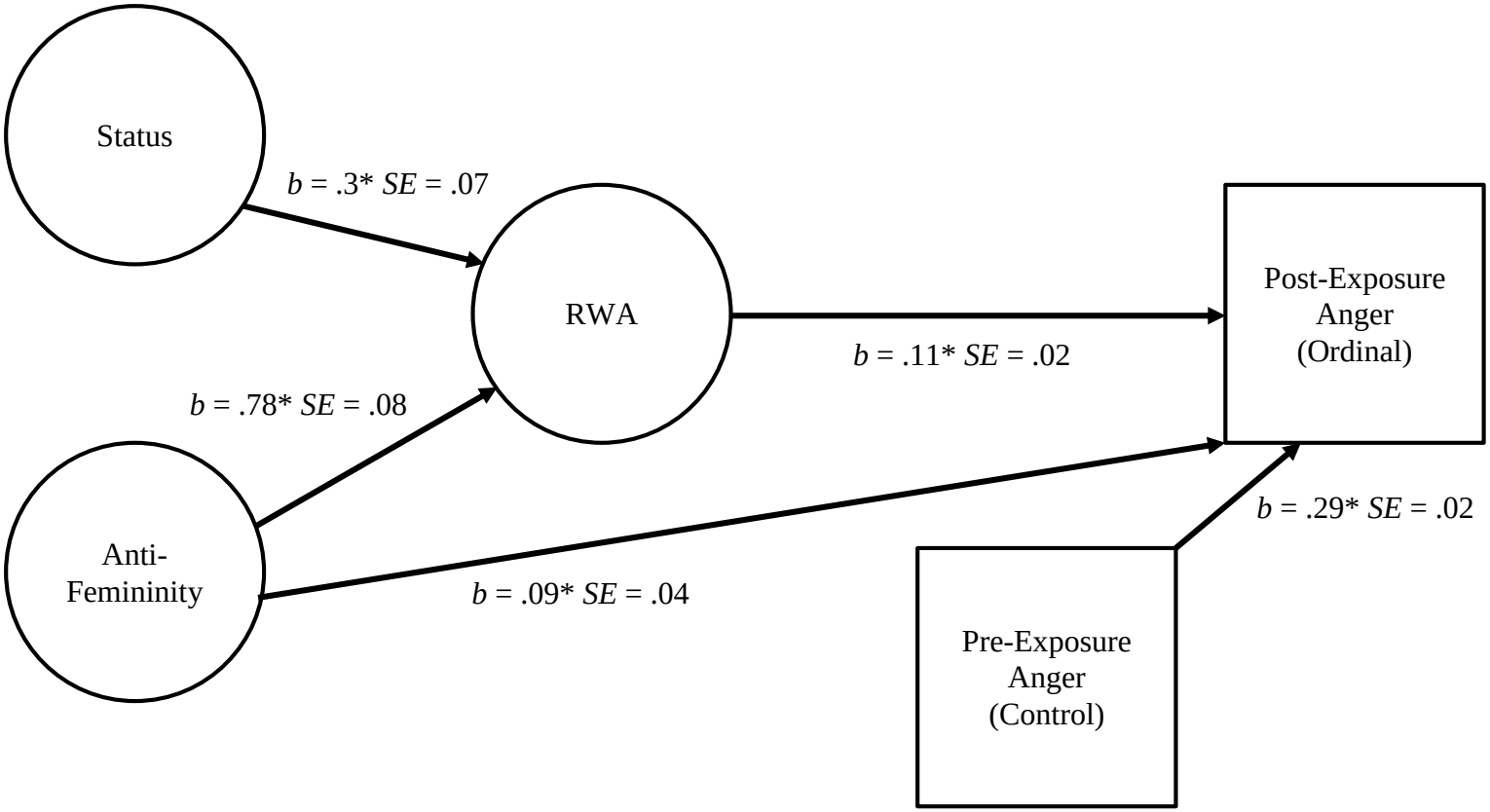

Figure 13. Observed Model 1 – The Effect of Anti-Femininity, Status, and Right-Wing Authoritarianism on Change in Anger

Note: Coefficients unstandardized; * indicates significant effects.

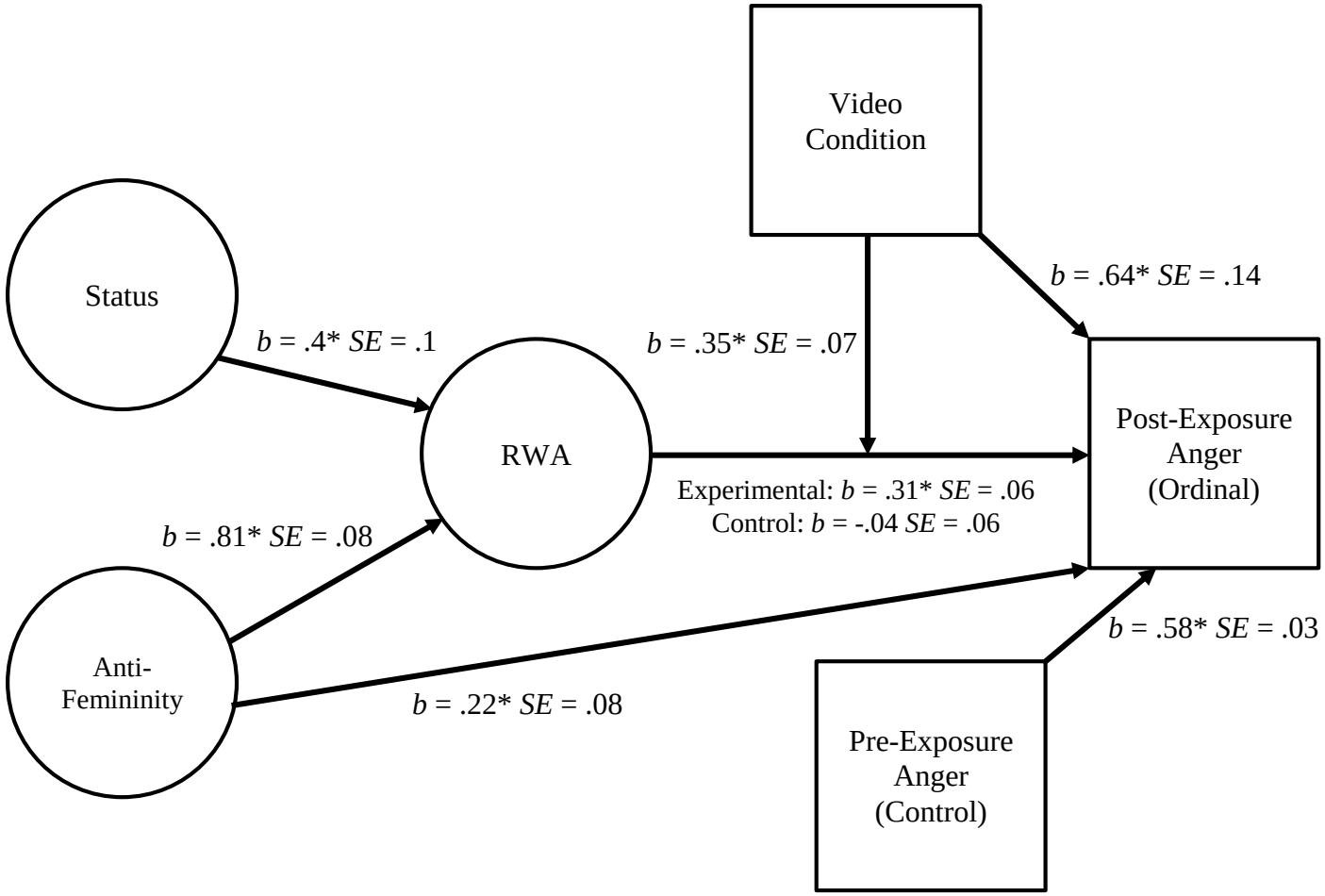

Figure 14. Observed Model 2 –Anti-Femininity, Status, and Right-Wing Authoritarianism on Change in Anger by Video Condition

Note: Coefficients unstandardized; * indicates significant effects.

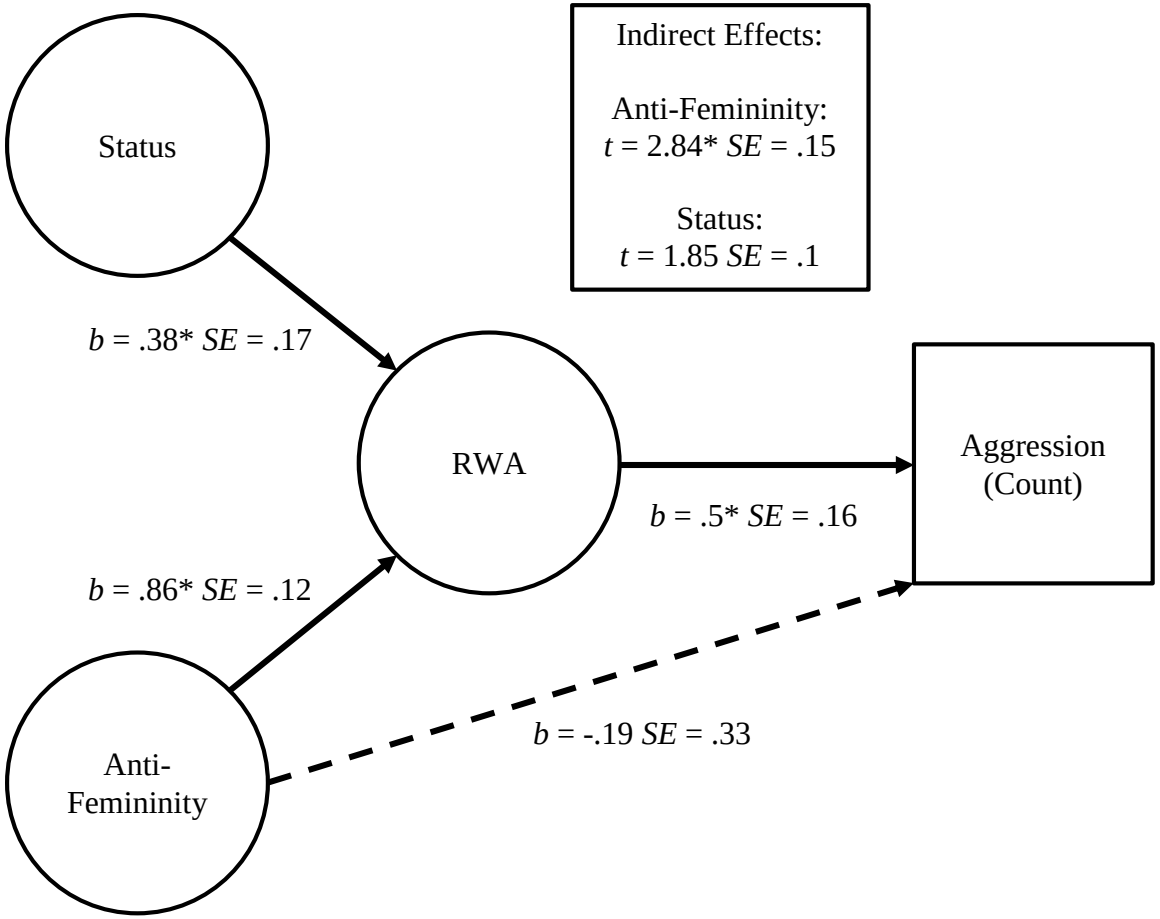

Figure 15. Observed Model 3 –Anti-Femininity and Status on Anti-Gay Aggression Mediated by Right-Wing Authoritarianism

Note: Coefficients unstandardized; * indicates significant effects; dashed line indicates non-significant effect; model includes participants in gay male target condition (n = 501).

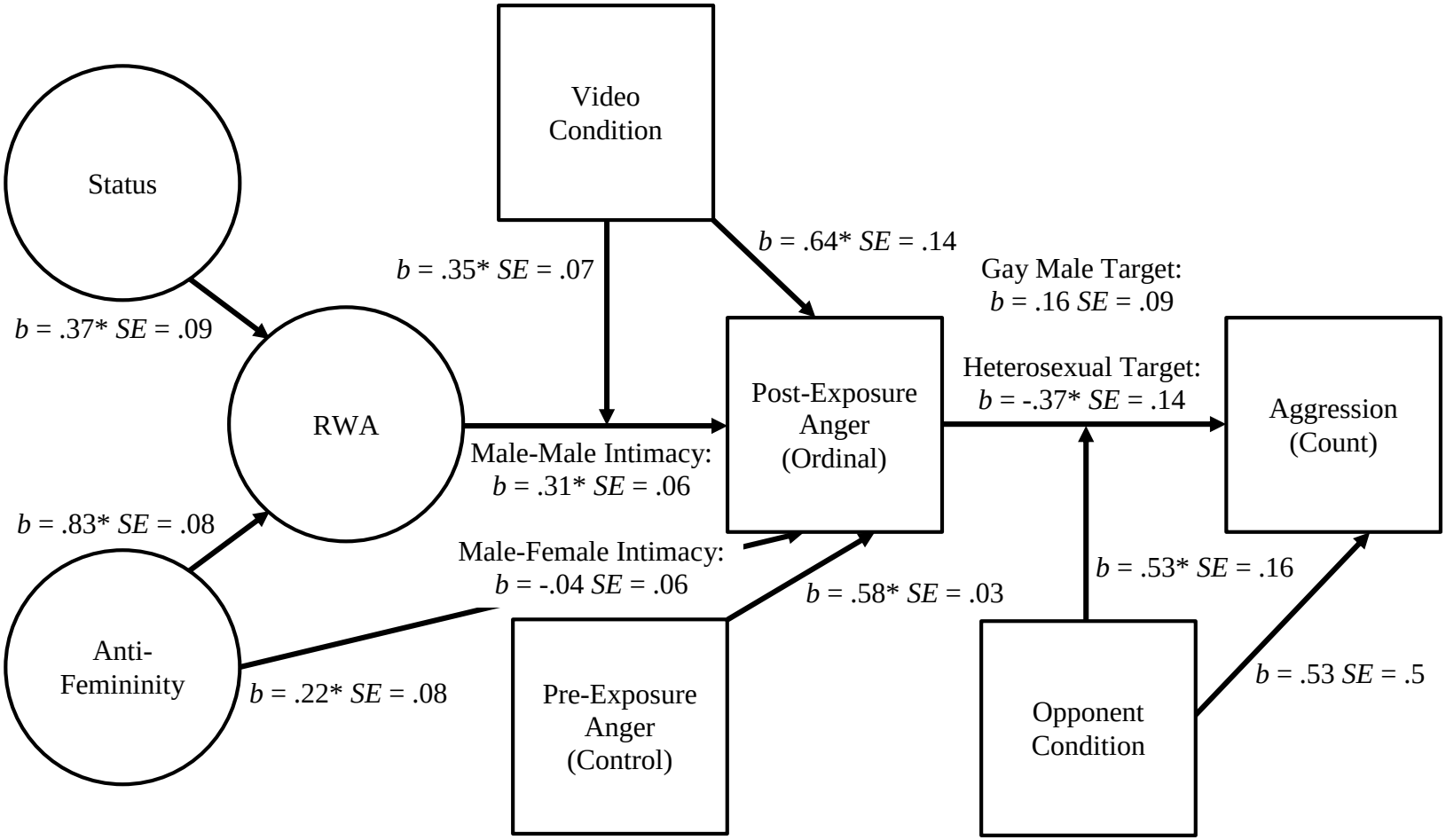

Figure 16. Observed Model 4 – The Effect of Anti-Femininity, Status, and Right-Wing Authoritarianism on Aggression Moderated by Target Condition via Change in Anger Moderated by Video Condition

4 DISCUSSION

The present study tested the hypotheses that 1) right-wing authoritarian and traditionally masculine men, specifically those who subscribe to the status and anti-femininity norm of traditional masculinity, respond to depictions of male-male intimacy with increased anger relative to non-authoritarian and non-traditional men, 2) the anger resulting from traditionally masculine and right-wing authoritarian men's exposure to male-male intimacy predicts increased aggression towards a homosexual target, but not toward a heterosexual one, and 3) perceived anonymity moderates the effect of anger on aggression for traditionally masculine and right-wing authoritarian men. These hypotheses, derived from gender-role enforcement theory and conceptualized using the meta-theoretical I^3 framework, were generally supported by the data.

4.1 Gender-Role Enforcement

The importance of anger has previously been demonstrated for numerous theoretical explanations of anti-gay aggression, including gender-role enforcement (Parrott et al., 2008; Parrott & Peterson, 2008; Parrott, 2009). However, the present study represents the first experimental research to establish the role of right-wing authoritarianism, anonymity, anger, and anti-gay aggression in the theoretical framework of gender-role enforcement. Furthermore, the experimental nature of this study, which directly manipulated video exposure condition, reduced the threat of potential confounds that would be present in other designs. Importantly, the present study is also the first to demonstrate the effect of masculinity and authoritarianism on anti-gay aggression using an observed aggression outcome, thereby eliminating the potential threat of self-report

bias that would result from retrospective reports or assessment of behavioral intentions in response to hypothetical scenarios.

The hypothesis that right-wing authoritarian, status oriented, and anti-feminine men would express more aggression toward a gay male opponent than toward a heterosexual opponent, compared to men lower in authoritarianism, status orientation, and anti-feminine masculinity, was supported by the results. Furthermore, the hypothesis that this effect would be mediated by anger was also supported. These results provide compelling support for gender-role enforcement theory, and confirm the structure predicted by i^3 theory, as they show that a gay male target vs a heterosexual male target (an instigating factor) will cause traditionally masculine men (an impelling factor) to express greater aggression (Herek, 2007; Parrott, 2009; Thompson & Pleck, 1986). Importantly, these results also extend gender-role enforcement theory by establishing right-wing authoritarianism and anger as mechanisms that explain the relationship between traditional masculinity and anti-gay aggression in gender-role enforcement.

4.2 **Anger**

A core finding of the present study is that anger is a mechanism that leads from gender-role ideology to anti-gay aggression. This is consistent with previous research linking rigid adherence to traditional masculine norms to anger and aggression against gay men (Franklin, 2000; Parrott & Zeichner, 2008; Whitley, 2001). This finding is also consistent with experimental research suggesting that anti-femininity predicts anger and aggression toward gay men (Parrott, 2009). Gender role enforcement theory posits that traditionally-masculine men experience gay male intimacy as a threat to their masculine self-concept, and they relieve this threat by using aggression to make clear distinctions

between male and female gender-roles (Franklin, 2000; Herek, 1986, 1988; Kite & Whitley, 1998). The finding that exposure to male-male intimacy predicts anger and anti-gay aggression is consistent with this explanation.

4.3 Traditional Masculinity

Masculinity has received a great deal of attention in its effects on anti-gay aggression. The effect of anti-femininity, principally, has been consistently demonstrated to be a strong predictor of anti-gay attitudes and aggression (Parrott et al., 2008; Parrott, 2008, 2009; Vincent, Parrott, & Peterson, 2011). However, both the present study and prior research (Goodnight et al., 2013) have demonstrated the relevance of right-wing authoritarianism as a mechanism leading from masculinity to anger and aggression. This indicates that masculinity, by itself, may not provide a complete picture of gender-role enforcement theory. The effect of right-wing authoritarianism on anti-gay aggression appears to be even stronger than that of anti-femininity, both in separate and unified statistical models, implying that right-wing authoritarianism may be at least as important as traditional masculine norms.

4.4 Right-Wing Authoritarianism

Potentially the most important finding of the present study is the importance of the role of right-wing authoritarianism in gender-role enforcement. This finding is consistent with prior research linking right-wing authoritarianism to anti-gay attitudes (Whitley & Lee, 2000) and aggression (Goodnight et al., 2013). Researchers have posited factors such as masculine gender-role stress as a potential link between masculine norms and anti-gay aggression (Parrott, 2008, 2009), but the present study demonstrates for the

first time the role of right-wing authoritarianism as a mediator of the relationship between traditional masculinity and anti-gay anger.

Traditionally-masculine men respond to violations of their accepted male role norms with increased anger, and the results of the current study show that they will express this anger toward a gay man that is entirely uninvolved with the norm violation they experienced, but they will not take out their anger on a heterosexual man. Importantly, the significant mediating effect of right-wing authoritarianism may indicate that an authoritarian mindset is the mechanism that results from otherwise innocuous views about appropriate masculine behavior, and becomes something that traditionally masculine men feel compelled to enforce upon others. Gender role enforcement theory posits that traditionally masculine men impose their gender role onto others because they feel uncertain in their masculinity and need to demonstrate it (Franklin, 2000; Parrott, 2009). The present study extends the theory of gender-role enforcement by showing that right-wing authoritarianism, which includes authoritarian aggression as a central tenet (Altemeyer, 1996), is a relevant mechanism in gender-role enforcement.

Right-wing authoritarianism, which involves the idea that personal views should be expressed onto others using aggression, and that violence is an acceptable way to make deviants conform to social norms for the good and safety of society, may be a necessary, or at least a highly relevant, component of gender-role enforcement theory. The present study, which demonstrates right-wing authoritarianism as a mechanism in gender-role enforcement, may provide the explanation for why anti-feminine men feel compelled to enforce their gender role onto others – right-wing authoritarianism marshals and mobilizes traditional masculine norms into aggressive action to enforce those norms.

Traditional masculinity, therefore, may not be dangerous by itself; authoritarianism may be necessary for traditionally masculine ideas to become anti-gay actions.

4.5 Anonymity

The hypothesis that anonymity would impede aggression resulting from anti-gay anger was not supported by the results. There was no support for an effect of anonymity on anti-gay aggression, nor of any moderating effect of anonymity with any other predictor, as predicted by i^3 theory. Although concrete conclusions cannot be drawn from a null effect, two potential explanations for these findings will be considered, including failure of the anonymity manipulation, and a potentially unexpected effect of anonymity on gender-role enforcement theory that should be tested in future research.

4.5.1 Manipulation of Anonymity

Given the extant research linking anonymity to aggression (Anderson & Bushman, 2002; Hirsh et al., 2011; Zimbardo, 1969) this non-significant effect may indicate that the manipulation of anonymity was unsuccessful in the present study. The null effect of anonymity may indicate that online aggressors felt anonymous even when they were told that they were not, meaning that the experimental manipulation did not adequately impact the perception of anonymity for participants. If this is the case, a null effect of anonymity would be expected, and could potentially be explained by the theory of toxic online disinhibition (Suler, 2004).

The toxic online disinhibition effect predicts that hostile and anti-social behavior that occurs very rarely in-person may occur regularly online due to Internet users tending to perceive themselves as being anonymous, invisible, and invincible (Lapidot-Lefler & Barak, 2012; Suler, 2004).If this were the case, the present study would be unable to

demonstrate a true effect of the perception of anonymity because even telling participants that they are not anonymous does not decrease the feeling of anonymity they get by sitting in front of a screen. Unfortunately, although the manipulation may not have produced an effect of real-world anonymity, it may demonstrate that the overall study produced a realistic portrayal of online behavior, including strong disinhibition, which is an important area for future research.

4.5.2 Anonymity and Gender-Role Enforcement

Alternatively, the marginal direct effect of anonymity may imply that anonymity is not a relevant predictor for anti-gay aggression, at least in an online setting. Although anonymity impedes some forms of aggression (Hirsh et al., 2011) it may not influence gender-role enforcement because gender-role enforcement is a unique form of aggression that publicly enforces a social norm. Masculinity, and especially hegemonic and traditional masculinity, are often described by researchers as a type of performance that is expressed to an audience of one's peers (Dalley-Trim, 2007; Kimmel, 2004). Anti-gay aggression is theorized to help bolster this performance, as it can be used to demonstrate masculinity (Franklin, 2000; Herek, 1986). If this is the case, it is reasonable that a decrease in anonymity would not inhibit aggression, as predicted.

Furthermore, the specific form of masculinity tested in the present study, one mediated by right-wing authoritarianism, is unlikely to be a private form of masculinity. Right-wing authoritarians not only find it acceptable to express disapproval towards perceived social deviants; they consider it to be a moral imperative (Altemeyer, 1996, 2006). Right-wing authoritarians see society as being in a state of moral decay, and they see the deterioration of their culture as a looming and dangerous existential threat

(Altemeyer, 2006). However, they believe that if like-minded people respond to this deterioration appropriately, with rage and violence, that the decline can be stopped and the world will be safer and more secure. The null effect of anonymity found in the present study may therefore reflect this right-wing authoritarian mindset – authoritarians feel compelled to express open condemnation of people they perceive as being socially deviant, thus level on anonymity has little impact. This potential interpretation should be tested in future research.

4.6 Experimental Paradigm

Importantly, the present study is the first to demonstrate the effect of traditional masculinity and right-wing authoritarianism on anti-gay aggression using an observational outcome for aggression, as opposed to retrospective self-reports of past actions. Observational outcomes benefit from the decreased likelihood that participants will "fake good" or skew results by entering false information. Although it may seem counter-intuitive, it is theoretically plausible that authoritarian and traditionally masculine men may "fake good" by inflating their self-reports of past aggression toward gay men, as this conforms to their authoritarian worldview that people should aggress against deviants, and may confirm their self-image as masculine. Conversely, participants who scored very low on authoritarianism or traditional masculinity may regret past anti-gay actions, and may fake good by downplaying them and under-reporting. The use of an observational outcome in the present study makes response bias less of a concern.

The novel aggression measure piloted for the first time in the present study was validated by comparison with widely-used and accepted measures for constructs that are theoretically and empirically linked to anti-gay aggression (Parrott et al., 2011; Parrott,

2008). The measure demonstrated the ability to distinguish between people high and low in right-wing authoritarianism, status orientation, and anti-femininity, thereby justifying construct validity and indicating that it was appropriate for use. Often users feel anonymous even when they are using networks where they can be identified, partly due to ignorance of their lack of anonymity or just the feeling of safety that comes from sitting behind a screen at home.

4.7 Limitations and Future Directions

4.7.1 Measurement

Although the aggression paradigm used in the present study appeared to demonstrate adequate validity, its utility was ultimately limited by its low variability caused by a preponderance of zeroes. However, this could be improved in future studies by providing a wider range of image options to participants. In the present study, participants were presented with seven images from the very positive affect range, and three images from the very negative range. To improve the variability of results, images from the somewhat positive, neutral, and somewhat negative range should also be included. However, although these images provoke affect in the stated range, it may not be adequately clear to participants from the images alone that their opponent will enjoy/not enjoy the video. To accentuate this distinction and clarify the degree of enjoyment their opponent will likely get from the associated video, a numeric rating system (1-5 stars) should be provided that ostensibly shows how other users have rated the enjoyment of the video. This will clarify that, if users are selecting a video with a slightly negative image and a two-star rating, their opponent will clearly enjoy that video less than a video with a five-star rating and an image associated with highly positive

affect. Alternatively, the target for aggression could specifically state the kind of content that they don't want to see (e.g. please no blood/gore).

Similar to the aggression paradigm, the usefulness of the PANAS-X for some of the planned statistical tests was impacted by its observed extreme positive skew. The skewness of the measure may be due to participants tending to report more positive feelings and fewer negative feelings, which constitutes a form of response bias. Future research should use observational or physiological measures of anger when possible to avoid potential response bias, and should use measures of anger (self-report or otherwise) that do not suffer from the same floor effects as the PANAS-X. The use of physiological measures of anger or disgust, such as facial expression coding techniques (FACS; Ekman & Friesen, 1977) could potentially be used in future research to reduce this threat. If future studies are conducted online, the use of automated facial coding systems are quickly approaching parity with human coders (Lewinski, den Uyl, & Butler, 2014).

The cross-sectional nature of some of the data also limit the potential interpretation of the results. Some structural paths estimated in the SEM analyses, such as the effect of anti-femininity on right-wing authoritarianism, imply directionality, but because the data are cross-sectional temporal precedence cannot be established and claims of causality cannot be empirically demonstrated. Although both RWA and anti-femininity are subject variables, future research should utilize experimental designs that prime specific personality traits to test the causal effects of either variable (Petrocelli, Martin, & Li, 2010). Although the present study was able to experimentally demonstrate the causal effect of video condition and opponent sexuality, the causal nature of authoritarianism would need to be demonstrated using an alternative design that could

demonstrate the temporal precedence of effects. Future research should attempt longitudinal studies or studies that prime authoritarian personality to better evaluate the causal effect of authoritarianism on the dimensions of traditional masculine norms, sexual prejudice, anger, and aggression.

The experimental manipulation of the anonymity condition may have been ineffective for eliciting the intended response. It is possible that participants in both conditions felt anonymous due to the online nature of the study, or participants in the non-anonymous condition may have not believed that their work would be reviewed or that they would be adversely impacted if it were. The results could also indicate that anonymity does not impact anti-gay aggression in an online setting, but this cannot be concluded with certainty because no manipulation check was included in the present study. Future research is needed to evaluate whether anonymity in online contexts behaves similarly to anonymity in other settings, and only once anonymity in online settings is well understood can an online anonymity manipulation be developed for use in online research.

The control video depicting male-female intimacy may also have resulted in a reduction anger for right-wing authoritarians (See Figure 12). This is likely due to the control video depicting a heterosexual couple engaged in traditional courtship behavior, culminating in a traditional marriage, which fits closely with the traditional values of RWAs (Altemeyer, 1996, 2006). Although this finding indicates that the video may not have effectively served as a neutral control, the results still support the hypothesis that right-wing authoritarian men respond to videos of male-male intimacy with significantly

more anger than similar videos of male-female intimacy, thereby supporting gender-role enforcement theory.

4.7.2 Sample

Although the present sample was quite large, the number of participants that had to be removed due to duplicate IP addresses resulted in a dataset that was smaller than anticipated. Although this provided adequate power for the initial models (1-4), the model required for the final analysis (model 5) was quite complex, necessitating the estimation of three latent variables, a latent interaction, and twelve structural paths with both a categorical and a count outcome. The effect of anonymity in the final model, although it was statistically non-significant, cannot be concluded to be non-existent as the present study, and any study, cannot demonstrate a null hypothesis. Given the degree of support for the effect of anonymity on aggression in the research literature, the complexity of the final model, and the smaller than expected sample size, the null effect of anonymity cannot be concluded to represent the actual absence of such an effect. Future research should evaluate the effect of anonymity on gender-role enforcement either in a larger sample or using a less complex model to determine whether and how anonymity impacts aggression resulting from gender-role enforcement.

The present sample was demographically diverse relative to typical undergraduate sample. However, some groups were over and underrepresented given their relative size in the U.S. population. Furthermore, the effects of masculinity, authoritarianism, and traditionalism may be influenced by and expressed differently across cultures. The moderating effect of ethnicity, used as a proxy for cultural differences within the U.S., should therefore be considered in future research using the present sample, and non-U.S.

samples should be considered to determine whether the effects demonstrated in the present study are consistent across cultures and in other countries. Moderating effects of income level and educational achievement could also be considered to look at differences of the expression of masculinity by socio-economic status.

4.8 Implications for Violence Prevention

The use of an experimental design provides confidence in the causal effects of each of the manipulated variables, and the use of an observational outcome indicates, compared to research with a self-reported outcome, strong ecological validity. These results provide compelling evidence for gender role enforcement theory, and illustrate important mechanisms, such as authoritarianism and anger, that are deserving of attention in future research and should be a focus of intervention efforts aimed at curbing anti-gay aggression. Understanding the mechanisms that predict anti-gay aggression provides useful information that can be utilized in the creation of anti-violence interventions. These interventions, if they can lead to a decrease in anti-gay aggression, can reduce the number of injuries, hospitalizations, and deaths that result from anti-gay violence in the U.S. every year. Knowing that right-wing authoritarianism is relevant to the phenomenon provides important insight - although authoritarianism itself has not been demonstrated to be movable or changeable, it's known correlates may provide some idea of how it can be influenced or avoided.

4.8.1 Right-Wing Authoritarianism

Numerous studies have demonstrated a relationship between authoritarianism and fear, and especially fear of a dangerous world (Altemeyer, 2006). Authoritarians tend to find the unknown, such as other cultures, ethnicities, and ways of thinking, to be highly

fear-inducing. Fortunately, compared to other psychological issues, phobias have a relatively high success rate for treatment using exposure therapy (Powers & Emmelkamp, 2008; Taylor, 1996). Exposure therapy is based on behaviorist principles, which state that being exposed to fear-inducing stimuli in a safe context will cause fear to dissipate over time. A stimulus that elicits fear initially can, through repeated exposure in a safe environment, be conditioned to not result in a fear response.

Even a mild reduction in fear, and not its complete eradication, can have enormous results regarding quality of life (Telch, Schmidt, Jaimez, Jacquin, & Harrington, 1995). The same may be true for anti-gay attitudes and aggression. If right-wing authoritarianism is a central component of gender-role enforcement, and right-wing authoritarianism is based on fear, then a reduction in fear may lead to less aggression. This, in essence, is the contact hypothesis (Allport, 1979), which proposes that positive inter-group contact will allow for negative feelings toward other groups, which are primarily caused by the fear of the unknown, to be conditioned away through continual exposure in a safe environment.

4.8.2 Traditional Masculinity

The present study again demonstrated the importance of the traditional masculine gender role to anti-gay anger and aggression. This also implies a potential point for intervention, as traditional norms reflect one particular form of masculinity that is learned and therefore can potentially be unlearned. Ideas about appropriate masculine behavior are not always taught directly, in a classroom setting, but are often conveyed indirectly through media and role-models. One potential way to combat anti-gay aggression resulting from masculine norms, therefore, could be to promote the visibility of

alternative norms other than traditional norms. The ideas that men must avoid feminine behaviors and have high status are powerful and currently quite prevalent in the culture of the U.S., but the growth and visibility of alternative forms of masculinity, or even the concept of multiple masculinities indicating there isn't just one way to be masculine, may help reduce anti-gay aggression long-term.

4.8.3 Aggression Paradigm

Lastly, the present study piloted a novel aggression outcome, which allowed for an experimental study using an observational aggression outcome to be performed entirely online. Although online research has some limitations, it allows researchers to collect large datasets efficiently and using fewer resources than alternative methods. These strengths may outweigh the limitations in many cases. Online samples may also provide datasets that are more diverse and of higher quality than convenience samples of undergraduate students.

4.9 Conclusion

Anti-gay aggression is a widespread and devastating social problem, but through a deeper understanding of the mechanisms that lead to anti-gay violence we may find insight into how violence against gay men might be stopped. Overall, the present study affirmed what had been demonstrated in prior research: traditionally-masculine men enforce their gender role on gay men through aggression (Parrott, 2009). However, it also extended past research by demonstrating the roles of anger and authoritarianism as mechanisms that lead from traditional masculinity to aggression. The findings of the present study, and in particular the roles of right-wing authoritarianism and anger as

mechanisms that lead from masculinity to aggression, provide important insight that may offer potential points for intervention to help curb future aggression against gay men.

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APPENDIX: MEASURES

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

RWA

This survey is part of an investigation of general public opinion concerning a variety of social issues. You will probably find that you *agree* with some of the statements, and *disagree* with others, to varying extents. Please indicate your reaction to each of the statements by choosing a number according to the following scale"

-4 if you *very strongly disagree* with the statement
-3 if you *strongly disagree* with the statement
-2 if you *moderately disagree* with the statement
-1 if you *slightly disagree* with the statement

+1 if you *slightly agree* with the statement
+2 if you *moderately agree* with the statement
+3 if you *strongly agree* with the statement
+4 if you *very strongly agree* with the statement

If you feel exactly and precisely *neutral* about a statement, choose the number 0

You may find that you sometimes have different reactions to different parts of a statement. For example, you might very strongly disagree ("-4") with one idea in a statement, but slightly agree ("+1") with another idea in the same item. When this happens, please combine your reactions, and write down how you feel "on balance" (that is, a "-3" in this example).

1. ____ Our country desperately needs a mighty leader who will do what has to be done to destroy the radical new ways and sinfulness that are ruining us.

2. ____ Gays and lesbians are just as healthy and moral as anybody else.

3. ____ It is always better to trust the judgment of the proper authorities in government and religion than to listen to the noisy rabble rousers in our society who are trying to create doubt in people's minds.

4. ____ Atheists and others who have rebelled against the established religions are no doubt every bit as good and virtuous as those who attend church regularly.

5. ____ The only way our country can get through the crisis ahead is to get back to our traditional values, put some tough leaders in power, and silence the troublemakers spreading bad ideas.

6. ____ There is absolutely nothing wrong with nudist camps.

7. ____ Our country needs free thinkers who will have the courage to defy traditional ways, even if this upsets many people.

8. ____ Our country will be destroyed someday if we do not smash the perversions eating away at our moral fiber and traditional beliefs.

9. ____ Everyone should have their own life-style, religious beliefs, and sexual preferences, even if it makes them different from everyone else.

10. ____ The "old-fashioned ways" and "old-fashioned values" still show the best way to life.

11. ____ You have to admire those you challenged the law and the majority's view by protesting for abortion rights, for animal rights, or to abolish school prayer.

12. ____ What our country really needs is a strong, determined leader who will crush evil, and take us back to our true path.

13. ____ Some of the best people in our country are those who are challenging our government, criticizing religion, and ignoring the "normal way things are supposed to be done."

14. ____ God's laws about abortion, pornography, and marriage must be strictly followed before it is too late, and those who break them must be strongly punished.

15. ____ There are many radical, immoral people in our country today, who are trying to ruin it for their own godless purposes, whom the authorities should put out of action.

16. ____ A "woman's place" should be wherever she wants to be. The days when women are submissive to their husbands and social conventions belong strictly in the past.

17. ____ Our country will be great if we honor the ways of our forefathers, do what the authorities tell us to do, and get rid of the "rotten apples" who are ruining everything.

18. ____ There is no "ONE right way" to live life; everybody has to create their own way.

19. ____ Homosexuals and feminists should be praised for being brave enough to defy "traditional family values."

20. ____ This country would work a lot better if certain groups of troublemakers would just shut up and accept their group's traditional place in society.

21. ____ It would be best for everyone if the proper authorities censored magazines so that people could not get their hands on trashy and disgusting material.

22. ____ There is nothing wrong with premarital sexual intercourse.

23. ____ People should pay less attention to the Bible and the other old forms of religion, and instead develop their own personal standards of what is moral and immoral.

24. ____ What our country needs most is discipline, with everyone following our leaders in unity.

25. ____ A lot of our rules regarding modesty and sexual behavior are just customs that are not necessarily any better or holier than those which other people follow.

26. ____ The facts on crime, sexual immorality, and the recent public disorders all show we have to crack down harder on deviant groups and troublemakers if we are going to save our moral standards and preserve law and order.

27. ____ It's better to have trashy magazines and radical pamphlets in out communities than to let the government have the power to censor them.

28. ____ The situation in our country is getting so serious, the strongest methods would be justified if they eliminated the troublemakers and got us back on our true path.

29. ____ It is wonderful that young people today have greater freedom to protest against things they don't like, and to make their own "rules" to govern their behavior.

30. ____ Once the government leaders give us the "go-ahead," it will be the duty of every patriotic citizen to help stomp out the rot that is poisoning our country from within.

PANAS-X

This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word.

Indicate to what extent you feel this way at the present moment. Use the following scale to record your answers:

1 2 3 4 5

very slightly or not at all | a little | moderately | quite a bit | extremely

_____ cheerful	_____ sad	_____ active	_____ angry at self
_____ disgusted	_____ calm	_____ guilty	_____ enthusiastic
_____ attentive	_____ afraid	_____ joyful	_____ downhearted
_____ bashful	_____ tired	_____ nervous	_____ sheepish
_____ sluggish	_____ amazed	_____ lonely	_____ distressed
_____ daring	_____ shaky	_____ sleepy	_____ blameworthy
_____ surprised	_____ happy	_____ excited	_____ determined
_____ strong	_____ timid	_____ hostile	_____ frightened
_____ scornful	_____ alone	_____ proud	_____ astonished
_____ relaxed	_____ alert	_____ jittery	_____ interested
_____ irritable	_____ upset	_____ lively	_____ loathing
_____ delighted	_____ angry	_____ ashamed	_____ confident
_____ inspired	_____ bold	_____ at ease	_____ energetic
_____ fearless	_____ blue	_____ scared	_____ concentrating
_____ shy	_____ drowsy	_____ disgusted with self	_____ dissatisfied with self

RPQ

There are times when most of us feel angry, or have done things we should not have done. Rate each of the items below by putting a circle around 0 (never), 1 (sometimes), or 2 (often). Do not spend a lot of time thinking about the items—just give your first response. Make sure you answer all the items (see below).

How often have you…	0 (never)	1 (sometimes)	2 (often)
1. Yelled at others when they have annoyed you	0	1	2
2. Had fights with others to show who was on top	0	1	2
3. Reacted angrily when provoked by others	0	1	2
4. Taken things from other students	0	1	2
5. Gotten angry when frustrated	0	1	2
6. Vandalized something for fun	0	1	2
7. Had temper tantrums	0	1	2
8. Damaged things because you felt mad	0	1	2
9. Had a gang fight to be cool	0	1	2
10. Hurt others to win a game	0	1	2
11. Become angry or mad when you don’t get your way	0	1	2
12. Used physical force to get others to do what you want	0	1	2
13. Gotten angry or mad when you lost a game	0	1	2
14. Gotten angry when others threatened you	0	1	2
15. Used force to obtain money or things from others	0	1	2
16. Felt better after hitting or yelling at someone	0	1	2
17. Threatened and bullied someone	0	1	2
18. Made obscene phone calls for fun	0	1	2
19. Hit others to defend yourself	0	1	2
20. Gotten others to gang up on someone else	0	1	2
21. Carried a weapon to use in a fight	0	1	2

22. Gotten angry or mad or hit others when teased	0	1	2
23. Yelled at others so they would do things for you	0	1	2