

Spring 2012

# The role of country music in homonegativistic aggression

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The Role of Country Music in Homonegativistic Aggression

Alex Manuel Borgella

A thesis submitted to the Graduate Faculty of

JAMES MADISON UNIVERSITY

In

Partial Fulfillment of the Requirements

for the degree of

Master of Arts

Psychological Sciences

May 2012

## **Dedication**

For Darleen Borgella

## Acknowledgments

Matthew R. Lee, Ph.D.

Michael D. Hall, Ph.D.

Jaime L. Kurtz, Ph.D.

Sarah Yi

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Ericka Welsh

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Rachael Carroll

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Lukas Ace

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Ashley Ernst

Brittany Ewell

Michael Ariale

Amanda Devoto

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## Abstract

This study examined the relationship between exposure to country music and homosexual aggression. A total of 44 male and female participants ( $N = 23$  and  $N = 21$ , respectively) filled out scales relating to attitudes toward homosexuality (Kite & Deaux, 1988), gender role beliefs (Kerr & Holden, 1996), and social conservatism (Henningham, 1996). Participants were then introduced to either a homosexual ( $N = 19$ ) or heterosexual ( $N = 29$ ) confederate and were exposed to either country music with patriotic and socially conservative lyrical content ( $N = 17$ ) or pop music with neutral lyrical content ( $N = 27$ ). Participants then ostensibly competed in a competitive reaction time task with the confederate. During the reaction time task, physical aggression was examined by having participants administer noise bursts of varying intensity, pitch, and duration to the confederate who they believed to be playing. Though men and women significantly differed on aggressiveness in the reaction time task, participants in the other experimental conditions showed no significant differences. However, trends on aggression scores suggest that with a larger sample size, male participants exposed to country music and homosexual confederates' aggression scores may have been statistically significantly different from other groups.

## **I. Introduction**

### *Current Reports of Homonegativistic Bullying*

In late September and early October 2010, a series of teenage suicides related to homophobia occurred in the US. Seth Walsh, a 13 year-old boy living in Northern Los Angeles, hanged himself after coming out as a homosexual and being tormented by his peers. Tyler Clementi, an 18 year-old Rutgers University freshman, jumped off the George Washington Bridge after two of his dorm-mates secretly filmed him kissing another man. Only a week later, Zachary Harrington, a 19 year-old boy from Norman, Oklahoma, took his own life after attending a city council meeting debating recognizing October as Gay, Lesbian, Bisexual and Transgender History month. The frequency in which these specific suicides occurred is alarming and it continues today: the Suicide Risk and Prevention Center's report regarding trends in lesbian, gay, bisexual and transgender (LGBT) youth (2008) indicated that about 40% of self-identified LGBT youth have attempted suicide, and newer reports of antigay bullying and suicide continue to rise. The National Gay and Lesbian Task Force (1984) revealed 94% of surveyed gay men and lesbian women self-report to have experienced some form of antigay victimization in their lifetime. Determining how these two figures are related seems vital to identifying and solving the problem of homosexual prejudice in the US.

The frequency of celebrity antigay slurs is on the rise as well; in the past two years, actors such as Adam Carolla, Tracy Morgan, Isaiah Washington and Mel Gibson have all publically apologized for antigay statements. Even more common are homophobic remarks from musicians, though they have occurred in the recent past as well. These remarks primarily originate from musicians with outspoken conservative

ideologies. Blake Shelton, country music icon and judge of NBC's hit television show *The Voice* was heavily censured in April 2011 for using an antigay slur regarding the film *Brokeback Mountain* during the 2011 Country Music Awards Ceremony. He was criticized again in July 2011 by the Gay and Lesbian Alliance Against Defamation (GLAAD) for a violent and antigay twitter post: "re-writing my fav[orite] Shania Twain song... Any man that tries touching my behind, he's gonna be a beaten, bleedin' heaving kind of guy." Though he immediately publically apologized for the remark and never lost his slot as a judge on the show, his remarks exemplify a motif present in country music that largely remains unspoken.

The trends of homophobic remarks made by celebrities are especially concerning as the values present in any society are represented by in the ideas held by leaders and role models of that culture. These people are often popular musicians whose messages are carried across radio waves and are sold in both digital and brick-and-mortar music stores. There have been numerous measures taken by governments to restrict the types of audiences these messages reach— F.C.C. censorship extends to every AM and FM radio station in the US and "Parental Advisory" stickers are still marked on compact discs with offensive content. They recognize the potential impact that these views may have on music listeners and make efforts to restrict the audiences these messages reach. However, defining the effects that music has on listeners is essential in determining whether or not these messages have the potential to actually influence attitudes and behaviors. If exposure to country music has the potential to influence antigay attitudes and behaviors (or other types of prejudicial behavior), then similar forms of censorship should be

considered in order to restrict these specific messages from reaching sensitive populations.

## II. Review of the Literature

### *Priming and Automaticity*

Priming as described by Bargh (1996) refers to “the incidental activation of knowledge structures... by the current situational context” (p. 230). In one of the original experiments on priming in humans, Posner and Snyder (1975) asked participants to identify letters as they were displayed. Before each trial, a cue appeared that was either congruent or incongruent with the identity of the forthcoming letter. Performance was faster when the cues were valid (congruent) than when they were ambiguous. Miscues (trials when the congruent cue did not predict the target letter accurately) yielded mean reaction times that were significantly greater than those in the congruent cue condition. The authors interpreted this work in terms of attentional primes: The miscues as well as the valid cues (primes) directed attention to a particular letter, whereas the ambiguous cues presumably did not direct attention at all. This work demonstrated that priming utilizes elements of semantic memory (e.g., recognition of a specific letter) in the activation of other related cognitive schemas (e.g., utilizing the memory of a specific letter in the prediction of a subsequent letter). The authors interpreted this finding as being indicative of preconscious activation of thoughts by relevant tangible information. This is also known as *automaticity*, described by Devine (1989) as “the unintentional or spontaneous activation of some well-learned set of associations that have been developed through repeated activation in memory” (p. 6).

There is evidence of automaticity in social cognition and stereotype perception as well. Studies in this domain have demonstrated that priming has the potential to affect both attitudes and behaviors, though the mechanism that may produce these subsequent

behaviors is debated in the literature. Bargh et al. (1996) argued that the activation of implicit attitudes has the potential to affect both conscious and unconscious behaviors through the spreading activation of cognitive nodes associated with these attitudes. Implicitly primed cognitive schemas (nodes) may activate other related cognitive schemas if they are linked closely enough in semantic memory. These subsequently primed cognitive schemas may then manifest themselves in unconscious behaviors that are related to the activated attitudes.

Bargh et al. (1996) tested this hypothesis in two separate studies in which situational primes (in these cases, words related to the trait concepts in questions) predicted unintentional behavioral outcomes. In study 1, participants were primed using words related either to politeness (e.g., nice, polite), rudeness (e.g., obnoxious, bother) or neutrality (e.g., practiced, occasionally). These participants then met with an experimenter engaged in a conversation with a confederate. The dependent (behavioral) measure was the time taken to interrupt the experimenter. Participants primed with rude words took significantly less time to interrupt than those primed with polite or neutral words. Additionally, only 10% of participants in the polite condition ever interrupted the experimenter, compared to 35% in the neutral condition and over 60% in the rude condition. Similar priming methods were used in Study 2, with participants primed with words related to stereotypes about the elderly (e.g., retired, wrinkles) walking significantly slower down a hallway after the experiment than those primed with neutral words (e.g., thirsty, private). It is clear from these studies that priming specific attributes of a cognitive schema or attitude can affect behavior at an unconscious level.

These results lend support to the hypothesis that unconscious behaviors have the potential to be influenced by primed attitudes. Devine (1989) argues that these attitudes also have the potential to affect *conscious* behaviors as well (referred to as “controlled” versus “automatic” behaviors). Primed attitudes seem to manifest themselves in conscious behaviors only when the connections between the primed cognitive nodes are strong and frequently activated. In one study testing the ability of priming to induce prejudiced thoughts and behaviors related to ethnic stereotypes (Devine, 1989), negative evaluations of Black targets were demonstrated in high-prejudiced individuals primed with semantic information related to components of this stereotype (e.g., “aggressive,” “rhythmic,” “uneducated”). This automaticity was not demonstrated in individuals who were low-prejudiced against Blacks. Because the behavior in this task was under conscious control and the negative evaluations differed as a function of level of prejudice, automaticity was demonstrated to be a driving factor in controlled behavior only in individuals who endorsed the content of the activated cognitive schema.

Bargh and Pietromonaco (1982) demonstrated how evaluations concerning hostility could be garnered with the use of similar priming mechanisms. Participants in this study were exposed to a series of words which served as the semantic priming for an ostensibly unrelated second task. These series of words were either comprised of 0%, 20% or 80% words related to hostility (e.g., “hostile,” “unfriendly,” “dislikable”). Participants’ hostility ratings of a neutral target in the second phase of the experiment differed significantly as a function of the percentage of hostility-related words they were exposed to in the initial task. This result demonstrates that hostility and aggression may serve as cognitive schemas that are able to be primed with related semantic information.

Additionally, this priming has the potential to influence behaviors related to the evaluation of a neutral target.

Taken together, these studies demonstrate the ability of priming to influence attitudes and behaviors through the spreading activation of cognitive schemas related to the priming subject. Whereas priming does influence unconscious behavioral outcomes, individuals with strong connections between the priming information and the related cognitive schemas (e.g., individuals previously determined to be high-prejudiced; Devine, 1989) may automatically use this information in controlled behaviors. Additionally, priming has been shown to be effective in influencing behavioral outcomes related to stereotypes (Bargh, 1996; Devine, 1989), as well as general hostility (Bargh & Pietromonaco, 1982). However, all of these studies have used visually presented semantic information (e.g., words flashing quickly on a screen) as the priming mechanism. Several studies have demonstrated similar attitudinal and behavioral outcomes using other modes of priming.

### *Music as a Priming Tool*

Music preferences seem to be a concrete method of conveying non-musical information about one's self to others (Rentfrow & Gosling, 2007). However, this type of stereotyping does not need to extend solely to the individual listener—music genre itself seems to be a situational prime toward these types of cognitive extra-musical associations. Shevy (2008) described the cognitive model that may be contributing to how we garner such implicit attitudes from music through the spreading activation of information: “As people gain pieces of knowledge through experiences in life, such as listening to songs or watching music videos, these pieces of knowledge can exist as



separate fragments (i.e., episodic memory), but they also often become associated in various networks as semantic memory” (; Hawkins & Daly, 1988, p. 8, as cited in Shevy, 2008). This network of information, once retained, is processed and reactivated as individual nodes – snippets of knowledge called upon in semantic memory. Each of these nodes can become associated with a specific memory, and priming may occur when the activation of an individual node increases the likelihood that other nodes in the same network will be activated.

Shevy’s (2008) cognitive model for music priming is consistent with prominent theories of stereotype priming. Devine (1989) argues that stereotypes occur through similar processes involving automatic activation. Additionally, these processes also seem to occur in individuals both high and low in self-reported prejudice, indicative of implicit prejudice present in these latter individuals. These theories on automatic priming may have significant implications when looking at the impact of music on attitudes and behaviors. Rudman and Lee (2002) showed through a music priming task and subsequent assessment of both implicit and explicit measures of racism that listening to violent and misogynistic hip-hop music increases the likelihood of negative stereotyping of Black-identified targets, even in self-reported low-prejudiced individuals. These extra-musical associations resulting from automatic activation may even extend into the marketplace, with viewer perception and brand decision making moderated by the type of music played in commercials (Hung, 2001; Redker & Gibson, 2009). The idea that music can influence such a wide array of behavioral outcomes, from stereotyping behavior to consumer behavior, has the potential to have both positive and negative effects when we make extra-musical associations.

The homophobic remarks recently made by prominent country music artists are troublesome when combined with the idea that music may serve as a situational prime. Assuming that the lyrics written by these country music artists reflect their personal views and opinions, there is potential for these ideas to unconsciously influence individuals exposed to this genre. Though its lyrical content may not be representative of homophobic viewpoints directly, the repeated activation of this attitude during exposure may occur due to the spreading activation of other cognitive schemas that are closely related. In order to investigate whether or not this is the case, it is necessary to review some of the common thematic content present in country music and assess the degree to which these themes may influence attitudes toward homosexuality.

*Country Music as a Situational Prime toward Homonegativism*

Mann (2007) purports that “country music is widely perceived to be ‘white’ music – produced by white people, consumed by white people and apparently appealing most exclusively to white people, at least in North America” (p. 13). Speaking more to the genre itself, country music commonly includes themes related to “rural life, work and every day working class life (especially contrasted with that of the affluent), heterosexual ‘salvific love,’ (e.g. love recognized by the church) family life and values... Christianity, alcohol, death, humor and nostalgia” (p.12). Some combinations of these themes, such as heterosexual love and family life or death and alcohol, are commonly represented together in country music’s lyrical content and thereby may be more subject to associative priming.

The themes present in the lyrical content of most country music are not only easily identifiable, but may also be capable of priming other ostensibly unrelated attitudes

in its listeners. Themes relating to depression, alcoholism, white privilege and conservatism have been analyzed in previous research, with the effects in both listener perception (Rentfrow & Gosling, 2007) and possible priming outcomes (e.g., Stack and Gundlach, 1992) being reported. The current reports of antigay outbursts by country musicians may be indicative of attitudinal and behavioral priming in another social domain: homonegativism, or the utilization of negative stereotypes, prejudice and discrimination toward nonheterosexuals (Herek, 2000). Applied to Shevy's (2008) model of music priming, some of the cognitive "nodes" established through listening to country music (e.g., conservatism, patriotism, heterosexual love, family values) may have the potential to activate larger cognitive networks relating to negative attitudes toward homosexuals. In order to corroborate this claim, it becomes necessary to look into sources, correlates and other trademarks of homonegativistic attitudes and behaviors.

#### *Homonegativistic Attitudes*

A multitude of studies have investigated both attitudinal and behavioral correlates of homonegativism, as well as the demographic profile of the average perpetrator of homonegativistic acts. Researchers cite two main attributes as being the most consistent predictors of antigay attitudes and behaviors: gender of the perpetrator and endorsement of traditional gender role beliefs (Cullen et al., 2002; Herek, 2000; Parrott et al., 2001). Higher levels of authoritarianism and religiosity have also been shown to be consistent predictors of homonegativism (Basow & Johnson, 2000). Herek (2000) summarized the available research on these correlates, purporting that the majority of individuals who self-report sexual prejudice are men, and that gender is indeed one of the highest predictors of homonegativistic behavior. The most common perpetrators are "older, less

educated, living in the US South or Midwest and living in rural areas.” These individuals also tend to reliably score higher on scales assessing authoritarianism, to affiliate with fundamental religious groups (as opposed to more liberal denominations) and predominantly Republican or otherwise conservative political groups. This demographic comprises a wide range of individuals, the majority of whom self-report little to no interaction with homosexuals.

The link between being male and exhibiting homonegativism has been demonstrated by several other researchers (Herek, 2000; Mosher & Sirkin, 1984; Parrott et al., 2001). These studies explain the rationale for the greater number of men with antigay attitudes and behaviors by Mosher and Sirkin (1984) describe hypermasculinity, or the “macho personality constellation,” as a three-part personality trait reflective of individuals likely to engage in antigay acts. These traits consist of viewing violence as a manly act, subscribing to callous sexual beliefs and believing danger to be exciting. Parrott et al. (2001) extended this hypothesis by studying some of the attitudinal and behavioral correlates commonly observed in homonegativistic individuals, primarily subscribing to this notion that higher levels of masculinity and feeling threatened by femininity are indicative of a greater endorsement of antigay ideals. Scales representing hypermasculinity (Mosher & Sinkin, 1984), adversarial sexual beliefs, acceptance of interpersonal violence and hostility toward women were administered to an all-male population in order to establish convergent validity, and scales assessing depression, alcoholism and anxiety levels were administered to demonstrate discriminant validity in the same sample. The results supported the initial hypotheses; men who reported feeling threatened by femininity (either by homosexual men or heterosexual women), a higher

endorsement of violence in interpersonal relationships and traditional gender roles were likely to have either engaged in or supported homonegativistic acts. These results were not correlated with other behavioral measures such as alcoholism, anxiety or depression, indicating that there may not be a moderating factor that influences these attitudes and behaviors. It is clear that an individual's endorsement of traditional gender roles has an impact on opinions of homosexuality, and these findings may contribute to researchers in this field identifying individuals more prone to endorse homonegativistic acts.

Although homonegativism seems to be more prevalent in men, there is evidence it persists in women as well. Basow and Johnson (2000) investigated how antigay attitudes and behaviors may manifest themselves in a female sample, asserting that these attributes function differently in women than in men. Measuring similar qualities in studies assessing primarily male samples (e.g., gender role beliefs, authoritarianism, religiosity, previous interaction with homosexuals), the researchers found that female homophobia is not as easily predictable. Whereas men may feel a greater need to subscribe to traditional gender roles in order to affirm their masculinity, this is not as important in heterosexual women – however, women that do adhere to traditional gender roles exhibit more antigay attitudes. Similarly, women that subscribe to authoritarian and conservative ideologies are also more likely to condemn homosexual behavior. Having no previous contact with homosexuals was demonstrated to be a valid predictor of homonegativism in this sample as well (Basow & Johnson, 2000). Though women are less likely to express antigay attitudes as a whole, the small population of women that do express antigay attitudes are not likely to do so in defense of their gender and sexual identities being threatened.

However, right-wing authoritarianism, religiosity and previous contact with homosexuals seem to be valid predictors of homonegativistic attitudes regardless of sex.

Several studies have painted a clearer picture of the prototypical antigay aggressor by looking at actual cases of homosexual victimization. The majority of the reported verbal and physical assaults against homosexuals are by noncriminal young men in their late teens and early twenties (Harry, 1990). Franklin (2000) surveyed a large sample of men fitting this profile, and determined that those therein who felt motivated to commit these acts did so because of four distinct reasons: peer dynamics, antigay ideology, thrill seeking behavior and self-defense. Peer dynamics are described as the desire to feel like part of an ingroup, not necessarily agreeing with the principles of that ingroup (“I did it because of opinions of people I respect” and “I did it to show my friends I am tough” are common excuses given by perpetrators in this category). Those exhibiting antigay ideology would respond with phrases related to either skewed facts or moral judgments about homosexuals (e.g., “I did it because homosexuals spread AIDS”). Individuals assaulting homosexuals for in the act of thrill-seeking seemed to have no direct problem with homosexuality (“I did it because I was bored” and “I did it to feel strong” are common responses in this category) though their responses correlated highly with individuals in the peer dynamics group. Individuals assaulting homosexuals out of self-defense did so for no reason related homonegativistic attitudes, and their scores were negatively correlated with scores in the peer dynamic group. The reasons behind homonegativistic behavior, though still unclear, have the potential to inform researchers about attributes related to both the perpetrator himself/herself as well as some situational cues that may lead to antigay victimization.

Gender and endorsement of traditional gender role beliefs seem to be effective in predicting homonegativism. However, most of the samples in these studies consist of non-criminal male and female college students' attitudes toward homosexuality. Research on other groups that commonly victimize homosexuals may provide insight into a more specific perpetrator profile, thus identifying a target population linked directly to homonegativistic aggression. Even so, antigay attitudes, homonegativistic aggression and other antigay behaviors may not be influenced by the same types of environmental stimuli. In order to assess the factors influencing both antigay attitudes and behaviors, it is necessary to delineate the differences between homonegativistic attitudes and homonegativistic aggression.

#### *Homonegativistic Aggression*

Behavioral aggression is a broad term encompassing behaviors such as name-calling, general bullying, fighting, and social exclusion (Espelage & Swearer, 2008). Miller and Bugelski (1948) identified how behaviors like these may manifest themselves in correspondence with outgroups by relating them to the frustration-aggression hypothesis (Dollard et al., 1939). According to this hypothesis, all aggression is displaced; it is first stimulated by a frustrating event (e.g., being stuck in traffic) and the frustrated individual then lashes out on a tangible stimulus (e.g., a person driving slowly in traffic). Miller and Bugelski's (1948) addition to this hypothesis is that individuals experiencing a frustrating event are more likely to aggress toward identifiable members of outgroups rather than members of their own ingroup. This effect has been demonstrated by several different researchers studying homonegativistic aggression specifically (Bernat et al., 2001; Parrott & Zeichner, 2005; Talley & Bettencourt, 2008).

Measuring physical aggression in a laboratory setting has been demonstrated to be problematic. Many research designs in this field include qualitative verbal evaluations and self-reported measures of aggression in hypothesized situations. Talley and Bettencourt (2008) used a measure of psychological distancing in order to infer antigay attitudes: participants were placed in teams with either heterosexual or homosexual confederates and told that they were to participate in a cooperative task. Before participants were aware of their partner's sexuality, they rated themselves on a series of attributes (e.g., "proud," "patient") and the degree to which they possessed these attributes on a scale from one to 100. After being exposed to the sexuality of their partner, they were then shown their partner's scores on a different set of attributes and were asked to rank themselves on these qualities using the same scale. Psychological distancing was determined by the numerical distance between partner's and participant's scores on specific attributes. Though this measure may be effective in determining antigay attitudes and perceived threat, it fails to assess an individual's likelihood to behaviorally aggress against homosexuals.

Despite the abundance of methods that indirectly measure aggression, some ethical means of assessing behavioral aggression have emerged in the literature. The Taylor Competitive Reaction Time Task (TCRTT; Taylor, 1967) is one of these laboratory assessments of behavioral aggression. In this task, participants in a control and experimental condition are paired with fictitious opponents in order to assess reaction times. The reaction time task itself is composed of several rounds, with participants in both conditions "winning" and "losing" the same number of rounds. Upon completion of each round, the participant either chooses to administer a shock to his or her opponent,



given the opponent's victory, or receives a shock from their opponent. The shocks are used as either a mechanism of provocation for the participant or as a means of "handicapping" an opponent who is already winning. Mean participant-selected variations in the intensity and duration of these shocks serve as a measurement of behavioral aggression.

This method has been used to measure behavioral aggression related to antigay attitudes. Bernat et al. (2001), using a modified version of the TCRTT, set up a controlled experiment assessing antigay aggression in a male sample. Participants were primed with a homosexual erotic video, paired up with either a heterosexual or homosexual partner and told that they were to compete in a reaction time task. The participant and confederate were placed in two separate rooms and told that they were to compete against each other in 20 reaction time trials. The winner of each trial would have the opportunity to shock the loser, and they would be able to control the shock intensity and duration (this is not parallel with the methodology described in the TCRTT). In actuality, there was no competition, the trials were pre-programmed to provide each participant with equal numbers of wins and losses and the designated shock levels administered by the participant were used as a measure of aggression. Additionally, these scores were used with pretest measures of antigay attitudes and aggressive behaviors in order to complete profiles of individuals likely to aggress against homosexuals. This study effectively demonstrated that men scoring higher on scales relating to homonegativism (but not necessarily general aggression) are more likely to behaviorally aggress toward homosexuals. The methodology used in this study, though deceptive, provides

researchers with a relatively nonviolent means of assessing aggression and comparing these scores with homonegativistic attitudes.

The TCRTT has been modified to include noise bursts (short blasts of white noise varying in intensity, pitch and duration) instead of electric shocks in other studies involving the effects of masculinity (Weisbuch et al., 1999), physical attraction (Levy et al., 2007), alcohol-related image priming (Brown et al., 2010), and social anxiety (DeWall et al., 2010) on behavioral aggression. Ferguson and Rueda (2009), in a study examining the validity of this modified TCRTT, state that “although the noise blasts are less aversive [than the electric shocks], they are easily adaptable to a computer-driven format and may raise fewer ethical concerns with institutional review boards” (p. 9). Additionally, the noise bursts provide the same type of variation as the electric shocks—participants can vary the intensity and duration of the noise bursts set to be administered to a fictitious opponent—as well as additional means of variation (e.g., pitch). The researchers compared participants’ scores on the modified TCRTT against their self-report measures of aggressive behavior, trait aggression, violent criminal behavior and domestic violence perpetrations. They concluded that while the stimulus itself is less aversive than its electric shock counterpart and did not highly correlate with the aforementioned self-report measures, it still has the potential to instigate and assess aggressive behavior in limited situations.

Though there are some inherent flaws to the modified TCRTT design, this method has been effective in research involving some types of aggression. Weisbuch et al. (1999) used this method in order to assess the role of self-perceived masculinity on aggressive behavior. The researchers found that men with higher levels of gender role masculinity

were more likely to aggress against a fictitious opponent, using higher average levels of noise bursts than their low-masculinity counterparts. Furthermore, Brown et al., (2010) demonstrated that participants primed with alcohol-related images respond more aggressively in the modified TCRTT than participants primed with non-alcohol related images. Though the modified TCRTT may not provide insight into aggressive behaviors that manifest themselves outside of laboratory settings, studies like these provide current researchers with evidence that there may be ethical means of assessing aggressive tendencies without the risk of physical harm.

#### *Country Music and Homonegativistic Aggression*

Assessing the correlation between antigay aggression and antigay attitudes is possible in a controlled setting (Bernat et al., 2001). Therefore, assessing aggression based on correlations between antigay attitudes and other ostensibly unrelated variables is also feasible. The assumption that other types of attitudes and personality characteristics are able to consistently predict homonegativistic attitudes has been demonstrated (Cullen et al., 2008; Herek, 2000; Parrott et al., 2001), but a connection between some of these predictor variables (e.g., conservative ideology, traditional gender role beliefs) have yet to be linked directly with homonegativistic aggression. Similarly, some types of music priming may be able to activate some of these attitudes in specific populations (Shevy, 2008; Stack & Gundlach, 1992). If certain types of priming are able to activate attitudes related to homonegativism then they should also render an individual more likely to aggress against homosexuals.

Mann (2007) purports that the thematic content of country music is related to conservative ideology, the ethnic norm, Christianity, heterosexual love and rural life.

There are similarities between the thematic information provided in the lyrical content of country music, the demographic information most commonly associated with the average country music listener and the demographic information associated with the average individual harboring homonegativistic attitudes. It is likely that these messages reinforce attitudes in frequent listeners, but they may be able to prime attitudes in individuals who do not identify themselves as such. Given the purported link between homonegativistic attitudes and aggression (Bernat et al., 2001), it may also be possible to demonstrate that country music priming may lead to negative behavioral outcomes. If the thematic content present in country music is able to activate cognitive schemas leading to aggression, it may provide further insight into the factors leading to homonegativistic aggression.

#### *The Present Research*

The present study sought to determine whether homonegativistic behaviors could be established as a result of implicitly priming individuals with country music containing lyrical content related to conservative and patriotic values. Specifically, the research is concerned with country music's ability to prime other attitudes not present in the lyrical content, but commonly associated with country music (e.g. traditional gender role beliefs, social conservatism; Mann, 2007). The present study also hypothesized that individuals with high levels of social conservatism and holding traditional gender role beliefs would be more likely to maintain negative attitudes toward homosexuality, and therefore be more likely to behaviorally aggress against homosexuals. The extent to which these attitudes are able to influence both attitudes and behaviors associated with homonegativistic aggression is representative of the ability of country music to activate other ostensibly unrelated cognitive nodes.

### **III. Method**

#### *Participants*

A total of 72 participants at James Madison University who were enrolled in introductory psychology courses participated in the experiment in partial fulfillment of their course research requirements. Of the original sample, 28 participants were excluded from the results: 18 participants who mentioned becoming suspicious of the experiment's true intentions during the post-experimental suspicion probe and 10 others were excluded due to variations in the study's protocol (see Discussion). Forty-four participants were retained in the analyses. Fifty-two percent of participants were male ( $N = 23$ ) and 47% were female ( $N = 21$ ). Participants predominantly were White ( $N = 37$ ), with Black ( $N = 5$ ), Hispanic ( $N = 3$ ) and Asian ( $N = 1$ ) participants also taking part in the study. All participants were heterosexual, and either single ( $N = 31$ ), in a monogamous relationship ( $N = 12$ ), or married ( $N = 1$ ). Participants had a mean age of about 21 years ( $M = 20.61$ ,  $SD = 2.03$ ).

#### *Materials*

The survey in Phase I of the study was administered through Qualtrics, an online survey software endorsed by the university. In the Phase II music listening task, songs were played from SoundCloud.com using a "Machs Gut Music" profile page. The songs in each condition are listed in Appendices C (country songs) and D (pop songs). The reaction time task was designed using Medialab software (Empirisoft, 2010). Data were analyzed using IBM SPSS v.19.

### *Procedures*

The current study was divided into two phases and employed a 2 (music genre prime: country or pop) x 2 (confederate sexuality: homosexual or heterosexual) x 2 (gender of participant: male or female) x 4 (time point) mixed factorial design. The first phase was a pretest conducted using the online survey tool Qualtrics. Individuals who took this survey then participated in the second phase of the study, itself composed of two parts. The first part of the second phase included a music listening task in which participants were exposed to clips of music from genres in the experimental or control conditions (country music and pop music, respectively) and the main experimental manipulation (exposure to a homosexual or heterosexual confederate), described below. The second part of the second phase of the study involved a reaction-time task, similar to the TCRTT (Taylor, 1967) used by Bernat et al., (2001), except modified to include noise bursts instead of electric shocks. Participants earned two introductory psychology credits for participating in both phases of the experiment

The study was conducted using the guise of *Machs Gut Music*, a fictional up-and-coming internet radio site developed by the researchers. The study advertised on the campus's participant pool website (titled "Does Your Life have a Soundtrack?") was described as being an effort by *Machs Gut Music* to assess students' music listening preferences and social attitudes in order to improve the quality of their radio stations. The study also advertised being concerned with the manner in which music listeners remembered specific songs. This deception was used to increase ecological validity of the entire study in order to convince the participants that they were actually participating in a music listening task, thereby increasing the likelihood of genuine responses during both

of the experimental phases. Phase I was described as a survey being conducted through a partnership between JMU and *Machs Gut Music* to study the relationship between music preferences and social attitudes. Once the results of the survey had been submitted, participants moved on to phase II of the study, which was described as assessing the effects of song presentation and order effects on short-term song recall.

*Phase I (Pretest Measures)*

Male and female participants were invited into the second half of the experiment to participate one at a time. They entered the waiting room and met a confederate of the same sex with whom they completed the subsequent tasks in the experiment. The confederate was treated as a participant by the experimenter, and the actual participant was led to believe that the confederate was another participant in the study.

Participants filled out a social conservatism scale (SC; adapted from Henningham, 1996;  $\alpha = .81$ ), the Attitudes Toward Homosexuality Scale (ATH; Kite & Deaux, 1986;  $\alpha = .93$ ), the Gender Role Beliefs Scale (GRBS; Kerr & Holden, 1996;  $\alpha = .89$ ), and a music experience questionnaire developed by the researcher. Music listening preferences were also gathered from the pretest survey.

*Phase II, Part I (Machs Gut Music Listening Task)*

For the cover story for this phase of the experiment, the participant was told that the study was assessing how primacy and recency effects of song order apply to music recognition, discrimination, and recall. The participant and the confederate listened to 30-second clips of each song in one of the two randomly assigned conditions (country or pop) through headphones and were told that the songs would be presented in different orders. In actuality, the songs were played in the same order to control for the same

effects described in the cover story. The clips in the country music condition (see Appendix D) all contained lyrical content related to patriotism and socially conservative values in order to influence the spreading activation of attitudes related to homonegativism (Devine, 1989). The songs in each condition contained 2 filler songs from the other condition to increase ecological validity.

After the music-listening portion of Phase II, the participant was exposed to the confederate's purported sexual orientation (heterosexual or homosexual). This exposure occurred after the experimenter asked both the participant and the confederate to silence or turn off their cellular phones. The confederate then pretended to receive a text message either coming from his or her boyfriend or girlfriend (depending on the condition). Making sure the participant was able to hear, the confederate subsequently told the experimenter that he had forgotten he and his boyfriend's two-year anniversary and asked if he had time to text him back. This manipulation occurred in both male and female conditions, as well as both heterosexual and homosexual conditions, with slight changes depending on the condition (e.g. "her/girlfriend," "his/girlfriend," "her/boyfriend," "his/boyfriend"). The confederate then spent roughly 30 seconds pretending to text his or her significant other.

*Phase II, Part II (Reaction Time Task)*

After the manipulation occurred in which the confederate revealed their sexual orientation, the participant was told that they would compete against the confederate in a discrimination and reaction time task. They were told the task's purpose was to see which participant was more readily able to identify the songs they had just listened to versus songs that did not appear in the previous listening task. In actuality, no competition was



taking place; the researchers pre-programmed the experimental software (MediaLab 10.4) to imitate competition between opponents. This description bolstered the objectives of the initial cover story. Participants listened to six trials composed of ten songs presented in five-second intervals. They were instructed to hit the “left” key when they recognized the song or the “right” key when they did not recognize the song from the previous listening task. This was followed by a “please wait” signal. This signal was used to increase ecological validity by creating an environment where the participant believed there was a lag in the game due to participation by his or her opponent. The game process was explained both by the experimenter and as text in the MediaLab software being used to run the game.

The experimenter then instructed both the participant and the confederate to enter separate testing rooms. The participant was brought in first, seated in front of a computer located in the individual testing room, and was given instructions by the experimenter. The experimenter then pretended to lead the confederate into a separate testing room, but in actuality brought the confederate to the research lab where he or she waited for a subsequent participant. The experimenter then instructed the participant to begin the game.

After each round, a message appeared informing the participant that they had either won or lost the round. The trend of winning and losing was identical in all subjects, regardless of condition. This was also pre-programmed into the experimental software. All participants predominantly lost (out of six rounds, the participant won two and lost four), in order to influence frustration (Dollard et al., 1939). A message then appeared asking the participant to make a comment to their competitor. These comments from the

participant were stored, and the same prewritten comments designed by the researchers were delivered to the participant through the guise of his or her opponent (see Appendix A). These comments were sometimes nonchalant and sometimes harsh and degrading to influence aggression (e.g., "*Ha! I win! nice try!*" and "*I just learned in my gpsyc class that slow reactions are linked to low IQ, btw*"). Standardizing the comments received and winning and losing order for each participant ensured that participants across conditions were experiencing the same stimuli and manipulation.

When the participant completed a losing round, a message appeared asking if they would like to administer a noise burst to their opponent. The noise burst was explained at the onset of the reaction time task to be a short sound signal of moderate intensity that is composed of multiple frequencies. No actual noise bursts were administered by the participant, but the selection of the types of noise-bursts the participant believed were being administered is what composed our quantitative measure of aggression.

Participants were given three options for the noise burst, each composed of seven Likert-scale points on a sliding scale of intensity; full volume (louder) to half volume (softer), five-seconds (longer) to two-seconds (shorter), and higher-pitched (more painful) to lower-pitched (less painful). These parameters were averaged to represent aggression scores in subsequent main effects analyses (present  $\alpha = .85$ ), as well as totaled to assess overall aggression.

There were only two noise bursts administered to each participant, as the winning and losing of each round of reaction time tasks was staged, to increase ecological validity of the reaction-time task. The participant received a message after both of their winning rounds explaining that his or her opponent has chosen to administer the loudest, longest

and highest-pitched noise burst. These bursts were 5-seconds long, composed of a spectral signal between 2,000 Hz and 5,000 Hz (noise within the frequency spectrum of the typical human voice), and at a comfortable speaking decibel level (55db). This ensured that no physical pain resulted from either noise burst on the part of the participant. Administering noise bursts to the participant himself/herself increased believability on the part of the participant both in that he or she was actually participating in a competition and that his or her counterpart was administering noise-bursts.

Before the first round, after two losing rounds, and after one winning round (rounds one, three, and five where participants lost, won, and lost, respectively) participants were instructed to fill out the “hostility” subscale of the PANAS-X to assess state levels of frustration (Watson & Clark, 1994; original  $\alpha = .85$ , present  $\alpha = .92$ ). This scale allows participants to rate their current emotional state based on different adjectives (e.g., “scornful,” “tranquil”), and was used to determine whether or not the participant was actually becoming more frustrated as the reaction-time task progressed. As using this measure was hypothesized to estimate aggressive behavior throughout the task according to the frustration aggression hypothesis (Dollard, 1939), total scores from each time point were taken and compared across groups to assess mean differences. Additionally, total frustration scores from the “hostility” subscale were used to compute overall frustration. After the six rounds were over, a message notified participants that the experiment was over and that they were to remain in the experimental room and wait for the researcher to release them.

Before debriefing, each participant underwent a suspicion probe by the experimenter in order to assess whether the manipulation (exposure to the confederate’s

sexual orientation) was recognized as well as to assess their interpretation of the musical genre (“country” or “pop”) to which he or she was exposed. The experimenter then debriefed the participant thoroughly. The debriefing explained every type of deception used in the experiment, ensuring that the participant was aware of every way they had been deceived. This procedure was also intended to clarify any questions or problems participants may have had with the experimental procedures, to garner useful feedback on the experiment itself and to ask participants to remain confidential about the study’s purposes. If during the suspicion probe the experiment expressed being suspicious of deception of any sort, their data (both from the pre-reaction time task survey and the reaction time task itself) were excluded from later analyses.

#### *Data Screening/Analysis*

Item responses on the initial survey (Phase I) were gathered and analyzed via Qualtrics and SPSS as they were collected. Responses to each of the three primary scales [the Social Conservatism scale (adapted from Henningham, 1996), the Attitudes Toward Homophobia Scale (ATH; Kite & Deaux, 1986), and a music experience questionnaire developed by the researcher] and time at which the pretests were taken were used to categorize participants. After Phase II of the study, these scores were correlated with the noise-burst measure of aggression. Noise burst levels selection and emotional rating scale responses were uploaded from MediaLab into SPSS format to be analyzed.

## IV. Results

### *Preliminary Analyses*

In order to assess the role of the pretest measures in relation to the aggression and frustration outcomes in the reaction time task, descriptive statistics for the Attitudes Toward Homosexuality Scale (ATH), the Gender Role Beliefs Scale (GRBS), and the Social Conservatism Scale (SC) were taken. The ATH scale ( $M = 90.73$ ,  $SD = 14.42$ ) has a range of 56 points to 115 points, representing less and more negative attitudes toward homosexuality, respectively. The GRBS scale ( $M = 82.95$ ,  $SD = 15.16$ ) had a range of 56 points to 127 points, representing less traditional and more traditional views toward gender role beliefs, respectively. The SC scale ( $M = 18.56$ ,  $SD = 2.57$ ) had a range of 13 points to 24 points, representing less and more socially conservative views, respectively. On the ATH scale, men ( $M = 90.13$ ,  $SD = 13.86$ ) scored lower than women ( $M = 91.38$ ,  $SD = 15.32$ ). Men ( $M = 79.70$ ,  $SD = 13.49$ ) also scored lower than women ( $M = 86.20$ ,  $SD = 16.35$ ) on the GRBS scale. However, men ( $M = 19.30$ ,  $SD = 2.42$ ) scored higher than women ( $M = 17.76$ ,  $SD = 2.54$ ) on the SC scale. Participants' scores on these measures were correlated with total noise burst scores (summed across four time points) and total scores on the PANAS-X (summed across four time points), collapsing across all groups. These scales were also correlated with each other in order to evaluate their individual relationships.

These correlations were utilized as the first step in a multiple regression framework to predict frustration and aggression outcomes in the reaction time task. However, the results of the bivariate correlation revealed that none of the individual pretest measures correlated significantly with either the frustration or aggression total

scores (all  $p$ -values  $\geq .422$ ). This result indicates that the pretest measures provided no predictive utility for frustration or aggression scores in the reaction time task.

Additionally, the pretest measures were correlated with one another (see Table 4). The ATH total scores and the GRBS total scores were highly correlated in the total sample of participants, with ATH scores accounting for 48% of the variance in GRBS scores ( $r = .692$ ,  $R^2 = .48$ ,  $p < .001$ ). Additionally, the ATH and SC total scores were highly correlated, with ATH scores accounting for 39% of the variance in SC scores ( $r = .625$ ,  $R^2 = .39$ ,  $p < .001$ ). The GRBS and SC total scores were moderately correlated, with GRBS scores accounting for 16% of the variance in SC scores ( $r = .394$ ,  $R^2 = .16$ ,  $p = .012$ ). These results indicate consistency in attitudinal representation on the scales in the overall sample, with participants scoring highly on the ATH scale also scoring highly on both the GRBS and the SC scales. However, because the variance accounted for in the outcome would only be attenuated by combining highly correlated predictor variables, the multiple regression analysis was not computed.

Correlations between subscales, frustration scores, and aggression scores were also investigated in male and female participants separately in order to assess sex differences in responses. Male participants' PANAS-X total scores and noise burst total scores were negatively moderately correlated ( $r = -.429$ ,  $R^2 = .18$ ,  $p = .041$ ), indicating that higher levels of frustration were related to lower levels of behavioral aggression. The pretest measures were correlated as well; ATH scores and GRBS scores were highly positively correlated, with ATH scores accounting for 38% of the variance in GRBS scores ( $r = .619$ ,  $R^2 = .38$ ,  $p = .004$ ). The ATH and SC scores were also positively

correlated, with ATH scores accounting for 35% of the variance in SC scores ( $r = .592$ ,  $R^2 = .35$ ,  $p = .003$ ; see Table 5).

Female participants' frustration and aggression scores were positively, though not significantly, correlated ( $r = .428$ ,  $R^2 = .18$ ,  $p = .053$ ). Scores on the ATH and GRBS were highly positively correlated for female participants, with ATH scores accounting for 63% of the variance in GRBS scores ( $r = .791$ ,  $R^2 = .63$ ,  $p < .001$ ). Scores on the ATH and SC were also highly correlated, with ATH scores accounting for 55% of the variance in SC scores ( $r = .744$ ,  $R^2 = .55$ ,  $p < .001$ ). SC and GRBS scores were also highly correlated in female participants, with ( $r = .719$ ,  $R^2 = .52$ ,  $p < .001$ ; see Table 6)

### *Music Preferences*

The music experience questionnaire developed by the researchers included a question investigating participants' music preferences. Of these preferences, Rap/Hip-Hop ( $N = 10$ ), Radio Rock/Alternative ( $N = 9$ ), Pop/Top 40 ( $N = 9$ ), Indie/College Rock ( $N = 5$ ), Country ( $N = 4$ ), and Christian ( $N = 3$ ) had the highest representation among participants. A one-way analysis of variance (ANOVA) assessed whether participants with different music preferences differed in frustration or aggression scores. The analysis was not significant at any time point on either PANAS-X or noise burst scores [ $F(9,43) \leq 1.997$ ,  $p \geq .071$ ]. This result indicates that participants who preferred genres of music present in the manipulation (country and pop) did not significantly differ on frustration or aggression scores.

### *Deception and Experimental Suspicion Probe*

As previously described, all participants underwent a suspicion probe questionnaire at the end of the experimental procedures to ensure the success of the

deception. The first two questions, “*What did you think of the study?*” and “*What did you think of your opponent?*” assessed participants’ belief in the deception that they were actually competing against an opponent. This manipulation appeared successful in the majority of participants, with answers such as “*He totally beat me!*” and “*She noise bursted me a few times... it was pretty annoying*” indicating this belief. Participants who suspected deception in any part of the experimental procedures were excluded from subsequent analyses. The third question, “*What was the sexual orientation of your opponent?*” assessed participants’ knowledge of the confederate’s sexuality. Two female participants in conditions with homosexual confederates responded with “bisexual” instead of homosexual or heterosexual; data from these participants were excluded from subsequent analyses. The fourth question, “*What type of music were you primarily exposed to during the experiment?*” assessed participants’ ability to accurately name the genre of music present in phase II, part I of the experimental procedures. All included participants accurately named the genres. Finally, the last question “*What did you think of the noise bursts?*” allowed participants to indicate whether or not they believed they were actually harming their opponent. All included participants indicated their belief in this experimental manipulation.

Participants who were excluded from the study because of suspicion primarily reported their lack of belief in the reaction time task itself. These participants specifically expressed concerns with the reaction time task being pre-programmed, the messages sent by their opponents, and the noise bursts they received (e.g., “*I didn’t really think I was playing against anyone.*” “*I don’t think the other participant was actually sending me messages.*” “*I’m not sure if the other guy was giving me those noise bursts.*”). None of



the excluded participants addressed any concern with the confederate, indicating their belief that this was not a deceptive manipulation by the experimenter. Additionally, none of the excluded participants mentioned suspecting a connection between the pretest measures relating to homonegativistic views and the sexual orientation of the confederate. The results of the suspicion probe responses from the excluded participants indicated the phase I and part I of phase II were successful manipulations.

#### *Frustration and Aggression Analyses*

Frustration and aggression scores were compared utilizing a 2 (sexuality) x 2 (music genre) x 2 (sex) x 4 (time point) mixed factorial analyses of variance (ANOVA). Frustration was computed at each time point by total PANAS-X score, whereas aggression scores were represented by the mean of all noise burst parameters (intensity, duration, and pitch). After running these ANOVAs, *t*-tests investigating main-effects differences between groups on frustration and aggression scores at each time point were conducted collapsing across conditions of the other variables (because multiple analyses were computed in the mixed factorial analysis, a Bonferroni alpha correction was utilized to control for type I error rates). Noise burst mean scores ranged from 0 (not at all aggressive) to 7 (very aggressive). PANAS-X total scores ranged from 16 (not at all frustrated) to 80 (very frustrated). Additionally, scores on the pretest measures from phase I of the experiment were correlated with PANAS-X and noise burst total scores (summing across four time points). These correlations were used to preliminarily assess the predictive utility of these scores in participants' frustration and aggression levels.

#### *Frustration*

Participants' overall frustration was much higher by the end of the reaction time task. The 2 x 2 x 2 x 4 mixed factorial ANOVA for frustration yielded a main effect of time point on participants' frustration [ $F(3,41) = 11.921, p < .001; \eta^2 = .25, \beta = .99$ ]. This result indicated that frustration scores were significantly different from each other in the reaction time task (see Figure 1). Post hoc analyses were performed using Bonferroni pairwise comparisons. The results revealed that participants' mean PANAS-X scores significantly increased from time 1 ( $M = 26.34$ ) to time 2 ( $M = 29.60, p = .007$ ), increased again from time 2 to time 3 ( $M = 33.00, p = .107$ ), and then significantly decreased at time 4 ( $M = 30.59, p = .006$ ). Moreover, PANAS-X scores grew by an average of 4.25 points from time 1 to time 4 ( $p = .004$ ).

There was no significant interaction between music genre and frustration [ $F(3,41) = 2.801, p = .068; \eta^2 = .07, \beta = .66$ ], indicating that music genre did not contribute to frustration scores. Figure 2 and mean scores in Table 1 demonstrate the trend occurring between music genre and frustration over time; participants exposed to country music started the task with higher levels of frustration than participants exposed to pop music [ $t(42) = 2.562, p = .014$ ; ], but this difference was non-significant due to the Bonferroni correction employed to correct for type 1 error (in cases with four comparisons,  $p$ -values must be below .013 in flagging significance). Both groups were roughly equal at the second time point, but participants exposed to country music reported more frustration on both the third and fourth time points.

Additionally, there were no significant interactions between frustration and opponent sexuality [ $F(3,41) = .152, p = .856; \eta^2 = .01, \beta = .07$ ] or frustration and sex of the participant [ $F(3,41) = .414, p = .660; \eta^2 = .01, \beta = .11$ ]. Independent-samples  $t$ -tests

taken at each time point of the reaction time task demonstrated that there were no differences between participants exposed to homosexual or heterosexual opponents [time 1:  $t(42) = .097, p = .923$ ; time 2:  $t(42) = .726, p = .472$ ; time 3:  $t(42) = .046, p = .964$ ; time 4:  $t(42) = .525, p = .923$ ], or between male and female participants [time 1:  $t(42) = .370, p = .713$ ; time 2:  $t(42) = 1.519, p = .136$ ; time 3:  $t(42) = .784, p = .437$ ; time 4:  $t(42) = .572, p = .570$ ] on PANAS-X scores (see Table 1). These results indicate that there were no differences in frustration scores at any time point between participants exposed to either homosexual or heterosexual opponents. Moreover, there were no differences between male and female participants' frustration on any time point.

Male participants exposed to homosexual opponents and country music displayed much higher mean scores on frustration throughout the reaction time task. The four-way interaction between frustration, opponent sexuality, participant sex and music genre was significant [ $F(3,41) = 3.462, p = .019; \eta^2 = .08, \beta = .62$ ]. The mean scores for each group collapsing across time points are represented in Table 2. Male participants exposed to country music and homosexual opponents ( $M = 34.25, SD = 2.31$ ) scored higher on frustration over the entire reaction time task than all other combinations of groups.

### *Aggression*

Participants exposed to country music and paired with homosexual opponents did not aggress significantly more than participants in other subdivisions of groups. The  $2 \times 2 \times 2 \times 4$  mixed factorial ANOVA for aggression yielded no significant interactions between groups on mean noise burst scores across time points of the reaction time task [ $F(3,41) \leq 1.998, p \geq .131; \eta^2 \leq .44, \beta \leq .62$ ]. This result indicated that groups did not significantly differ on aggression as a function of time point. However, a significant main

effect was demonstrated between male and female participants on aggression collapsing across time points [ $F(3,41) = 8.413, p = .006; \eta^2 = .19, \beta = .81$ ]. Simple main effects measured with independent samples  $t$ -tests demonstrated that male and female participants did not differ significantly at the first or final time point, but men utilized higher levels of noise bursts in the second and third rounds of the competition compared to women [time 1:  $t(42) = 1.645, p = .107$ ; time 2:  $t(42) = 2.760, p = .009$ ; time 3:  $t(42) = 2.852, p = .007$ ; time 4:  $t(42) = 2.045, p = .046$ ; see Figure 2]. The mean scores and standard deviations for male and female participants at each time point are listed in Table 3.

Based on the aggression results collapsing across time points, music genre and opponent sexuality made little contribution to participants' levels of noise bursts. There were significant differences between male and female participants on aggression with a large associated effect, but between-groups mean differences of this magnitude were not demonstrated in the other variables. However, collapsing across time points and examining the total noise burst scores across subdivisions of groups (see Table 7) illustrates that male participants exposed to country music and homosexual opponents demonstrated higher aggression levels by the end of the reaction time task. This trend indicates that there may have been confounding variables (see Discussion) in the reaction time task itself that potentially resulted in suppression of aggression at some time points.

## V. Discussion

This study examined the relationship between participant sex, exposure to country or pop music, and behavioral aggression toward homosexual versus heterosexual confederates. Exposure to country music containing patriotic and socially conservative lyrical content was hypothesized to influence homonegativistic aggression through the spreading activation of these themes to other cognitive nodes related to antigay attitudes (Bargh, 1996; Devine, 1989), but this hypothesis was not fully supported. Frustration scores were measured across time points of the reaction time task in order to assess the likelihood of participants to aggress (Dollard et al., 1939). While the task was successful in frustrating participants, it only partially succeeded in predicting aggression. Frustration scores were computed between experimental groups to predict participants' aggression toward members of outgroups, specifically homosexuals (Miller & Bugelski, 1948). Additionally, this study hypothesized that individuals holding specific personality attributes (e.g., endorsement of traditional gender role beliefs, high levels of social conservatism) would be more likely to aggress against homosexuals, based on previous research indicating these personality attributes correlated highly with attitudes against homosexuality (Herek, 2000; Parrott et al., 2001). While this hypothesis was not supported, significant correlations were found between these personality attributes.

Comparisons of frustration scores collapsing across all experimental conditions demonstrated that the reaction time task was successful in frustrating participants in general, but there were no significant differences between frustration scores at levels of any experimental condition. However, trends were exhibited in frustration scores between levels in the music genre as well as the participant sex conditions (see Table 1).

Participants exposed to country music had higher frustration levels at all time points compared to participants exposed to pop music. Additionally, mean frustration scores for female participants were generally much higher than male participants. The observed powers of the between-subjects analyses of these two conditions were relatively low in the ANOVA computed to test for group differences ( $\beta = .53$  and  $\beta = .11$  for music genre and sex conditions, respectively) which hinders generalizability of these results. With a larger sample size, these group differences may have been statistically significant.

The four-way interaction between frustration scores and opponent sexuality, music genre, and participant sex was significant, though accompanied with a moderate level of statistical power ( $\beta = .63$ ). Male participants exposed to homosexual opponents and country music generally became more frustrated than any other combination of conditions. This trend demonstrates that exposure to homosexual opponents and country music influences frustration. This effect may have resulted from the themes in country music priming more negative attitudes toward homosexuality through the spreading activation of related extramusical information (Shevy, 2008). Additionally, all participants exposed to country music reported higher levels of frustration than participants exposed to pop music. This trend may be related to the large majority of included participants who indicated that they did not actively listen to country music ( $N = 40$ ). These heightened frustration scores may also be linked to the lyrical content in the selected country music clips being much more politically charged than the pop music clips. Based on the frustration-aggression hypothesis toward outgroups (Miller & Bugelski, 1948), individuals in these groups should have been more likely to behaviorally

aggress against their opponents (specifically those individuals with homosexual opponents).

This trend was demonstrated in participants' levels of behavioral aggression, though observed power was also a limiting factor in the computation of aggression scores. Trends between groups in the opponent sexuality and music genre conditions were exhibited, but the lack of significance may have been due to the small sample size affecting statistical power ( $\beta = .12$  and  $\beta = .41$  for opponent sexuality and music genre conditions, respectively). Mean scores across time points indicated that in general, individuals paired with homosexual opponents utilized higher noise burst levels than individuals paired with heterosexual opponents (see Table 3). Similarly, individuals exposed to country music were more aggressive than individuals exposed to pop music. Table 7 displays the mean scores for all subdivisions of experimental conditions, exhibiting the same trends present in total frustration scores; male participants exposed to country music with homosexual opponents generally aggressed more than any other combination of experimental conditions.

Though this trend was not statistically significant, future studies accounting for some of the limitations present in this study could highlight the possibility that the lyrical content of patriotic and socially conservative country music has the potential to influence homonegativistic attitudes and behaviors. Though homonegativistic attitudes and aggression have been most commonly exhibited by males in laboratory (e.g., Bernat et al., 2001; Talley & Bettencourt, 2008) and real world settings (e.g., Franklin, 2000; Herek, 2000), exposure to non-homonegativistic lyrical content may contribute to this effect. This trend suggests Shevy's (2008) notion that the "extramusical" information

present in country music (e.g., social conservatism, heterosexual “salvific” love; Mann, 2007) may have the potential to activate cognitive nodes related to attitudes against homosexuality.

The aggression results demonstrated that male participants generally scored higher than female participants on aggression scores, regardless of opponent sexuality or music genre. This effect was robust, and aligns with many other studies describing the prominence of behavioral aggression in male samples over and above females (see Archer, 2004). The results of the present analyses serve to underline the notion that men, holding all other factors consistent, are much more likely to behaviorally aggress than women.

Though scores on the pretest measures were not correlated with either frustration or aggression outcomes, they did highly correlate with each other in the total sample (Table 4), in male (Table 5), and in female participants (Table 6). In the total sample, scores on the Attitudes Toward Homosexuality Scale correlated highly with scores on the Gender Role Beliefs Scale, supporting the well-established theory that stricter subscriptions to traditional gender role ideals are correlated with negative attitudes toward homosexuals (Kite & Deaux, 1986; Herek, 2000; Talley & Bettencourt, 2008). Additionally, higher levels of social conservatism were also correlated with more negative attitudes toward homosexuals, another well-established relationship in the literature (e.g., Cullen et al., 2008). However, unlike previous research, the correlations between these two attitudes and negative attitudes toward homosexuality were higher for female participants than male participants. Though studies have been conducted that describe these attitudes as valid predictors of homophobia in female college students



(e.g., Basow & Johnson, 2000), these studies recognize homophobic attitudes and behaviors being much more prominent in men. It is likely that the greater number of women in the total sample resulted in more variation of scores on these scales, which may have been the cause of this deviation from the previous literature.

### *Limitations*

The results presented in this study have several limitations. The most prominent is that our sample size is limited ( $N = 44$ ), which limits interpretation and generalizability to a larger population. As previously stated, many of the participants in our initial sample ( $N = 72$ ) were excluded from the analysis due to several factors. These factors included suspicion that the experimental manipulation or the prompts in the reaction time task were not genuine, improper identification of the sexual orientation of the confederate (e.g., “bisexual”), and participants’ recognition of the confederate from outside of the experiment. Two of the participants were excluded due to complications in the computerized experimental software as well.

Several of the participants in the original sample ( $N = 23$ ) were excluded from the analysis because of the time in which their results were taken; during the first five weeks of data collection, phases I and II of the study were separated by a much larger margin (over two weeks) than in the last nine weeks of data collection. These participants filled out the online survey outside of the experiment and were then called in later to participate in phase II. These participants’ mean scores on the frustration and aggression measures, as well as their scores on all three of the pretest measures, did not significantly differ from the included participants (PANAS-X and noise burst total scores,  $p \geq .534$ ; pretest measures,  $p \geq .423$ ). However, there were differences in the study’s protocol during part

II of phase II in the first five weeks of data collection that make the inclusion of these data problematic: the messages sent to the participant during the reaction time task were changed as they resulted in increased suspicion by participants, the selected noise burst volume was altered, and the order in which participants won and lost rounds of the reaction time task was changed. The small sample size may be at the root of why this study failed to demonstrate a significant connection between music genre exposure and homonegativistic aggression; the low levels of observed statistical power of the relationships between the conditions is likely due to large variations in scores. Despite this issue, non-significant trends were observed in the hypothesized interaction between country music and homonegativistic aggression. Increasing the sample size could potentially result in these trends and differences between groups becoming significant.

Some aspects of the protocol in the reaction time task may have accounted for some of the variance in both frustration and aggression scores. The PANAS-X scores taken to measure frustration throughout the reaction time task were utilized at increasing time points. The first measure was used as a baseline frustration score because it was taken before the task had begun; the second score was taken after a winning round, and the third and fourth were taken after losing rounds. Taking scores at these time points without any other confounding factors would have predicted a decrease in frustration from time 1 to time 2 and increases in frustration from time 2 to time 3 and from time 3 to time 4.

However, there were other variables that influenced frustration throughout the task; for instance, participants were administered noise bursts after the winning round (time 2), whereas they administered noise bursts to their opponents after losing rounds

(time 3 and time 4). There was also a much more directive and personal message delivered to the participant after time 3 (*“I heard in my gpsyc class that low reaction times were related to low IQ, btw”*). These other variables may have contributed to the gradual rise of frustration scores from time 1 to time 3 and the sharp decrease from time 3 to time 4, as the message delivered to participants after time 4 was much shorter and relatively non-directive (*“finally, lol”*). In future studies, making changes to the periods in which frustration scores are gathered in order to make them more consistent across time points may provide a more predictable trend.

Similar methods could be employed to control for consistency in aggression scores throughout the reaction time task. Despite all of the noise burst scores being computed after losing rounds as these were the rounds participants were allowed to administer them, some of the messages sent to the participant differed in content (see comments after rounds 1, 3, 4, and 6 in Appendix B). Additionally, some of the noise bursts administered to participants throughout the task could have been more intense across all 3 dimensions (intensity, pitch, and duration), in order to further influence retaliatory aggression. Finally, the Likert-type scale that participants used to select noise bursts could be extended to a greater range than 1 to 7, and could possibly include more direct labels as to the effects they would have on opponents (e.g. “slightly annoying” to “piercing.” Extending the range of possible aggression scores and labeling their effects would likely provide participants with a more concrete means of assessing the effects of their aggression. Additionally, labeling the noise bursts administered to the participants could potentially influence retaliatory aggression.

If these limitations were addressed in future studies assessing the same phenomenon, the data may yield a more significant and direct link to both frustration and aggression scores. Utilizing a larger sample size may extend the effects found in the nonsignificant trends in both frustration and aggression scores. Providing consistency in the conditions at which these scores are taken would likely make the interpretation of change scores across time points much more intuitive.

## **Appendix A – Music Experience Questionnaire Developed by the Researcher**

Music is an important aspect of my life.

I listen to music when I am depressed.

I listen to music when I am with friends.

I would prefer listening to the radio over going to see live music.

I prefer my music-playing device to be portable.

I tend to associate myself with people who have similar music tastes as I do.

Music is always emotional for me.

I listen to music when I am happy.

There are some music genres that I just don't like.

I have met someone who just does not like music.

My life has a soundtrack.

It wouldn't bother me if I found out one of my favorite musicians was a homosexual.

I download music illegally sometimes.

Some electronic advances in music, like the auto-tuning phenomenon, are taking the passion out of music.

Music can sometimes frustrate me.

I listen to music more when I am happy than when I am upset.

I enjoy music from all sorts of different times.

Music can sometimes be distracting.

Music can sometimes make me angry.

I know which songs will be playing at my wedding.

I sing along to music when I am in my car alone.

I prefer my music without lyrics.

I don't associate myself with people who listen to different genres of music than me.

Most people do not like the same music that I do.

I don't mind just listening to the radio.

I really dislike country music.

I really dislike rap/hip-hop music.

I really dislike pop music.

I enjoy seeing live music even when I have not heard of the musician.

I actively seek out new artists.

**Appendix B – Comments used in reaction-time task**

Round 1 (losing round): "Ha! I win! nice try!"

Round 2 (winning round): "smoooooth"

Round 3 (losing round): "I just learned in my gpsyc class that slow reactions are linked to  
low IQ, btw"

Round 4 (losing round): "are you even trying?"

Round 5 (winning round): "finally lol"

Round 6 (losing round): "booooooooo loserrrrrrr"

## Appendix C – Song Titles and Lyrical Selection, Pop Condition

### Sigh No More - Mumford and Sons

And man is a giddy thing  
 Oh man is a giddy thing  
 Oh man is a giddy thing  
 Oh man is a giddy thing  
 Love it will not betray you, dismay or enslave you,  
 It will set you free  
 Be more like the man you were made to be.  
 There is a design,  
 An alignment to cry,  
 Of my heart to see,  
 The beauty of love as it was made to be  
<http://www.youtube.com/watch?v=XwOnjheZ7ds> 1:31- 2:17

### Fireflies - Owl City

'Cause I'd get a thousand hugs  
 From ten thousand lightning bugs  
 As they tried to teach me how to dance  
 A foxtrot above my head  
 A sock hop beneath my bed  
 A disco ball is just hanging by a thread  
 I'd like to make myself believe  
 That planet Earth turns slowly  
 It's hard to say that I'd rather stay  
 Awake when I'm asleep  
 'Cause everything is never as it seems  
 When I fall asleep  
<http://www.youtube.com/watch?v=psuRGfAaju4> 1:08 - 1:51

### The Lazy Song - Bruno Mars

Today I don't feel like doing anything  
 I just wanna lay in my bed  
 Don't feel like picking up my phone  
 So leave a message at the tone  
 'Cause today I swear I'm not doing anything  
 I'm gonna kick my feet up  
 Then stare at the fan  
 Turn the TV on, throw my hand down my pants  
 Nobody's gonna tell me I can't  
 I'll be lounging on the couch,



Just chillin' in my snuggie  
 Click to MTV, so they can teach me how to dougie  
 'Cause in my castle I'm the freaking man  
<http://www.youtube.com/watch?v=fLexgOxsZu0> 0:07 - 0:49

Bigger Than My Body - John Mayer

Maybe, I'll tangle in the power lines  
 And it might be over in a seconds time  
 But I'll gladly go down in a flame  
 If a flame's what it takes to remember my name, to remember my name  
 Yes I'm grounded  
 Got my wings clipped  
 I'm surrounded by  
 All this pavement  
 Guess I'll circle  
 While I'm waiting  
 For my fuse to dry  
<http://www.youtube.com/watch?v=LQ5wTHM1zkw> 2:40 - 3:22

Heavy Metal Drummer – Wilco

I miss the innocence I've known  
 Playing KISS covers, beautiful and stoned  
 Unlock my body and move myself to dance  
 Moving warm liquid, flowing blowing glass  
 Classic music blasting masks the ringing in my ears  
 I sincerely miss those heavy metal bands  
 We used to go see on the landing in the summer  
 She fell in love with the drummer  
 She fell in love with another  
 She fell in love  
<http://www.youtube.com/watch?v=gLnsFR4E8mk> 0:49 - 1:42

I'm Shakin' – Rooney

I tossed and turned all night  
 'cause I was looking for an ending  
 This was so because I watched all day  
 The never ending story with Atreyu  
 The next day came but not a beam of light  
 Because the blinds were shut  
 Sha sha sha shut so tight  
 I fell out of bed laced with spit and sweat  
 It made me very cold  
 It made me very cold

Now I'm, now I'm  
 Sha sha shakin', sha shakin'  
 I'm sha sha shakin', I'm shakin' now  
<http://www.youtube.com/watch?v=8LhZ6k5VxLw> 1:18 - 2:04

On The Radio - Regina Spektor

So this is how it works  
 You're young until you're not  
 You love until you don't  
 You try until you can't  
 You laugh until you cry  
 You cry until you laugh  
 And everyone must breathe until their dying breath  
 No, this is how it works  
 You peer inside yourself  
 You take the things you like  
 And try to love the things you took  
 And then you take that love you made  
 And stick it into some  
 Someone else's heart  
 Pumping someone else's blood  
 And walking arm in arm  
 You hope it don't get harmed  
 But even if it does  
 You'll just do it all again  
<http://www.youtube.com/watch?v=tHAhnJbGy9M> 1:32 - 2:19

Hey Me, Hey Mama - Ray LaMontagne

Papa's in the kitchen, mama's in the field  
 Murder in the hen house, mud flung high upon the wheels  
 Rooster in the dooryard just leaning on the horn  
 Wind so sweetly drifting through the ripening corn  
 Hey me, hey mama  
 Where you been for so long, for so long?  
 Hey me, hey mama  
 Where you been, where you been for so long?  
<http://www.youtube.com/watch?v=WFt1aH2GjtI> 0:18 - 1:12

Live High - Jason Mraz

Try to picture the man  
 To always have an open hand  
 And see him as a giving tree  
 See him as matter

Matter fact he's not a beast  
 No not the devil either  
 Always a good deed doer  
 And it's laughter that we're making after all  
 The call of the wild is still an ordination why  
 And the order of the primates  
 All our politics are too late  
 Oh my, the congregation in my mind  
 Is this assembly singing of gratitude  
 Practicing their lovin for you  
<http://www.youtube.com/watch?v=trJeelx14mo> 1:17 - 2:03

### My Yard - Jamie Cullum

So hail a taxi cab and come around here  
 And I will meet you right outside  
 I got some DVDs and a couple of beers  
 If you want to we can stay up all night  
 It's nothing fancy, just a little couch and me  
 And conversation for your mind  
 So let's explore all the possibilities  
 Of the things that we both talked about last time  
 Take a trip to my yard  
 Don't you know the grass is greener on the other side?  
 Take a trip to my yard  
 Don't you know the love that you've been dreaming of is mine?  
<http://www.youtube.com/watch?v=eE2HgMV IEU> 0:13 - 1:24

### Jack Johnson - Banana Pancakes

But just maybe  
 Halaka ukulele momma made a baby  
 Really don't mind the practice  
 'Cause your my little lady  
 Lady, lady love me  
 'Cause I love to lay here lazy  
 We could close the curtains  
 Pretend like there's no world outside  
 And we can pretend it all the time  
 And can't you see that it's just raining  
 There ain't no need to go outside  
 Ain't no need, ain't no need  
 Mmm, Mmm  
 Can't you see, can't you see  
 Rain all day and I don't mind  
<http://www.youtube.com/watch?v=OkyrIRyrRdY> 0:51 - 1:40

Effington - Ben Folds

Maybe I should ditch this little white rental on the interstate  
 And start a new f'ing life in Effington  
 I could change my name, grow a beard, start a family  
 Or I could just keep on moving on, moving on  
 Moving on, moving on, not stop still I get to normal  
 I want to live in Effington  
 I want to die there too  
 Please bury me in Effington  
 In Effington, in Effington, oh  
<http://www.youtube.com/watch?v=QjJa7BYCiiA> 0:50 - 1:25

Be OK - Ingrid Michaelson

Open me up and you will see  
 I'm a gallery of broken hearts  
 I'm beyond repair, let me be  
 And give me back my broken parts  
 I just want to know today, know today, know today  
 I just want to know something today  
 I just want to know today, know today, know today  
 Know that maybe I will be ok  
<http://www.youtube.com/watch?v=vpMI8Qu5fsc> 0:41 - 1:14

Right As Rain – Adele

Who wants to be riding high  
 When you'll just crumble back on down  
 You give up everything you are  
 And even then you don't get far  
 They make believe that everything is exactly what it seems  
 But at least when you're at your worst  
 You know how to feel things  
 See when hard work don't pay off  
 And I'm tired  
 There ain't no room in my bed  
 As far as I'm concerned  
 So wipe that dirty smile off  
 We won't be making up  
 I've cried my heart out  
 And now I've had enough of your love  
<http://www.youtube.com/watch?v=cT4JU767jPE> 0:59 - 1:44

## **Appendix D – Song Titles and Lyrical Selection, Country Condition**

### American Solider—Toby Keith

You can bet that I stand ready when the wolf prowls at the door. Hey, I'm solid, hey I'm steady, hey I'm true down to the core. And I will always do my duty no matter what the price. I've counted up the cost, I know the sacrifice. Oh and I don't want to die for you, but if dying's asked of me, I'll bear that cross with honor, 'cause freedom don't come free. I'm an American Soldier, an American. Beside my brothers and my sisters I will proudly take a stand. When liberty's in jeopardy I will always do what's right. I'm out here on the front lines, sleep in peace tonight. American Soldier, I'm an American Soldier.

<http://www.youtube.com/watch?v=2hLBUkcFJoY> 1:18-2:28

### Courtesy of the Red White and Blue—Toby Keith

Justice will be served and the battle will rage. This big dog will fight when you rattle his cage. And you'll be sorry that you messed with the U.S. of A. 'Cause we'll put a boot in your ass. It's the American way. Hey Uncle Sam put your name at the top of his list. And the statue of liberty started shakin' her fist. And the eagle will fly, man, it's gonna be hell. When you hear mother freedom start ringin' her bell. And it feels like the whole wide world is raining down on you. Brought to your courtesy of the Red, White and Blue.

<http://www.youtube.com/watch?v=0dBwEeCks5Y> 1:53-2:52

### Only in America—Brooks and Dunn

One kid dreams of fame and fortune, one kid helps pay the rent. One could end up going to prison, one just might be president. Only in America, dreaming in red, white, and blue. Only in America where we dream as big as we want to. We all get a chance, everybody gets to dance. Only in America.

<http://www.youtube.com/watch?v=eJvXYE7V0aw> 0:50-1:45

### American Child—Phil Vassar

In nowhere Virginia who'd ever figure that kid in the yard would go very far. Because 419 Lakewood had no silver spoons just an old beat up upright that played out of tune. Now I'm singing and living the life that I love and when I count my blessings I thank God I was an American child. An American child, 'cause dreams can grow wild when born inside an American child.

<http://www.youtube.com/watch?v=3c1x3wcbvAc&playnext=1&list=PL4F1B78F16A8A7A0F&index=16> 0:40-1:25

#### Where the Stars and Stripes and the Eagle Fly—Aaron Tippin

I pledge allegiance to this flag. And if that bothers you, well that's too bad. But if you got pride and you're proud you do, hey, we could use some more like me and you. Where the stars and stripes and the eagle fly. Yes there's a lady that stands in a harbor for what we believe. And there's a bell that still echoes the price that it costs to be free.

<http://www.youtube.com/watch?v=tPPfVn9fwXg> 1:35-2:05

#### Iraq and I Roll—Clint Black

I rock, Iraq 'em up and I roll. I'm back and I'm a high tech GI Joe. I pray for peace, prepare for war, and I never will forget. There's no price too high for freedom so be careful where you tread. Now this terror isn't man to man, they can be no more than cowards. They won't show us their weapons but we might have to show them ours. It might be a smart bomb, they find stupid people too. If you stand with the likes of Saddam one just might find you.

<http://www.youtube.com/watch?v=41gGLmKSm-E&playnext=1&list=PL720753C14C9DC00D&index=2> 0:56-1:48

#### The Bumper of my S.U.V.—Chely Wright

See my brother Chris he's been in for more than 14 years now. Our dad was in the navy during Viet Nam. Did his duty then he got out. And my grandpa earned his purple heart on the beach of Normandy. That's why I've got a sticker for the U.S. Marines on the bumper of my S.U.V.

<http://www.youtube.com/watch?v=pZdq62ThVQM> 1:00-1:48

America Will Always Stand—Randy Travis

America is not divided. Our enemies they will be stopped, 'cause we the people are united. And still one nation under God. So raise the banner, call old glory, let us join our fellow men. History will write the story. America will always stand.

[http://www.youtube.com/watch?v=H8dA4\\_iJA6w](http://www.youtube.com/watch?v=H8dA4_iJA6w) 2:07-3:00

They Also Serve—John Conlee

Mothers, fathers, daughters and sons, they don't wear a uniform or carry a gun. But they're still in the war. They also serve, those who stand and wait, praying by the phone to learn their loved one's fate. But they're still in the war and let there be no mistake, they also serve, those who stand and wait.

<http://www.youtube.com/watch?v=xn06ruxh2pA> 2:24-3:03

Where Were You When the World Stopped Turning—Alan Jackson

Where were you when the world stopped turning on the September day? Were you in the yard with your wife and children or working on some stage in LA? Did you stand there in shock at the sight of that black smoke rising against that blue sky? Did you shout out in anger and fear for your neighbor or did you just sit down and cry? Did you weep for the children who lost their dear loved ones and pray for the ones who don't know? Did you rejoice for the people who walked from the rubble and sob for the ones left below? Did you burst out in pride for the red, white, and blue and the heroes who died just doing what they do?

<http://www.youtube.com/watch?v=Tq8PBdR3pg4> 0:14-1:12

Have You Forgotten—Darryl Worley

Some say this country's just out looking for a fight. Well after 9/11 man, I'd have to say that's right. Have you forgotten how it felt that day to see your homeland under fire and her people blown away? Have you forgotten when those towers fell, we had neighbors still inside going through the living hell. And we vowed to get the ones behind Bin Laden. Have you forgotten?

<http://www.youtube.com/watch?v=p6yLQRF-cEU&ob=av2el> 1:52-2:37

I Just Came Back From A War—Darryl Worley

I hope you cherish this sweet way of life and I hope you know that it comes with a price. I just came back from a place where they hated me and everything I stand for. A land where our brothers are dying for others who don't even care anymore. Chances are I never will be the same. I really don't know anymore. I just came back from a war.

<http://www.youtube.com/watch?v=UxyMzmkeMM0> 3:10-3:55

In God We Still Trust—Diamond Rio

And when we pledge allegiance there's no doubt where we stand. There's no separation, we're one nation under him. In God we still trust, here in America. He's the one we turn to every time the going gets rough. He is the source of all our strength, the one who watches over us. Here in America, in God we still trust.

<http://www.youtube.com/watch?v=DiYgpPB1kwU> 0:40-1:28

Arlington—Trace Adkins

They folded up a flag and told my mom and dad, we're proud of your son. And I'm proud to be on this peaceful piece of property. I'm on sacred ground and I'm the best of company. I'm thankful for those thankful for the things I've done. I can rest in peace, I'm one of the chosen ones. I made it to Arlington.

<http://www.youtube.com/watch?v=rJO7JIxG10&ob=av2nl> 0:48-1:30



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## Figures

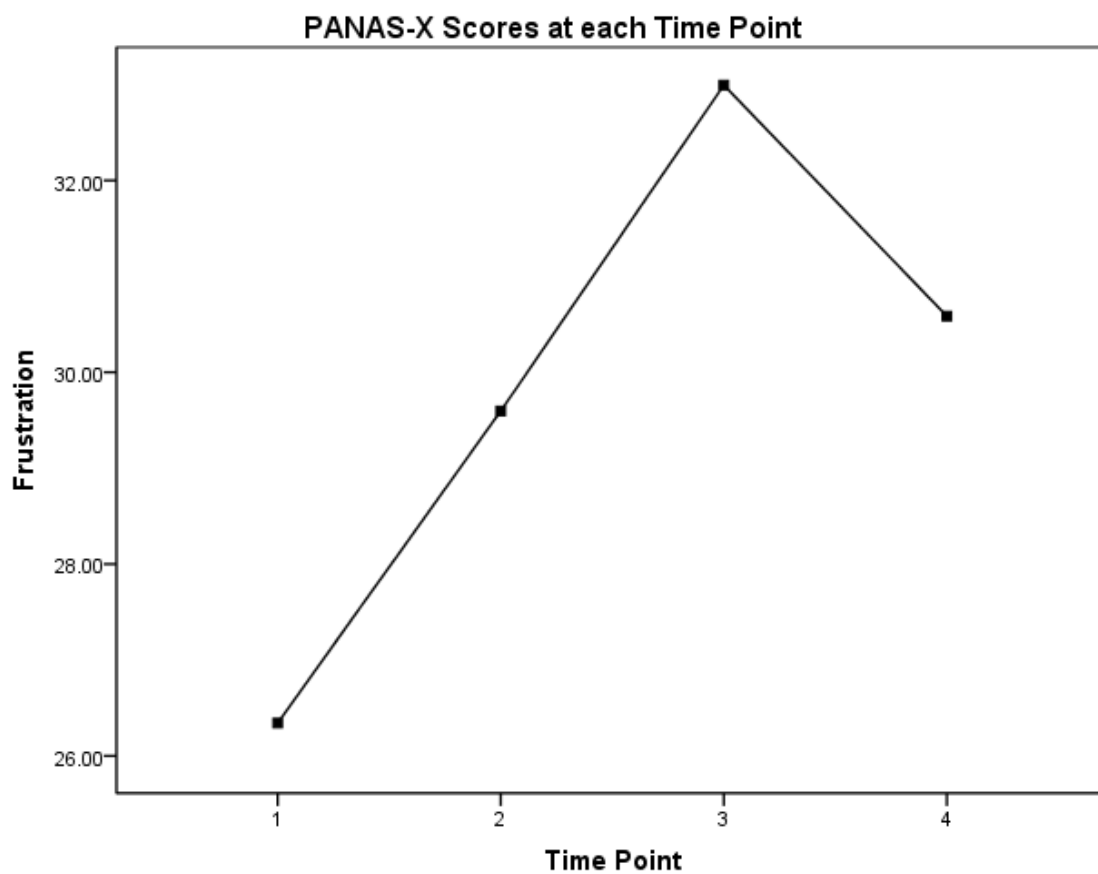


Figure 1: Mean PANAS-X scores at each time point of the reaction time task. Post-hoc analyses revealed significant increases in aggression from time 1 to time 3 and a significant decrease in aggression from time 3 to time 4. Participants were significantly more frustrated at time 4 than time 1.

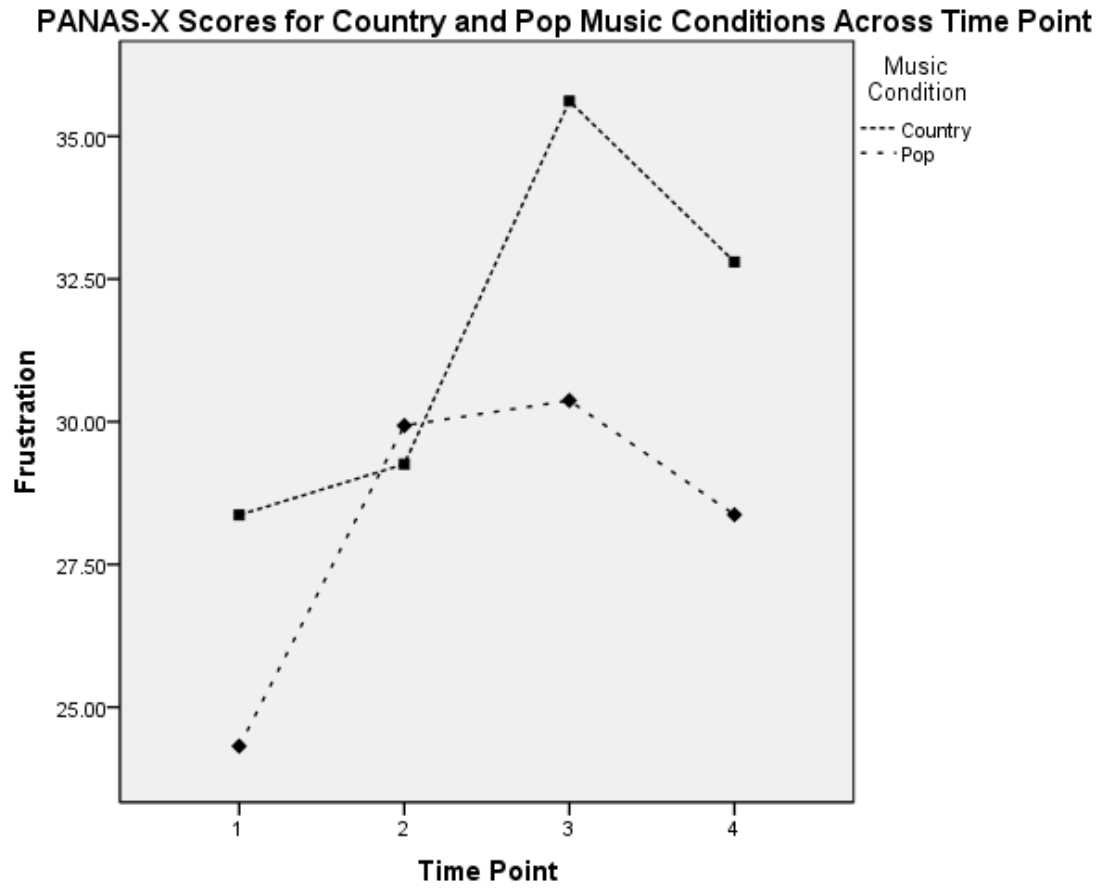


Figure 2: PANAS-X scores comparisons between participants exposed to country music and participants exposed to pop music.



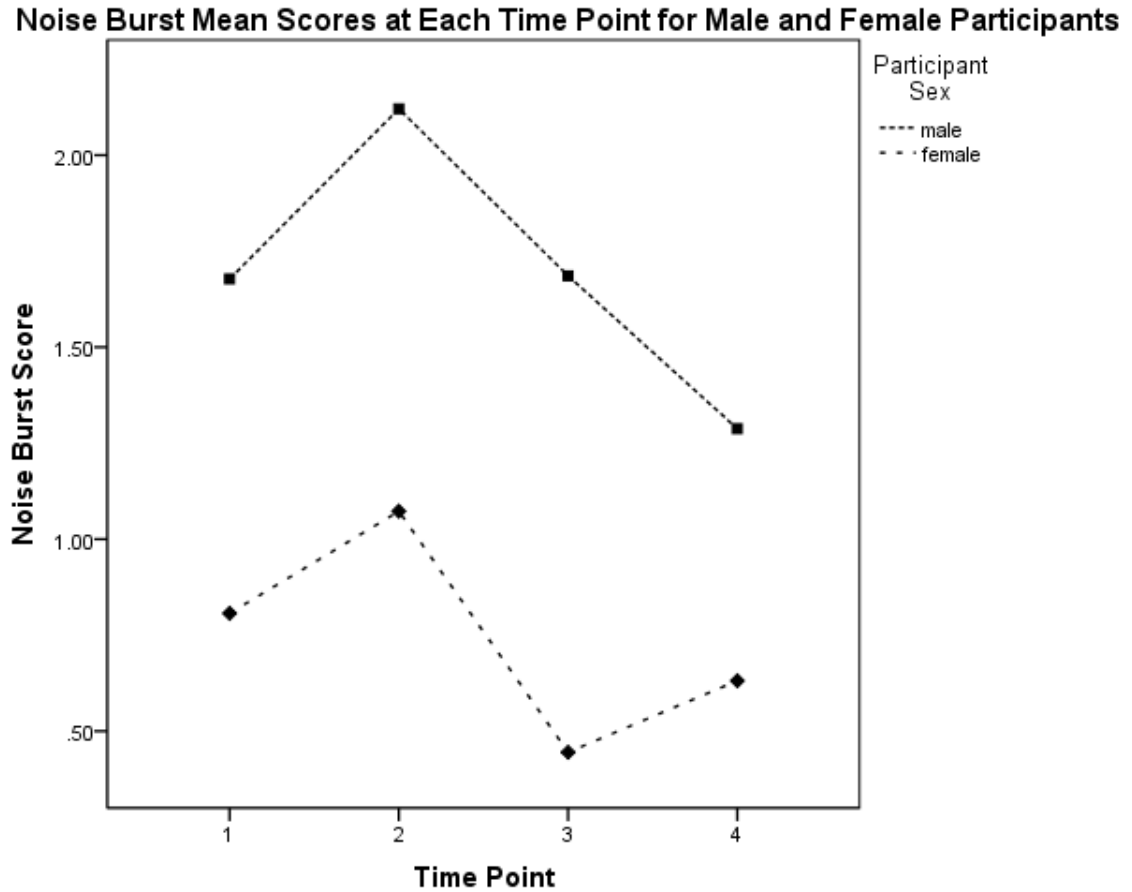


Figure 3: Male and female participants' mean aggression scores across each time point of the reaction time task, collapsing across other independent variables. Significant between-groups differences were demonstrated in time points 2 and 3, with male participants administering significantly higher levels of noise bursts than females.

## Tables

Table 1

*PANAS-X Mean Scores, Standard Deviations, t-statistics for Participants Collapsing Across I.V.s at Four Time-Points*

| Variable         | Group        | Sexuality |       |       | t       | Music Condition |      |       | t      | Gender |       |       |
|------------------|--------------|-----------|-------|-------|---------|-----------------|------|-------|--------|--------|-------|-------|
|                  |              | M         | SD    | t     |         | Group           | M    | SD    |        | t      | Group | M     |
| PANAS-X (Time 1) | Homosexual   | 26.21     | 3.86  | 0.097 | Country | 28.59           | 5.32 | 2.562 | Male   | 26.57  | 5.36  | 0.37  |
|                  | Heterosexual | 26.36     | 5.81  |       | Pop     | 24.85           | 4.28 |       | Female | 26.01  | 4.69  |       |
| PANAS-X (Time 2) | Homosexual   | 29.31     | 5.27  | 0.726 | Country | 29.47           | 6.24 | 0.523 | Male   | 28.78  | 6.39  | 1.519 |
|                  | Heterosexual | 30.64     | 6.48  |       | Pop     | 30.44           | 5.86 |       | Female | 31.47  | 5.24  |       |
| PANAS-X (Time 3) | Homosexual   | 32.68     | 10.97 | 0.046 | Country | 35.82           | 10.2 | 1.97  | Male   | 31.61  | 10.33 | 0.784 |
|                  | Heterosexual | 32.56     | 7.08  |       | Pop     | 30.59           | 7.39 |       | Female | 33.71  | 6.99  |       |
| PANAS-X (Time 4) | Homosexual   | 29.63     | 8.52  | 0.525 | Country | 33.01           | 7.96 | 1.944 | Male   | 29.71  | 8.38  | 0.572 |
|                  | Heterosexual | 30.84     | 6.73  |       | Pop     | 28.62           | 6.78 |       | Female | 31.01  | 6.51  |       |

\*  $p < .01$

Table 2  
*Total PANAS-X Scores and Standard Deviations for all Subdivisions of I.V.s*

| Variable        |                    |                 |       |      |
|-----------------|--------------------|-----------------|-------|------|
| Participant Sex | Opponent Sexuality | Music Condition | Total | SD   |
| Male            | Homosexual         | Country         | 34.25 | 2.31 |
|                 |                    | Pop             | 25.54 | 2.99 |
|                 | Heterosexual       | Country         | 30.88 | 2.12 |
|                 |                    | Pop             | 27.10 | 2.32 |
| Female          | Homosexual         | Country         | 30.83 | 2.99 |
|                 |                    | Pop             | 29.31 | 2.59 |
|                 | Heterosexual       | Country         | 30.08 | 2.99 |
|                 |                    | Pop             | 31.05 | 1.56 |

Table 3

*Noise Burst Mean Scores, Standard Deviations, t-statistics for Participants Collapsing Across I.V.s at Four Time-Points*

| Variable             | Group        | Sexuality |      |       | t       | Music Condition |      |       | t      | Gender |       |        |
|----------------------|--------------|-----------|------|-------|---------|-----------------|------|-------|--------|--------|-------|--------|
|                      |              | M         | SD   | t     |         | Group           | M    | SD    |        | t      | Group | M      |
| Noise Burst (Time 1) | Homosexual   | 1.61      | 1.91 | 1.179 | Country | 1.21            | 1.82 | 0.101 | Male   | 1.67   | 1.82  | 1.645  |
|                      | Heterosexual | 0.97      | 1.68 |       | Pop     | 1.27            | 1.81 |       | Female | 0.79   | 1.68  |        |
| Noise Burst (Time 2) | Homosexual   | 1.61      | 2.01 | 0.621 | Country | 2.15            | 1.84 | 2.109 | Male   | 2.13   | 1.81  | 2.760* |
|                      | Heterosexual | 1.36      | 1.46 |       | Pop     | 1.08            | 1.51 |       | Female | 0.81   | 1.28  |        |
| Noise Burst (Time 3) | Homosexual   | 1.08      | 1.24 | 0.066 | Country | 1.35            | 1.86 | 0.815 | Male   | 1.72   | 1.92  | 2.852* |
|                      | Heterosexual | 1.02      | 1.83 |       | Pop     | 0.95            | 1.39 |       | Female | 0.44   | 0.69  |        |
| Noise Burst (Time 4) | Homosexual   | 1.03      | 1.31 | 0.275 | Country | 1.35            | 1.11 | 1.681 | Male   | 1.31   | 1.22  | 2.045  |
|                      | Heterosexual | 0.93      | 1.13 |       | Pop     | 0.74            | 1.22 |       | Female | 0.61   | 1.08  |        |

\*  $p < .01$

Table 4  
*Correlations Between Pre-test Measures, Noise Burst Total Scores,  
 and PANAS-X Total Scores*

| Variable    | Noise Burst | PANAS-X | ATH    | GRBS  | SC |
|-------------|-------------|---------|--------|-------|----|
| Noise Burst | -           | -       | -      | -     | -  |
| PANAS-X     | -.223       | -       | -      | -     | -  |
| ATH         | .018        | .031    | -      | -     | -  |
| GRBS        | -.106       | .082    | .692** | -     | -  |
| SC          | .002        | .124    | .625** | .394* | -  |

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

Table 5  
*Correlations Between Pre-test Measures, Noise Burst Total Scores,  
 and PANAS-X Total Scores for Male Participants*

| Variable    | Noise Burst | PANAS-X | ATH    | GRBS | SC |
|-------------|-------------|---------|--------|------|----|
| Noise Burst | -           | -       | -      | -    | -  |
| PANAS-X     | -.429*      | -       | -      | -    | -  |
| ATH         | .038        | -.315   | -      | -    | -  |
| GRBS        | .107        | -.168   | .619** | -    | -  |
| SC          | -.233       | -.343   | .592** | .275 | -  |

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

Table 6  
*Correlations Between Pre-test Measures, Noise Burst Total Scores,  
 and PANAS-X Total Scores for Female Participants*

| Variable    | Noise Burst | PANAS-X | ATH     | GRBS    | SC |
|-------------|-------------|---------|---------|---------|----|
| Noise Burst | -           | -       | -       | -       | -  |
| PANAS-X     | .428        | -       | -       | -       | -  |
| ATH         | .067        | .433*   | -       | -       | -  |
| GRBS        | -.191       | .209    | 0.791** | -       | -  |
| SC          | -.077       | .226    | 0.744** | 0.719** | -  |

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

Table 7  
*Total Noise Burst Scores and Standard Deviations for all Subdivisions of I.V.s*

| Variable | Participant Sex | Opponent Sexuality | Music Condition | Total | SD   |
|----------|-----------------|--------------------|-----------------|-------|------|
| Male     | Homosexual      |                    | Country         | 7.67  | 2.53 |
|          |                 |                    | Pop             | 7.14  | 6.91 |
|          | Heterosexual    |                    | Country         | 7.27  | 5.29 |
|          |                 |                    | Pop             | 5.01  | 3.02 |
| Female   | Homosexual      |                    | Country         | 1.56  | 1.38 |
|          |                 |                    | Pop             | 2.51  | 2.64 |
|          | Heterosexual    |                    | Country         | 5.56  | 1.26 |
|          |                 |                    | Pop             | 2.21  | 2.51 |