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The “Virtual” Panel: A Computerized Model for LGBT Speaker Panels

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Abstract

Recent societal trends indicate more tolerance for homosexuality, but prejudice remains on college campuses. Speaker panels are commonly used in classrooms as a way to educate students about sexual diversity and decrease negative attitudes toward sexual diversity. The advent of computer delivered instruction presents a unique opportunity to broaden the impact of traditional speaker panels. The current investigation examined the influence of an interactive “virtual” gay and lesbian speaker panel on cognitive, affective, and behavioral homonegativity. Findings suggest the computer-administered panel is lowers homonegativity, particularly for affective experiential homonegativity. The implications of these findings for research and practice are discussed.

Keywords

Homonegativity; Homophobia; LGBT; Gay; Lesbian; Speaker Panel; CMC; Personalization Model; Contact Theory; Contact Hypothesis

The “Virtual” Panel: A Computerized Model for LGBT Speaker Panels “Dykes not welcome here.” “Death to fags.” “FAG.” These are just a few of words inscribed on college bathroom walls, residence hall doors, office doors, student cars, and staff cars across the nation (Stop the Hate, 2001). Although considerable progress has been made toward acceptance of sexual diversity in the United States and on college campuses (Avery, Chase, Johansson, Litvak, Montero & Wydra, 2007; Newman, 2007), the aforementioned messages suggest campuses and the larger society continue to struggle with negative attitudes and behavior toward lesbians and gay men. Many colleges offer gay and lesbian speaker panels as a way to educate students about sexual diversity and diminish negative attitudes on their campuses, but these panels are often limited to schools with cohesive LGBT groups and administrative resources needed to implement them. Additionally, technology has spurred the development of virtual learning environments that are not conducive to these interpersonal interactions. Fortunately, technology may also offer solutions for both the traditional and modern aspects of these challenges by providing additional means through which to communicate LGBT issues. This study tested a computerized adaptation of the gay and lesbian speaker panel that was expected to lead to a positive influence on participants’ negative attitudes toward gay men and lesbians—homonegativity.

Though recent psychological literature lacks nationwide prevalence data for college student attitudes toward sexual diversity, research on campus climate for lesbians and gay men indicates students, faculty, and staff experience the impact of such homonegativity in these environments (Newman, 2007; Rankin, 2003). A campus climate study by the National Gay and Lesbian Task Force (Rankin, 2003) surveyed 1,669 self-identified gay and lesbian students, faculty, staff, and administrators from 14 colleges and universities. On a structural level, many colleges may be commended for instituting nondiscrimination clauses for sexual minorities and increased acceptance of these individuals on campus, but other systemic deficiencies remain. For example, 41% of respondents felt issues related to sexuality were not adequately addressed at their school (Rankin, 2003). In addition, 43% felt sexual minority contributions were not adequately represented in the campus curriculum.

At an individual level, enacted, felt, and internalized stigma (Herek & Garnets, 2007; Herek, 2009) are also apparent on college campuses. For example, 29% of respondents from Rankin's (2003) campus climate survey suffered from acts of enacted stigma. These individuals reported various forms of harassment including derogatory remarks, verbal harassment and threats, homonegativistic graffiti, pressure to conceal their sexuality, written homonegativistic comments, threats of physical violence, threats of having their sexuality exposed, denial of services, and physical assault. The campus survey also suggested experiences of felt stigma by these students' reluctance to disclose their sexuality and their fears of physical threats; nearly 60% of students did not reveal their sexuality for fear of prejudice and discrimination. Lastly, 34% of the students even concealed their sexuality from instructors, assistants, or supervisors for fear of reprisal.

When individuals direct stigma toward themselves by accepting negative messages and applying these messages to their self-image, the internalized stigma is considered self-stigma, commonly known as internalized homophobia (Herek, 2007). This self-stigma is particularly relevant during the period of identity formation still taking place for undergraduate students (Stevens, 2004). Heterosexual internalized stigma is apparent not only in enacted stigma, but also in students' appraisals of lectures given by gay men and lesbians. For example, students rate lectures given by gay or lesbian lecturers more negatively than those given by heterosexuals (Ewing, Stukas, & Sheehan, 2003).

Homonegativity may serve symbolic, and defensive functions (Herek, 1984). Herek (1984) suggested individuals develop experiential attitudes toward sexual diversity in response to negatively perceived encounters with lesbians and gay men. He further suggested these individuals may then generalize the experiential attitudes to all lesbians and gay men. In contrast, symbolic attitudes toward sexual diversity are an expression of individuals' values, as well as an attempt to conform to the values of their reference group. These negative attitudes may also result when individuals feel their values are being violated. Lastly, defensive attitudes toward sexual diversity serve the function of diffusing inner conflicts related to sexuality by projecting them onto a lesbian or gay target.

Interventions for reducing homonegativity may address these functions. Such interventions may target experiential and symbolic homonegativity by providing positive encounters between lesbians and gay men and heterosexuals, which in turn might influence values and group social norms (Herek, 1984). This positive experience could generalize to a positive perception of gay men and lesbians and provide an opportunity to offer a message inconsistent with the target's value system. In this way, these experiences challenge perceptions of social norms and transform symbolic homonegativity into a positive experiential attitude. Defensive homonegativity, however, is more difficult to address with positive encounters, because such contact may be anxiety provoking, thus providing for an uncomfortable encounter. Similarly, audience members may fear potential negative

consequence resulting from the interaction (Stephan & Stephan, 1985). For example, audiences of an LGBT speaker panel may fear their questions could be viewed as prejudice-laden. Those devising interpersonal encounters may need to take into account this potential discomfort.

Interventions may also need to take into account the multifaceted nature of attitudes, which consist of three components— affective, cognitive, and behavioral (O'Donohue & Caselles, 1993; Rosenberg & Hovland, 1960). The affective dimension of homonegativity consists of negative, positive, or neutral emotional reactions toward sexual diversity (O'Donohue & Caselles, 1993). Cognitive homonegativity, on the other hand, consists of the intellectual reactions. Such reactions include moral, aesthetic, and political beliefs, as well as general knowledge about sexual diversity. The third dimension, homonegative behavior, includes behavioral responses to sexual diversity, such as aggression, avoidance, and approach. Although measures of homonegativity (Hudson & Ricketts, 1980; Larson, Reed, & Hoffman, 1980; Van de Ven, Bornholt, & Bailey, 1993) do not always incorporate all three aspects (affective, cognitive, and behavioral) in a single instrument, O'Donohue and Caselles (1993) suggest all be considered when defining and measuring homonegativity.

Intergroup Contact Theory (Allport, 1954) provides a framework for addressing such negative attitudes. The theory posits that individuals who interact with individuals from other groups under specific conditions form more positive attitudes toward one another. These conditions include (a) equal status between the groups, (b) a common goal groups are cooperating to achieve, (c) an opportunity to become acquainted with one another, and (d) supportive norms to govern interactions between the groups. The Personalization Model is an extension of Intergroup Contact Theory that includes less idealistic conditions needed for attitude change (Ensari & Miller, 2006). This model proposes interactions between group members should be more personalized. The process of change suggests a common goal may not be needed for attitude change to occur. In the Personalization Model, interpersonal interactions involving self-disclosure, self-other comparisons, and perspective taking may create perceptions of similarity, dissimilarity, and familiarity as well as feelings of trust, liking, friendship, and decreased intergroup anxiety, particularly when salient identity cues are present (Ensari & Miller, 2006).

Researchers have empirically examined a number of interventions that incorporate positive interpersonal contact, such as workshops with gay and lesbian facilitators (Anderson, 1981; Rudolf, 1989), gay and lesbian presenters (Pagtolun-An & Clair, 1986), panels of gay and lesbian speakers (Black, Oles, Cramer, & Bennett, 1999; Cotten-Huston & Waite, 2000; Geasler, Croteau, Heineman, & Edlund, 1995; Grutzeck & Gidycz, 1997; Lance, 1987, 1994; McCord & Herzog, 1991; Nelson & Krieger, 1997; Reinhardt, 1994), and multimodal interventions with gay and lesbian speaker panel components (Morin, 1974; Rudolf, 1989; Wallick, Cambre, & Townsend 1995; Wells, 1991). Although these forms of contact may provide some potential for change if participants are of equal status, may have the potential to learn from one another, and interactions are managed with defined norms, contact through speaker panels lacks a common goal to facilitate cooperation (Allport, 1954), because the panelists and audience are not cooperating with such a goal in mind. These interventions more closely resemble the Personalization Model in that they provide an opportunity for panelists to self-disclose as well as opportunities for audience members to compare their experiences with panelists' and take the perspective of these speakers. The space in which contact occurs can vary in the degree of self-involvement as well as the richness of communication (Harwood, 2010).

LGBT speaker panels are important interventions intended to educate others about sexual diversity and decrease homonegativity towards gays and lesbians. According to the

University of Massachusetts' Stonewall Center (2006) guidelines, speaker panels typically include specific components. First, the facilitator introduces the panel, and panelists proceed by telling a brief narrative that generally includes stories about their coming out experiences. Following the presentation of all the panelists' narratives, the facilitator asks for audience questions. These questions are sometimes offered in written format but are more frequently verbal. The time allowed for such discussion varies considerably but is typically between one to three hours. After this pre-determined interaction period, the facilitator often asks audience members to complete evaluation forms. Most gay and lesbian speaker panels adhere to guidelines similar to those offered by The Stonewall Center. The goals of these panels include increasing LGBT visibility, awareness of diversity within the LGBT community, awareness of LGBT oppression, empowerment for those still questioning their sexual identities, empowerment for LGBT individuals, communication of value for LGBT allies, and further discussion of heterosexism, genderism, and other forms of social oppression (The Stonewall Center, 2006).

Although two studies of traditional face-to-face gay and lesbian speaker panel interventions (Black, Oles, Cramer, & Bennett, 1999; Cotten-Huston & Waite, 2000; Grutzeck & Gidycz, 1997) failed to find a decrease in homonegativity after such interaction, the majority of the investigations (Geasler et al., 1995; Lance, 1987, 1994; Nelson & Krieger, 1997; Reinhardt, 1994) offer qualitative and quantitative support for this intervention. Additionally, investigators have found the panels influence multiple aspects of reactions toward sexual diversity, such as gay men and lesbians' self-reflection about their own sexuality (Geasler et al., 1995), stereotypes about sexual orientation (Geasler et al., 1995), cognitive and affective reactions to homosexuality (Reinhardt, 1994), affective reactions to sexual diversity, and empathy with lesbians and gay men (Geasler et al., 1995). Only one study (Reinhardt, 1994) examined behavioral changes and found no differences in behavior toward lesbians and gay men, but it should be noted this investigation only examined positive behaviors.

One limitation of past interventions is there are few efforts to minimize the anxiety those with defensive prejudice may encounter when interacting with gay men and lesbians (Herek, 1984). Also, many previous investigations have used quasi-experimental models instead of experimental models which may limit the ability to make causal inferences. In addition, the majority of past research has not examined pretest sensitization effects which may have limited the ability of researchers to find significant effects for these panels (i.e. Croteau & Kusek, 1992; Pagtolun-An & Clair, 1986; Reinhardt, 1994). Lastly, since prejudice has affective, cognitive, and behavioral components, research should evaluate all three aspects. However, much of the past research has not included all three components.

The application of the lesbian and gay speaker panel intervention across universities is also limited. Although many of the schools that implement and evaluate gay and lesbian panels have cohesive gay and lesbian organizations, others do not have this resource. Additionally, not all environments are safe for gay men and lesbians to express their sexuality and views openly. Moreover, modern technologies have spurred the development of distance learning courses and programs. These programs and courses rely on digital communications for their educational components. The traditional gay and lesbian speaker panel obviously relies on a physical mode of communication.

Although research has examined the efficacy of online LGBT education interventions (Guth, Lopez, & Fisher, 2002), no published research has evaluated the efficacy of delivering the speaker panel intervention via electronic means. Investigators, however, have demonstrated the efficacy of using video (Duncan, 1988; Riggle, Ellis, & Crawford, 1996; Walters, 1994) and other forms of media to alter attitudes toward sexual diversity, and modern technologies allow for interactive interventions suitable for digital distribution, such as through physical

media or the internet. Additionally, computerized interventions have successfully targeted college students, such as those directed toward college drinking, smoking cessation, HIV/AIDS, eating disorders, and more general health and nutrition (De Vries & Brug, 1999; Elliott, Carey, & Bolles, 2008; Escoffery, McCormick, & Bateman, 2004; Kiene & Barta, 2006; Winzelberg et al., 2000). Lastly, Guth et al. (2002) found an internet-delivered diversity workshop was equally as effective in reducing negative attitudes toward sexual diversity as a physically delivered workshop. Though the workshop demonstrates efficacy for internet-delivered homonegativity interventions, it did not incorporate an interpersonal interaction component.

Computer technology offers an opportunity to not only deliver information as these previous interventions have done but also to mediate intergroup communication and simulated communication—Computer Mediated Communication (CMC; Walther, 1996). This type of communication ranges from lean asynchronous communication such as email to rich synchronous communication such as videoconferencing. The degree of self-involvement similarly varies, with computer-delivered videos providing lesser opportunity for self-involvement and videoconferencing providing greater involvement (Harwood, 2010).

The authors devised the “virtual” LGBT speaker panel to integrate computer interventions with a simulated version of the traditional interpersonal panel interaction. Before comparing this model to traditional panels or other interventions though, it was first necessary to establish the efficacy of the “virtual” panel. The current study investigated the efficacy of a computerized gay and lesbian speaker panel and examined its influence on homonegativity using an experimental design. Participants were randomly assigned to either the ‘virtual’ gay and lesbian speaker panel or a “virtual” neutral stimulus control condition where participants received information about majoring and careers in psychology. We hypothesized that participants who interacted with the “virtual” panel would experience a significant decrease in cognitive, affective, and behavioral dimensions of homonegativity. In addition, the effect of pretest sensitization was examined to ensure that any attitude changes due to pretest administration would not mask the influence of the intervention on homonegative attitudes. Previous research using this design found pretesting may influence participant scores on posttests (Pagtolun-An & Clair, 1986); therefore, the current experiment incorporated the Solomon four-group experimental design to evaluate whether the same phenomenon occurred.

Methods

Participants

In order to test the aforementioned hypotheses, the author recruited 176 participants from three college campuses. Participants from two of the three campuses were predominantly White (70% and 85% respectively), whereas, the sample from the third campus was predominately non-White (55%). These demographics reflected differences seen at the three campuses. The entire sample was mostly White (51%) and female (70%). The majority of the sample had never been married (87%), was liberal (70%), were undergraduate students (58%), non-psychology majors (59%), grew up in the suburbs (46%), had never previously encountered a gay and lesbian speaker panel (78%), knew an LGBT individual (88%), were religious (79%), and attended religious services less than one time per week (75%). The average age was 25 ($SD = 8.62$). Participants were recruited via posters, emails, classroom announcements, and a university online research participation system, informed they would be participating in research about attitudes toward sexual diversity, and given a modest compensation of \$5. All study procedures were reviewed and approved by the Institutional Review Boards at the two midwestern universities, indicating all participants were treated according to all relevant ethical standards of research.

Procedure

Development of the virtual experimental and control panels—Local gay and lesbian students agreed to have their personal narratives and answers to common gay and lesbian speaker panel questions (McCord & Herang, 1991) videotaped and incorporated into an interactive PowerPoint presentation. We used PowerPoint to host the video and provide a system of links to video responses to each question. This “virtual” gay and lesbian panel included three lesbian female and three gay male student panelists for the intervention conditions. At the beginning of this intervention, the research participants watched a brief introductory video about general aspects of sexual diversity. Following this introductory video, the participants were invited to select a panelist from whom to ask questions. When a panelist was first selected, the panelist’s brief biography and coming out story were played on the screen. Twelve questions were then offered from which the participant could select. When one of these questions was selected, the pre-recorded video response to the question played. Participants then selected another question and watched the pre-recorded video response to the question. The participants continued to select panelists and questions in a participant-driven unstructured manner for 45 minutes. This format provided for self-involvement by allowing viewers to choose the content that would be delivered as well as rich communication with video and audio transmission of both verbal and nonverbal cues (Harwood, 2010).

In addition to the virtual lesbian and gay speaker panel, we developed a second interactive Power Point presentation and presented this experience to the participants in the control conditions. The format was the same as described above with the lesbian and gay speaker panel; however, for this control panel, the topic was an introduction to the psychology major. For participants randomly assigned to the neutral stimulus control condition, the ‘virtual’ psychology panel was presented consisting of six undergraduate psychology students who discussed majoring in psychology, graduate school in psychology, and careers in psychology. We did not expect this topic to lead to any attitude change. The interactive style, number of questions, and video presentation was comparable to the LGBT panel presentation.

Study randomization and assessment procedures—The research participants were randomly assigned to either experimental or control conditions. These conditions were similar in that both exposed participants to “virtual” panels and similar testing environments but different in that only the experimental group was exposed to gay and lesbian content in the panel—the control condition was exposed to psychology education- and career-related content. Within each condition, we randomly assigned participants to either complete the full pre-test and posttest assessment or complete only the posttest measures. To accomplish random assignment, the authors generated a list of the numbers 1-4 (one number for each experimental condition) repeated 44 times in random sequence to obtain enough numbers for the entire sample. We then assigned the random number to participants in the order the signed up entered the study. Thus, there were four experimental groups: a pretest/posttest intervention group, a posttest-only intervention group, a pretest/posttest neutral stimulus control group, and a posttest-only neutral stimulus control group.

The investigators instructed those in the experimental panel pretest/post group and the control panel pre-test posttest group to complete the full battery of measures (demographics, affective, cognitive, and behavioral measures) before the start of the intervention; and instructed those in the experimental panel posttest-only and control panel posttest only condition to complete only the Demographic Questionnaire prior to starting the interactive panel. Then, the investigators demonstrated how to navigate the “virtual” panel and asked

participants to start their panel. After completion of interaction with the panel, all respondents in all conditions completed the post-test measures.

Measures

Heterosexual Attitudes toward Homosexuality scale—(HATH; Larson et al., 1980). This is a 20-item 5-point (1 = strongly agree to 5 = strongly disagree) Likert-type measure of homonegativity that assesses cognitive reactions toward sexual diversity such as, “Homosexuals should be accepted completely into our society.” For the HATH, higher scores indicate greater homonegativity. The measure has been found to have high split-half reliability ($r = .92$) and a relationship with perceptions of peer attitudes toward sexual diversity ($r = 0.54$), religiosity ($r = -0.50$), and authoritarianism ($r = -0.22$) (Larsen et al., 1980). The measure demonstrated high reliability in the current study ($\alpha = 0.93$).

Index of Attitudes toward Homosexuality—(IAH; Hudson & Ricketts, 1980). This is a 25-item 5-point (1 = strongly agree to 5 = strongly disagree) Likert-type scale in which most items assess affective reactions to being in close quarters with lesbians and gay men with questions such as, “I would feel comfortable working closely with a male homosexual.” Scores on this scale range from 25-125, with higher scores indicating greater homonegativity. The measure has high reliability ($\alpha = .90$) and a low standard error (SEM = 4.75) (Hudson & Ricketts, 1980). Those who score high on the IAH tended to be more conservative in their beliefs about the expression of sexuality ($r = 0.53$, $p < .0001$), suggesting construct validity for the IAH (Hudson & Ricketts, 1980). However, four items from this original IAH did not meet the instrument authors’ construct definition for homophobia—“personal affective responses of disgust, anxiety, aversion, discomfort, fear, and anger with respect to either proximal or distal contact or involvement with homosexual individuals” (pp. 365-366); therefore, the investigators who developed the measure suggested replacements for these four items. Following this guidance, we removed these items from the IAH for the current study. The measure demonstrated high reliability in this study ($\alpha = .93$).

Homophobic Behavior of Students Scale—(HBSS; Van de Ven et al., 1993). This is a 10-item 5-point (1 = definitely false to 5 = definitely true) Likert-type scale that measures student intentions for behaviors in a variety of classroom and social situations, as well as willingness to act in support of gay and lesbian rights with questions such as, “I would speak individually, in class, with a gay person or lesbian about homosexual issues.” Potential scores range from 5-50, with lower scores indicating greater homonegativity. The HBSS has been found to demonstrate moderate reliability ($\alpha = 0.81$) and is related to cognitive reactions to sexual diversity ($r = 0.78$), as measured by the MATHS, and affective reactions to sexual diversity, as measured by the ARHS—anger toward sexual diversity ($r = 0.66$), guilt toward sexual diversity ($r = 0.38$), and delight toward sexual diversity ($r = -0.56$; Van de Ven et al., 1993). Furthermore, scores on the HBSS predicted future behavior in the high school students. Since the proposed intervention is not taking place in a classroom setting though, and some of the items refer to such a setting, these items were altered slightly to make a more general reference. The measure demonstrated high reliability in the current study ($\alpha = 0.90$).

Demographics Questionnaire—All study respondents completed a brief demographic questionnaire, which assessed sexual orientation, age, race/ethnicity, marital status, political affiliation, education status, college major, previous exposure to LGBT speaker panels, LGBT acquaintances, religious affiliation, attendance of religious services, rural or urban upbringing, college campus, and gender.

Results

A randomization check was conducted with all of the demographic variables. Chi-square tests examined the distribution of categorical variables (ethnicity, sexual orientation, marital status, political affiliation, education status, college major, previous exposure to LGBT speaker panels, LGBT acquaintances, religious affiliation, attendance of religious services, rural or urban upbringing, college campus, and gender) across the four experimental groups. An ANOVA examined differences in age across the four experimental groups. In all of these analyses, we found no significant differences in demographics across the groups. Table 1 displays the raw mean and standard deviation scores for the four experimental groups on each of the three measures of homonegativity, and Table 2 displays the raw means and standard deviations for the homonegativity measures of the two experimental groups who received both pretest and posttest.

Next, the authors conducted analyses to examine the effect of the demographic variables on the homonegativity. We conducted a 2×2 factorial MANCOVA, with experimental group membership (experimental vs. control) and measurement group (pretest/posttest vs. posttest-only) as the independent variables; posttest cognitive, affective, and behavioral homonegativity as the dependent variables; and demographic variables (age, ethnicity, sexual orientation, marital status, political affiliation, education status, major, previous exposure to LGBT speaker panels, LGBT acquaintances, religious affiliation, attendance of religious services, rural or urban upbringing, and gender) as covariates. Only LGBT acquaintances ($F(3,125) = 6.54$, Pillai's Trace = 0.14, $p < 0.001$) and attendance of religious services ($F(3,125) = 4.32$, Pillai's Trace = 0.10, $p = .005$) were significantly related to the multivariate homonegativity. Additionally, gender was marginally related to multivariate homonegativity ($F(3,125) = 2.53$, Pillai's Trace = .06, $p = 0.06$). Therefore, we entered these three variables into the pretest effect analyses as covariates in order to control for the effects of these variables.

Next, the authors compared differences in posttest homonegativity variables across the experimental groups to assess potential pretest effects. We tested this using a 2×2 factorial MANCOVA (see Table 3). Results of this analysis found a marginally significant multivariate main effect for the receipt of a pretest ($F(3,163) = 2.21$, Pillai's Trace = .04, $p = 0.09$). However, the effect of the pretest across experimental conditions was similar ($F(3,163) = 0.87$, Pillai's Trace = 0.02, $p = 0.31$). The findings suggested the administration of a pretest was related to homonegativity but was similar across experimental conditions. Therefore, any sensitization effects were minimal and not likely to influence future analyses.

Because there was no significant pretest sensitization effect, the authors conducted a repeated measures MANCOVA using pretest and posttest homonegativity to examine the change from pretest to posttest. First, we conducted an analysis to examine whether demographic variables might significantly impact these changes. This analysis included only those two experimental groups (experimental vs. control) for which a pretest was given. We conducted a repeated-measures two-way MANCOVA with experimental group membership (intervention vs. control) and time (pretest vs. posttest) as independent variables, homonegativity scores (cognitive, affective, and behavioral) as a dependent variables, and demographics (age, ethnicity, sexual orientation, marital status, political affiliation, education status, major, previous exposure to LGBT speaker panels, LGBT acquaintances, religious affiliation, attendance of religious services, rural or urban upbringing, and gender) as covariates. This analysis found only educational status ($F(3,52) = 3.47$, Pillai's Trace = 0.17, $p = 0.02$), major ($F(3,52) = 4.62$, Pillai's Trace = 0.21, $p = 0.006$), and gender ($F(3,52) = 3.26$, Pillai's Trace = 0.16, $p = 0.03$) were related to pretest to posttest changes in

homonegativity; therefore, we included only these three variables as covariates in a second repeated-measures two-way MANCOVA.

The authors then conducted a second repeated-measures two-way MANCOVA to examine the effect of the group (experimental versus control) on homonegative attitudes. In this analysis, we entered group membership (pretest/posttest intervention group versus pretest/posttest control group) as the independent variable, homonegativity variables (cognitive, affective, and behavioral) as the dependent variables, and educational status, major, and gender as covariates to examine differences between intervention and control groups over time (Table 4). The within-subjects main effect of pretest to posttest changes in homonegativity (time) was significant, which indicated that, overall, homonegativity diminished between pretest and posttest. This effect was found for affective homonegativity ($F(1) = 22.10, p < 0.001$, partial $\eta^2 = 0.23$) and marginally for behavioral homonegativity ($F(1) = 3.32, p = 0.07$, partial $\eta^2 = 0.04$) but not for cognitive homonegativity ($F(1) = 1.42, p = 0.24$, partial $\eta^2 = 0.02$). This suggested that, overall, the affective and behavioral components of homonegativity diminished but not the cognitive one. Moreover, there was an interaction of the pretest to posttest changes by treatment condition, which suggested the intervention lowered overall homonegativity. In examining interactions for specific components of homonegativity, we found a significant interaction effect for behavioral homonegativity (HBSS; $F(1) = 6.12, p = 0.02$, partial $\eta^2 = 0.08$), and marginally significant interaction effects for cognitive (HATH; $F(1) = 3.05, p = 0.09$, partial $\eta^2 = .04$) and affective (IAH; $F(1) = 3.00, p = 0.09$, partial $\eta^2 = 0.04$) homonegativity. The time (pretest vs. posttest) by condition (experimental vs. control) interactions for cognitive, affective, and behavioral homonegativity are displayed in Figures 1-3 respectively. These analyses suggested changes in homonegativity may have differed depending on whether participants interacted with the gay and lesbian speaker panel or the graduate psychology student panel.

To further explore the treatment by time interaction, the authors conducted a simple main effects analysis. First, we examined treatment and control group differences in cognitive, affective, and behavioral homonegativity at both pretest and posttest to examine whether these two groups' attitudes were different at either time point. These analyses found the treatment and control groups were equivalent on pretest cognitive ($F(1, 75) = 0.03, p = 0.88$, partial $\eta^2 < .001$), affective ($F(1, 75) = 0.04, p = .84$, partial $\eta^2 = .001$) and behavioral ($F(1, 75) = 0.04, p = 0.84$, partial $\eta^2 = .001$) homonegativity, as well as posttest cognitive ($F(1, 75) = 0.61, p = .44$, partial $\eta^2 = .01$), affective ($F(1, 75) = 0.56, p = .46$, partial $\eta^2 = 0.01$) and behavioral ($F(1, 75) = 1.54, p = 0.22$, partial $\eta^2 = 0.02$) posttest homonegativity. These analyses suggested the treatment (experimental vs. control) by time (pretest vs. posttest) interaction was not due to differences between the experimental and control groups at either pretest or posttest.

Continuing with the simple main effects analyses, the authors examined differences between pretest and posttest cognitive, affective, and behavioral homonegativity separately for the treatment and control groups to examine whether each group's homonegativity decreased during the intervention. We found cognitive homonegativity did not change significantly for either the treatment ($F(1, 73) = 1.45, p = 0.23$) or control ($F(1, 73) = 1.62, p = 0.21$) groups. We also found affective homonegativity diminished for the treatment group ($F(1, 73) = 12.25, p = 0.001$) but not the control group ($F(1, 73) = 1.10, p = 0.30$). The marginal mean change for the treatment group was -2.93 , which indicated the treatment group's homonegativity diminished by 2.93 points. Lastly, we found behavioral homonegativity increased for the control group ($F(1, 73) = 7.39, p = 0.008$) but remained consistent for the treatment group ($F(1, 73) = 0.62, p = 0.44$). These analyses suggested the treatment by time interaction was due to changes in affective and behavioral homonegativity rather differences at either pretest or posttest differences.

Discussion

The authors created the “virtual” gay and lesbian speaker panel intervention evaluated in this study to enhance both physical and distance learning environments by educating students about sexual diversity and reducing prejudice toward gay men and lesbians. We based the intervention on a traditional gay and lesbian speaker panel model meant to increase understanding and acceptance of sexual diversity by creating dialogue between individuals of differing sexual orientation. This study found that, as hypothesized, changes in multivariate homonegativity occurred as a result of participating in the virtual speaker panel. The analyses found that, in particular, participants exposed to gay and lesbian speaker panel showed greater reduction in affective homonegativity compared to those who were exposed to a neutral-stimulus control panel and did not experience the increased behavioral homonegativity found in the control group. Past research on these three dimensions of attitudes suggests matching persuasive appeals to the dimension of attitudes increases susceptibility to change in a given dimension of attitudes (Fabrigar & Petty, 1999). Change in the affective component of homonegativity may have occurred because participants had the opportunity to consider their attitudes and reframe initial negative emotional reactions. The dissonance between their initial reactions and past experiences as well as socially acceptable reactions would have been an affective challenge to participants’ attitudes and, thus, would be expected to have a stronger influence on affective attitudes. Also, the interpersonal nature of the intervention may have had a more specific impact on experiential attitudes by creating a positive schema for interactions with gay men and lesbians. The attitudes examined in the affective measure are predominantly experiential because almost all of the items ask about affective reactions to interpersonal relationships with lesbians and gay men, and Herek (1986) suggested experiential attitudes are more amenable to change.

However, there were no differences between the speaker panel and the ‘neutral’ control condition in the respondents’ levels of change for cognitive or behavioral homonegativity. It is possible changes were not found in the cognitive or behavioral dimensions because the participants did not have ample opportunity to cognitively process those reactions to challenge their cognitive attitudes and behavioral intentions. It is also possible a longer delay between pretesting and posttesting may have allowed such cognitive and behavioral processing of homonegative reactions to influence cognitive attitudes and behavioral intentions. Additionally, the direction of change for cognitive and behavioral reactions was in the expected direction. The relatively brief 45-minute “virtual” speaker panel in the current study may have been too brief to change these cognitive and behavioral reactions significantly.

Reinhardt (1994) similarly found a reduction in affective homonegativity without a change in the behavioral, but he also found participants’ cognitive reactions became more positive after a gay and lesbian speaker panel. However, Reinhardt’s (1994) cognitive measure of homonegativity focused on moral values toward sexual diversity; whereas, the cognitive homonegativity measure in the current study contained a number of items that appear to tap into defensive reactions toward sexual diversity. It is possible that gay and lesbian speaker panels are more effective at reducing value-laden homonegativity but less effective at influencing defensive reactions toward sexual diversity, which may partially explain why Grutzeck and Gidycz’s (1997) failed to find an effect of gay and lesbian speaker panels on homonegativity when using the same cognitive measure used in the present study. Additionally, Reinhardt’s (1994) study was an in-person hour-long session and personal communication may have allowed for a more personal connection with the panelists and the greater interaction time may have provided more opportunity for such a connection to develop.

The results of the current appear to be congruent with previous findings of positive effects for speaking panels and for interventions to reduce homonegativity, including positive changes in affective reactions to gays and lesbians (Geasler et al., 1995; Lance, 1987; Morin, 1974; Nelson and Krieger, 1997; Reinhardt, 1994; Rudolf, 1989; Wells, 1991; Wallick et al., 1995). The only gay and lesbian peer speaker panel study to not find a difference in affective homonegativity at posttest was Cotten-Huston and Waite's (2000) quasi-experimental study of a traditional gay and lesbian speaker panel. However, their study examined only posttest differences between classes assigned to a speaker panel, an LGBT video, or a control condition. A pretest was not administered to assure group equivalency and examine changes over time— changes which were found in the present study. Additionally, Chng and Moore (1991) failed to find an influence on experiential affective homonegativity for their speaker panel intervention, in which the panel was focused on issues related to HIV/AIDS rather than sexual diversity. Finally, Black et al. (1999) failed to find a positive effect on homonegativity. The panel in Black et al.'s (1999) study, however, was not a peer panel, which may have impeded audience identification and empathy with the panel.

The current study examined the impact of pretesting on the study results, using the Solomon four-group experimental design. Pagtolun-An and Clair (1986) found an interaction between pretesting and treatment resulted in lower posttest homonegativity for the treatment group that received the pretest when compared to the treatment group that did not receive the pretest; but the current study was unable to replicate this differential effect across the experimental and control conditions. However, Pagtolun-An and Clair's (1986) intervention consisted of a single guest speaker, whose characteristics were not described. If this speaker was dissimilar to the class, the participants may have been more reactive to perceived attempts to change their attitudes. Speakers who are more similar to students, such as in the current study, may be less threatening to participants.

This “virtual” panel intervention has several strengths. First, it overcomes the technological barrier to conducting speaker panels and allows these panels to be implemented in homogenous regions. Second, the individualized “virtual” panel also creates a private environment in which participants have an opportunity to “ask” their own questions, interact with gay and lesbian panelists without social constraints, and address their individual needs by selecting questions specifically relevant to them and other content. This type of setting may limit anxiety from defensive attitudes (Herek, 1984) and fears of negative consequence during interpersonal interactions (Stephan & Stephan, 1985). Lastly, as a participatory intervention, these panels and the modification conceived for this study also give a voice to an often-oppressed group—sexual minorities. Thus, both the audience and the panelists may benefit from the speaker panel experience.

In addition, the research design used to investigate the “virtual” panel addressed limitations of previous evaluation of speaker panel interventions. First, it included a neutral stimulus control condition that closely matched the experimental condition in all aspects except sexuality. Second, it used a Solomon Four-Group Design to assess the influence of pretesting and the interaction between pretesting and treatment. Third, this study used an experimental design to randomly assign participants to these four conditions. Fourth, it included multiple converging measures of homonegativity. Finally, the current study included an ethnically and culturally diverse sample of students.

Limitations of the study included the fact the interaction with the “virtual” speaker panel was limited to only 45 minutes out of concern for participant burden. This limited exposure may not have been sufficient dosage to see change in all facets of homonegativity. In addition, interactions with “virtual” panelists are not true interpersonal interaction; it is

unknown how this virtual panel may compare to an in-person speaker panel. Furthermore, interactions with “virtual” panelists are asynchronous with prescribed questions and, as such, may lack the spontaneity of traditional panels. This limitation could be addressed through videoconferencing technology, but potential advantages of asynchronous communication may not be realized with such technology. However, asynchronous communication may provide comfort and certainty by affording individuals greater control over the interaction (Harwood, 2010).

Findings of the current study have important implications for future research. First, “virtual” panel interventions for other LGBTQ groups should be further explored. LGBTQ is a large umbrella term, and speaker panels including more diverse sexualities, transgender individuals, ethnic minorities, individuals with physical, intellectual, and psychological disabilities, ex-offenders, and other stigmatized groups, might also be effective. Second, these panels may need to be longer than the 45 minutes used in this thesis to achieve more powerful results. Third, the importance of pretesting was demonstrated in the current study, which found an effect when pretest to posttest changes in homonegativity was examined. Fourth, although no pretest by treatment interactions were found in the present study, the use of robust Solomon Four-Group experimental designs might be valuable to further explore these potential pre-testing effects. Interestingly, the current study found affective homonegativity in both the treatment and control conditions that completed the pretest diminished compared to participants who did not complete the pretest. This suggests administering a pretest may help cause one to reflect on one’s affective attitudes which may facilitate affective change. Fourth, the influence of the panel on measures that tap into experiential reactions suggests researchers should more explicitly examine the effects of different types gay and lesbian speaker panels on the various functions of homonegative attitudes. Lastly, research may need to examine the advantages and disadvantages of synchronous and asynchronous technologies using the LGBT speaker framework and situations in which they may be more or less effective compared to traditional panels. Harwood (2010) and Walther (1996) suggested communication strategies may vary in their effectiveness depending on the context they are used in.

Although these “virtual” panels could be beneficial for institutions with few resources or those with an online presence, there is currently no infrastructure to support them. However, settings with a cohesive LGBT group and technological resources could implement the panels for internal use and to share with other settings. This would require videotaped interviews with panelists, video editing, and the development of website to host the content. Ideally, a website would include a variety of panels for classes and/or viewers to select from as well as a function for viewers to submit questions for use in future panels.

In summary, results from the current study support the majority of research on gay and lesbian speaker panels which suggested these panels reduce homonegativity, particularly affective reactions to interpersonal interactions, and further suggested researchers closely examine speaker panels’ influence on specific functions of homonegative attitudes. In recent years, there has been increased attention toward the rights of and prejudice toward sexual minorities. Although considerable effort has been put forth to create more welcoming college communities, acts of discrimination toward gay men and lesbians on college campuses remain all-too-frequent. The study demonstrated a computerized method of delivering these panels may also be effective at reducing experiential affective homonegativity. The virtual panel may be utilized in settings where it is impossible to convene a traditional speaker panel, such as universities without cohesive LGBT groups or administrative resources. Thus, virtual panel may allow for a wider dissemination of this important tool with the potential of a more widespread impact. Although further studies will be needed to replicate the results and determine optimal uses for this design, the findings

suggest this virtual gay and lesbian speaker panel concept can be used to address the inability of homogenous universities and distance learning programs to incorporate speaker panel interventions. Lastly, an infrastructure is needed to support the implementation of these panels, particularly for institutions without resources to develop them.

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Figure 1.

Full Sample Time*Condition Interaction for Cognitive Homonegativity. For affective homonegativity, higher marginal mean scores indicate greater homonegativity. Covariates appearing in the model are evaluated at the following values: Undergraduate Graduate Student = .41, Psychology or Non-Psychology = .41, Gender = .69.

Figure 2.

Full Sample Time*Condition Interaction for Affective Homonegativity. For affective homonegativity, higher marginal mean scores indicate greater homonegativity. Covariates appearing in the model are evaluated at the following values: Undergraduate or Graduate Student = .41, Psychology or Non-Psychology = .41, Gender = .69.

Figure 3.

Full Sample Time*Condition Interaction for Behavioral Homonegativity. For behavioral homonegativity, higher marginal mean scores indicate less homonegativity. Covariates appearing in the model are evaluated at the following values: Undergraduate or Graduate Student = .41, Psychology or Non-Psychology = .41, Gender = .69.

Table 1
Posttest Dependent Variable Cell Means and Standard Deviations

Cell	Cognitive Homonegativity		Affective Homonegativity		Behavioral Homonegativity		n
	Mean	SD	Mean	SD	Mean	SD	
Intervention w/ Pretest	32.07	12.48	52.26	17.65	44.00	8.24	43
Intervention w/o Pretest	35.47	12.13	60.71	16.78	41.02	8.75	45
Control w/ Pretest	33.17	10.81	54.10	16.53	42.52	7.91	41
Control w/o Pretest	31.53	12.11	53.26	17.36	43.68	6.49	47
Total Sample	33.05	11.92	55.12	17.28	42.81	7.89	176

Note. For cognitive and affective homonegativity, higher scores indicate greater homonegativity, but for behavioral homonegativity, higher scores indicate lesser homonegativity.

Table 2
Repeated Measures Dependent Variable Cell Means and Standard Deviations

		Measure					
		Cognitive Homonegativity		Affective Homonegativity		Behavioral Homonegativity	
Cell		Mean	SD	Mean	SD	Mean	SD
Pretest							
Intervention		32.86	12.45	55.25	17.38	43.70	8.05
Control		32.42	9.50	55.17	15.68	43.88	6.54
Posttest							
Intervention		32.07	12.48	52.26	17.65	44.00	8.24
Control		33.17	10.81	54.10	16.53	42.52	7.91

Note. For cognitive and affective homonegativity, higher scores indicate greater homonegativity, but for behavioral homonegativity, higher scores indicate less homonegativity.

Table 3
Posttest 2×2 Factorial MANCOVA Results

Effect	Pillai's Trace	<i>df</i>	<i>F</i>	<i>p</i>
Gender	.03	3/163	1.83	0.15
LGBT Acquaintances	.18	3/163	11.81	< .001
Religious Service Attendance	.12	3/163	7.49	< .001
Intervention	.01	3/163	.42	0.74
Pretest	.04	3/163	2.21	.04
Intervention*Pretest	.02	3/163	1.21	0.31

Table 4
Repeated Measures One-Way MANCOVA Results

Effect	Pillai's Trace	<i>df</i>	<i>F</i>	<i>p</i>
Within-Subjects Effects				
Time	0.23	3/73	7.27	< .001
Time*Education	0.13	3/73	3.54	0.02
Time*Major	0.13	3/73	3.75	0.02
Time*Gender	0.09	3/73	2.54	0.06
Time*Condition	0.11	3/73	2.91	0.04

Table 5
Repeated Measures Estimated Marginal Means and Standard Errors

		Measure					
		Cognitive Homonegativity			Affective Homonegativity		
Cell	Mean	SE	Mean	SE	Mean	SE	n
Pretest							
Intervention	32.04	1.69	54.25	2.49	44.13	1.12	43
Control	32.42	1.69	54.97	2.49	43.82	1.12	41
Posttest							
Intervention	31.28	1.77	51.32	2.63	44.54	1.22	43
Control	33.23	1.77	54.09	2.63	42.39	1.22	41

Note. For cognitive and affective homonegativity, higher scores indicate greater homonegativity, but for behavioral homonegativity, higher scores indicate less homonegativity. Covariates appearing in the model are evaluated at the following values: Undergraduate or Graduate Student = .41, Psychology or Non-Psychology = .41, Gender = .69.