EVALUATING OBLIQUE INTERVENTIONS
IN REDUCING ANTI-GLBT PREJUDICE

A thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Arts

By

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SUPERVISION BY Steven Michael Saus ENTITLED Evaluating Oblique Interventions
In Reducing Anti-GLBT Prejudice BE ACCEPTED IN PARTIAL FULFILLMENT OF
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ABSTRACT


Existing evaluative research of interventions to reduce anti-GLBT prejudice remains methodologically incomplete, but suggests that those most in need of the intervention display the least amount of change – if not a strengthening of their prejudicial opinion. Cognitive and marketing research suggest that directly challenging prejudicial attitudes will strengthen, rather than reduce prejudice.

This research created an instrument to replace the Index of Attitudes toward Homosexuals and then employ an experimental design to provide much-needed methodological rigor to the evaluation of interventions. This design will be in service of assessing the impacts from a directly- and indirectly-challenging survey-based intervention. Contrary to expectation, direct challenges to prejudice created the desired reduction in prejudice. It is theorized this is from a reevaluation of social acceptance; the implications of this finding are then discussed.
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I. INTRODUCTION AND PURPOSE

I realized my mistake as I transcribed the interview.

His voice was high, but not unusually so. Listening to it, I would have never guessed that he had been born female. Hearing his words, I would not have thought that I was researching the specific problems transgender students face on campus. His problems were mostly the same as any other undergraduate's.

That was when I realized my project was making him into an "other". The idea that the difficulties of a transgender student would be so different than any other student's inherently reinforced the objectification of transgender students as being something different. The simple idea of just treating people as people would do more to help him than any "special" intervention.

Then I remembered seeing a co-worker rolling his eyes when I objected to sexist language. I remembered hearing whispered complaints about "politically correct" training sessions, even as they shared answers for the post-test "competency assessment". My experiences reflect the existing research on these interventions. This research shows that the efficacy of interventions may be impacted by respondent’s socially desirable responses (Tucker & Potocky-Tripodi, 2006). When presented with obviously anti-prejudicial information, they did not actually incorporate the information into their existing worldview (Tourangeau & Rasinski, 1998).
Put another way, if prejudice could be destroyed by simply presenting another point of view, Fred Phelps would be holding a candle to celebrate the memory of Harvey Milk. But what effect would a subtler message have on prejudice?

This study achieves three goals: It developed a new instrument for evaluating anti-GLBT prejudice, brings methodological rigor to the assessment of interventions to reduce anti-GLBT prejudice, and compares two techniques for reducing anti-GLBT prejudice.

LITERATURE REVIEW

The GLBT (Lesbian, Gay, Bisexual, and Transgender) acronym did not spontaneously develop. Rather than self-identification, outside prejudice precipitated the creation of this large umbrella categorization (Dean et al., 2000). It continues today with the addition of "queer" and "questioning", with many of the terms in common usage having fluid definitions (Terms and Definitions, 2010). Likewise, external social pressure from those outside the group’s membership created the sub-grouping of gay, lesbian, bisexual, and transgender persons within the GLBT acronym, only later being appropriated by those within these sub-groups. Moreover, despite being lumped under a single label and facing similar discrimination, individuals within each subgroup often have different perceptions of the local social climate toward GLBT persons (Brown, Clarke, Gortmaker, & Robinson-Kellig, 2004).

Regardless of these differences, the broad category of transpeople share the experiences of widespread harassment and prejudice toward gay and lesbian individuals (Irwin, 2002). This is due to the external nature of the categorization of these groups.
The evidence for the common external nature of this discriminatory stance is seen in the strong shared predictors for intolerance and correlational scores for anti-transgender and anti-homosexual sentiment on various measurement indices (Hill & Willoughby, 2005; Hopwood & Connors, 2002; Herek G. M., 2000). This gives an empirical foundation for addressing both anti-transgender and anti-homosexual sentiment as aspects of the same prejudice. Therefore, this paper treats the two as intrinsically comorbid and strongly correlated.

The violence and harassment experienced by gay, lesbian, bisexual, and transgender persons is strong during the critical formative periods of high school and college (Holmes & Cahill, 2004; Beemyn, 2003; Mufioz-Plaza, Quinn, & Rounds, 2002). It can take the form of physical violence or social and economic discrimination (Lombardi, 2001).

That environment of violence and harassment explains, for example, the correlation between gender-based victimization or gender-based discrimination and attempted suicide among transpeople, who as a group have an attempted suicide rate as high as 32% (Clements-Nolle, Marx, & Katx, 2006). Actual suicide rates among homosexual and bisexual youths are hotly debated, partially because homosexual and bisexual youths are able to be “in the closet” about their identity while a transitioning transgender youth would not. It is reasonable, given the correlation of discrimination against transgendered individuals and homosexual individuals, to presume that there is a large degree of overlap with the pressures felt by homosexual and bisexual youth.
Institutionally addressing the specific medical and social needs of GLBT persons may help reduce the attempted suicide rate and the formation of a healthy sexual identity (Clements-Nolle, Marx, & Katx, 2006; Mufioz-Plaza, Quinn, & Rounds, 2002). The high attempted suicide rate and psychological damage caused by violence and harassment make reducing the prejudice experienced by the population of secondary and post-secondary students of special importance.

Prejudice is primarily combated through changing internal cognition and changing perceptions of social desirability (Lehmler, Law, & Tormala, 2010; Paluck, 2009). Strategies to change internal cognition can include tactics such as self-affirmations, cross-group categorization, and intergroup dialogue (Lehmler et al, 2010; Wayne, 2008; Brewer, 2000). These techniques attempt to alter the ways one views both oneself and the group discriminated against.

In contrast, altering perceptions of social norms focuses on changing the perceptions of social acceptance of discrimination (Paluck, 2009). Those who are more biased tend to overestimate the extent of community support for their views (Wojcieszak, 2008). Further, individuals tend to extrapolate the attitudes of larger populations from their immediate circle of personal contacts – often individuals who are similar in attitudes and beliefs to themselves (Martinez, Wald & Craig, 2008) Altering that perception leads to changes in behavior, despite the persistence of discriminatory beliefs in an individual's cognitive processes (Paluck, 2009; Pedersen, Griffiths, & Watt, 2008).
This points to the existence of an *internal* and *external* axis of prejudice and discrimination. The internal axis consists of cognition and individual perceptions, such as one’s belief about the intrinsic worth of GLBT persons. The external axis consists of perceptions of the actual amounts of environmental prejudice and the perceived support for (or lack of support for) prejudice in one's peer group. For example, the external axis would encompass both whether or not one was actually dressed in a way that did not conform with gender roles *and* the expected degree of support for mocking someone who transgressed gender roles.

Interventional methods often attempt to combat discrimination through both mechanisms. The existence of such programs inherently demonstrates a lower social desirability for discrimination, and seminars and peer panel discussions attempt to alter discriminatory cognitive patterns. Interventions like peer panel discussions have suggested that these efforts have a measurable and significant effect in lessening anti-GLBT prejudice (Nelson & Krieger, 1997).

However, attempts to produce an empirically rigorous test of the effects of interventional efforts have fallen short of the mark. A lack of control groups, random assignation to control or interventional groups, pre-tests, or the ability to measure the effects of pre-tests are common methodological flaws (Tucker & Potocky-Tripodi, 2006). These shortcomings may be partially explained by the fact that the study takes place after interventional efforts have been ongoing for some time prior to the study (Nelson & Krieger, 1997). Further, these attempts at empirical evaluation are frequently unable to isolate the effect of the intervention in the context of repeated exposure (Tucker & Potocky-Tripodi, 2006).
Such efforts have, however, confirmed that a significant key interventional success is in accentuating the commonalities between GLBT individuals and the target audience (Nelson & Krieger, 1997). Repeated exposure of the kind that allows common elements between persons to surface has been shown to reduce radicalization of political and social opinion (Mutz, 2006).

While these findings provide support for a pro-diversity administrative stance that encourages or compels diverse classes and workplaces, it initially seems of little use to a setting where a one-time intervention is planned (Brewer, 2000; Taylor, 2000). If these interventions are not well-designed, they may be ineffective or even increase the pressures on GLBT individuals (Beemyn, 2003; Nelson & Krieger, 1997). The mere fact of the intervention could serve to label and reframe these individuals as "at risk". In turn, this may re-pathologize them by casting their gender and sexual identity as a personal difficulty (Quinlivan, 2002). This risk of making the problem worse highlights the importance of accurate assessment of interventional impact along both the external and internal axis of prejudice. Even if an intervention succeeds in changing minds, if the population believes that prejudice is acceptable, the fear and stresses of prejudice will still exist.

THEORETICAL FRAMEWORK

Evaluations of interventional techniques repeatedly noted that several variables – being male, high religiosity, and a high value in "traditional family values" – correlated to greater amounts of cognitive anti-GLBT prejudice (Lehmiller, et al, 2010; Herek G. M., 2000; Nelson & Krieger, 1997). Males, as predicted, had a higher degree of anti-GLBT
prejudice pre-intervention but did not experience a greater degree of change than females post-intervention (Nelson & Krieger, 1997). In other words, higher levels of prejudice did not result in greater interventional effects for the males in this study; the impact of the intervention was the same regardless of the sex-based differences in the participant’s levels of prejudice.

It is a common finding, regardless of topic, that more accurate and credible information will increase rational behaviors based on that information (Lassen, 2005). Because these findings occurred in the context of informative interventions, it makes the finding immediately above more puzzling. One would expect a "regression to the mean" effect to heighten the results of the intervention among those who had more anti-GLBT prejudice.

The answer, surprisingly, may reside in department stores, specifically, in examining consumer intent and purchasing behavior. Marketing research has noted that measuring intent can change behavior, but it is not a simple linear response. Individuals were asked if they were likely to purchase several types of durable consumer goods (e.g. refrigerator, car) within the next few months. Respondents were later asked if they actually had purchased such.

A second wave of the study followed the same model, but with several rounds of questioning over several months. Those respondents who were already intending to make indicated the purchase were significantly more likely to make that purchase after being surveyed, and that effect was strengthened by multiple rounds of questioning. In contrast, those who were initially opposed to making the purchase they were asked about
became less likely to say they were willing to buy – and even had an increased resistance to the purchase with repeated questioning (Morwitz, Johnson, & Schmittlein, 1993).

This non-linear response seems similar to the results of interventions against anti-GLBT prejudice. Those who demonstrated the most prejudice had a smaller increase in shift toward being less prejudicial rather than a straight linear response; that is, their scores improved less than those who were less prejudiced at the beginning of the intervention. Both demonstrate a significant difference in responses based on the attempt to change behavior.

This discrepancy may be explained by the ways that we create self-identity. Individuals do not always appear to retrieve singular elements of data in order to form value judgments. That is, when we have already come to a decision, we tend to not question our prior decisions. When the questions asked closely map onto existing value frameworks (e.g. asking “Is homosexuality wrong?” to a person who holds the belief “homosexuality is sinful”), little cognitive processing seems to occur (Tourangeau & Rasinski, 1988). Rather than make a new evaluation of the facts at hand, the person will instead rely upon prior judgments.

Therefore, when respondents are asked to answer in a way that they are aware will align them directly with (or against) such a value framework, they tend to respond in terms of that single datum. For example, if one’s value framework includes the concept that “homosexuality is sinful”, then a question of whether or not openly homosexual individuals should be a priest is fundamentally equivalent to asking “should those openly sinning be allowed to become priests”. When asked indirect questions – questions that do not obviously align them with or against an existing value framework – the same
respondents will answer differently (Wood, 2000). This suggests that indirect questions force the respondent to retrieve multiple sets of data and create a new judgment at that time (Brewer, 2000; Tourangeau & Rasinski, 1988). In short, if a situation does not easily line up with familiar information, we are forced to actively reconsider our existing stereotypes.

Contrary to common assumptions, this effect does not seem to be greatly affected by the confidentiality (or lack thereof) of a respondent’s answers in a survey (Wood, 2000). This lack of reactivity to the controversial nature of the questions suggests that the responses are driven by an internal self-describing narrative in addition to a sense of social desirability (Collins, 2003). That is, while social desirability does have an impact on a respondent’s answers, they are more strongly driven by the respondent’s self-identity.

It is also possible to influence a respondent’s answers through several mechanisms. Common concerns in survey research involve the type of questions asked, the order of questions, and the respondent's comprehension of the responses desired (Collins, 2003). The effects caused by survey construction have been used to deliberately measure responses to sensitive subjects, such as racism, that may not even be part of a respondent’s conscious awareness (Wittenbrink, Judd, & Park, 2001). Given that survey construction methods can measure respondent beliefs without directly questioning them, along with marketing research’s suggestion that a survey can create a measurable change in behavior, we are confronted with the possibility of interventional methods that do not run across single-datum judgments. As respondents answer questions that require analysis and new judgments, they actively though unconsciously create a new self-
narrative that has a measurable change on future behavior (Brewer 2000; Morwitz, Johnson, & Schmittlein, 1993).

In order to do so, we must first have a reliable and valid instrument. Specifically for this study, an instrument that measures both axes of anti-GLBT prejudice and that permits an interventional condition to be inserted seamlessly into the instrument itself.

MEASURING MULTIPLE AXES OF PREJUDICE

The *Index of Attitudes toward Homosexuals* (IAH), originally created by Hudson & Ricketts (1980), is a measure that has a three-decade history of excellent internal validity and reliability across multiple regions (Siebert, Chonody, Rutledge, & Killian, 2009; Liddle, Luzzo, Hauenstein, & Schuck, 2004; Pain & Disney, 1996; Hudson & Ricketts, 1980). However, the current iteration of the IAH, copyrighted 1990 and published by Walmyr Publishing Company, has several characteristics that contribute to research problems. Aside from the instrument’s expense, users are not allowed to modify the form in any way. As the form includes a place for respondents to write their name, this is problematic.

The *Genderism and Transphobia Scale* (GTS), another instrument with good internal validity and reliability, was selected by this researcher to replace the IAH to measure the internal axis of prejudice (Hill & Willoughby, 2005). Due to the strong shared predictors for intolerance and correlational scores for anti-transgender and anti-homosexual sentiment on various measurement indices, the GTS would serve as an equivalent measure than the more frequently utilized IAH scale due to its format and the inclusion of gender conformity (Hill & Willoughby, 2005; Hopwood & Connors, 2002;
Herek G. M., 2000). In correspondence with Dr. Hill during October of 2009, he stated that the GTS has no copyright restrictions on use or modification.

However, replacing the IAH with questions from the GTS still only assesses the internal axis of prejudice, failing to account for the external or social axis of prejudice. Therefore, the addition of material from the *Lesbian, Gay, Bisexual, and Transgender Climate Inventory* (LGBTCI) was required. The LGBTCI is an instrument designed to assess perceptions of social conditions for LGBT individuals (Liddle, Luzzo, Hauenstein, & Schuck, 2004). Permission to use and modify this instrument was secured from Dr. Liddle in October of 2009. The addition of material from the LGBTCI should help capture both dimensions of prejudice and give a more comprehensive assessment of the effects of any interventional strategy.

The GTS and the LGBTCI formed the basis of a constructed instrument called the Climate and Prejudice Scale (CPS). The GTS formed the basis of the questions measuring the internal axis of prejudice, while the LGBTCI formed the basis of questions measuring the external axis of prejudice.

The above creates a theoretical framework for this experiment. First, there are methodological gaps in the literature regarding the efficacy of interventions in reducing anti-GLBT prejudice. Second, direct and obvious interventional methods are less effective in those who have the greatest levels of anti-GLBT prejudice due to the contrast with existing self-identity. Third, existing assessments fail to evaluate the impact of interventions on both mechanisms of reduction in discrimination towards LGBT individuals. Through the measurable effects of marketing research, we see that responses to something as simple as a survey can produce measurable changes in both future
attitude and behavior. Finally, when combined with a constructed instrument that captures both internal and external axes of prejudice, we can attempt to design a subtle intervention with an accompanying methodologically rigorous experiment to measure the effects of that intervention.

As this research relies specifically upon the methodological rigor of the instrument utilized, it is vital to detail the methods and results during the creation and testing of an instrument to replace the IAH during the first phase of research. To avoid confusion, the entirety of the first phase of research will be presented prior to the entirety of the second phase, as they both draw upon the same literature and theoretical framework.
II. ASSESSING THE CLIMATE AND PHOBIA SCALE

METHODS

HYPOTHESES

H1: The internal consistency (Cronbach’s alpha) of responses to internal axis questions in the CPS will be greater than 0.8, indicating that the items measure an underlying construct.

H2: The internal consistency (Cronbach’s alpha) of responses to external axis questions in the CPS will be greater than 0.8, indicating that the items measure an underlying construct.

H3: The internal consistency (Cronbach’s alpha) of responses to the CPS as a whole will be greater than 0.8, indicating that the items measure an underlying construct.

H4: The responses to internal axis questions in the CPS will positively correlate with the responses to questions in the IAH, indicating that the underlying construct measured by the internal axis questions is analogous to the construct measured by the IAH.

H5: The responses to questions in the CPS as a whole will positively correlate with the responses to questions in the IAH, indicating that the underlying construct measured by the CPS is analogous to the construct measured by the IAH.
PARTICIPANTS

This portion of the study utilized a convenience sample of eighty-one (81) students taking sociology courses at a public Midwestern four-year university between 1 June and 30 August 2010. The principal researcher - or a proctor fully briefed on and following this protocol – distributed surveys, invited potential respondents to participate, explained that participation is voluntary, and was on hand to collect and convey the responses to a secure location. The responses, including blank ones from those who chose to not participate, were collected in a box to maintain their anonymity.

Because a sample of convenience was used, generalization to populations should be made with caution.

The participants had a mean age of 23.5 (SD = 5.39), with a minimum age of 18 and maximum age of 46. The sample was heavily skewed in regards to gender, with 74% of participants (N = 60) self-identifying as female. The participants reported having attended that university for an average of 2.41 years (SD = 1.82), with just over half of them (50.6%) having attended another post-secondary institution.

A majority of the participants (53.3%) self-reported their religion as Christian (other than Catholic), 17.3% reported themselves as being Roman Catholic, 2.7% reported that they were Jewish. Just over a quarter of the participants (26.7%) reported having no religion.
Table 1
Survey Demographics for the Pilot Phase

<table>
<thead>
<tr>
<th>Self-Reported Gender</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>60</td>
<td>74%</td>
</tr>
<tr>
<td>Male</td>
<td>21</td>
<td>26%</td>
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</table>

<table>
<thead>
<tr>
<th>Self Reported Religion</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christian (not Catholic)</td>
<td>40</td>
<td>53.3%</td>
</tr>
<tr>
<td>No Religion</td>
<td>20</td>
<td>26.7%</td>
</tr>
<tr>
<td>Roman Catholic</td>
<td>13</td>
<td>17.3%</td>
</tr>
<tr>
<td>Jewish</td>
<td>2</td>
<td>2.7%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sexual Orientation</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heterosexual</td>
<td>72</td>
<td>91.1%</td>
</tr>
<tr>
<td>Homosexual</td>
<td>3</td>
<td>3.8%</td>
</tr>
<tr>
<td>Bisexual</td>
<td>3</td>
<td>3.8%</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1.3%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Political Orientation</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberal &amp; Very Liberal</td>
<td>20</td>
<td>26%</td>
</tr>
<tr>
<td>Moderate</td>
<td>33</td>
<td>42.9%</td>
</tr>
<tr>
<td>Conservative &amp; Very</td>
<td>24</td>
<td>31.2%</td>
</tr>
<tr>
<td>Conservative</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age (in years)</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-21</td>
<td>32</td>
<td>39.5%</td>
</tr>
<tr>
<td>22-25</td>
<td>32</td>
<td>39.5%</td>
</tr>
<tr>
<td>26-29</td>
<td>7</td>
<td>8.6%</td>
</tr>
<tr>
<td>30+</td>
<td>10</td>
<td>12.3%</td>
</tr>
</tbody>
</table>

On a scale from "very liberal" to "very conservative", a majority of the participants described themselves as "moderate" (42.9%), with 26% reporting themselves as "liberal" or "very liberal" and 31.2% reporting themselves as "conservative" or "very conservative."
MATERIALS

The Index of Attitudes Toward Homosexuals (IAH) was administered alongside a constructed instrument made from a modified form of the Gender and Transphobia Scale (GTS) combined with a modified form of the Lesbian, Gay, Bisexual, and Transgendered Climate Inventory (LGBTCI) (Hill & Willoughby, 2005; Liddle, Luzzo, Hauenstein, & Schuck, 2004). The order with which the instruments were presented to the participant was determined randomly by alternating the instruments face-down in a box prior to the administration and distributing them to already-seated students. Despite its problems, the IAH was used here as a known reliable and valid instrument, with a cover sheet clearly instructing respondents to ignore the instructions on the IAH form.

All participants received a face sheet (Appendix A). This first page consisted of a cover letter explaining the purposes of the study, instructions for completing the instruments, and specific instructions to not place identifying information on the instruments.

On the bottom half of the first sheet were open-ended demographic questions, including age, gender, amount of time spent in post-secondary education, religious preference, and sexual orientation. One scale question asked the participants to mark the box most closely matching their political preference from "Very Liberal" to "Very Conservative".

For 48.2% (N = 39) of the participants, the next instrument was the IAH followed by the Climate and Prejudice Scale (CPS) (Appendix A); the remainder received the instruments in the opposite order. This was done to evaluate whether the order in which the instruments were presented impacted responses.
Coding the instruments was straightforward, as both utilize a five-point Likert scale ranging from “Strongly Disagree” to “Strongly Agree”. For the IAH, items 3, 4, 6, 9, 10, 12, 13, 14, 15, 17, 19, 21, and 24 were reverse coded. For the CPS, items 2, 7, 8, 9, 12, 13, 17, 30, 33, 37, 38, 42, 43, 45, 49, and 52 were reverse coded.

RESULTS

Cronbach’s alpha, a well-known measure to evaluate internal consistency of scales, was used throughout this portion. Further, it was also the statistic utilized in the original construction of the GTS. Pearson’s $r$ was utilized throughout this portion to assess the degree of correlation between the CPS and the IAH.

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Assessing Internal Consistency and Construct Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cronbach's alpha</td>
</tr>
<tr>
<td>Internal Axis</td>
<td></td>
</tr>
<tr>
<td>Whole Administration</td>
<td>0.945</td>
</tr>
<tr>
<td>IAH presented first</td>
<td>0.954</td>
</tr>
<tr>
<td>CPS presented first</td>
<td>0.937</td>
</tr>
<tr>
<td>External Axis</td>
<td></td>
</tr>
<tr>
<td>Whole Administration</td>
<td>0.843</td>
</tr>
<tr>
<td>IAH presented first</td>
<td>0.899</td>
</tr>
<tr>
<td>CPS presented first</td>
<td>0.777</td>
</tr>
<tr>
<td>Climate &amp; Perception Scale</td>
<td></td>
</tr>
<tr>
<td>Whole Administration</td>
<td>0.939</td>
</tr>
<tr>
<td>IAH presented first</td>
<td>0.958</td>
</tr>
<tr>
<td>CPS presented first</td>
<td>0.920</td>
</tr>
<tr>
<td>IAH</td>
<td></td>
</tr>
<tr>
<td>Whole Administration</td>
<td>0.945</td>
</tr>
<tr>
<td>IAH presented first</td>
<td>0.959</td>
</tr>
<tr>
<td>CPS presented first</td>
<td>0.929</td>
</tr>
</tbody>
</table>

* $p<0.05$, **$p<0.01$, ***$p<0.001$

INTERNAL AXIS OF PREJUDICE

Scores on the internal axis of prejudice of the CPS ranged from 67 to 160 with a
mean of 118.66 (SD = 21.16) and a median of 116. The possible minimum was 32 and the possible maximum was 160; the midpoint of possible scores was 96. A higher score indicated the participant reported greater tolerance and empathy toward LGBT individuals.

**Internal Consistency.** Cronbach’s alpha (internal consistency) for the internal axis questions across the entirety of this administration was 0.945 (N = 77 due to scattered missing data). Corrected item total correlations (Pearson’s r correlations between individual items and total score if that item were omitted) ranged from 0.108 for “If I saw a man on the street that I thought was really a woman, I would ask him if he was a man or a woman” to 0.81 for “Feminine boys should be cured of their problem”, with a mean correlation of 0.587.

When the IAH was administered first, Cronbach's alpha for the internal axis questions was 0.954 (N = 38). Corrected item total correlations ranged from 0.178 for “If I saw a man on the street that I thought was really a woman, I would ask him if he was a man or a woman” to 0.824 for “Children should play with toys appropriate to their own sex.”, with a mean correlation of 0.626.

When the CPS was administered first, Cronbach's alpha for the internal axis questions was 0.937 (N = 39). Corrected item total correlations ranged from 0.051 for “If I saw a man on the street that I thought was really a woman, I would ask him if he was a man or a woman” to 0.811 for “Feminine boys should be cured of their problem”, with a mean correlation of 0.555.

The above tests the hypothesis "The internal consistency of responses to internal axis questions in the CPS will be greater than 0.8." This means that the questions making
up the internal axis questions all measure the same underlying or latent construct. Therefore, my hypothesis is upheld and I can reject the null hypothesis.

Construct validity. The scores of the internal axis questions across the entirety of the administration were correlated with total scores on the IAH, resulting in a Pearson correlation of 0.865 (N = 75; p < 0.001). When the IAH was administered first, Pearson's correlation was 0.912 (N = 38; p < 0.001), and when the CPS was administered first, the correlation was 0.810 (N = 39; p < 0.001).

The above tests the hypothesis "The responses to internal axis questions in the CPS will positively correlate with the responses to questions in the IAH." This means that the questions making up the internal axis questions measure a construct strongly correlated to the construct measured by the IAH. Therefore, my hypothesis is upheld and I can reject the null hypothesis.

EXTERNAL AXIS OF PREJUDICE

Scores on the external axis of prejudice of the CPS ranged from 53 to 98 with a mean of 74.08 (SD = 9.00) and a median of 73.5. The possible minimum was 21 and the possible maximum was 105; the midpoint of possible scores was 63. A higher score indicated the participant viewed the environment as more LGBT friendly.

Internal Consistency. Cronbach's alpha (internal consistency) for the external axis questions across the entirety of this administration was 0.843 (N = 76 due to scattered missing data). Corrected item total correlations (Pearson’s r correlations between individual items and total score if that item were omitted) ranged from 0.160 for “LGBT students and faculty at this university feel free to display pictures of a same-sex
partner” to 0.810 for “This university, as a whole, provides a supportive environment for LGBT people”, with a mean correlation of 0.420.

When the IAH was administered first, Cronbach's alpha for the external axis questions was 0.899 (N = 36). Corrected item total correlations ranged from 0.322 for “LGBT people are less likely to be mentored or get help from a professor” to 0.730 for “This university, as a whole, provides a supportive environment for LGBT people”, with a mean correlation of 0.523.

When the CPS was administered first, Cronbach's alpha for the external axis questions was 0.777 (N = 42). Corrected item total correlations ranged from -0.054 for “LGBT students and faculty at this university feel free to display pictures of a same-sex partner” to 0. 605 to “At this university, LGBT students are met with thinly veiled hostility (for example, scornful looks or icy tone of voice)”, with a mean correlation of 0.313.

The above tests the hypothesis “The internal consistency of responses to external axis questions in the CPS will be greater than 0.8.” This means that the questions making up the external axis questions all measure the same underlying or latent construct, though this was not as strongly the case when the CPS was presented first. Possible reasons for this discrepancy include priming effects and demographic differences among the sample population. Both of these will be discussed later in the paper. Therefore, I find I support for the hypothesis for the administration as a whole, but not when the CPS was administered before the IAH.

**Construct validity.** The IAH does not measure perceptions of external prejudice. However, the scores of the internal axis questions across the entirety of the administration
still correlated with total scores on the IAH, resulting in a Pearson correlation of 0.453 ($N = 74; \ p < 0.001$). When the IAH was administered first, Pearson's correlation was 0.591 ($N = 35; \ p < 0.001$), and when the CPS was administered first, the correlation was 0.248 ($N = 39; \ p = 0.128$). This implies, unsurprisingly, that while the two axes of prejudice are not identical, they do correlate with each other.

CLIMATE AND PERCEPTION SCALE

Scores for the CPS as a whole ranged from 137 to 241 with a mean of 193.08 (SD = 26.49) and a median of 192. The possible minimum was 53 and the possible maximum was 265; the midpoint of possible scores was 159.

*Internal Consistency.* Cronbach's alpha (internal consistency) for the CPS across the entirety of this administration was 0.939 ($N = 74$ due to scattered missing data). Corrected item total correlations (Pearson’s r correlations between individual items and total score if that item were omitted) ranged from 0.041 for “If I saw a man on the street that I thought was really a woman, I would ask him if he was a man or a woman” to 0.804 for “Women who see themselves as men are abnormal”, with a mean correlation of 0.459.

When the IAH was administered first, Cronbach's alpha for the CPS was 0.958 ($N = 36$). Corrected item total correlations ranged from 0.035 for “If I saw a man on the street that I thought was really a woman, I would ask him if he was a man or a woman” to 0.854 for “Women who see themselves as men are abnormal”, with a mean correlation of 0.535.

When the CPS was administered first, Cronbach's alpha for the CPS was 0.920 ($N$
Corrected item total correlations ranged from -0.208 for “LGBT students and faculty at this university feel free to display pictures of a same-sex partner” to 0. 777 for ”At this university, LGBT students are met with thinly veiled hostility (for example, scornful looks or icy tone of voice)”, with a mean correlation of 0.405.

The above tests the hypothesis "The internal consistency of responses to the CPS as a whole will be greater than 0.8." This means that the questions making up the CPS as a whole measure all measure the same underlying or latent construct. Therefore, the hypothesis is supported.

**Construct validity.** The scores of the CPS across the entirety of the administration were correlated with total scores on the IAH, resulting in a Pearson correlation of 0.846 (N = 72; p < 0.001). When the IAH was administered first, Pearson's correlation was 0.909 (N = 35; p < 0.001), and when the CPS was administered first, the correlation was 0.763 (N = 37; p < 0.001).

The above tests the hypothesis "The responses to questions in the CPS as a whole will positively correlate with the responses to questions in the IAH." This means that the questions making up the CPS as a whole measure a construct strongly correlated to the construct measured by the IAH. Therefore, the hypothesis is supported.

**INDEX OF ATTITUDES TOWARD HOMOSEXUALS**

Scores on the IAH ranged from 38 to 125 with a mean of 89.33 (SD = 19.03) and a median of 89.5. The possible minimum was 25 and the possible maximum was 125; the midpoint of possible scores was 75. A higher score indicated the participant reported greater tolerance and empathy toward LGBT individuals.
**Internal Consistency.** Cronbach’s alpha (internal consistency) for the IAH across the entirety of this administration was 0.945 (N = 78 due to scattered missing data). Corrected item total correlations (Pearson’s r correlations between individual items and total score if that item were omitted) ranged from 0.328 for “I would feel uncomfortable if I learned that my spouse or partner was attracted to members of their sex” to 0.821 for “If a member of my sex made an advance toward me I would be offended”, with a mean correlation of 0.626.

When the IAH was administered first, Cronbach's alpha for IAH was 0.959 (N = 38). Corrected item total correlations ranged from 0.301 for “I would feel uncomfortable if I learned that my spouse or partner was attracted to members of their sex” to 0.832 for “If a member of my sex made an advance toward me I would be offended”, with a mean correlation of 0.691.

When the CPS was administered first, Cronbach's alpha for the IAH was 0.929 (N = 40). Corrected item total correlations ranged from 0.318 for “I would feel uncomfortable being seen in a gay bar” and 0.751 for “If a member of my sex made an advance toward me, I would feel flattered”, with a mean correlation of 0.570.

**COMPARISON TO ORIGINAL INSTRUMENTS**

The internal consistency of questions derived from the GTS compares favorably to the original instrument. The original reported value of Cronbach's alpha for a large-scale administration of the GTS was 0.79 (N = 180), as compared to this administration's value of 0.945 (N = 77).

The internal consistency of questions derived from the LGBTCI compares
adequately to the original instrument. The original reported value of Cronbach's alpha for a large-scale administration of the LGBTCI was 0.96 (N = 88), as compared to this administration's value of 0.843 (N = 76). This implies that the modifications to the instruments did not significantly alter their reliability or validity.

ASSESSING FOR SURVEY FATIGUE

To evaluate for survey fatigue, scales were created of the internal axis and external axis questions by which page they appeared upon.

The internal axis responses on one page had a significant correlation of 0.870 with the responses on the other page (N = 77; p < 0.001).

The internal axis responses on page one of the CPS had significant correlations to both the CPS as a whole (r = 0.933; N = 74; p < 0.001) and to the IAH (r = 0.828; N = 76; p < 0.001). The internal axis responses on page two of the CPS had significant correlations to both the CPS as a whole (r = 0.919; N = 74; p < 0.001) and to the IAH (r = 0.845; N = 77; p < 0.001).

The external axis responses on one page had a significant correlation of 0.639 with the responses on the other page (N = 76; p < 0.001).

The external axis responses on page one of the CPS had significant correlations to both the CPS as a whole (r = 0.644; N = 74; p < 0.001) and to the IAH (r = 0.393; N = 75; p < 0.001). The external axis responses on page two of the CPS had significant correlations to both the CPS as a whole (r = 0.578; N = 74; p < 0.001) and to the IAH (r = 0.329; N = 75; p < 0.001).

Given the high levels of correlation between external and internal axis responses
between page one and page two of the survey instrument, it seems unlikely that survey fatigue played a significant role with the results.

Additionally, the high correlations between the pages of the CPS suggest that the instrument could successfully be split, using one page as a pre-test and another page as a post-test to assess the efficacy of an interventional attempt while avoiding the pitfalls of re-administering the same instrument.

DISCUSSION

DIFFICULTIES WITH THE DATA

Among the five instances of the instrument being administered, four were at the end of a class period. While it is impossible to be certain, it is possible that participants quickly completed the instrument in order to leave class. This timing may also have played a part with missing or incomplete responses.

Some respondents wrote in a gender for their sexual preference (e.g., a male respondent wrote "men" for sexual preference). Given the layout of the demographic questions, when a respondent stated that their sexual preference was the same as the respondent's gender, the respondent was coded as being homosexual.

While a great variety of Christian denominations were reported, all non-Catholic denominations were classified as Christian (non-Catholic) due to the severe sample segmentation that more precise classification would have required. Further, the degree of specificity of denomination varied wildly between respondents, which would have left investigators attempting to decipher if "non-denominational" was equivalent to "True Bible Christian."
A quarter of the respondents wrote "none" or "N/A" for their religion. There were very few respondents who stated that they were "atheist" (N = 2) or "agnostic" (N = 3). It is impossible to know if this is a statement about organized religion or actual belief systems.

Several respondents wrote question marks or "don't know" next to external axis questions, particularly the questions "LGBT students and faculty at this university feel free to display pictures of a same-sex partner" and "The atmosphere for LGBT students is improving over time at this university", and were coded as missing data. This is unfortunate, but expected. As the original article presenting the LGBTCI reported that some of the respondents expressed difficulty making judgments about the entire workplace due to differences between their own work group and the whole company (Liddle, Luzzo, Hauenstein, & Schuck, 2004).

CORRELATIONS WITH DEMOGRAPHIC DATA

There are several "typical" correlations expected from demographic data –namely that male, heterosexual, conservative, Christian individuals will report more anti-LGBT prejudice (Herek G. M., 2000; Nelson & Krieger, 1997).

This was not the case with the data from this survey’s administration. Religious preference and gender had no large significant correlation with the internal or external axis scores or scores on the IAH. Sexual orientation only had a significant correlation with scores on the IAH (r = 0.276, N = 76, p = 0.16).

The demographic characteristic that exhibited statistically significant correlations was political stance. Political stance was coded so that "very liberal" was the lowest
score and "very conservative" was the highest score. As mentioned before, a higher score for both axes, the CPS as a whole, and the IAH correlates to a greater degree of reported tolerance and empathy toward GLBT individuals.

There was a negative linear relationship between political stance and reported degree of anti-LGBT prejudice with the IAH (r = -0.458, N = 74, p < 0.001), external axis of prejudice (r = -0.255, N = 72, p = 0.031), internal axis of prejudice (r = -0.316, N = 73, p = 0.006), and CPS (r = -0.336, N = 70, p < 0.005).

EVALUATING FOR PRIMING EFFECTS

Whenever the IAH was the first instrument presented, correlations in all areas were stronger as shown in the results above. It is difficult to determine with this small sample size if these effects are due to differences between participants or due to a real "priming" effect.

One clue is the demographic variable of political stance. It is the only demographic variable in this sample shown to have a significant correlation. Of the total participants, 31.2% self-identified as conservative (e.g. "conservative" or "very conservative"). Of those who received the IAH first, only 25.7% self-identified as conservative. Of those who received the CPS first, 33.4% self-identified as conservative. This variation among the sample may account for the variation in responses. To distinguish between a priming effect and a statistical anomaly, it would be necessary to repeat this study with a larger sample size.

The Climate and Prejudice Scale holds promise as the basis for an open standard for measuring both internal and external axes of prejudice. Questions measuring the
internal axis of prejudice compare favorably to the Index of Attitudes toward Homosexuals, and the instrument's internal reliability compare favorably to both instruments from which it was derived.

Therefore, I moved onward to the full study.
III. ASSESSING THE IMPACT OF OBLIQUE AND DIRECT INTERVENTIONS ON INTERNAL AND EXTERNAL AXES OF PREJUDICE HYPOTHESES

**H1:** The insertion of indirectly intervening questions between the two halves of the anti-GLBT prejudice inventory will increase respondent scores on the internal axis of the second set of inventory questions, indicating increased tolerance.

**H2:** The insertion of overtly leading questions between the two halves of the anti-GLBT prejudice inventory will increase respondent scores on the external axis of the second set of inventory questions, indicating increased tolerance.

**H3:** If a respondent has lower a lower score (indicating greater internal prejudice) on the first half of the instrument, the indirectly intervening questions will produce a greater increase of scores, indicating increased tolerance, in the second half of the inventory.

**H4:** The self-reported religious preference of the respondent will impact both absolute post-test scores on internal and external axes as well as the change in scores in each axis between halves of the inventory.

**H5:** The self-reported political preference of the respondent will impact both absolute post-test scores on internal and external axes as well as the change in scores in each axis between halves of the inventory.

**H6:** The self-reported sexual preference of the respondent will impact both absolute post-test scores on internal and external axes as well as the change in scores in
each axis between halves of the inventory.

**H7:** The self-reported gender of the respondent will impact both absolute post-test scores on internal and external axes as well as the change in scores in each axis between halves of the inventory.

**H8:** The total number of years in postsecondary education stated by the respondent will impact both absolute post-test scores on internal and external axes as well as the change in scores in each axis between halves of the inventory.

**PARTICIPANTS**

This study utilized a convenience sample of two hundred and seventy nine (279) students taking introductory sociology courses at a public Midwestern four-year university between 1 September and 30 October 2010. The principal researcher - or a proctor fully briefed on and following this protocol – distributed surveys, invited potential respondents to participate, explained that participation is voluntary, and was on hand to collect and convey the responses to a secure location. The responses, including blank ones from those who chose to not participate, were collected in a box to maintain their anonymity.
<table>
<thead>
<tr>
<th>Self-Reported Gender</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>163</td>
<td>58.8%</td>
</tr>
<tr>
<td>Male</td>
<td>114</td>
<td>41.2%</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Self Reported Religion</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christian (not Catholic)</td>
<td>146</td>
<td>52.3%</td>
</tr>
<tr>
<td>Roman Catholic</td>
<td>57</td>
<td>20.4%</td>
</tr>
<tr>
<td>No Religion</td>
<td>41</td>
<td>14.7%</td>
</tr>
<tr>
<td>Muslim</td>
<td>11</td>
<td>4.2%</td>
</tr>
<tr>
<td>Spiritual</td>
<td>5</td>
<td>1.9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sexual Orientation</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heterosexual</td>
<td>230</td>
<td>92%</td>
</tr>
<tr>
<td>Homosexual</td>
<td>11</td>
<td>4.4%</td>
</tr>
<tr>
<td>Bisexual</td>
<td>8</td>
<td>3.2%</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>0.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Political Orientation</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberal &amp; Very Liberal</td>
<td>73</td>
<td>24.1%</td>
</tr>
<tr>
<td>Moderate</td>
<td>134</td>
<td>48%</td>
</tr>
<tr>
<td>Conservative &amp; Very</td>
<td>59</td>
<td>22.2%</td>
</tr>
<tr>
<td>Conservative</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Student Age (in years)</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-21</td>
<td>234</td>
<td>83.9%</td>
</tr>
<tr>
<td>22-25</td>
<td>28</td>
<td>10%</td>
</tr>
<tr>
<td>26-29</td>
<td>6</td>
<td>2.2%</td>
</tr>
<tr>
<td>30+</td>
<td>11</td>
<td>3.9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>48</td>
<td>20.9</td>
</tr>
</tbody>
</table>

The participants had a mean age of 20.1 (SD = 4.4), with a minimum age of 18 and maximum age of 48. The sample was fairly balanced in regards to gender, with 58.8% of participants (N = 163) self-identifying as female. The participants reported having attended that university for an average of 0.59 years (SD = 1.82), with just over a quarter of them (26.2%) having attended another post-secondary institution. Including time
spent at other postsecondary institutions, the participants had a mean of 1.68 years in colleges (SD = 2.12), with a range from 0 to 27.

A majority of the participants (55.3%) self-reported their religion as Christian (other than Catholic), 21.6% reported themselves as being Roman Catholic, 4.2% reported being Muslim, 1.9% said that their religious path was “spiritual”, and less than a percent reported being Jewish, Wiccan, or Buddhist. Nearly a sixth of the participants (15.5%) reported having no religion.

A vast majority of participants (92%) self-reported their sexual orientation as heterosexual, 4.4% self-reported their sexual orientation as homosexual, another 3.2% self-reported their orientation as bisexual, with less than a percent self-reporting their sexual orientation as “other.”

On a scale from "very liberal" to "very conservative", a majority of the participants described themselves as "moderate" (50.4%), with 27.5% reporting themselves as "liberal" or "very liberal" and 22.5% reporting themselves as "conservative" or "very conservative".

Because a sample of convenience was used, generalization to populations should be made with caution. However, with the exception of fewer years in postsecondary education and a slightly greater skewing toward the liberal side of the political spectrum, this sample strongly resembled the sample for the pilot study.

MATERIALS

Several variants of the Climate and Perception Survey (CPS) were created in order to create the direct and oblique interventions for the study. The CPS-O (Oblique)
had the inventory questions separated by an additional page containing questions asking about the respondent's views and principles in terms of equality, fairness, and justice for all people (Appendix B). The CPS-D (Direct) had two pages of inventory questions separated by an additional page of questions directly asking about the respondent's knowledge of the university's diversity programs, hate crime, and discrimination policies vis a vis LGBT concerns (Appendix C).

Additional variants of each variation of the study were created in order to evaluate and control for pre-test "priming" effects. In order to do, the first page of inventory questions were omitted. These variants were distinguished by a subscript "1" (ie. CPS₁, CPS-D₁, and CPS-O₁).

As with the pretest, all participants received a face sheet of a cover letter explaining the purposes of the study, instructions for completing the instruments, and specific instructions to not place identifying information on the instruments. On the bottom half of the first sheet were open-ended demographic questions, including age, gender, amount of time spent in post-secondary education, religious preference, and sexual orientation. One scale question asked the participants to mark the box most closely matching their political preference from "Very Liberal" to "Very Conservative".

All items after the first demographics page were Likert-scale questions ranging from “Strongly Disagree” to “Strongly Agree”. For the CPS, items 2, 7, 8, 9, 12, 13, 17, 30, 33, 37, 38, 42, 43, 45, 49, and 52 were reverse coded. The first and second inventory pages were identical to the two pages of the CPS for all variations of the instrument. The indirect and direct inventory questions were also Likert scale questions, scored in a straightforward manner with “strongly agree” as the highest response value.
Table 4  
**Variants of Climate & Phobia Scale by Question Content**

<table>
<thead>
<tr>
<th></th>
<th>Demographics</th>
<th>Inventory 1</th>
<th>Direct Oblique</th>
<th>Inventory 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPS</td>
<td>XX</td>
<td>XX</td>
<td></td>
<td>XX</td>
</tr>
<tr>
<td>CPS-D</td>
<td>XX</td>
<td>XX</td>
<td>XX</td>
<td>XX</td>
</tr>
<tr>
<td>CPS-O</td>
<td>XX</td>
<td>XX</td>
<td>XX</td>
<td>XX</td>
</tr>
<tr>
<td>CPS₁</td>
<td>XX</td>
<td></td>
<td></td>
<td>XX</td>
</tr>
<tr>
<td>CPS-D₁</td>
<td>XX</td>
<td>XX</td>
<td></td>
<td>XX</td>
</tr>
<tr>
<td>CPS-O₁</td>
<td>XX</td>
<td></td>
<td></td>
<td>XX</td>
</tr>
</tbody>
</table>

Which instrument was presented to each participant was determined randomly; the instruments had been placed in alternating sequence, and then passed out to participants in self-selected seating where the instrument was administered. Table 5

Table 5  
**Type of Instrument by Number of Administrations**

<table>
<thead>
<tr>
<th>Variant of Instrument</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPS</td>
<td>48</td>
<td>17.2%</td>
</tr>
<tr>
<td>CPS-D</td>
<td>48</td>
<td>17.2%</td>
</tr>
<tr>
<td>CPS-O</td>
<td>47</td>
<td>16.8%</td>
</tr>
<tr>
<td>CPS₁</td>
<td>40</td>
<td>14.3%</td>
</tr>
<tr>
<td>CPS-D₁</td>
<td>51</td>
<td>18.3%</td>
</tr>
<tr>
<td>CPS-O₁</td>
<td>45</td>
<td>16.1%</td>
</tr>
</tbody>
</table>

The CPS was administered to 17.2% of the participants (N = 48), as was the CPS-D. The CPS-O was given to 16.8% (N = 47) of the participants. The pretest variants of the tests were likewise randomly distributed, with the CPS₁ administered to 14.3% (N = 40) of the respondents, the CPS-D₁ to 18.3% (N = 51) of participants, and the CPS-O₁ administered to 16.1% (N = 45) of the participants. Each variation of the instrument was administered to a nearly equal number of respondents.
RESULTS

I constructed several indices to capture the internal and external axes of prejudice, as well as to evaluate changes in responses that occurred due to interventional questions. As with the pilot study, the internal axis of prejudice was calculated by summing the responses from the questions derived from the Genderism and Transphobia Scale (GTS) while the external axis of prejudice was calculated from summing responses to the questions derived from the Lesbian, Gay, Bisexual, and Transgendered Climate Inventory (LGBTCI). For the internal axis, a higher score reflected a more tolerant personal attitude; for the external axis, a higher score reflected a perception of a more tolerant environment.

Due to the nature of this study, there were four indices created; the internal axis and external axis on the first page of inventory questions (I1 and E1) and the internal axis and external axis on the second page of inventory questions (I2 and E2). I1 and E1 are “pre-test” conditions, and I2 and E2 reflect “post-test” conditions.

EVALUATING FOR PRIMING EFFECTS

To determine whether a priming effect occurred with this administration, I compared the mean “post test” scores (I2 and E2) for the internal and external axes for each variation of the CPS with the corresponding scores for the variants that omitted the first page of inventory questions. For example, I compared the mean score of CPS-D:I2 with CPS-D₁:I2, as well as the mean score of CPS-D:E2 with CPS-D₁:E2.
A $t$ test failed to reveal a statistically significant difference between the mean internal axis post-test scores in the CPS-O ($M = 55.4$, $s = 14.43$) and the CPS-O$_1$ ($M = 52.21$, $s = 11.52$), $t(80) = 1.11$, $p = 0.271$. Similarly, a $t$ test failed to reveal a statistically significant difference between the mean external axis post-test scores in the CPS-O ($M = 37.13$, $s = 5.77$) and the CPS-O$_1$ ($M = 37.57$, $s = 4.07$), $t(80) = -0.385$, $p = 0.701$.

A $t$ test failed to reveal a statistically significant difference between the mean internal axis post-test scores in the CPS-D ($M = 56.91$, $s = 13.04$) and the CPS-D$_1$ ($M = 55.43$, $s = 14.34$), $t(90) = 0.519$ $p = 0.605$. Likewise, a $t$ test failed to reveal a statistically significant difference between the mean external axis post-test scores in the CPS-D ($M = 39.50$, $s = 6.03$) and the CPS-D$_1$ ($M = 37.91$, $s = 4.91$), $t(88) = 1.37$, $p = 0.174$.

A $t$ test failed to reveal a statistically significant difference between the mean internal axis post-test scores in the CPS ($M = 55.73$, $s = 11.21$) and the CPS$_1$ ($M = 50.37$, $s = 13.91$), $t(80) = 1.93$ $p = 0.057$. A $t$ test failed to reveal a statistically significant difference between the mean external axis post-test scores in the CPS ($M = 38.84$, $s = 6.02$) and the CPS$_1$ ($M = 38.98$, $s = 5.47$), $t(82) = -0.107$, $p = 0.915$.

When comparing all six variants of the survey instrument with a one way

<table>
<thead>
<tr>
<th></th>
<th>CPS</th>
<th>CPS$_1$</th>
<th>CPS-D</th>
<th>CPS-D$_1$</th>
<th>CPS-O</th>
<th>CPS-O$_1$</th>
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</thead>
<tbody>
<tr>
<td>Internal</td>
<td>55.73</td>
<td>50.37</td>
<td>56.91</td>
<td>55.43</td>
<td>55.4</td>
<td>52.21</td>
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<tr>
<td>t</td>
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<td>0.519</td>
<td>1.11</td>
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<td>p</td>
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</tr>
<tr>
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<td>38.84</td>
<td>38.98</td>
<td>39.5</td>
<td>37.91</td>
<td>37.13</td>
<td>37.57</td>
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<tr>
<td>t</td>
<td>-0.107</td>
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</tr>
<tr>
<td>p</td>
<td>0.915</td>
<td>0.174</td>
<td></td>
<td>0.701</td>
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</table>

Table 6
Evaluating for Priming Effects
ANOVA test, I found that there was no difference in the mean internal axis (I2) score (F (5,255) = 1.42, \( p = 0.217, \ a = 0.05 \)) or the mean external axis (E2) score (F (5,254) = 1.25, \( p = 0.287, \ a = 0.05 \)).

If the first page of inventory questions had a priming effect, I would have expected a significant difference between the mean scores of each variant of the instrument and the pre-test assessment variation. I would have also expected a significant variation to arise in the one way ANOVA test. The lack of significant difference strongly suggests that the post-test evaluations were not impacted by pretest bias.

EVALUATING TYPE OF INTERVENTION VS. IMPACT

Table 7

<table>
<thead>
<tr>
<th>Interventional Method</th>
<th>Mean</th>
<th>Median</th>
<th>SD</th>
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</thead>
<tbody>
<tr>
<td>Whole Pretest</td>
<td>56.39</td>
<td>57.5</td>
<td>13.23</td>
</tr>
<tr>
<td>Whole Post-Test</td>
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<td>54</td>
<td>13.23</td>
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<td>Post-test CPS</td>
<td>55.75</td>
<td>56.5</td>
<td>11.21</td>
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<tr>
<td>Post-test CPS-O</td>
<td>54.83</td>
<td>52</td>
<td>14.45</td>
</tr>
<tr>
<td>Post-test CPS-D</td>
<td>56.91</td>
<td>61</td>
<td>13.04</td>
</tr>
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<td>Post-test CPS(_1)</td>
<td>50.37</td>
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<tr>
<td>Post-test CPS-O(_1)</td>
<td>52.21</td>
<td>50.5</td>
<td>11.52</td>
</tr>
<tr>
<td>Post-test CPS-D(_1)</td>
<td>56.16</td>
<td>57</td>
<td>14.37</td>
</tr>
</tbody>
</table>

To test the hypothesis, "The insertion of indirectly intervening questions between the two halves of the anti-GLBT prejudice inventory will increase respondent scores on the internal axis of the second set of inventory questions, indicating increased tolerance", I compared the mean scores of I2. A one-way ANOVA was used to test for differences in the mean internal axis score (I2) among the three post-test variants of the survey instrument. A significant difference was found in the mean internal axis score across the
three variants, \( F(2, 126) = 6.11, p = 0.003 \).

Tukey post-hoc comparisons of the three groups indicate that the CPS-D internal axis score \((M = 1.80, 95\% \text{ CI } [0.27, 3.33])\) gave significantly higher positive changes in the mean internal axis scores than the CPS \((M = -1.5, 95\% \text{ CI } [-3.42, 0.42]), p = 0.02\) and the CPS-O \((M = -2.12, 95\% \text{ CI } [-3.89, -0.35]), p = 0.004\). Comparisons between the CPS and the CPS-O were not statistically significant with \( \alpha = 0.05 \).

Therefore, I must state that the insertion of indirectly intervening questions had no effect on the second set of internal axis inventory questions. In fact, the directly intervening questions had a significant impact on internal measures of prejudice, even though the directly intervening questions were solely about external and environmental conditions.

To test the hypothesis, "The insertion of overtly leading questions between the two halves of the anti-GLBT prejudice inventory will increase respondent scores on the external axis of the second set of inventory questions, indicating increased tolerance", I compared the mean scores of E2. A one-way ANOVA was used to test for differences in the mean external axis score (E2) among the three post-test variants of the survey instrument. There was no significant difference in the mean external axis score across the three variants, \( F(2, 122) = 0.84, p = 0.434 \).

Using Spearman’s rho, there was no significant - or even strong - correlation between the type of intervention used and individual scores on the external axis \((r = 0.008; N = 125; p = 0.927)\) or internal axis \((r = 0.043; N = 129; p = 0.631)\).

Therefore, I cannot support the hypothesis in both cases, and must state that the insertion of overtly leading questions had no effect on the second set of external axis
inventory questions. This was again puzzling, as the overtly leading questions were solely about external environmental conditions.

ASSESSING IMPACT ON THE MORE PREJUDICED

The literature suggested that more prejudiced individuals would be more resistant efforts to directly intervene with their prejudice. In fact, it suggested that direct attempts to alter their prejudicial beliefs might backfire and cause a hardening of their existent prejudice.

To test the hypothesis "If a respondent has lower a lower score (indicating greater internal prejudice) on the first half of the instrument, the indirectly intervening questions will produce a greater increase of scores, indicating increased tolerance, in the second half of the inventory", I first had to distinguish those who had a "low" score on the first half of the internal axis (II).

I selected the cases where the II score was below than fifty-one (51); a lower score than the midpoint of the possible range and below the median II score of fifty-six (56). A new variable of "v_prejudiced" was introduced, where those with II scores 51 or less were assigned a value of 0 (prejudiced group) and those with II scores greater than 51 were assigned a value of 1 (unprejudiced group). It is worth noting that the labels of "prejudiced group" and "unprejudiced group" are relative measures for labeling convenience, and not absolute assessments.

I conducted independent sample t-tests to compare the post-test scores on the internal axis and external axis between the prejudiced group and the unprejudiced group. There was a statistically significant difference in the mean post-test external axis scores
between the prejudiced group (M = 35.51, s = 5.20) and the unprejudiced group (M = 39.93, s = 5.84), t(126) = -4.134 \ p = 0.000. There was also a statistically significant difference in the mean post-test internal axis scores between the prejudiced group (M = 43.02, s = 7.60) and the unprejudiced group (M = 62.24, s = 9.95), t(106.32) = -12.174 \ p = 0.000.

Perhaps unsurprisingly, this suggests that the prejudiced group responded to the inventory questions in a more prejudiced manner than the less-prejudiced group.

I conducted an independent sample t-test comparing the mean change internal axis scores. A t-test failed to reveal a statistically significant difference between the change internal axis scores in the prejudiced group (M = 0.349, s = 6.17) and the unprejudiced group (M = -1, s = 5.69), t(127) = 1.233 \ p = 0.220. When the comparison was limited to the CPS-O, a t-test failed to reveal a statistically significant difference between the change internal axis scores in the prejudiced group (M = -3.00, s = 3.44) and the unprejudiced group (M = -1.7, s = 6.45), t(38.58) = -0.833 \ p = 0.410.

I then conducted a Spearman's rho correlation test between the variety of instrument (and intervention) administered compared to change in the individual internal axis, limiting samples to the prejudiced group. No significant relationships were discovered with the CPS (rho(14) = 0.183, \ p = 0.532), CPS-O (rho(17) = -0.482, \ p = 0.052), or CPS-D (rho(24) = -0.29, \ p = 0.169), though this may be due to the low values of N when the sample was sliced so thin.

Regardless, I fail to reject the null hypothesis, and must state that a respondent who has a lower score on the first half of the instrument will not have a greater increase of scores in the second half of the inventory. This means that the prejudiced and
unprejudiced groups had statistically similar changes internal axis scores regardless of which instrument they received.

In fact, a visual examination of the mean changes indicates that the mean score of both groups decreased with the indirectly intervening questions, indicating that they had more prejudiced answers. Further, the more prejudiced group had a greater decrease in scores than the less prejudiced group.

A one-way ANOVA was used to test for differences in the mean changes internal axis score among the three post-test variants of the survey instrument, limiting the responses simply to those in the prejudiced group. A significant difference was found in the change with internal axis score across the three variants, \( F(2, 40) = 3.40, p = 0.04 \).

Tukey post-hoc comparisons of the three groups indicate that, among those who had low scores on the first portion of the internal axis inventory, the CPS-O had significantly different effects (\( M = -3.00, 95\% \text{ CI } [-5.08, -0.92] \)) than the CPS-D (\( M = 2.65, 95\% \text{ CI } [-0.77, 6.07] \)), \( p = 0.032 \). The other comparisons between the mean changes internal axis scores were not statistically significant with \( \alpha = 0.05 \).

This difference in means indicates that the indirect intervention actually increased the degree of internal axis prejudice significantly more than the other form of intervention or the control, exactly the opposite of what I expected from the literature.

CORRELATIONS OF DEMOGRAPHICS AND PREJUDICE

RELIGIOUS PREFERENCE

Next, I conducted a series of correlations to test the hypothesis "The self-reported religious preference of the respondent will impact both absolute post-test scores on
internal and external axes as well as the change in scores in each axis between halves of the inventory." This was to test the predictions of the literature that religion is a significant predictor of anti-GLBT prejudice.

I tested the variable "self-reported religion of respondent" against several different measures within the instrument. A simple chi-squared test indicated that the self-reported religion of the respondent was independent of the change in external axis of discrimination scores (chi-square = 0.473), the change internal axis of discrimination scores (chi-square = 0.869), and the post-test score of external axis of discrimination (chi-square = 0.775).

Two exceptions were the post-test score of internal axis of discrimination, where a very weak significant lambda correlation was found (lambda(124) = 0.085, p = 0.038) and a weak significant Goodman's & Kruskal tau correlation with whether the respondent fell in the "prejudiced group" as described above (Tau(131) = 0.130, p = 0.01).

Therefore, I do not find support for the hypothesis, being only able to say that the self-reported religious preference of the respondent has a significant correlation only with the absolute post-test scores of the internal axis of discrimination and whether or not the respondent fell into the "prejudiced group".

POLITICAL PREFERENCE

Next, I tested the hypothesis that "The self-reported political preference of the respondent will impact both absolute post-test scores on internal and external axes as well as the change in scores in each axis between halves of the inventory". Political preference was considered an ordinal scale running from "very liberal" to "very
"conservative"; a higher numerical rank in political preference indicated a more conservative response from the participant. Gamma was calculated to examine the relationship between the political preference of the respondent, the absolute post-test of both axes of prejudice, and the change in scores for both axes between halves of the inventory.

There was no significant relationship between stated political preference and the change in respondent scores for the external axis of prejudice (Gamma(121) = 0.065, p = 0.45) or the absolute post-test score for the external axis of prejudice (Gamma(125) = 0.004, p = 0.965).

There was a weak negative significant relationship between political preference and the change in respondent scores on the internal axis of prejudice (Gamma(124) = - 0.182, p = 0.025) and a moderate negative significant relationship between political preference and absolute post-test score for the internal axis of prejudice (Gamma(126) = - 0.351, p = 0.000).

A Gamma correlation was also calculated examining the relationship between the participant's stated political preference and whether the respondent fell in the "prejudiced group" as described above.. A moderate negative correlation was found (Gamma(133) = -0.414, p = 0.004).

Therefore, the hypothesis "The self-reported political preference of the respondent will impact both absolute post-test scores on internal and external axes as well as the change in scores in each axis between halves of the inventory" is only partially upheld, with significant correlations both in the absolute score of the internal axis, the change in the scores of the internal axis, and the likelihood that the respondent fell in the
"prejudiced" group.

These correlations indicate that the more conservative a respondent was, the more likely they were to have higher scores on the internal axis of prejudice, and that they were more likely to be prejudiced when starting the inventory.

SEXUAL PREFERENCE

While not indicated in the literature, it seemed reasonable that one's sexual orientation would have an impact on how prejudiced one was towards those of a specific sexual orientation.

A chi-square test indicated that the self-reported sexual orientation of the respondent was independent of the change in external axis of discrimination scores (chi-square = 0.984), the change internal axis of discrimination scores (chi-square = 1.00), the absolute post-test internal axis score (chi-square = 1.00), or whether the respondent fell in the "prejudiced" group (chi-square = 0.517).

The single exception was the post-test external axis score, which while it had a significant chi-square value, did not have a significant Goodman's & Kruskal tau correlation with the self-reported sexual preference (Tau(118) = 0.026, $p = 0.485$).

Therefore, I find no support for the hypothesis, stating that the self-reported sexual preference of the respondent will have no relationship with both absolute post-test scores on internal and external axes as well as the change in scores in each axis between halves of the inventory, nor the likelihood that the respondent will fall in the "prejudiced" group.
GENDER

The literature also suggested that gender would have a significant impact on respondent scores, leading to the hypothesis that "the self-reported gender of the respondent will impact both absolute post-test scores on internal and external axes as well as the change in scores in each axis between halves of the inventory".

A chi-square test indicated that the self-reported gender of the respondent was independent of the post-test external axis score (chi-square = 0.820) and post-test internal axis score (chi-square = 0.591).

A Goodman's & Kruskal tau correlation was performed, examining the relationship between gender and the remaining variables. It found a weak significant correlation with the change in external axis score (Tau(125) = 0.016, p = 0.011), a very weak significant correlation with the change internal axis score (Tau(138) = 0.011, p = 0.016), and a weak significant correlations whether the participant fell in the "prejudiced group" (Tau(138) = 0.142, p = 0.000).

Therefore, the hypothesis "the self-reported gender of the respondent will impact both absolute post-test scores on internal and external axes as well as the change in scores in each axis between halves of the inventory" is only partially upheld, with significant correlations with the change internal and external axis scores, as well as the gender of the respondent and the likelihood that they would fall into the "prejudiced" group. However, it is worth noting that despite the correlations being significant, the strength of the relationship between gender of respondent and changes internal and external axis scores are very weak.
YEARS IN COLLEGE

To test the hypothesis "the total number of years in postsecondary education stated by the respondent will impact both absolute post-test scores on internal and external axes as well as the change in scores in each axis between halves of the inventory", I calculated a series of Spearman's rho correlations, examining the relationship between the total number of years a respondent had spent in postsecondary education and both absolute post-test scores on internal and external axes as well as the change in scores in each axis between halves of the inventory. No significant correlations were found.

A further Spearman's rho correlation was calculated examining the relationship between the total number of years a respondent had spent in postsecondary education and whether the respondent fell in the "prejudiced group" as described above. A weak positive correlation was found (Rho(135) = 0.169, \( p = 0.05 \)). This indicates that the more years of schooling, the less likely a respondent was to be included in the "prejudiced" group.

Therefore, I completely fail to uphold the hypothesis "the total number of years in postsecondary education stated by the respondent will impact both absolute post-test scores on internal and external axes as well as the change in scores in each axis between halves of the inventory", and only show a weak impact in the number of years of schooling on the likelihood that the individual was in the "prejudiced" group. It is possible that spurious variables – such as respondent age – skewed results, though were too small to provide correlations on their own.
DISCUSSION

The lack of methodological rigor in prior assessments of anti-prejudicial intervention, as well as the expected small size of the impact of the interventions for this study, necessitated that the possibility of pre-test priming be thoroughly examined. This study did achieve that goal; there was no significant or discernable impact upon the results, and I can safely presume that my results are not due to pre-test priming.

Unfortunately, as the experimental condition examined the change in scores between the pre- and post-test conditions. As assessing for pre-test priming involves removing the pre-test condition, to achieve this goal the sample size for the experimental conditions was approximately half of the entire sample size. To ensure that outliers did not skew the responses, it would be preferable to have had all of the respondents complete the entire study.

It is possible, given how frequently later statistical tests barely exceeded missed being statistically significant, that more tests would show significant results if pre-test priming was not evaluated at the same time as evaluating the experimental effects.

The literature suggests that there is supposed to be an intolerant "type"; that we should be able to predict intolerance due to secondary demographic characteristics. The literature suggests that several demographic values – gender, high levels of religiosity, belief in "traditional family values", and political stance – would correlate to greater amounts of cognitive homophobia (Lehmiller, et al, 2010; Herek G. M., 2000; Nelson & Krieger, 1997). In this study, few of those demographic values showed any significant or influential correlation or changes with respondent scores. There were no conditions measured that had a significantly influential impact on scores with the external axis of
prejudice.

The most influential and reliable predictor was the self-reported political preference of the respondent in terms of the internal axis of prejudice. Given the conceptual correlation of “conservative” with “social conservative” in the United States, it is unsurprising to find that respondents who identified as “conservative” were more likely to hold prejudiced views toward GLBT individuals both in the pre-test and post-test conditions.

While some demographic characteristics were able to hint toward a person's classification as "more prejudiced" or "less prejudiced", the more prejudiced group's scores changed statistically identically to those of the less prejudiced group.

The prediction that indirect approaches would have a greater impact on intolerant individuals was not upheld; in fact, a visual examination of the mean changes indicates that the mean score decreased with the indirectly intervening questions, indicating that they had more prejudiced answers and that difference was statistically significant.

The experimental conditions had no significant correlation on the axes they were supposed to impact. The indirect intervention, aimed at internal cognition, failed to alter scores on the internal axis while the overt intervention, designed to alter perceptions of the environment in question, failed to impact scores on the external axis.

Several statements seemed to get different responses than others (Though the differences were not statistically significant). A typical example was a respondent's page of inventory statements, with all marked “Strongly Agree” except for the statements “My identity has nothing to do with whom I'm dating”, “In our country, your medical and legal care should have nothing to do with whom you love”, and “You can't tell how good
someone is with kids by how they look”, which were all marked “Disagree”. These differences were noted during the scoring process, and should be treated with the same relevance as marginal comments.

It is possible that these effects are due to statistical variations, sampling errors, or the like. Yet, despite the lack of statistical significance, one result continued to visually stand out. Repeatedly, the indirect (or oblique) interventions precipitated a (nonsignificant) decrease in tolerance. The mean tolerance towards GLBT individuals went down across groups, but the prejudiced group experienced a greater decrease in tolerance.

This result indicates several things. First, it demonstrates that generic "social desirability" was not a significant factor in the way respondents answered the inventory questions. Second, it reinforces the literature's speculations that interventions could backfire when dealing with the more prejudiced sectors of society. And finally, it justifies the cognitive theory in place.

Despite the attempt to craft indirect interventions, they were not perceived as such. The "indirect" interventions were not indirect enough, or the respondents had encountered these concepts before. Rather than forcing a reevaluation of pre-existing decisions, the more prejudiced individuals simply recalled the decision they had already made.

Even during the data collection stage, marginal comments on some of the surveys hinted that this problem might occur. One respondent wrote “I feel like a lot of these questions are angled to the gltb[sic] view. I do not agree with the gltb lifestyle[sic], and I don't [sic] can't support it...” on the first page of inventory questions. Another respondent
wrote challenging remarks near a quarter of the indirect intervention statements. One example, next to the statement "Everybody should have the same rights" was met with the written comment "Any rights or a particular set?" Next to the inventory statement “Everybody should be able to marry whomever they love”, another respondent wrote in “I agree as long as whomever they love is of the opposite sex”. Yet another crossed out the word “pervert” in an inventory question and wrote in the word "fag".

While not always statistically significant, analysis of the mean change of scores with Tukey's post-hoc comparisons supports this observation. The mean respondent score became less tolerant with the indirect intervention, and the "more prejudiced" group became significantly more intolerant. The respondents – particularly those who were more prejudiced to begin with – became aware of the attempt to “fly under the radar”, thus responding from pre-made decisions rather than new evaluations. Much as marketing research noted, this additional attempt to alter their cognition hardened existing prejudices. While this finding justifies my assertions that respondents would both answer honestly and that a measurable change could be produced with a survey, this was definitely not the desired result.

Luckily, the direct intervention seemed to have a nearly opposite impact on mean inventory scores. The direct intervention – essentially an informational pamphlet about pro-diversity resources on campus thinly disguised as a survey – had a significant and positive impact on tolerance scores.

It is important to note that this is not a design flaw. This is not merely respondents answering in a generic "socially desirable" way. It is important to refer to E. L. Paluck's natural experiment in more detail to understand the importance of this finding.
Paluck studied ways to reduce prejudice in Rwanda, primarily through the impact of a radio drama in many ways similar to the sitcom "All in the Family" from the 1970's. An unsympathetic racist character was depicted alongside more sympathetic (and also tolerant) characters in this long-standing drama.

Paluck discovered that prejudiced Rwandans did not state that the radio program altered their cognitive beliefs; they still admitted to being racist. However, she found that these racist individuals reported no longer behaving in racist ways, largely due to the influence of the radio program. In areas where the program aired, racist beliefs were far less socially acceptable than they were in regions that the program was not heard.

Paluck's findings, along with my own, have an unsettling connotation. While theoretically it may be possible to craft an oblique intervention to alter cognition, such an intervention must be both extremely subtle and personalized, both of which are beyond the scope and means of any existent institutionalized program. In fact, these suggest that many, if not all, prior large-scale intervention techniques failed to alter cognitive beliefs in any measurably significant way.

Those prior interventions did not fail, nor were they plagued with severe methodological difficulties, nor were they subject to falsification. Instead, the evidence suggests that evidence of change of prejudicial beliefs is actually simply measuring the respondent's perception of the social desirability of prejudicial answers.

This is different than suggesting that I am merely measuring a design flaw. Paluck's research indicates that a change internal cognition is entirely unneeded to change day-to-day behavior.
RECONCEPTUALIZING THE LOWERING OF PREJUDICE

Wojcieszak (2008) and Martinez, Wald, and Craig (2008) studied prejudiced group's overestimations of community support for their extreme views. In this study, their findings would suggest that the "more prejudiced" group would rate the external axis of discrimination – the environment – differently than the "less prejudiced" group. However, the external axis questions merely asked respondents to report on factual observations (or at most, extrapolations about objectively factual events). Yet even extremists groups such as radical environmentalists and neo-Nazis simultaneously hold the dichotomous belief that there is a false consensus with their views and that they hold views different from – if not oppositional to – the majority of the population (Wojcieszak, 2008). It is extremely reasonable to suggest that the "more prejudiced" respondents in this study shared the same bias of false consensus.

This effect appears to explain the results of my study.

A failed attempt to "fly under the radar" can be cognitively dismissed as an ideologue's attempt to change minds. Again, as one respondent noted: "I feel like a lot of these questions are angled to the gltb[sic] view." This explains the decrease in tolerance with the oblique interventions: respondents correctly realized the intervention's attempt to manipulate their views about a subject where they had already made a decision.

The direct interventions did no such thing. Instead of merely asking about a baseline of socially "polite" behaviors towards GLBT individuals, it blatantly stated both the institution's rejection of prejudicial attitudes. Even if a respondent still thought that such a statement were mere legalese boilerplate mandated by "politically correct"
government officials, the intervention went on to detail numerous anti-discriminatory and pro-diversity organizations and efforts on campus. The effort and funding needed to sustain these efforts is beyond a mere veneer of civility; instead, they demonstrate a commitment to diversity and put the lie to the false consensus of the prejudiced group.

As a result, participants rapidly reassessed the social desirability of intolerant statements and behaviors, resulting in more tolerant responses during the second half of the survey instrument. To further suggest that this is a real effect, I clearly see a greater change towards tolerance in the more prejudiced group, revealing the "regression to the mean" that I expected to see with other interventions.

The evidence of marketing research suggests that this measurable change, while small, will be a real and persistent effect (Morwitz, Johnson, & Schmittlein, 1993). If asking a customer if they intend to buy a major appliance has a measurable impact six months later, surely the sudden realization that one's opinions are far less popular than one thought will have an impact in the future. Paluck's research also indicates that this kind of intervention – which I half-jokingly summarize as "we don't do that 'round these parts" – has a significant and lasting impact on even the most extreme prejudicial behaviors.

This study unintentionally measured the same effect that a radio drama had in reducing prejudice only a few years after the racially-motivated genocide of over half a million souls.
IV FUTURE IMPLICATIONS AND RESEARCH

A number of limitations due to experimental design and the need to evaluate for priming effects limited the scope of this study. Likewise, the convenience sample of this study means that I cannot generalize these results to the general public.

Despite these limitations, this study makes several important steps in the study of anti-prejudicial interventions, providing an open tool for future researchers to freely use and providing both an argument for experimental rigor and a model for incorporating it in anti-prejudicial assessment. Future research with larger populations can now omit some steps – such as the need to assess priming effects – because of the work already presented here.

This study strongly suggests that attempts to discreetly reduce prejudice run the risk of backfiring. As many anti-discrimination programs are centered around such appeals to common values, interests, and goals, this is a disturbing result. It is also a powerful indication of the need for vigorous, public, and prominent anti-prejudicial and pro-diversity campaigns and services.

Regardless of its shortfalls, this study raises a challenge to other assessments of anti-prejudicial interventions. Not only is experimental rigor possible; it may uncover unanticipated effects from poorly designed interventions. This study may also be the first step in redesigning the role of institutions so that truly effective anti-prejudicial measures through prominent public support for diversity can be instituted.
APPENDIX A

COVER LETTER AND CPS

Dear Participant:

My name is Steven Saus, and I am a graduate student at Wright State University performing a research study about the way people personally feel about working or associating with gay, lesbian, bisexual, or transgendered persons and your perception of what the environment is like for GLBT students and/or faculty at this institution. I am inviting you to participate in this study. Your participation will simply consist of completing this survey.

This is not a test, so there are no right or wrong answers. Your participation in this survey is completely voluntary. Completing and returning this survey implies your consent to participate. There are no known risks and you will receive no direct benefit. In order to ensure your privacy, please do not put your name on this survey.

Please start at the beginning and continue through the survey. Do not go back to items you have already answered. This survey should take between 10 and 15 minutes to complete. You are free to terminate your participation at any time during the process. Participation or refusal to participate will not affect your grade or your anonymity. If you decline to participate, simply return the blank form. Completed and blank forms should be returned to the box indicated, which is located at the front of the room.

Additionally, if you have any questions or comments about this survey, please contact me by email at saus.4@wright.edu or my faculty advisor, Jacqueline Bergdahl, Ph.D. at (937)775-2272 if you have any questions about the study. If you have general questions about giving consent or your rights as a research participant in this research study, you can call the Wright State University Institutional Review Board at (937) 775-4462.

Thank you for your time and consideration.

Please write in the best answer for the following questions.

They are for demographic and statistical purposes.

How old are you, in years? ________
With what gender do you identify? ________
How many years have you been at Wright State? ________
Have you attended college anywhere else? ________
   If so, how many years were you a student there? ________
What religion, if any, do you follow? ________
What is your sexual orientation? ________

Please check the box beside the political description that most closely fits your views.

Very Liberal  [ ] Liberal  [ ] Moderate  [ ] Conservative  [ ] Very Conservative  [ ]
For these questions, answer as carefully and accurately as you can by placing a number that represents your point of view beside each item that follows. Remember, this is not a test, so there are no right or wrong answers, and no one will be able to identify you.

1 = Strongly agree  2 = Agree  3 = Neither agree nor disagree  4 = Disagree  5 = Strongly disagree

1. _____I think that LGBT students must be secretive at this university.
2. _____Lesbian, gay, bisexual, and transgendered (LGBT) students are treated with respect at Wright State.
3. _____I have behaved aggressively toward a woman because she was too masculine.
4. _____The atmosphere for LGBT students is oppressive at Wright State.
5. _____If I found out that my best friend was changing his/her sex, I would freak out.
6. _____God made two sexes and two sexes only.
7. _____My classmates are as likely to ask the same kinds of questions about a same-sex relationship as they are about a heterosexual relationship.
8. _____If a friend wanted to have his penis removed in order to become a woman, I would openly support him.
9. _____I think that LGBT people consider Wright State a comfortable place to take classes.
10. _____I have teased a man because of his feminine appearance or behavior.
11. _____Men who cross-dress for sexual pleasure disgust me.
12. _____At this university, non-LGBT students are comfortable engaging in gay-friendly humor with LGBT students (for example, kidding them about a date).
13. _____Children should be encouraged to explore their masculinity and femininity.
14. _____If I saw a man on the street that I thought was really a woman, I would ask him if he was a man or a woman.
15. _____I want to beat up men who act like sissies.
16. _____Men who act like women should be ashamed of themselves.
17. _____I think that LGBT students feel accepted by other students and faculty members at WSU.
18. _____Men who shave their legs are weird.
19. _____Other students or faculty make comments that seem to indicate a lack of awareness of LGBT issues.
20. _____I can not understand why a woman would act masculine.
21. _____I have teased a woman because of her masculine appearance or behavior.
22. _____Students are expected to not act "too gay."
23. _____Children should play with toys appropriate to their own sex.
24. _____I think LGBT faculty at this university could lose their jobs because of their sexual orientation.
25. _____Women who see themselves as men are abnormal.
26. _____I would avoid talking to a woman if I knew she had a surgically created penis and testicles.
For these questions, answer as carefully and accurately as you can by placing a number that represents your point of view beside each item that follows. Remember, this is not a test, so there are no right or wrong answers, and no one will be able to identify you.

1 = Strongly agree  2 = Agree  3 = Neither agree nor disagree  4 = Disagree  5 = Strongly disagree

27. _____ A man who dresses as a woman is a pervert.
28. _____ LGBT students at Wright State fear getting a bad grade because of sexual orientation or gender identity.
29. _____ If I found out that my lover was the other sex, I would get violent.
30. _____ My friends are supportive of LGBT students and faculty.
31. _____ Feminine boys should be cured of their problem.
32. _____ I have behaved violently toward a man because he was too feminine.
33. _____ LGBT students are comfortable talking about their personal lives with other students here.
34. _____ Passive men are weak.
35. _____ There is pressure for LGBT students to stay closeted (To conceal their sexual orientation or gender identity/expression) at this university.
36. _____ If a man wearing makeup and a dress, who also spoke in a high voice, approached my child, I would use physical force to stop him.
37. _____ Individuals should be allowed to express their gender freely.
38. _____ Student LGBT identity does not seem to be an issue at WSU.
39. _____ Sex change operations are morally wrong.
40. _____ At Wright State, LGBT students are met with thinly veiled hostility (for example, scornful looks or icy tone of voice).
41. _____ Feminine men make me feel uncomfortable.
42. _____ Wright State, as a whole, provides a supportive environment for LGBT people.
43. _____ I would go to a bar that was frequented by transgender or gay people.
44. _____ People are either men or women.
45. _____ LGBT students are free to be themselves at Wright State.
46. _____ My friends and I have often joked about men who dress like women.
47. _____ LGBT people are less likely to be mentored or get help from a professor.
48. _____ Masculine women make me feel uncomfortable.
49. _____ LGBT students and faculty at WSU feel free to display pictures of a same-sex partner.
50. _____ It is morally wrong for a woman to present herself as a man in public.
51. _____ It is all right to make fun of people who cross-dress.
52. _____ The atmosphere for LGBT students is improving over time at Wright State.
53. _____ If I encountered a male who wore high-heeled shoes, stockings, and makeup, I would stay away from him.
APPENDIX B

OBLIQUE INTERVENTIONS

For these questions, answer as carefully and accurately as you can by placing a number that represents your point of view beside each item that follows. Remember, this is not a test, so there are no right or wrong answers, and no one will be able to identify you.
1= Strongly agree  2 = Agree  3 = Neither agree nor disagree  4 = Disagree  5 = Strongly disagree

27. _____ Everybody should have the same rights.
28. _____ Everyone should be allowed to express themselves, even if I disagree.
29. _____ A key value of our country is individual liberty.
30. _____ Being fair means everyone has the same rules and chances.
31. _____ This country was founded for personal freedom.
32. _____ Everybody should be able to marry whomever they love.
33. _____ My identity has nothing to do with whom I'm dating.
34. _____ Love is more important than what society thinks.
35. _____ Someone else's religion shouldn't tell me what to do.
36. _____ Nobody else should tell me what clothes to wear because of his or her religion.
37. _____ Nobody should be kept out of a religion because of who they love.
38. _____ Love is something that happens to people, not something you choose.
39. _____ I can't force myself to love someone, it just happens.
40. _____ I fall in love, even if I don't want to. It's not logical.
41. _____ In our country, your medical and legal care should have nothing to do with whom you love.
42. _____ I should never lose my job because of whom I'm dating.
43. _____ I can be open about the person I love without worrying about my job.
44. _____ Feelings determine if a relationship is real, not a law or bit of paper.
45. _____ You should judge people by what they do, not what they look like.
46. _____ Nobody should be beat up because of what they wear.
47. _____ Kids should be allowed to follow their dreams, not be forced into "appropriate" jobs.
48. _____ I don't like it when people assume things about me because of a stereotype.
49. _____ You can't tell how good someone is with kids by the way they look.
50. _____ You should be judged by what you do, not who you date.
51. _____ I care more about how well my instructors teach than who they love.
Appendix C

Direct Interventions

For these questions, answer as carefully and accurately as you can by placing a number beside each item that follows. Remember, this is not a test, so there are no right or wrong answers, and no one will be able to identify you.

1 = Strongly agree  2 = Agree  3 = Neither agree nor disagree  4 = Disagree  5 = Strongly disagree

Diversity is important to Wright State University. This university has a diversity statement that reads:

Wright State University promotes the acceptance and appreciation of every individual regardless of race, gender, age, ethnicity, ability or disability, sexual orientation, socioeconomic status, religious affiliation, or national origin. We encourage appropriate activities and events that foster learning about the diversity of our world.

27. _____ I was aware of Wright State University's diversity policy.
28. _____ I knew that Wright State University had zero incidents of hate crime in 2007 (The most recent year statistics are available).
29. _____ I knew that Wright State University has won the "Overall Excellence in Diversity" award from the NCAA.

Wright State has several programs to promote diversity on campus. Please answer whether you were aware of the following programs:
1 = Very Aware  2 = Aware  3 = Heard of the program  4 = Might have heard of it  5 = Not Aware

30. _____ Rainbow Alliance: Rainbow Alliance is the Gay, Lesbian, Bisexual, Transgender, and Allied student organization for the Wright State University campus and community.
31. _____ Safe Space Program: The Safe Space program at Wright State University is a comprehensive and engaging educational program that dares to transform the campus environment for Gay, Lesbian, Bisexual, Transgender, Questioning, Ally (GLBTQA) students, staff and faculty.
32. _____ Student Panel Program: The Panel Program is a frank 1 hour session of students talking with students in the classroom about their experiences in the Gay, Lesbian, Bisexual, Transgender, Questioning and Ally community.
33. _____ Hate Crime Awareness Week
34. _____ Lavender Graduation
35. _____ Annual Drag Show to raise money for the AIDS Resource Center
REFERENCES


Quinlivan, K. (2002). Whose Problem Is This?: Queering the Framing of Lesbian and


