

Prejudicial Attitudes toward Homosexuals: The Competing Roles of Moral Reasoning and the Moral Emotion of Disgust

John Anthony Terrizzi Jr.

Huntingdon, Pennsylvania

B.S. Juniata College 2004

A Thesis presented to the Graduate Faculty
of the College of William and Mary in Candidacy for the Degree of
Master of Arts

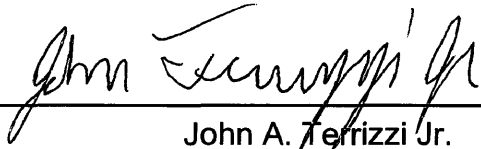
Department of Psychology

The College of William and Mary
August 2007

APPROVAL PAGE

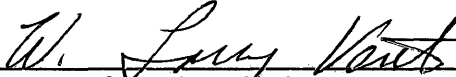
This Thesis is submitted in partial fulfillment of
the requirements for the degree of

Master of Arts



John A. Ferrizzi Jr.

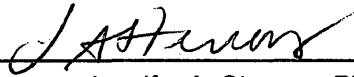
Approved by the Committee, June 2007



Committee Chair
W. Larry Ventis, PhD



Todd M. Thrash, PhD



Jennifer A. Stevens, PhD

ABSTRACT PAGE

Researchers are currently debating whether moral judgments are caused by moral reasoning or moral intuitions. The purpose of the current research was to determine whether moral reasoning and the moral emotion of disgust were predictive of prejudicial attitudes toward homosexuals. Participants in study 1 were 146 (68% females) students from the College of William and Mary ranging in age from 18 to 46 years of age. Measures included the Defining Issues Test, the Disgust Sensitivity Scale, the Right-Wing Authoritarianism Scale, the Religious Fundamentalism Scale, the Balanced Inventory for Desirable Responding, the Attitudes toward Gay Men and Lesbians Scale, and a measure of political conservatism. The results indicated that moral reasoning was negatively related to prejudicial attitudes toward homosexuals and disgust sensitivity was positively related to prejudicial attitudes toward homosexuals. There was an interaction between moral reasoning and disgust sensitivity such that individuals who were high in moral reasoning and disgust sensitivity exhibited comparable levels of prejudice as those who were low in moral reasoning. However, for participants high in moral reasoning and low in disgust sensitivity, they were lower on homosexual prejudice than any other group. Participants in study 2 were 103 (60% females) students from the College of William and Mary. Participants read either a disgusting or neutral scenario and wrote about their physical and emotional reactions. Measures included the short version of the Disgust Sensitivity Scale, the Right-Wing Authoritarianism Scale, the Attitudes toward Gay Men and Lesbians Scale, and a measure of political conservatism. The results from study 2 showed that for high authoritarians, inducing disgust resulted in increased prejudicial attitudes toward contact with homosexuals and for low authoritarians, it led to a decrease in prejudice toward homosexuals.

TABLE OF CONTENTS

	Page
Dedication Page	ii
Acknowledgements	iii
List of Tables	iv
List of Figures	v
Introduction	1
Methods for Study 1	6
Results for Study 1	9
Discussion for Study 1	14
Methods for Study 2	15
Results for Study 2	18
Discussion	20
Appendix A	37
Appendix B	38
Appendix C	39
Appendix D	40
Appendix E	42
References	45
Vita	49

To my wife and dogs for all of their love

ACKNOWLEDGEMENTS

The writer would like to thank his thesis advisor, Professor Larry Ventis, for all of his help, support, and invaluable insights. The author would also like to thank Professor Todd Thrash for his statistical advice and constructive criticism. Lastly, the writer would like to thank Professor Jennifer Stevens for her advice and suggestions.

LIST OF TABLES

Table	Page
1. Correlations for Disgust Sensitivity and Moral Reasoning with Political Items for Study 1	26
2. Means, Standard Deviations, and Cronbach's Alphas for All Measures in Study 1	27
3. Zero-Order Correlations for All Measures in Study 1	28
4. Means, Standard Deviations, and Cronbach's Alphas for All Measures in Study 2	29
5. Zero-Order Correlations for All Measures in Study 2	30
6. Correlations for Disgust Sensitivity with Political Issues for Study 2	31

LISTS OF FIGURES

Figure	Page
1. Moral Development by Disgust Sensitivity Interaction for Prejudicial Attitudes toward Contact with Homosexuals for Study 1	32
2. Moral Development by Disgust Sensitivity Interaction for Stereotypical Attitudes toward Homosexuals for Study 1	33
3. Sex by Disgust Sensitivity Interaction for Prejudicial Attitudes toward Homosexuals in Study 1	34
4. Condition by Right-Wing Authoritarianism Interaction for Prejudicial Attitudes toward Homosexuals for Study 2	35
5. Condition by Right-Wing Authoritarianism Interaction for Prejudicial Attitudes toward Contact with Homosexuals for Study 2	36

Prejudicial Attitudes toward Homosexuals: The Competing Roles of Moral Reasoning and the Moral Emotion of Disgust

Researchers are currently debating the underlying processes involved in the formation of moral judgments (Hauser, 2006; Haidt, 2001). Some researchers suggest that moral judgments are the result of reasoning and reflection (Kohlberg, 1976; Piaget, 1965; Rest, 1999), whereas others believe they are caused by automatic intuitions (Haidt, 2001). Traditionally, psychologists have followed the rationalist model, which assumes that moral judgments are formed through a conscious and rational process of moral reasoning (Kohlberg, 1976). The rationalist perspective suggests that the ability to form moral judgments follows a distinct developmental trajectory. According to this perspective, individuals progress from basing their moral judgments on self-focused issues early in development to using broader ethical principals that acknowledge others in later development (Thoma, 2006)

More specifically, Kohlberg's (1976) model of moralization suggests that there are 6 stages of moral development. The first two stages of moral development are the pre-conventional stages. Individuals in the pre-conventional stages base their moral judgments on selfish motivations. They are primarily interested in avoiding punishment and serving their own needs and interests. Children 9 years of age or younger, some adolescents, and many criminal offenders operate in stages 1 and 2. Stages 3 and 4 are the conventional stages of moral development. Individuals in the conventional stages are primarily concerned with meeting the expectations of significant others in stage 3, or obeying authority in stage 4. Most adolescents and adults operate in one of these two stages. Stages 5 and 6 are the post-conventional stages. In these stages, moral judgments

are based on concern for the well-being of all people and universal ethical principles. Kohlberg indicates that only about 25% of people ever make it to the fifth stage of moral development and even fewer make it to stage 6.

Moral reasoning is typically measured using Kohlberg's Moral Judgment Interview or Rest's Defining Issues Test. These measures work by presenting individuals with a series of moral dilemmas and assessing the principles that they use to solve the dilemmas. Low levels of moral reasoning as measured by the Defining Issues Test are related to delinquency (Raaijmakers, Engels, & Van Hoof, 2005), negative attitudes toward women and, significantly for the present study, homophobia (Barrett, 1996). High levels of moral reasoning are related to education such that more education leads to higher stages of moral reasoning (Proios & Doganis, 2006).

In contrast with the rationalist perspective, more recent evidence suggests that moral judgments may result from quick, automatic flashes of emotion (Haidt, 2001). The intuitionist perspective assumes that moral reasoning serves as a post hoc rationalization to justify moral judgments rather than as a cause. With their "moral dumbfounding" research, Haidt and colleagues (2001) found evidence to support the moral intuitionist approach. When participants were asked to imagine a scenario in which a brother and sister have a sexual encounter, participants invariably label the behavior as morally wrong. However, they have a difficult time explaining why they find it immoral. Participants often cite the danger of inbreeding and the emotional damage that could be caused by the sexual encounter. When the researcher reminds them that the brother and sister used two forms of protection and neither of them was emotionally affected by the

encounter, the participants respond by saying something like “I don’t know, I can’t explain it. I just know it is wrong.”

In the *Handbook of Affective Sciences*, Haidt (2003) provides an overview of all of the emotions that can affect our moral reasoning. These emotions include disgust, shame, embarrassment, anger, guilt, empathy, and others. These emotions are generally referred to as moral emotions. The present research will focus specifically on the moral emotion of disgust. In his book, *The Expression of the Emotions in Man and Animals*, Darwin (1872) referred to disgust as “something revolting, primarily in relation to the sense of taste, as actually perceived or vividly imagined” (p. 253). Rozin, Haidt, and McCauley (2000) believed that the definition of disgust can be broadened to include moral offenses. In support of this hypothesis, Rozin, Markwith, and Stoess (1997) found that vegetarians who abstain from eating meat based on moral principles are more disgusted by meat than those who abstain from eating meat for health purposes.

Haidt, McCauley, and Rozin (1994) developed a scale to measure individual differences in disgust sensitivity. Since the development of the scale, disgust sensitivity has been found to be correlated with fear of contamination (Cisler, Reardon, Williams, & Lohr, 2007), blood phobia (Schienle, Schäfer, Walter, Stark, & Vaitl, 2005), and religious obsessions (Olatunji, Tolin, Huppert, & Lohr, 2005).

The purpose of the present research is to study the relationships between moral reasoning and the moral emotion of disgust with prejudicial attitudes toward homosexuals. Homosexuality is an emotionally debated moral issue in the U.S. In the 2006 election, an anti-same-sex marriage amendment was voted on in 7 states. Only one of these seven states, Arizona, failed to pass the amendment. Prejudicial attitudes toward

homosexuals have been strongly associated with right-wing authoritarianism and religious fundamentalism (Laythe, Finkel, & Kirkpatrick, 2001).

Haidt and Hersh (2001) showed that when conservatives and liberals were interviewed about homosexual acts and incest, they differed in their emotional responses. Conservatives exhibited a broader moral domain invoking ethics of community, divinity, and autonomy but they were more likely to condemn homosexuality. Liberals exhibited a narrower moral domain and based their judgments largely on the ethic of autonomy. Additionally, the moral judgments for both groups were best predicted by their emotional responses rather than the perception of the harmfulness of the acts.

The primary purpose of the current research was to determine whether moral reasoning and the moral emotion of disgust were predictive of prejudicial attitudes toward homosexuals. More specifically, it was hypothesized that moral reasoning would be negatively correlated with prejudicial attitudes toward homosexuals. In addition, it was expected that disgust sensitivity would be positively correlated with prejudicial attitudes toward homosexuals. Another goal of this study was to examine whether there was an interaction between moral reasoning and disgust in predicting prejudicial attitudes toward homosexuals. No specific hypothesis was made in regard to the nature of the possible interaction.

Haidt and Hersh (2001) suggested that conservatives and liberals differ in their sexual morality. If this is true, at least part of this difference may be accounted for by a difference in disgust sensitivity. It was hypothesized that conservatives would exhibit higher levels of disgust sensitivity. In addition, if there is a difference in the disgust sensitivity of conservatives and liberals, this difference may help to explain differing

opinions on various political issues including homosexual marriage, abortion, euthanasia, immigration, and other issues that could evoke disgust.

One indicator of conservatism is Right-wing authoritarianism. Altemeyer (1988) describes authoritarianism as a combination of submission to authority, aggression toward out-groups, and conventionalism. Right-wing authoritarianism is strongly related to political party affiliation, prejudice toward African Americans (Altemeyer, 1988), and prejudice toward homosexuals (Laythe et al., 2001). In this study, it was expected that authoritarianism would be positively associated with disgust sensitivity. Olatunji and colleagues (2005) found disgust sensitivity to be positively associated with religious obsessions. One of the goals of this study is to extend that finding by examining the relationship between disgust sensitivity and religious fundamentalism. It was expected that religious fundamentalism would be positively associated with disgust sensitivity. Additionally, research indicates that social desirability may influence responding on self-report measures (Paulhus, 1984). A measure of social desirability was included in order to control for this effect.

A second study was conducted to further investigate the relationship between the moral emotion of disgust and prejudicial attitudes toward homosexuals. The primary purpose of the second study was to determine whether inducing disgust could increase prejudicial attitudes toward homosexuals.

Study 1

Method

Participants

The participants were 146 introductory psychology students from the College of William and Mary ranging in age from 18 to 46 years of age ($M = 18.84$, $SD = 2.5$). There were 99 (68%) females and 47 (32%) males. Sixty-two of the participants (43%) were democrats, 35 (24%) were republicans, thirty were independents (21%), and 19 (13%) were other. The participants received course credit for their participation.

Measures and Procedure

The study was divided into two parts. Part one was an online survey and part two was a moral reasoning task. Given the nature of the moral reasoning task and its copyright status, it was not conducted online.

For the first part of the study, participants completed a battery of questionnaires online which took approximately a half hour to complete. The survey included measures of social desirability, right-wing authoritarianism, religious fundamentalism, disgust sensitivity, prejudicial attitudes toward homosexuals, and political conservatism.

Social desirability was measured using the Balanced Inventory of Desirable Responding (BIDR; Palhus, 1984). The BIDR is composed of two 20-item subscales: self-deception and impression management. Responses for the BIDR are given on a scale of 1 to 7, 1 being *not true* and 7 being *very true*. Sample items from the self-deception subscale include: "I never swear" and "I always obey laws even if I'm unlikely to get caught."

Right-wing authoritarianism (RWA) was measured using Altemeyer's (2003) 20-item RWA scale. Responses for the RWA range from 1 to 9, 1 being *strongly disagree* and 9 being *strongly agree*. Sample items include: "Our country will be destroyed someday if we do not smash the perversions eating away at our moral fiber and traditional beliefs" and "There is no "ONE right way" to live life; everybody has to create their own way." (reverse scored). The RWA scale consistently exhibits Cronbach Alphas of .9 or greater (Altemeyer, 1988).

Religious fundamentalism was measured using Altemeyer and Hunsburger's (1992) 12-item fundamentalism scale. Responses on the religious fundamentalism scale range from -4 to 4, -4 being *strongly disagree* and 4 being *strongly agree*. The scale does not contain 0 or a neutral response. Sample items, both reverse scored, include: "No single book of religious teachings contains all the intrinsic, fundamental truths about life" and "It is more important to be a good person than to believe in God and the right religion."

The moral emotion of disgust was measured using Haidt, McCauley, and Rozin's (2002) Disgust Sensitivity Scale. The scale is divided into two parts. Part one asks participants how much they agree with 16 statements that involve disgusting acts. Responses on part one range from 1 to 4, 1 being *strongly disagree* and 4 being *strongly agree*. Sample items from part 1 include: "I might be willing to try eating monkey meat, under some circumstances" and "I would probably not go to my favorite restaurant if I found out the cook had a cold." Part two asks participants to respond to 16 disgusting statements and rate how disgusting they find each statement. Responses on part two range from 1 to 4, 1 being *not disgusting at all* and 4 being *very disgusting*. Sample

items include: “You see maggots on a piece of meat in an outdoor garbage pail” and “You accidentally touch the ashes of someone who has been cremated.” The disgust sensitivity scale consistently exhibits Cronbach Alphas of .83 and greater (Haidt et al., 1994). Disgust sensitivity is negatively correlated with Sensation Seeking and positively related to Neuroticism and the Fear of Death, which provides some evidence for convergent and discriminant validity.

Prejudicial attitudes toward homosexuals were measured using three subscales from Lamar and Kite’s (1998) Attitudes toward Gay Men and Lesbians scale. Responses for the scale range from 1 to 5, 1 being *strongly disagree* and 5 being *strongly agree*. The subscales that were used were the 10-item morality scale, the 14-item contact scale, and the 7-item stereotypes scale. Sample items from the morality scale included: “Gay men (lesbians) endanger the institution of the family” and “Gay men (lesbians) just can’t fit into our society.” Sample items from the contact scale include: “I enjoy the company of gay men (lesbians)” and “I avoid gay men (lesbians) whenever possible.” Sample items from the stereotypes scale include: “Most gay men (lesbians) like to dress in opposite-sex clothing” and “Most gay men (lesbians) have a life of one night stands.” Each of the prejudicial attitudes toward homosexuals subscales have exhibited Cronbach Alphas of .75 or higher (LaMar & Kite, 1998).

Finally, participants were asked to respond to 14-items about various political issues including abortion, immigration, environmental policy, and others. Responses for these items range from 1 to 5, 1 being *absolutely false* and 5 being *absolutely true*. Sample items include: “Abortion should be illegal” and “The government should adopt a stricter immigration policy.” For the complete list of items see Table 1.

For the second part of the study, the participants came into the lab to complete Rest's (2003) Defining Issues Test Version Two (DIT-2). The DIT-2 confronts participants with 5 moral dilemmas. For example, the participants would read the following scenario:

A cancer patient wants a doctor to increase her pain medication. But the doctor is reluctant because he is worried it will hasten her death. The patient understands that her life will be shortened but she wants the medication anyway.

Following each scenario, the participant is asked what should be done. In this case, the participants are asked, "What should the doctor do?" After they solve the dilemma, the participants are presented with a list of 12 issues concerning the scenario and asked to rate the importance of each. In this case, one of the issues is "Shouldn't society protect everyone against being killed?" The score that results from the DIT-2, which is referred to as the N2 score, generally indicates the individual's ability to perspective-take. It takes into account both the extent to which an individual engages in post-conventional reasoning and the degree to which they use personal interest items to solve moral dilemmas. Rest and colleagues (1999) indicate that there are several indications for the validity of the DIT-2. These criteria include: significant education and age differences, prediction of attitudes toward public policies, internal reliability, and correlation with the DIT-1.

Results

Descriptive Statistics

Means, standard deviations, and Cronbach's alpha for all measures are displayed in Table 2. All measures exhibited alphas greater than .70.

Correlations

Zero-order correlations between all measures are reported in Table 3. As predicted, disgust sensitivity was positively related to prejudicial attitudes toward homosexuals ($r = .37, p < .01$). More specifically, disgust sensitivity was also positively related to each of the subscales: morality ($r = .33, p < .01$), contact ($r = .34, p < .01$), and stereotypes ($r = .37, p < .01$). Disgust sensitivity was also positively correlated with right-wing authoritarianism ($r = .49, p < .01$) and religious fundamentalism ($r = .43, p < .01$). Finally, disgust sensitivity was also related to conservative positions on several political issues including homosexual marriage, abortion, and immigration (refer to Table 1 for complete listing of correlations of disgust and political issues).

Moral reasoning was negatively related to right-wing authoritarianism ($r = -.17, p < .05$) and prejudicial attitudes toward homosexuals ($r = -.19, p < .05$). Moral reasoning was not significantly correlated with the morality ($r = -.15, p = .09$) and contact ($r = -.16, p = .07$) subscales of the attitudes toward gay men and homosexuals scale, though these correlations approached significance, but it was significantly correlated with the stereotypes subscale ($r = -.26, p < .01$).

Multiple Regression Analyses

Multiple regression analyses were run for the global measure of prejudice toward homosexuals and the three subscales of the Attitudes toward Gay Men and Lesbian Scale with disgust sensitivity and moral reasoning as predictor variables. All of the multiple regression analyses were conducted following the procedures outlined by Aiken (1991). Interactions were tested by standardizing the two independent variables, moral reasoning and disgust sensitivity, and cross multiplying them, which resulted in the interaction

term. The interaction term was then entered into the equation as an independent variable. The simple slopes were tested by creating two new variables. First, one standard deviation was either added to or subtracted from the *n2score* resulting in a new variable, either high or low moral reasoning. Second, the new variable was multiplied by disgust sensitivity, which resulted in either a high or low moral reasoning by disgust sensitivity interaction term. Each of these two terms was entered into a multiple regression analysis with disgust sensitivity. The resulting *p*-value for disgust sensitivity term is indicative of whether disgust sensitivity is predictive of the dependent variable at high and low values of moral reasoning. The graphs for the interactions were constructed using the regression equation. For low moral reasoning and low disgust sensitivity, one standard deviation below the mean was plugged into the regression equation. For high moral reasoning and high disgust sensitivity, one standard deviation above the mean was plugged into the regression equation.

In the multiple regression analysis for the global measure of prejudice toward homosexuals, disgust sensitivity ($\beta = .34, p < .01$) emerged as a positive predictor and moral reasoning ($\beta = -.25, p < .01$) emerged as a negative predictor. No interaction was found.

For the morality subscale, disgust sensitivity ($\beta = .30, p < .01$) and moral reasoning ($\beta = -.19, p < .05$) both emerged as independent predictors. No interaction was found.

For the contact subscale, disgust sensitivity ($\beta = .32, p < .01$) and moral reasoning ($\beta = -.22, p < .01$) both emerged as independent predictors, and there was an interaction between disgust sensitivity and moral reasoning ($\beta = .17, p < .05$) such that moral

reasoning only had an effect on prejudicial attitudes when individuals were low in disgust and disgust only had an effect on prejudicial attitudes when individuals were high in moral reasoning. In other words, those who were high in disgust sensitivity and high in moral reasoning resembled those who were low in moral reasoning in regard to their prejudicial attitudes. Additionally, those who were low in disgust sensitivity and high on moral reasoning exhibited lower prejudicial attitudes toward contact with homosexuals than the other three combinations. Figure 1 presents a graphical representation of the interaction.

Finally for the stereotypes subscale, disgust sensitivity ($\beta = .34, p < .01$) and moral reasoning ($\beta = -.32, p < .01$) both emerged as independent predictors. However, more importantly there was an interaction between disgust sensitivity and moral reasoning ($\beta = .16, p < .05$) which paralleled that for contact, in the individuals who were high in disgust sensitivity and high in moral reasoning resembled those who were low in moral reasoning, and again those low in disgust sensitivity and high on moral reasoning showed a lower negative stereotype of homosexuals. See Figure 2 for a graphical representation of the interaction.

Political Party Differences

The political parties did not exhibit significant differences in their level of moral reasoning ($t(95) = .9, p > .05$). Republicans ($M = 2.68$) reported significantly higher levels of disgust sensitivity than democrats ($M = 2.47; t(95) = 2.2, p < .05$). Republicans also reported significantly higher scores, reflecting more negative attitudes, on all three subscales of the attitudes toward gay men and lesbians scale. Republicans were more likely to view homosexuality as immoral ($M = 2.8$), more likely to report negative

attitudes toward contact with homosexuals ($M = 2.3$), and more likely to hold stereotypes of homosexuals ($M = 2.8$) than were democrats ($M = 1.7$, $t(95) = 5.2$, $p < .01$; $M = 1.6$, $t(95) = 4.0$, $p < .01$; $M = 2.1$, $t(95) = 4.8$, $p < .01$).

Sex Differences

Women ($M = 43.9$) exhibited higher levels of moral reasoning than men ($M = 36.8$, $t(144) = 2.8$, $p < .01$). Women ($M = 2.6$) reported significantly higher levels of disgust sensitivity than men ($M = 2.3$, $t(144) = 3.6$, $p < .01$). Men ($M = 2.1$) were more likely to report negative attitudes toward contact with homosexuals than women ($M = 1.7$, $t(144) = 2.6$, $p < .01$). Women ($M = -.9$) reported higher scores than men ($M = -1.7$, $t(144) = 2.0$, $p < .05$) on the Religious Fundamentalism Scale.

Multiple regression analyses were performed to test whether there was an interaction between sex with moral reasoning and disgust sensitivity in predicting prejudicial attitudes toward homosexuals. The results indicated that there was no interaction between sex and moral reasoning in predicting attitudes toward homosexuals ($\beta = .13$, $p > .05$). On the other hand, there was an interaction between sex and disgust sensitivity in predicting prejudicial attitudes toward homosexuals. The multiple regression analysis indicates that disgust was more predictive of prejudicial attitudes toward homosexuals for males than it was for females ($\beta = .17$, $p < .05$). See Figure 3 for a graphical representation of the interaction.

Since significant sex differences were found, separate correlational analyses and multiple regression analyses were done for both the male and female samples. Disgust sensitivity was positively correlated with prejudicial attitudes toward gay men and lesbians, RWA, and political conservatism for both males ($r = .58$, $p < .01$; $r = .56$, $p <$

.01; $r = .48, p < .01$) and females ($r = .38, p < .01$; $r = .49, p < .01$; $r = .27, p < .01$).

However, moral reasoning was significantly negatively correlated to prejudicial attitudes toward gay men and lesbians, RWA, and political conservatism for males ($r = -.33, p < .05$; $r = -.37, p < .05$; $r = -.31, p < .05$) but not for females ($r = -.03, p > .05$; $r = -.07, p > .05$; $r = -.08, p > .05$). The sexes did not differ in regard to other correlational analyses.

The separate multiple regression analyses for both males ($\beta = .57, p < .01$) and females ($\beta = .31, p < .01$) revealed that only disgust sensitivity emerged as a predictor of global prejudicial attitudes toward homosexuals. Moral reasoning was a significant predictor of prejudicial attitudes toward homosexuals for neither males ($\beta = -.16, p > .05$) nor females ($\beta = -.16, p > .05$). However, moral reasoning did emerge as a significant predictor of stereotypical attitudes toward homosexuals for females ($\beta = -.26, p < .05$).

Discussion

As expected, both moral reasoning and the moral emotion of disgust emerged as significant predictors of prejudicial attitudes toward homosexuals. Consistent with Barrett's (1996) findings, moral reasoning was negatively associated with prejudice toward homosexuals. Disgust sensitivity, however, emerged as a significant positive predictor, which supports Haidt's (2001) claim that emotions are related to moral judgments, at least in the case of homosexuality. More importantly, the results provide an interesting insight into the interaction of moral reasoning and disgust in predicting prejudice toward homosexuals. High moral reasoning is associated with low prejudice when disgust sensitivity is low. However, when individuals exhibit both high moral reasoning and high disgust sensitivity, they resemble individuals who are low in moral reasoning in regard to their prejudicial attitudes toward homosexuals (See Figures 1 and

2). These results indicate that when disgust sensitivity is high, it can overwhelm high moral reasoning.

Study 2

The results of Study 1 demonstrated that disgust sensitivity was positively associated with prejudicial attitudes toward homosexuals and conservative political opinions. If Haidt (2001) is correct and moral intuitions cause moral judgments, inducing disgust should affect individual attitudes toward homosexuals. Previous research on disgust induction indicates that inducing disgust can lead to a negative interpretation bias (Davey, Bickerstaffe, & MacDonald, 2006). In other words, inducing disgust can cause individuals to interpret ambiguous stimuli as threatening by miss-attributing the anxiety evoked by the disgust induction to the stimuli. The purpose of Study 2 was to determine whether inducing disgust would have a similar effect on prejudicial attitudes toward homosexuals. Specifically, it was hypothesized that inducing disgust would cause increased prejudicial attitudes toward homosexuals and increased conservative political opinions.

Method

Participants

The participants were 103 introductory psychology students from the College of William and Mary. Sixty percent of the participants were females. Thirty-three percent were democrats, 25% were republicans, and 42% were other. Only 60% of the participants reported their gender and political party affiliation. Participants were given course credit for their participation.

Measures and Procedure

The study was conducted online. Participants were informed that they would be participating in two studies. They were told that the first study was going to assess their emotional reactions to a scenario that they could possibly see on television and that the second study was to assess their attitudes toward various social and political issues. The participants were randomly assigned to one of two conditions. The participants in the control condition were presented with a scenario about consuming lettuce:

On the Food Network, chefs often use lettuce as filler for their meals. When they have participants from the audience eat the lettuce, people usually have neutral reactions. Take a few minutes to imagine what it would be like to eat a bowl of lettuce. Imagine the smell, the taste, and the texture on your tongue. Imagine yourself chewing the lettuce. Imagine the consistency of the chewed-up lettuce in your mouth. Imagine swallowing the lettuce and your stomach's reaction to the food. Once you have imagined this scenario in detail, write a couple of paragraphs describing this experience. Include a detailed description of your physical and emotional reactions. Describe the taste, smell, and texture of the lettuce.

Those in the experimental condition were presented with a scenario about eating maggots:

In the television series *Fear Factor*, participants often have to eat different varieties of insects including cockroaches, maggots, and worms. Sometimes the participants are unable to swallow the chewed up insect bodies and they either spit it up or vomit. They often complain about the sour taste and the slimy or crunchy texture of the bodies. Take a few minutes to imagine what it would be like to eat a bowl of maggots. Imagine the smell, the taste, and the texture on your

tongue. Imagine yourself chewing the maggots. Imagine the consistency of the chewed-up maggots in your mouth. Imagine swallowing the chewed-up maggots and your stomach's reaction to the goey substance. Once you have imagined this scenario in detail, write a couple of paragraphs describing this experience. Include detailed description of your physical and emotional reactions. Describe the taste, smell, and texture of the maggots.

Following the presentation of the scenarios, the participants were asked to write a brief essay about their emotional response to the scenario. They were asked to describe the texture, taste, smell, and stomach's reaction to consuming the stimuli.

Upon completion of their essays, the participants were prompted that they would now begin an unrelated study to assess various social and political attitudes. For this component of the study, all of the participants completed 4 measures: the Attitudes toward Gay Men and Lesbians Scale (Lamar & Kite., 1998), ratings of a series of items representing a conservative political stance, the Right-Wing Authoritarianism scale (Altemeyer, 2003), and the short version of the Disgust Sensitivity Scale (Haidt et al., 1994). The participants were also asked on a scale from 1 to 7, 1 being *no choice* and 7 being *complete choice*, how much choice homosexuals have in their sexual orientation. After the participants completed the survey, they were asked what they thought the study was about and they were asked, on a scale from 1 to 7, 1 being *not disgusting at all* and 7 being *very disgusting*, how disgusted they were by the scenario that they read at the very beginning of the study.

Results

Descriptive Statistics

Means, standard deviations, and Cronbach's alpha for all measures are displayed in Table 4. All measures exhibited alphas greater than .68.

Correlations

Zero-order correlations between all measures are reported in Table 5. Disgust sensitivity was positively associated with stereotypical attitudes toward homosexuals ($r = .25, p < .01$) and right-wing authoritarianism ($r = .25, p < .01$). Additionally, disgust sensitivity was predictive of conservative positions on various political issues including the death penalty ($r = .23, p < .01$) and stem cell research ($r = .25, p < .05$). For a complete list of correlations of disgust sensitivity with political issues, see Table 6.

Analysis of the Experimental Manipulation

Participants reported the experimental manipulation ($M = 5.4$) as being clearly and significantly more disgusting than the control condition ($M = 2.4, t(100) = 9.5, p < .01$). Therefore, it was possible to test the effect of induced disgust in this study. Surprisingly, participants in the experimental condition reported less global prejudice toward homosexuals ($M = 1.9$) than those in the control condition ($M = 2.2, t(100) = 2.0, p < .05$). This finding could possibly be due to a contrast effect in which homosexuality is perceived to be less disgusting than maggots.

Participants in the experimental condition were less likely to report homosexuality as being immoral ($M = 1.8$) than those in the control condition ($M = 2.2, t(100) = 2.7, p < .01$) and were less likely to report stereotypical attitudes toward homosexuals ($M = 2.0$),

than were those in the control condition ($M = 2.3$, $t(100) = 2.3$, $p < .05$). The groups did not differ in disgust sensitivity ($t(100) = 0.1$, $p > .95$) or authoritarianism ($t(100) = 1.5$, $p > .14$).

Multiple regression analyses reveal that the experimental manipulation had differential effects on high and low authoritarians. There was a condition by authoritarianism interaction for prejudicial attitudes toward homosexuals ($\beta = .15$, $p < .05$). An analysis of simple slopes shows that inducing disgust in low authoritarians led to a decrease in prejudicial attitudes toward homosexuals ($\beta = -.25$, $p < .05$). Inducing disgust in high authoritarians led to a nonsignificant increase in prejudicial attitudes ($\beta = .06$, $p > .05$). See Figure 4 for a graphical representation of this interaction.

There was another condition by authoritarianism interaction for prejudicial attitudes toward contact with homosexuals ($\beta = .25$, $p < .05$). An analysis of simple slopes shows that inducing disgust in low authoritarians led to an aversive prejudice reaction toward contact with homosexuals, i.e., a decrease ($\beta = -.27$, $p < .05$). Inducing disgust in high authoritarians led to a significant increase in prejudicial attitudes ($\beta = .25$, $p < .05$). See Figure 5 for a graphical representation of this interaction.

Political Party Differences

Republicans reported higher scores than the democrats on all three subscales of the attitudes toward gay men and lesbians scale. Republicans were more likely to view homosexuality as immoral ($M = 3.0$) than were democrats ($M = 1.7$, $t(33) = 3.0$, $p < .01$), more likely to avoid contact with homosexuals ($M = 2.6$) than were democrats ($M = 1.9$, $t(33) = 5.2$, $p < .01$), and more likely to hold stereotypes about homosexuals ($M = 2.7$)

than were democrats ($M = 2.0$, $t(33) = 4.0$, $p < .01$). The groups did not differ in respect to their scores on the short version of the disgust sensitivity scale ($t(33) = 1.0$, $p > .05$).

Sex Differences

Females ($M = 2.0$) were less likely report negative attitudes toward contact with homosexuals than were males ($M = 2.4$, $t(58) = 2.0$, $p < .05$). Males and females did not differ in regard to disgust sensitivity ($t(58) = 1.3$, $p > .05$).

As in Study 1, multiple regression analyses were performed to test whether there was an interaction between sex and disgust in predicting prejudicial attitudes toward homosexuals. The results indicated that there was no interaction between sex and disgust sensitivity ($\beta = .15$, $p > .05$) and no interaction between sex and condition in predicting prejudicial attitudes toward homosexuals ($\beta = -.18$, $p > .05$).

As in Study 1, separate correlational analyses were conducted for both the male and female samples. Disgust sensitivity was positively correlated with prejudicial attitudes toward gay men and lesbians for females ($r = .35$, $p < .05$; $r = .36$, $p < .05$) but not for males ($r = -.02$, $p > .05$; $r = .11$, $p > .05$). The sexes did not differ in regard to other correlational analyses.

Homosexuality as a Choice

Males ($M = 3.3$) and females ($M = 3.3$) were equally likely to perceive homosexuality as a choice ($t(33) = .06$, $p > .05$). Perceiving homosexuality to be a choice was positively related to right-wing authoritarianism ($r = .47$, $p < .01$), political conservatism ($r = .48$, $p < .01$), disgust sensitivity ($r = .25$, $p < .01$), and prejudicial attitudes toward homosexuals ($r = .47$, $p < .01$).

Discussion

The results of Study 1 suggest that both moral reasoning and disgust sensitivity are significant predictors of prejudicial attitudes toward homosexuals. More importantly, there was an interaction between moral reasoning and disgust. When disgust sensitivity is low, moral reasoning exerts an identifiable effect such that those who are high in moral reasoning exhibit less prejudice toward homosexuals than those who are low in moral reasoning. Individuals who are high in moral reasoning and high in disgust sensitivity resemble those who are low in moral reasoning in regard to their attitudes toward homosexuals (See Figures 1 and 2). Alternatively, disgust sensitivity does not seem to matter as much for individuals who already operate at lower stages of moral reasoning. Based on these findings, Haidt's (2001) intuitionist model of moral judgments appears to be most accurate for individuals who operate at higher stages of moral reasoning. In other words, disgust predicts prejudicial attitudes toward homosexuals when individuals are low in moral reasoning and moral reasoning primarily predicts prejudicial attitudes toward homosexuals when disgust sensitivity is low. On average, it does not offset the overwhelming effect of high disgust sensitivity in the case of prejudicial attitudes toward homosexuals.

Additionally, the results of this study support Haidt and Hersh's (2001) suggestion that conservatives and liberals differ in their expression of moral emotions, at least in regard to disgust sensitivity. More specifically, the results of Study 1 indicate that republicans exhibit higher levels of disgust sensitivity than democrats, and disgust sensitivity is positively related to right-wing authoritarianism. It is also interesting to note that disgust sensitivity was predictive of conservative political positions on issues

including immigration, abortion, euthanasia, and homosexual marriage (See Table 3 for complete list). Republicans and democrats did not differ in their levels of moral reasoning. The evidence presented here suggests that the reason conservatives and liberals differ in regard to their political opinions may be due at least in part to their differential experiences of the moral emotions, specifically the moral emotion of disgust.

Not surprisingly, disgust sensitivity was positively associated with religious fundamentalism in Study 1, which supports Olatunji and colleagues (2005) findings that disgust sensitivity is associated with religious obsessions. One of the key doctrines of the Christian faith is the notion of the body as a temple. For example, Christians view sin as contamination and rituals such as baptism as the cleansing of sins.

In addition to demonstrating a positive association between prejudicial attitudes toward homosexuals and disgust sensitivity, Study 2 provides some evidence that inducing disgust can cause increases or decreases in prejudicial attitudes depending on whether an individual exhibits high or low scores on the RWA scale. More specifically, inducing disgust in individuals with high authoritarian scores can lead to increased prejudice toward homosexuals whereas inducing disgust in low authoritarians can lead to a decrease in prejudicial attitudes. This finding offers some evidence that the moral emotion of disgust can directly influence moral judgments, at least in regard to attitudes toward homosexuals. It also suggests that the effect that disgust exerts is partly dependent on characteristics such as authoritarianism. Aversive prejudice is the tendency of individuals to overcompensate for prejudicial tendencies so they are not perceived to be prejudiced (Dovidio & Gaertner, 1991). The aversive prejudice effect that was found in individuals who scored low on the RWA scale is consistent with Dovidio and Gaertner's

(1991) model of aversive racism, which suggests that individuals may avoid expressing prejudicial attitudes in order to avoid being considered a bigot. The findings reported in this paper are specific to attitudes toward homosexuality. More research needs to be done to determine the extent to which disgust can influence other moral domains.

Consistent with previous findings (e.g. Lamar & Kite, 1998), both studies found that males reported more prejudice toward homosexuals than did females. It is unclear why men exhibit greater prejudice toward homosexuals. The findings reported in this paper are mixed. Study 1 found that disgust sensitivity was positively correlated with prejudicial attitudes toward homosexuals for both males and females. However, in Study 2, disgust sensitivity was positively correlated with prejudicial attitudes toward homosexuals for males and not for females. In addition, Study 1 found that females were more sensitive to disgust than were males and Study 2 found no sex differences. It is unclear why males exhibit greater prejudice toward homosexuals than do females. This difference can not be accounted for by sex differences in disgust sensitivity.

Additionally, moral reasoning cannot account for the difference since it was only correlated with prejudicial attitudes toward homosexuals for males. It is possible that this difference could be due to sex differences in other moral emotions such as empathy.

Limitations

The results of this study should be interpreted with caution. There are three primary limitations that could jeopardize the fidelity of the findings in this report. First, it is possible that the disgust sensitivity scale is an alternative measure of conservatism. Some of the items included in the disgust sensitivity scale are culturally specific (e.g. I might be willing to try eating monkey meat, under some circumstances) and may be

measuring cultural conservatism. This could explain why liberals exhibited higher levels of disgust sensitivity in Study 1 but not in Study 2 when the short version of the disgust sensitivity scale was used. Even if this is true however, disgust sensitivity was positively correlated with right-wing authoritarianism in both Studies 1 and 2. Alternative measures of disgust sensitivity should be used in future research to ensure the validity of the results reported in this report.

Second, it is possible that the experimental manipulation in Study 2 induced a negative mood rather than disgust. This study did not assess mood and it is possible that the results in Study 2 were caused by a change in mood. On the other hand, it is important to note that a manipulation check was implemented and individuals in the experimental group did report more disgust than those in the control condition. However, future studies should control for mood in order to ensure that results are due to disgust rather than general negativity.

Finally, it is difficult to interpret the main effect in Study 2. It is possible that the decrease in prejudicial attitudes were the result of a contrast effect in which participants were less disgusted by homosexuality relative to the thought of eating maggots. Alternatively, the results could represent aversive prejudice. Since the finding was unexpected, more research needs to be conducted to explain the result.

Conclusion

In the late 1800's, Darwin (1872) suggested that disgust was primarily a reaction to oral contamination and that it probably evolved for the purpose of avoiding the ingestion of toxins and other offensive provisions. Rozin and colleagues (2000) extended the definition and function of disgust to include adverse reactions to moral offenses. The

results presented here provide strong evidence that disgust is a moral emotion that can influence our moral judgments. A recent trend in social psychological research is the use of brain imaging technology. Research indicates that disgust induction leads to increased activation in the occipital cortex, the left prefrontal cortex, and the right amygdala (Schienle, Schafer, Stark, Walter, & Vaital, 2005). The activation in the right amygdala is correlated with disgust sensitivity. Future research should examine whether activation in these areas is exhibited when individuals are presented with moral issues such as homosexuality.

Table 1

Correlations for Disgust Sensitivity and Moral Reasoning with Political Items for Study 1

Measure	<i>R</i>	
	Disgust Sensitivity	Moral Reasoning
The death penalty should not be abolished.	.08	-.15
Homosexuals should not legally be allowed to marry.	.33**	-.09
Abortion should be illegal.	.30**	-.06
The minimum wage should not be raised.	.00	-.07
Marijuana should not be legalized for medicinal use.	.29**	.06
The government should not adopt a stricter policy to protect the environment.	.00	-.21*
The government should not adopt a policy to guarantee health care to all workers and their families.	-.05	-.06
Terminal patients should not have the right to die.	.30**	.01
The government should restrict stem cell research.	.32**	.14
The government should adopt a stricter immigration policy.	.21**	-.07
The current pre-emptive (strike them before they strike you) foreign policy, is the most effective foreign policy.	.22**	-.18*
The United States did the right thing by attacking Iraq.	.15	-.19*
Evolutionary theory should not be taught in public schools.	.14	-.01
There should not be a complete separation between church and state.	.06	-.26**

* $p < .05$. ** $p < .01$.

Table 2

Means, Standard Deviations, and Cronbach's Alphas for All Measures in Study 1

Measure	Mean	Standard Deviation	Cronbach's Alpha
Balanced Inventory for Desirable Responding	3.7	0.6	.79
Right-Wing Authoritarianism	3.5	1.5	.95
Religious Fundamentalism	-1.1	2.2	.95
Disgust Sensitivity	2.5	0.5	.89
Attitudes toward Gay Men and Lesbians	2.0	0.8	.96
Political Conservatism*	2.3	0.6	.80
Moral Reasoning	40.9	13.43	n/a

*Item average for the political issue items

Table 3

Zero-Order Correlations for All Measures in Study 1

Measure	<i>r</i>						
	1	2	3	4	5	6	7
1. Balanced Inventory for Desirable Responding		.13	.11	.05	.13	.22**	.09
2. Right-Wing Authoritarianism			.76**	.49**	.83**	.78**	-.17*
3. Religious Fundamentalism				.43**	.60**	.60**	-.05
4. Disgust Sensitivity					.37**	.33**	.07
5. Attitudes toward Gay Men and Lesbians						.72**	-.19*
6. Political Conservatism							-.16
7. Moral Reasoning							

* $p < .05$. ** $p < .01$.

Table 4

Means, Standard Deviations, and Cronbach's Alphas for All Measures in Study 2

Measure	Mean	Standard Deviation	Cronbach's Alpha
Disgust Sensitivity	2.8	.5	.68
Attitudes toward Gay Men and Lesbians	2.1	.7	.96
Morality Subscale	2.0	.9	.92
Contact Subscale	2.0	.7	.93
Stereotypes Subscale	2.2	.6	.80
Right-Wing Authoritarianism	3.4	1.5	.95
Political Conservatism	3.6	.6	.79

Table 5

Zero-Order Correlations for All Measures in Study 2

Measures	<i>R</i>						
	1	2	3	4	5	6	7
1. Disgust Sensitivity		.15	.17	.06	.25**	.25**	.04
2. Attitudes toward Gay Men and Lesbians			.94**	.93**	.81**	.69**	.66**
3. Morality Subscale				.78**	.74**	.76**	.72**
4. Contact Subscale					.63**	.53**	.52**
5. Stereotypes Subscale						.58**	.56**
6. Right-Wing Authoritarianism							.71**
7. Political Conservatism							

$p < .05$. ** $p < .01$.

Table 6

Correlations for Disgust Sensitivity with Political Issues for Study 2

Political Issue	<i>r</i>
The death penalty should not be abolished.	.23**
Homosexuals should not legally be allowed to marry.	.13
Abortion should be illegal.	.18
The minimum wage should not be raised.	.17
Marijuana should not be legalized for medicinal use.	-.06
The government should not adopt a stricter policy to protect the environment.	.23*
The government should not adopt a policy to guarantee health care to all workers and their families.	.22*
Terminal patients should not have the right to die.	.01
The government should restrict stem cell research.	.24*
The government should adopt a stricter immigration policy.	.10
The current pre-emptive (strike them before they strike you) foreign policy, is the most effective foreign policy.	.03
The United States did the right thing by attacking Iraq.	.12
Evolutionary theory should not be taught in public schools.	.22*
There should not be a complete separation between church and state.	.00

* $p < .05$. ** $p < .01$.

Figure 1

Moral Development by Disgust Sensitivity Interaction for Prejudicial Attitudes toward Contact with Homosexuals for Study 1

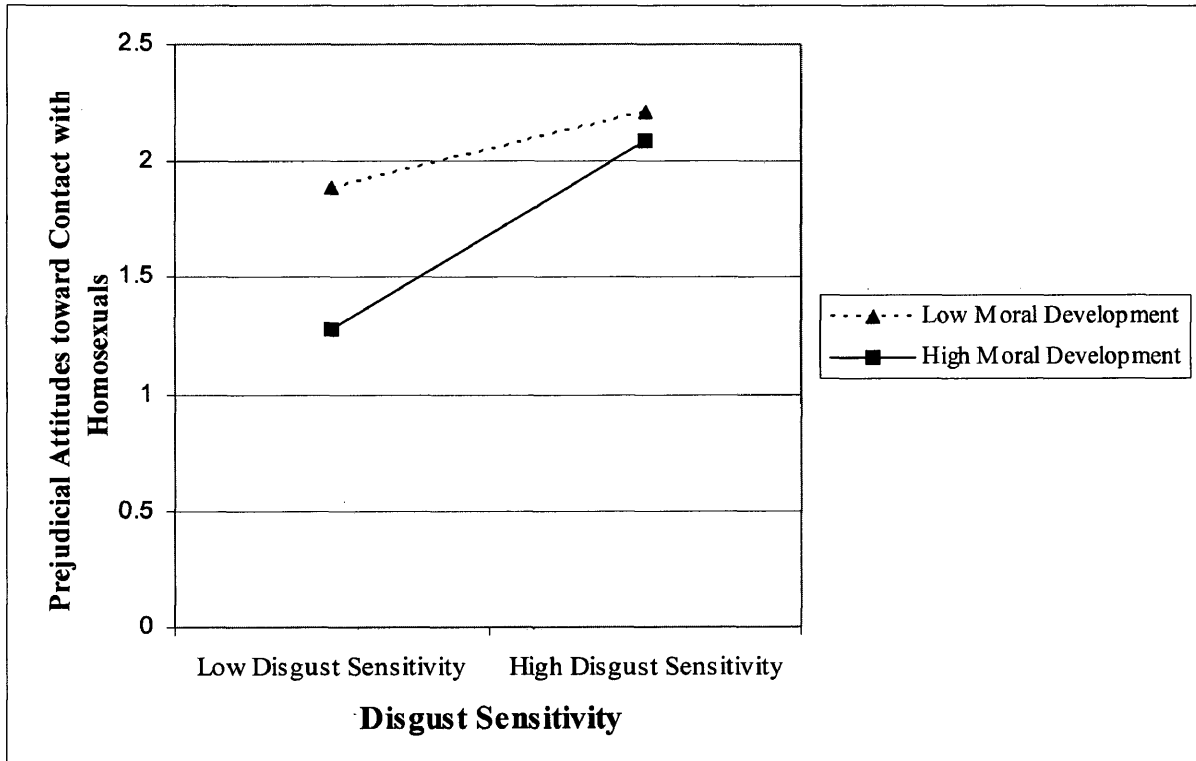


Figure 2

Moral Development by Disgust Sensitivity Interaction for Stereotypical Attitudes toward Homosexuals for Study 1

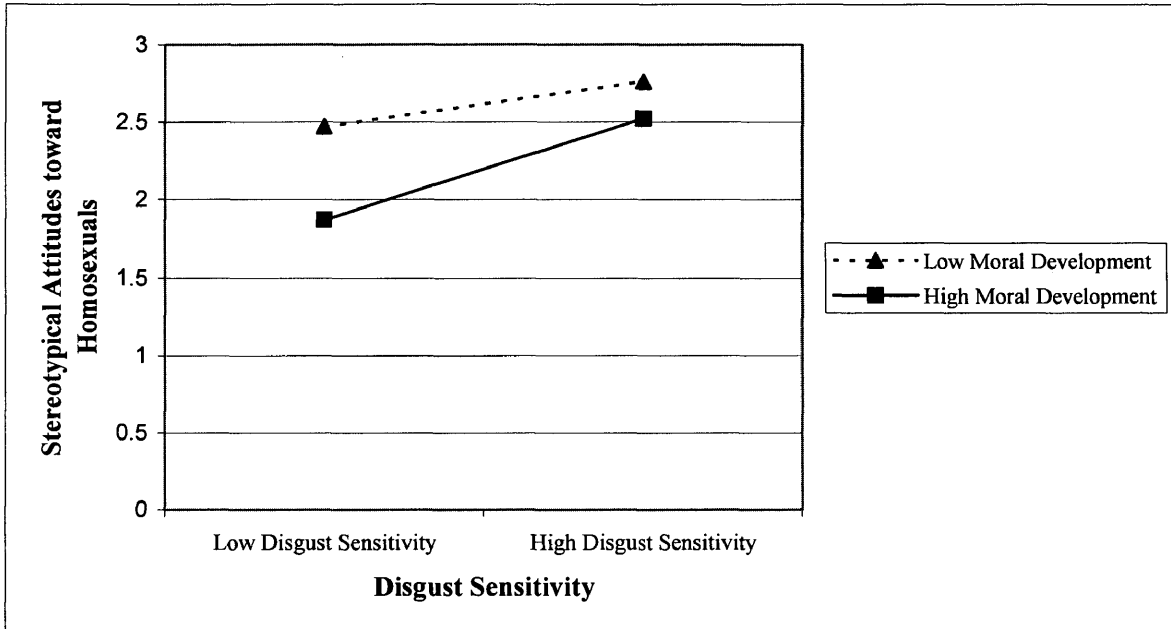


Figure 3

Sex by Disgust Sensitivity Interaction for Prejudicial Attitudes toward Homosexuals in Study 1

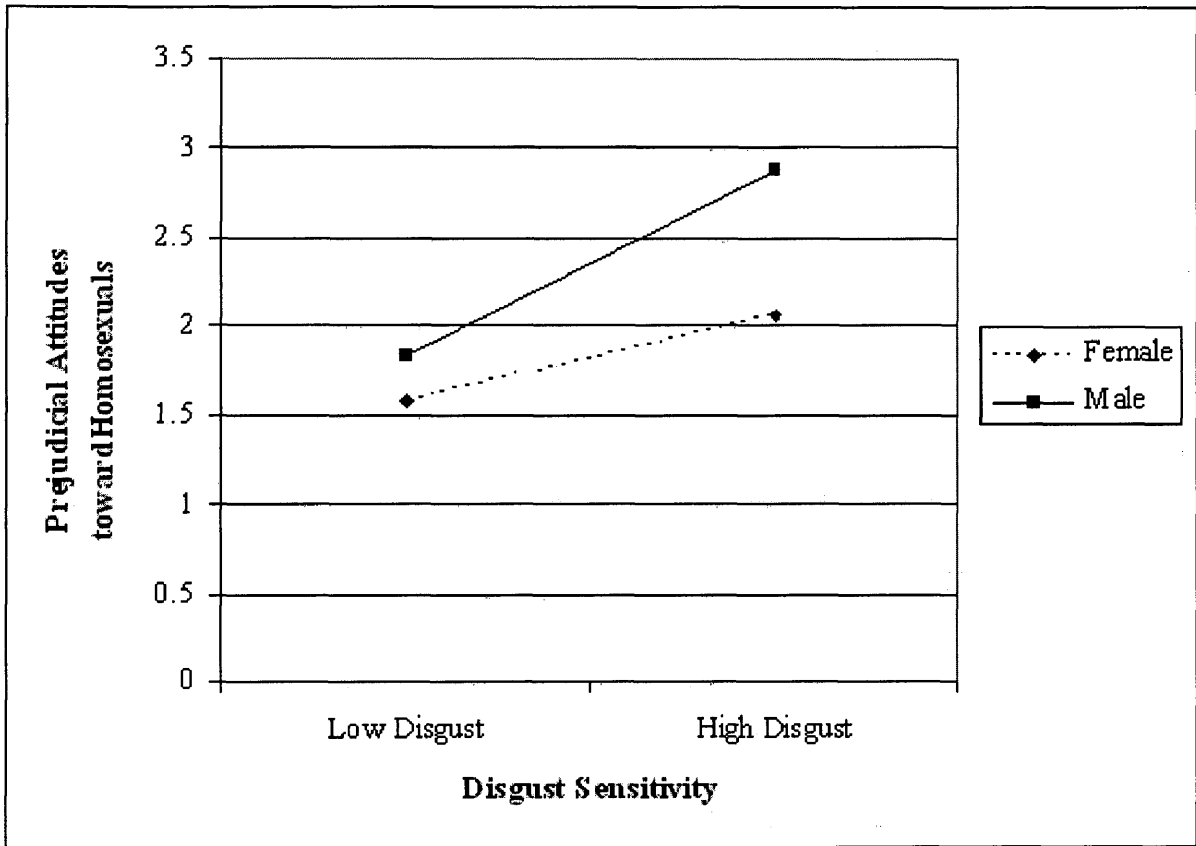


Figure 4

Condition by Right-Wing Authoritarianism Interaction for Prejudicial Attitudes toward Homosexuals for Study 2

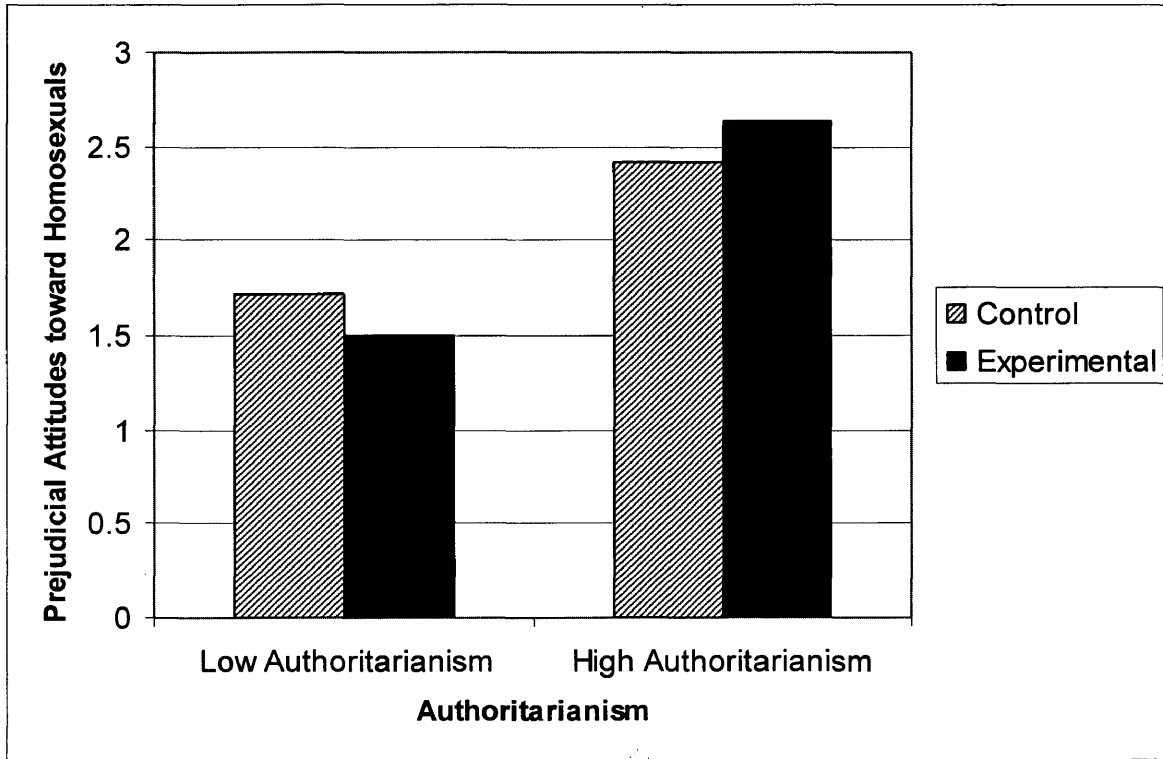
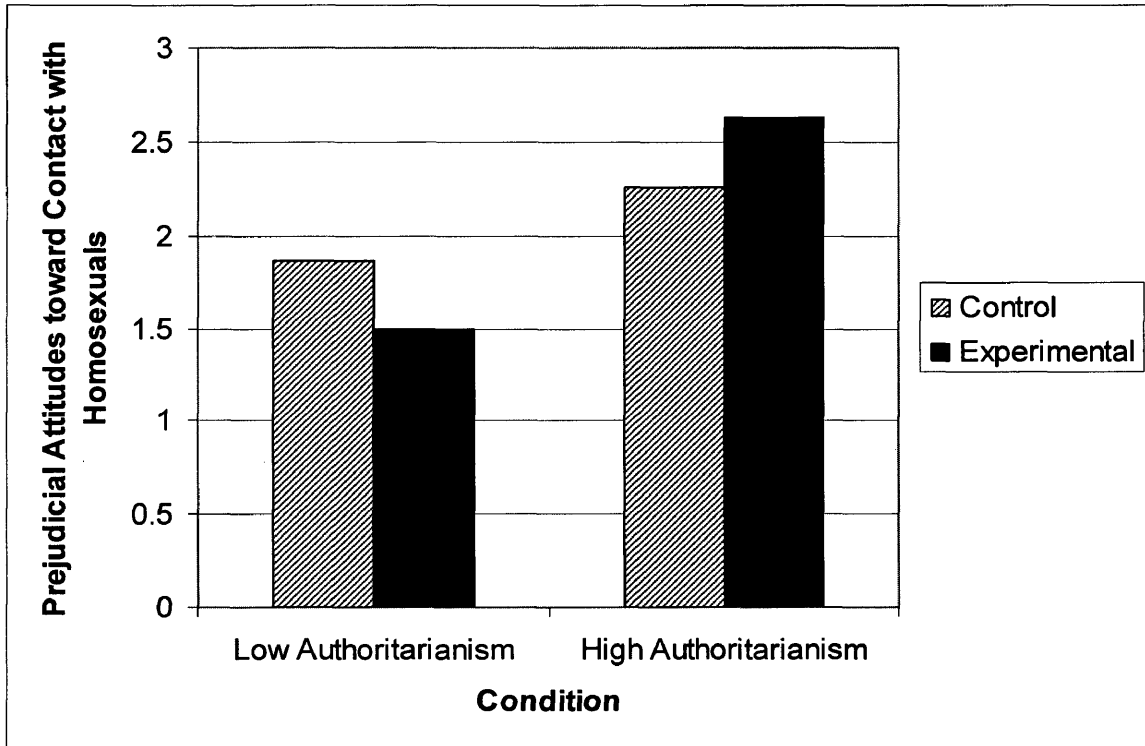


Figure 5

Condition by Right-Wing Authoritarianism Interaction for Prejudicial Attitudes toward Contact with Homosexuals for Study 2



Appendix A

Balanced Inventory for Desirable Responding (Paulhus, 1984)

1. My first impressions of people usually turn out to be right.
2. It would be hard for me to break any of my bad habits.
3. I don't care to know what other people really think of me.
4. I have not always been honest with myself.
5. I always know why I like things.
6. When my emotions are aroused, it biases my thinking.
7. Once I've made up my mind, other people can seldom change my opinion.
8. I am not a safe driver when I exceed the speed limit.
9. I am fully in control of my own fate.
10. It's hard for me to shut off a disturbing thought.
11. I never regret my decisions.
12. I sometimes lose out on things because I can't make up my mind soon enough.
13. The reason I vote is because my vote can make a difference.
14. My parents were not always fair when they punished me.
15. I am a completely rational person.
16. I rarely appreciate criticism.
17. I am very confident of my judgments.
18. I have sometimes doubted my ability as a lover.
19. It's all right with me if some people happen to dislike me.
20. I don't always know the reasons why I do the things I do.
21. I sometimes tell lies if I have to.
22. I never cover up my mistakes.
23. There have been occasions when I have taken advantage of someone.
24. I never swear.
25. I sometimes try to get even rather than forgive and forget.
26. I always obey laws, even if I'm unlikely to get caught.
27. I have said something bad about a friend behind his or her back.
28. When I hear people talking privately, I avoid listening.
29. I have received too much change from a salesperson without telling him or her.
30. I always declare everything at customs.
31. When I was young I sometimes stole things.
32. I have never dropped litter on the street.
33. I sometimes drive faster than the speed limit.
34. I never read sexy books or magazines.
35. I have done things that I don't tell other people about.
36. I never take things that don't belong to me.
37. I have taken sick-leave from work or school even though I wasn't really sick.
38. I have never damaged a library book or store merchandise without reporting it.
39. I have some pretty awful habits.
40. I don't gossip about other people's business

Appendix B

Religious Fundamentalism Scale (Altemeyer & Hunsberger, 1992)

1. God has given humanity a complete, unfailing guide to happiness and salvation, which must be totally followed.
2. No single book of religious teachings contains all the intrinsic, fundamental truths about life.
3. The basic cause of evil in this world is Satan, who is still constantly and ferociously fighting against God.
4. It is more important to be a good person than to believe in God and the right religion.
5. There is a particular set of religious teachings in this world that are so true, you can't go any "deeper" because they are the basic, bedrock message that God has given humanity.
6. When you get right down to it, there are basically only two kinds of people in the world: the Righteous, who will be rewarded by God, and the rest, who will not.
7. Scriptures may contain general truths, but they should NOT be considered completely, literally true from beginning to end.
8. To lead the best, most meaningful life, one must belong to the one, fundamentally true religion.
9. "Satan" is just the name people give to their own bad impulses. There really is no such thing as a diabolical "Prince of Darkness" who tempts us.
10. Whenever science and sacred scripture conflict, science is probably right.
11. The fundamentals of God's religion should never be tampered with, or compromised with others' beliefs.
12. All of the religions in the world have flaws and wrong teachings. There is no perfectly true, right religion.

Appendix C

Right-Wing Authoritarianism Scale (Altemeyer, 2003)

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 who 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.

Appendix D

Disgust Sensitivity Scale (Haidt, McCauley, & Rozin, 1994)

1. I might be willing to try eating monkey meat, under some circumstances.
2. I try to avoid letting any part of my body touch the toilet seat in a public restroom, even when it appears clean.
3. It would bother me to be in a science class, and to see a human hand preserved in a jar.
4. It would make me uncomfortable to hear a couple making love in the next room of a hotel.
5. If I see someone vomit, it makes me sick to my stomach.
6. I have no problem buying and wearing shirts from used clothing stores.
7. It would bother me tremendously to touch a dead body.
8. It would bother me to see photos of two people having oral sex.
9. Seeing a cockroach in someone else's house does not bother me.
10. I probably would not go to my favorite restaurant if I found out that the cook had a cold.
11. It would bother me to sleep in a nice hotel room if I knew that a man had died of a heart attack in that room the night before.
12. It is OK with me if people want to look at pornography involving animals.
13. Even if I was hungry, I would not drink a bowl of my favorite soup if it had been stirred by a used but thoroughly washed fly-swatter.
14. I would not hold a dollar bill between my lips (like if I needed a free hand), because so many strangers have touched it with their dirty hands
15. If I were properly trained, I would be willing to help draw blood in a blood drive.
16. I think that people who masturbate every day are degrading themselves.
17. You see maggots on a piece of meat in an outdoor garbage pail.
18. You take a sip of soda and then realize that you picked up the wrong can, which a stranger had been drinking out of.
19. You see someone accidentally stick a fishing hook through his finger.
20. You hear about a 30 year old man who seeks sexual relationships with 80 year old women.
21. While you are walking through a tunnel under a railroad track, you smell urine.
22. You sit down on a public bus, and feel that the seat is still warm from the last person who sat there.
23. You see a man with his intestines exposed after an accident.
24. As part of a sex education class, you are required to inflate a new unlubricated condom, using your mouth.
25. A friend offers you a piece of chocolate shaped like dog-doo.
26. You find out that someone you despise used to live in your house, and sleep in your bedroom.
27. Your friend's pet cat dies, and you have to pick up the dead body with your bare hands.
28. You hear about an adult brother and sister who like to have sex with each other.

29. You see a bowel movement left unflushed in a public toilet.
30. While traveling for 2 weeks with a friend, you discover that your underwear got mixed up in the wash, and you are wearing your friend's underwear.
31. You accidentally touch the ashes of a person who has been cremated.
32. While walking through a park, you see two dogs mating (having sex).

Appendix E

Morality Subscale of the Attitudes toward Gay Men and Lesbians Scale (LaMar & Kite, 1998)

1. The increasing acceptance of gay men (lesbians) in our society is aiding in the deterioration of morals.
2. Gay men (lesbians) endanger the institution of the family.
3. Many gay men (lesbians) are very moral and ethical people.
4. Gay male (lesbian) couples should be able to adopt children the same as heterosexual couples.
5. The idea of marriages between gay men (lesbians) seems ridiculous to me.
6. State laws regulating private, consenting behavior between gay men (lesbians) should be loosened.
7. Gay men (lesbians) just can't fit into our society.
8. Gay men (lesbians) do need psychological treatment.
9. Gay men (lesbians) are a viable part of our society.
10. Homosexual behavior between two men (women) is just plain wrong.

Contact Subscale of the Attitudes toward Gay Men and Lesbians Scale (LaMar & Kite, 1998)

1. I enjoy the company of gay men (lesbians).
2. It would be upsetting to me to find out I was alone with a gay man (lesbian).
3. I avoid gay men (lesbians) whenever possible.
4. I would feel nervous being in a group of gay men (lesbians).
5. I think gay men (lesbians) are disgusting.
6. I would enjoy attending social functions at which gay men (lesbians) were present.
7. Bars that cater solely to gay men (lesbians) should be placed in a specific and known part of town.
8. I would feel comfortable working closely with a gay man (lesbian).
9. If a gay man (lesbian) approached me in a public restroom, I would be disgusted.
10. I would not want a gay man (lesbian) to live in the house next to mine.
11. Two gay men (lesbians) holding hands or displaying affection in public is revolting.
12. I would be nervous if a gay man (lesbian) sat next to me on a bus.
13. I would decline membership in an organization if I found out it had gay male (lesbian) members.
14. If I knew someone was a gay male (lesbian), I would go ahead and form a friendship with that individual.

Stereotypes Subscale of the Attitudes toward Gay Men and Lesbians Scale (LaMar & Kite, 1998)

1. Lesbians (gay men) prefer to take roles (passive or aggressive) in their sexual behavior.
2. The love between two lesbians (gay men) is quite different from the love between two persons of the opposite sex.
3. Lesbians (gay men) have weaker sex drives than heterosexuals.
4. A lesbian's (gay man's) mother is probably very domineering.
5. Most lesbians (gay men) have a life of one night stands.
6. Most lesbians (gay men) like to dress in opposite-sex clothing.
7. Most lesbians (gay men) have identifiable masculine (feminine) characteristics.

References

- Aiken, L. S. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage Publications.
- Altemeyer, B. (1988). *Enemies of freedom: Understanding right-wing authoritarianism*. San Francisco: Jossey-Bass.
- Altemeyer, B. (2003). Personal correspondence via email.
- Altemeyer, B., & Hunsberger, B. (2004). A Revised Religious Fundamentalism Scale: The Short and Sweet of it. *International Journal for the Psychology of Religion*, *14*(1), 47-54.
- Barrett, K. (1996). An examination of the relationship between moral development and modern prejudice. *Dissertation Abstracts International*, *57*, 2331.
- Cisler, J., Reardon, J., Williams, N., & Lohr, J. (2007). Anxiety sensitivity and disgust sensitivity interact to predict contamination fears. *Personality and Individual Differences*, *42*(6), 935-946.
- Darwin, C. (1872). *The expression of emotion in man and animals*. Chicago: University of Chicago Press.
- Davey, G., Bickerstaffe, S., & MacDonald, B. (2006). Experienced disgust causes a negative interpretation bias: A causal role for disgust in anxious psychopathology. *Behaviour Research and Therapy*, *44*(10), 1375-1384.
- Dovidio, J. F., & Gaertner, S. L. (1991). Changes in the expression and assessment of racial prejudice. In H. J. Knopke, R. J. Norrell, & R. W. Rogers (Eds.), *Opening doors: Perspectives on race relations in contemporary America* (pp.119-148). Tuscaloosa, AL: University of Alabama Press.

- Haidt, J., McCauley, C., & Rozin, P. (1994). Individual differences in sensitivity to disgust: A scale sampling seven domains of disgust elicitors. *Personality and Individual Differences, 16*(5), 701-713.
- Haidt, J. (2001). The emotional dog and its rational tail: A social intuitionist approach to moral judgment. *Psychological Review, 108*, 814-834.
- Haidt, J., & Hersh, M. A. (2001). Sexual morality: The cultures and emotions of conservatives and liberals. *Journal of Applied Social Psychology, 31*, 191-221.
- Haidt, J. (2003). The moral emotions. In R. J. Davidson, K. R. Scherer, & H. H. Goldsmith (Eds.), *Handbook of affective sciences*. Oxford: Oxford University Press.(pp. 852-870).
- Hauser, M. D. (2006). *Moral minds: How nature designed the universal sense of right and wrong*. New York: HarperCollins Publishers.
- LaMar, L. A., & Kite, M. E. (1998). Sex differences in attitudes toward gay men and lesbians: A multi-dimensional perspective. *The Journal of Sex Research, 35*, 189-196.
- Laythe, B., Finkel, D., & Kirkpatrick, L. (2001). Predicting prejudice from religious fundamentalism and right-wing authoritarianism: A multiple-regression approach. *Journal for the Scientific Study of Religion, 40*(1), 1-10.
- Olatunji, B., Tolin, D., Huppert, J., & Lohr, J. (2005). The relation between fearfulness, disgust sensitivity and religious obsessions in a non-clinical sample. *Personality and Individual Differences, 38*(4), 891-902.
- Paulhus, D. (1984). Two-component models of socially desirable responding. *Journal of Personality and Social Psychology, 46*(3), 598-609.

- Piaget, J. (1965). *The moral judgment of the child*. New York: Free Press.
- Proios, M., & Doganis, G. (2006). Age and education in moral judgment of participants in team sports. *Perceptual and Motor Skills*, 102(1), 247-253.
- Raaijmakers, Q., Engels, R., & Van Hoof, A. (2005). Delinquency and moral reasoning in adolescence and young adulthood. *International Journal of Behavioral Development*, 29(3), 247-258.
- Rest, J. (1999). *Postconventional moral thinking: A neo-kohlbergian approach*. Mahwah, NJ: L. Erlbaum Associates.
- Rest, J., Narvaez, D., Thoma, S., & Bebeau, M. (1999). DIT2: Devising and testing a revised instrument of moral judgment. *Journal of Educational Psychology*, 91, 644-659.
- Rozin, P., Markwith, M., & Stoess, C. (1997). Moralization and becoming a vegetarian: The transformation of preferences into values and the recruitment of disgust. *Psychological Science*, 8(2), 67-73.
- Rozin, P., Haidt, J., & McCauley, C. R. (2000). Disgust. In M. Lewis & J. M. Haviland-Jones (Eds.), *Handbook of emotions*, 2nd Edition (pp. 637-653) New York: Guilford Press.
- Schienle, A., Schäfer, A., Stark, R., Walter, B., & Vaitl, D. (2005). Relationship between Disgust Sensitivity, Trait Anxiety and Brain Activity during Disgust Induction. *Neuropsychobiology*, 51(2), 86-92.
- Schienle, A., Schäfer, A., Walter, B., Stark, R., & Vaitl, D. (2005). Elevated disgust sensitivity in blood phobia. *Cognition & Emotion*, 19(8), 1229-1241.

Thoma, S. J. (2006). Research on the defining issues test. In M. Killen & J. G. Smetana (Eds.), *Handbook of moral development.*; 67-91

VITA

John Anthony Terrizzi, Jr.

John Anthony Terrizzi Jr. was born in Huntingdon, Pennsylvania on July 31, 1981. After graduating from Huntingdon Area High School in May of 1999, he attended Juniata College in Huntingdon, Pennsylvania. He received a B.S. in May of 2004 with a degree in Psychology and Peace and Conflicts Studies with a Secondary Emphasis in Sociology.

In September of 2005, John began his first year as an M.A. candidate in the Department of Psychology. While at William and Mary, he worked as a teaching assistant for research methods. John defended his thesis in June of 2007. He is currently living in Richmond, Virginia with his wife and two dogs and works as a senior research analyst for the Virginia Department of Corrections.