

**Ameliorating Transnegativity: Assessing the Immediate and Extended Efficacy of a
Pedagogic Prejudice Reduction Intervention**

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Abstract

We demonstrate that pedagogic interventions utilising mediated contact and the parasocial contact hypothesis provide an effective means of instantiating both an immediate and longer-term reduction in prejudice towards transgender people. Through application of the parasocial contact hypothesis, our quasi-experiment demonstrates that exposure to the combined intervention of a panel presentation and a trans-themed film resulted in a significant reduction of self-reported prejudice immediately after exposure and this effect persisted up to 6 weeks later in a sample of 66 female university students. In addition to testing this effect, we also assess the relationship between prejudice towards transgender people and other forms of prejudice, including old-fashioned and modern prejudice towards gay men and lesbian women. In doing so we demonstrate that prejudice towards trans people appears to be conceptually related to prejudice towards gay men and not lesbian women. Limitations and directions for future research are explored.

Keywords: transnegativity; transphobia; parasocial contact; prejudice reduction, pedagogic interventions

Introduction

Consideration of issues relating to prejudice towards transgender people (henceforth referred to as *trans* people) has been lacking within the broader social scientific literature. In light of this scarcity, researchers have begun to address this gap by: 1) attempting to operationalise this form of prejudice (e.g., Hill & Willoughby, 2005); 2) developing and re-validating psychometrically valid and reliable attitude measures (e.g., Tebbe, Moradi, & Ebe, 2014); and 3) establishing prevalence rates of anti-trans prejudice among cisgender (i.e., people who do not identify as trans or who identify with the sex they were assigned at birth) respondents (e.g., Nagoshi et al., 2008; Norton & Herek, 2013). Available evidence suggests that significant negativity towards trans people is highly prevalent and that prejudice towards trans people is strongly associated with negative attitudes towards sexual minority men and women (Nagoshi et al., 2008; Norton & Herek, 2013). More recently, concerted efforts have been made to demonstrate the efficacy of specific prejudice reduction interventions, whose aim is to reduce anti-trans negativity among cisgender populations (e.g., Broockman & Kalla, 2016; Case & Stewart, 2013; Walch, Sinkkanen, Swain, Francisco, Breaux, & Sjoberg, 2012). Walch et al. (2012) and Case and Stewart (2013) provide preliminary support for the utility of various educational and inter-group contact interventions designed to reduce anti-trans sentiment.

The aim of the current study is to provide further empirical support for the immediate and longitudinal utility of such interventions. This paper will also provide direct evidence of the benefits of incorporating trans issues more centrally within an educational curriculum (Case, Stewart, & Tittsworth, 2009). This study will contribute to the theoretical understanding of prejudice towards trans people by considering how this construct is operationally defined. We also intend to conduct an examination of the relationship between anti-trans sentiment and factors such as religiosity and social dominance orientation (Pratto, Sidanius, Stallworth, & Malle, 1994) – concepts that, as previous research has demonstrated, influence prejudice towards marginalised minority groups.

Defining Transnegativity

Previously, prejudice towards trans people has been defined as ‘transphobia,’ which is operationalised as any negative affective response, which includes disgust and revulsion, directed at individuals who do not adhere to prescribed beliefs as to what constitutes appropriate behaviours for men and women (i.e., traditional gender role expectations; Hill & Willoughby, 2005). Deviations from gender role expectations may include persons not strictly ascribing to the traditional gender dichotomies of male or female, and behaving in ways considered incongruent with these gender identities. While this is a valid description of this particular type of response, we argue that such definitions are limited by their emphasis on *emotion* and, in particular, their specific focus on negative affective states, such as disgust. These definitions fail to fully encompass the full range of protestations laboured against trans people and do not sufficiently consider the more cognitive, belief based, elements that can also underlie such negativity. For example, the belief that gender is a strict binary construct from which little to no deviation should occur, may result in negative affective reaction, but the inherent objection also stems from a core *belief* that a person’s biological sex as defined at birth is a primary determinant of their gender identity (Serano, 2007). Thus, the emphasis on the term *-phobia*, by terminology such as transphobia, is questionable. There is an implicit assumption that such negativity stems purely from an affective response. Trafimow and Sheeran (1998) note that it is problematic to define attitudes in purely ‘*affective*’ or ‘*cognitive*’ terms, as these components have a reciprocal relationship. That is, both a person’s beliefs and emotions will, to some extent, influence the other. Thus, to a degree, all attitudes contain both affect and cognition (Eagly, Mlandic, & Otto, 1994). With this in mind, construct definitions, such as those describing prejudice towards trans people, should accommodate this reciprocal relationship and underlying processes within their operationalisation. In outlining key terminology, descriptors should allow scope to incorporate both a broader range of belief and emotional processes, which include phobic responses, as well as acknowledging behavioural discrimination and victimisation directed towards trans people (see Nagoshi et al., 2008 for an exploration of the issues faced by trans communities). On this basis, we define this range of behaviours, belief-based cognitive injunctions, and negative affective responses, charged against trans people, as *transnegativity*. We operationalise transnegativity as ‘any

prejudicial attitude, discriminatory or victimising behavioural action overtly or covertly directed towards an individual because they are, or are perceived to be, trans’.

Prevalence of Transnegativity and its Correlates

Available evidence of the prevalence of transnegativity suggests that cisgender respondents tend to hold negative attitudes towards trans people. In their seminal assessment, Hill and Willoughby (2005) solicited responses to their Genderism and Transphobia Scale (GTS) from 227 Canadian undergraduate students. While simultaneously validating this measure, their analysis demonstrated high levels of prejudice towards trans people with overall mean responses falling within the upper tertile of possible scores. Further, male respondents reported significantly more negativity than female respondents. In a subsequent study, these authors demonstrated that responses to the GTS from an older sample of parents showed strong positive associations with both measures of gender role conformity and homophobia.

In their development and validation of an alternative measure of transnegativity (i.e., the Transphobia Scale), Nagoshi and colleagues (2008) similarly demonstrated high levels of negativity among a sample of American university students. This study also explored the relationship between participants’ transnegativity and constructs known to correlate with prejudice towards sexual minority men and women (Norton & Herek, 2013). Of note, transnegativity was significantly associated with right-wing authoritarianism, religious fundamentalism. Across all genders, higher levels of transnegativity were associated with higher levels of hostile sexism (i.e., antagonistic attitudes towards women). For cisgender women only, higher levels of transnegativity were associated with greater benevolent sexism (i.e., chivalrous attitudes towards women.)

The association between transnegativity and attitudes towards sexual minorities is unsurprising given the evidenced tendency among individuals to conflate sexual orientation identity and gender identity (Schilt & Westbrook, 2009). Research has demonstrated that this effect is commonplace among heterosexual men who particularly view male same-sex sexual orientations as an unwelcome deviation from male gender norms and traditional hegemonic masculinity (Norton & Herek, 2013). However, the focus on associating

transnegativity with the construct of homophobia, as opposed to alternative conceptualisations of prejudice towards sexual minorities, is problematic for a number of reasons. Firstly, the term homosexual, and by extension homophobia, has an implicit androcentric emphasis, often understood to refer to sexual minority men, rather than women (Herek, 2002). McDermott and Blair (2012) underscore this point through highlighting significant differences in self-reported attitudes towards sexual minority men and women by respondents in the UK, Ireland, Canada and the United States. These authors caution against use of the term 'homophobia' due to such apparent discrepancies in responses towards gay men and lesbian women.

Secondly, homophobia, and its associated measurement tools, tends to seek endorsement of belief statements that characterise homosexuality as being a psychopathology through characterisation of homosexuality as a mental illness and/or by drawing on religious or moral injunctions directed against sexual minorities. Issues associated with such critiques are well established within academic literature (Rye & Meaney, 2010) and significant theoretical and methodological work has been conducted in order to address this limitation. For example, Morrison and Morrison (2002) adapted McConahay's (1986) old-fashioned and modern racism distinction and delineated fundamental differences between what they termed old-fashioned and modern homonegativity. The former is associated with beliefs that homosexuality is indicative of mental ill-health or a moral failing, while the latter is characterised by assertions that: 1) prejudice towards sexual minorities is a thing of the past as equality has been achieved; 2) gay men and lesbian women are making illegitimate requests for changes to the status quo; and 3) emphasising one's sexual minority status tends to do more harm than good. The veracity of the distinction between these constructs has been well-established across English speaking nations (Morrison et al., 2009) with evidence demonstrating that, while endorsement of old-fashioned homonegative beliefs tends to result in floor effects (i.e., persistently low scores), respondents are much more likely to hold and endorse modern homonegative beliefs (McDermott & Blair, 2012; Morrison et al., 2005; Morrison et al., 2003). As such, one of the aims of this work is to further investigate the relationship between the constructs of old-fashioned and modern homonegativity and transnegativity.

In this study, the construct utility of transnegativity is assessed by exploring its relationship with social dominance orientation (Pratto, Sidanius, Stallworth, & Malle, 1994) and religiosity. Social dominance orientation is the endorsement of beliefs that an inherent group based hierarchy exists between majority and minority groups and that this delineation between social groups should be maintained (Pratto et al., 1994). Previous research has demonstrated that this construct is associated with self-reported prejudice towards sexual minorities, right wing-authoritarianism, and negative attitudes towards ethnic minority groups (Crawford, Jussim, Cain, & Cohen, 2013; Morrison et al., 2005). We anticipate that those with higher levels of social dominance orientation will demonstrate higher levels of transnegativity as cisgendered respondents, high in SDO, seek to maintain a superior status.

The relationship between religiosity and prejudice towards sexual minorities is well-established (Whitley Jr., 2009) with evidence demonstrating that higher levels of religious belief, and adherence, are positively associated with higher levels of both old-fashioned and modern homonegativity (McDermott & Blair, 2012), however, less is known about the extent to which transnegativity relates to religiosity and whether a similar trend is apparent. Our focus on religiosity, as opposed to religious fundamentalism, is of note. Religious fundamentalism is indicative of a strict adherence to religious doctrine and adoption of religious ethos as a central motivating factor for beliefs and behaviours, whereas we adopt Drače, Efendić, and Hadžiahmetović's (2015) definition of religiosity as embracing a religious belief and internalizing a religious identity. We anticipate that, despite this distinction, those with higher levels of religiosity will demonstrate higher levels of transnegativity given religious institutions' conservative ethos regarding the oppositional, yet complementary, nature of gender (Schnabel, 2016).

Reduction of Transnegativity

Efforts to demonstrate effective means of reducing transnegativity have begun to emerge within academic literature in the last number of years. Case, Stewart, and Tittsworth (2009) presented a 'call-to-arms' vis-à-vis the visibility of trans related issues within psychology curricula. They argue that the invisibility of such issues within university

courses only serves to perpetuate myths, stigma and discrimination of this community. Walch et al. (2012) tested the efficacy of two forms of pedagogic (i.e., relating to teaching) interventions using a sample of university students ($N = 45$) enrolled in a human sexuality course. Participants were randomly assigned to attend either a lecture presentation delivered by an expert followed two days later by a panel presentation composed of trans identified speakers, or vice-versa (i.e., a panel presentation of trans identified speakers followed two days later by a lecture presentation). They found that attendance at the lecture presentation, followed by viewing the panel presentation was the most effective means by which to ameliorate levels of self-reported prejudice towards trans people. Participants exposed to the panel of speakers “evidenced steeper initial reductions in transphobia than did the lecture presentation on transgender issues” (p. 2597). Indeed, follow up measurement after three weeks supported this effect, as reduced levels of transnegativity post-intervention appeared to remain stable, suggesting that the effects of such interventions may demonstrate encouraging longevity.

The results of Walch et al. (2012) are promising as they provide evidence for the role of intergroup contact (Pettigrew, 1998) in facilitating a reduction of negative attitudes towards trans people. Exposure to minority group members, through panel style presentations, allows for a context in which negative stereotypes and incorrect assumptions about minority members can be addressed. Further, this context is deemed to have elements of institutional support, equal status interaction, and shared goals – essential elements of effective prejudice reduction through contact (Allport, 1954).

Similarly, Case and Stewart (2013) tested the utility of pedagogic prejudice reduction tools by examining the efficacy of three separate interventions, also using a sample of university undergraduate participants ($N = 136$). The techniques applied in this study consisted of: 1) a letter written by a trans man to his parents (affective condition); 2) a list of factual information regarding trans people (cognitive condition); and 3) exposure to a video based documentary clip (media condition). The documentary excerpt depicted an interaction between a trans person and their parents, in which the trans person’s desire to commence hormone replacement therapy was discussed. Self-reported transnegativity, myths about transgenderism, and predictions about discriminatory behaviours directed

towards trans people were measured on four separate occasions. There was a significant reduction in levels of transnegativity across all conditions, despite an initial prediction that the media based intervention would be most effective. A similar decrease in respondents' endorsement of myths regarding trans people was also established, however, there was no reduction with regards to the likelihood of discriminatory behaviours towards trans people. This latter point could in part be explained by demonstrable floor effects for this measure.

The results provided by Case and Stewart (2013) are as promising as those presented by Walch et al. (2012). Both studies demonstrate the role that education can have as a means of promoting positive attitudes towards trans people. The multitude of intervention techniques applied across this research is equally encouraging, as it suggests that educators and practitioners have at their disposal an arsenal of large scale, easy to implement interventions that have demonstrated efficacy in precipitating a reduction of transnegativity. Further, these effects have been shown to demonstrate temporal stability with ameliorations in transnegativity remaining for up to three weeks post intervention.

Conversely, Townsend, Wallick, and Cambre (1995), in their assessment of the utility of a panel based intervention for homonegativity, demonstrated that while the effects of such an intervention may demonstrate some stability over time, the ameliorating effects tend to attenuate and attitudes demonstrate a 'rebound effect' and return to baseline levels. Further, all of the studies described were conducted in North America and as such, the utility of such techniques in other contexts, such as Western Europe, is unknown. Hence, the current study will assess the utility of a transnegativity reduction technique, over an extended period of time, in order to determine whether the demonstrated efficacy of our intervention is short- to medium-termed, or whether these effects extend longer term.

Mediated Contact

Many of the interventions aimed at promoting positive attitudes towards minority group members (e.g., Walch et al., 2012) draw on tenets of the Contact Hypothesis (Allport, 1954). The basic premise of the Contact Hypothesis is that in order to improve inter-group relations it is essential that appropriate contact occur between members of these groups. Paluck and Green (2009) note that for techniques based on the contact hypothesis to

provide meaningful change (i.e., a reduction in prejudice that extends beyond laboratory measurement), the following requirements are necessary: equal status among groups; shared goals; authority sanction (i.e., contact between the groups is supported by a common authority); and the absence of competition. If these elements are in place, interaction between members of majority and minority groups should result in a reduction of prejudice (Pettigrew & Tropp, 2006).

More recent explorations of this concept have suggested that a modification of the contact hypothesis may achieve similar results. For example, *imagined* intergroup contact between group members has been offered as an alternative means of promoting intergroup relations (Crisp, Stathi, Turner, & Hunsu, 2009; Turner et al., 2007; Turner & Crisp, 2010). Crisp et al. (2009) reported that, when compared to a real life experience, mental imagery can have a similar influence on a participant's emotional and motivational responses. Experimental data have provided mixed results regarding the utility of imagined contact with findings suggesting that imaginary scenarios precipitated an overall decrease in prejudice towards gay men (Turner et al., 2007), the elderly (Turner et al., 2007), and British Muslims (Turner & Crisp, 2010). Conversely, McDermott et al. (2012) failed to demonstrate a similar decrement in modern homonegativity towards lesbian women.

An alternative approach to the contact hypothesis, and one that fits theoretically with the elements of the intervention adopted by Case and Stewart (2013), is the Parasocial Contact Theory (Schiappa, Gregg, & Hewes, 2005) and by extension, the Parasocial Contact Hypothesis (PCH). This theory stems from parasocial interactions, described as interactions between an individual and people they know through media representations, regardless of whether they are real or fictional (Shiappa, Wells, & Hewes, 2006). Based on these media interactions, feelings and beliefs about the characters are developed. In contexts where physical contact is not possible or unable to occur between majority and minority group members, parasocial contact between a person and a character portrayed through a mass medium (such a television or film), can lead to the development of affinity between them and the character, and by extension, the target social group.

In three experimental studies, Schiappa et al. (2005) found support for the utility of the PCH as a means of reducing prejudice. In two of their studies, participants were presented with media depictions of gay male protagonists. In study one, participants were exposed to gay male characters in the popular television series *Six Feet Under* and in the follow-up study participants viewed episodes of the reality television program *Queer Eye for the Straight Guy*. In both instances, the interventions resulted in a significant decrease in self-reported prejudice towards gay men. In their final study, aimed at assessing the generalisability of the PCH, Schiappa et al. (2005) assessed the extent to which the PCH could provide a noticeable decrease in prejudice towards trans persons. Using a live performance recorded by renowned comic, Eddie Izzard, as the central feature of their intervention, a significant decrease in levels of prejudice was evidenced.

These findings suggest that exposure to characters and representative celebrities from minority groups can serve as a useful mechanism through which positive attitudes towards these characters (and by extension, the minority groups they represent) can be developed and promoted. The recent increase in the number of visible trans characters and celebrities within popular media, such as Caitlyn Jenner, the Wachowski siblings, and Laverne Cox has served to highlight the existence of trans people, both in reality and in popular media. These individuals' public identification as trans, and the increase in visibly trans characters in mainstream media, has brought trans related issues to the forefront and precipitated significant discussion and debate regarding the legitimacy of a trans identity. While publicity such as this is largely beneficial, as it serves to normalise being trans and help eliminate some of the misconceptions associated with trans identities, unless appropriately presented, these individuals' experiences and depictions are open to misrepresentation, particularly by conservative or transnegative media (e.g., the Daily Express in the UK), leading to the reinforcement of negative stereotypes and beliefs through biased or inaccurate representations.

The Current Study

The central aim of this study was to test a classroom based pedagogic intervention as a means of reducing transnegativity among a sample of university students in Western

Europe. The intervention consisted of both indirect contact (in the form of a panel presentation) and parasocial contact (by means of a film detailing the biographical experiences of a trans character). Data provided by Case and Stewart (2013) suggest that neither panel presentations nor mediated contact are individually superior forms of prejudice reduction. Therefore, in this study we will assess the efficacy of a combined panel speaker and mediated film-based intervention.

Additional aims of this research are to: 1) test the immediate and temporal stability of this intervention by means of immediate and delayed measurements; 2) assess the relationship of transnegativity and prejudice toward sexual minorities (i.e., homophobia as well as measures of modern and old-fashioned homonegativity); 3) determine the relationship between transnegativity and both religiosity and social dominance orientation and; 4) provide further evidence for the utility of the Parasocial Contact Hypothesis as a means of promoting positive attitudes. As such, the following hypotheses will be tested:

H1a: Levels of self-reported transnegativity will significantly decrease between the baseline and post-intervention measurement.

H1b: There will be no significant difference between the second and third measurements of transnegativity, indicating the lack of a 'rebound effect'.

H2: There will be significant positive associations between measures of transnegativity and measures of prejudice towards sexual minorities.

H3: Levels of transnegativity will correlate positively with levels of self-reported religiosity.

H4: Levels of transnegativity will correlate positively with levels of social dominance orientation (SDO).

Method

Participants

The sample consisted of 66 female undergraduates completing a '*Psychology of Human Sexuality*' course at a large public English speaking university in Western Europe. Three male undergraduates returned all required elements, however, due to the less than adequate number, data from these participants were excluded from subsequent analyses. Three participants self-identified as lesbian or bisexual and one respondent failed to indicate their sexual orientation. All others identified as '*exclusively*' or '*more heterosexual than homosexual*'. Sixty-four (97%) respondents were White, with 3% ($n = 2$) identifying as 'Black' or 'Other'. Thirty-nine participants (59%) identified as somewhat or very religious, while 26% ($n = 17$) and 15% ($n = 10$) identified as 'not very' and 'not at all' religious, respectively. Forty participants were enrolled in a single-honours bachelor's degree (Psychology) programme, while 26 were enrolled in a joint honours Bachelors omnibus degree. Ten participants responded knowing either a female-to-male (FtM) trans man or a male-to-female (MtF) trans woman. An institutional review board granted ethical approval for the research study and participation was voluntary.

Measures

Demographics. Participants were requested to provide details of their: age, gender (e.g., male/female/other), course of study (e.g., what degree programme are you completing?), level of religiosity (e.g., how religious are you? 1 = very religious; 4 = not at all religious), ethnicity (e.g., Caucasian, Black) and sexual orientation which was measured on a five-point Kinsey scale (e.g., 1 = exclusively heterosexual, 5 = exclusively homosexual). Participants were also asked whether they personally knew any transgender/ transsexual men or women (1 = Yes; 2 = No). No other personally identifying information was solicited.

The Transphobia Scale (TS; Nagoshi et al., 2008). The TS is a nine-item measure of prejudice towards trans people collectively (i.e., it does not differentiate between trans men and trans women). It measures levels of discomfort experienced by encountering individuals whose gender-identity and/or expression does not conform to gender norm conventions (e.g., I avoid people on the street whose gender is unclear to me). Responses are coded on a five-point Likert scale (1= strongly disagree; 5 = strongly agree) with higher scores indicative of greater transnegativity (possible range is 9 to 45). Research suggests the scale is

psychometrically sound. For example, Nagoshi et al. (2008) report good scale-score reliability (Cronbach's $\alpha = .82$) and convergent validity; TS scores correlated positively with measures of homophobia and right wing authoritarianism.

Heterosexuals' Attitudes Towards Homosexuality Scale (HATH; Larsen, Reed, & Hoffman, 1980). The HATH is a 20-item measure which assesses levels of *old-fashioned* homonegativity (e.g., Homosexuality endangers the institution of the family). Responses are coded on a 5-point Likert scale (1= strongly disagree; 5 = strongly agree) with higher scores denoting greater levels of old-fashioned homonegativity (possible range is 20 to 100). The HATH has demonstrated good scale-score reliability (e.g., Cronbach's $\alpha = .94$ [Whitley; 1988]) and the construct validity of the scale has been established through positive correlations with measures of religiosity and right-wing authoritarianism (Larsen et al., 1980).

Modern Homonegativity Scale (MHS; Morrison & Morrison, 2003). The MHS is a ten-item measure of *modern* prejudice towards sexual minorities (e.g., Lesbian women do NOT have all of the rights that they need). Parallel gay ($n = 30$) and lesbian ($n = 36$) versions were distributed to participants. Responses are coded on a 5-point Likert scale (1= strongly disagree; 5 = strongly agree) with higher scores denoting greater levels of *modern* prejudice towards sexual minorities (possible range is 10 to 50). Evidence of the psychometric soundness of the MHS is abundant (e.g., Morrison & Morrison, 2003; Morrison, Morrison & Franklin, 2009). For example, in relation to reliability, McDermott and Blair (2012) reported Cronbach's α scores ranging from $\alpha = .90$ – $\alpha = .94$. Evidence for the scale's convergent validity has been provided through significant associations with the SDO and RWA (McDermott et al., 2012).

The Social Dominance Orientation Scale – Eight (SDO-8; Morrison et al., 2005; Pratto et al., 1994). The SDO-8 measures preference for inequality among social groups (e.g., some people are just inferior to others). Responses are coded on a five-point Likert scale (1= strongly disagree; 5 = strongly agree) with higher scores indicating greater preference for inequality among social groups (possible range is 8 to 40). Morrison et al. (2005) provide evidence of the utility of this measure and demonstrated its scale-score

reliability ($\alpha = .86$) and convergent validity. For example, the SDO-8 correlated negatively with support for the civil rights of sexual minorities and positively with traditional racism.

Procedure

The data were collected as part of a pedagogic exercise exploring the malleability of attitudes that was incorporated into the curriculum of an undergraduate module delivered by the first author. Participation was voluntary with no incentives offered beyond a 1% bonus course credit for those who took part. Measurement of transnegativity occurred at three separate time points: teaching weeks one, five, and twelve. Measurements of all other constructs (i.e., homonegativity and social dominance) occurred twice: teaching weeks one and five. At the final time point (week 12) transnegativity was measured independently; this was to empirically test for a rebound effect. Data were collected immediately at the end of each timetabled lecture period and, in an effort to mitigate demand characteristics, the order in which scales were completed was randomised, with items from all measures interspersed throughout the questionnaire pack.

Volunteers were invited to take part at the very start of the course's introductory lecture. The entire cohort was informed that data solicited from those who volunteered would be used to examine the *"temporal stability of psychometric measures over the course of a semester"* and were informed that their data would be presented, in aggregate form, during the module's final lecture, following their final assessment. Baseline measurement occurred immediately, at the outset of the introductory lecture, prior to any specific module content delivery.

The subsequent intervention consisted of two separate presentations on trans related content. In teaching week four, a presentation of the film *'Soldier's Girl'* occurred during timetabled teaching (i.e., mediated contact). This autobiographical production depicts the events surrounding the relationship between Calpernia Addams, a pre-operative trans woman, and Barry Winchell, a cisgender self-identified heterosexual US army soldier. The feature length film details Winchell's murder by a fellow soldier, an attack that was attributed to Winchell's intimate relationship with Addams. This film was selected for its focus on transnegativity and for its secondary themes of homonegativity and traditional

gender role expectations – topics which formed part of the curriculum for this module. Subsequently, one week later (week 5), an invited panel of speakers from the Transgender Equality Network of Ireland (TENI) delivered a two-hour seminar and question and answer session during timetabled teaching (i.e., indirect contact). The panel consisted of three speakers, a self-identified gender-queer person in their thirties, a sixty-year-old post-operative MtF trans woman who had transitioned five years prior, and a cisgender female in her thirties. The students in attendance were encouraged, by the speakers, to be “candid, yet respectful” with their questions. At the end of this session, volunteers completed the questionnaire battery a second time. The decision was made not to measure transnegativity after each intervention session in order to avoid participant fatigue effects and minimise familiarity with the measures. The remaining seven weeks of lecture materials focussed on topics whose content made no specific reference to transgender or transsexual issues (e.g., sexual dysfunction). Finally, in conjunction with module evaluation, volunteers completed the transnegativity scale for a third and final time in week 12. Preliminary results were prepared and reported to the entire cohort via an outline on the course’s virtual learning environment.

Results

Descriptive Statistics

Table 1 provides the mean and standard deviation (SD) scores for all measures used stratified according to time-point. At baseline, levels of self-reported transnegativity, and homonegativity fell slightly below scale midpoints. Levels of old-fashioned homonegativity and social dominance orientation tended to fall near the lower end of the scales, indicative of low levels of old-fashioned homonegativity and lower support for social inequality. At subsequent measurement points, mean levels of transnegativity, modern homonegativity and social dominance orientation decreased, while responses to the HATH appeared more stable. Table 2 provides the scale-score reliability scores (and confidence intervals) for each of the measures used.

INSERT TABLE 1 AROUND HERE

INSERT TABLE 2 AROUND HERE

Inferential Statistics

In order to test H1, a repeated-measures Analysis of Covariance (ANCOVA), with TS scores serving as the dependent variable and time point serving as the independent variable, was conducted. As knowing a trans man or woman correlated positively with TS scores, a collapsed ‘knowing a trans person’ variable was calculated (Yes = 1, No = 0) and included as a covariate in order to statistically control for its potential impact on the intervention. In support of H1a, a significant main effect for time point was apparent $F_{(2, 128)} = 7.28 p < .001$, Partial $\eta^2 = .10$. This result implies that a difference in levels of transnegativity did emerge across the time-points. To further investigate this main effect and test H1b, a trio of Bonferroni corrected pairwise comparisons were conducted (Field, 2013). These analyses demonstrated that significant differences were apparent between baseline TS scores ($M = 22.47, SD = 5.25$) and both week 5 TS scores ($M = 20.80, SD = 5.67$), $t_{(65)} = 3.56, p < .001, d = .31$ and week 12 TS scores ($M = 20.86, SD = 5.23$), $t_{(65)} = 3.00 p < .01, d = .31$. The analyses demonstrated that no difference emerged between the second and third measurements of TS scores taken in week 5 and week 12, $t_{(65)} = -.14, p = ns, d = -.01$. These findings suggest the absence of a rebound effect in transnegativity scores to pre-intervention baseline levels. Finally, no interaction effect between the time points and the covariate was evident, $F_{(2, 128)} = .17, p = ns$, Partial $\eta^2 = .003$.

To investigate whether differences exist between the measures of homonegativity and social dominance orientation, paired samples *t*-tests were conducted between baseline and week 5 scores obtained from the HATH, MHS and SDO. There were significant

differences between measurements for both SDO and MHS-L scores, $t_{(65)} = 1.96, p < .05, d = .20$ and $t_{(29)} = 2.11, p < .05, d = .28$, respectively. No difference emerged between either HATH scores, $t_{(65)} = -.34, p = ns, d = -.02$ or MHS-G scores $t_{(35)} = 1.66, p = ns, d = .14$.

Correlational Analyses

A series of Pearson product-moment correlation analyses were conducted between the attitude measures and key demographic variables, details of which are displayed in Table 3. In support of H3, across measurement time-points, higher levels of religiosity were significantly associated with increased levels of both old-fashioned and modern homonegativity and levels of transnegativity ($r_s = -.33$ to $-.44, p < .01$). Significant relationships were also evident between the HATH and both the MHS-G and MHS-L across time-points ($r_s = .80$ to $.86, p < .01$) and social dominance orientation correlated with both the HATH and the TS ($r_s = .25$ to $.49, p < .01$).

Partial support for H4 was obtained as significant relationships were apparent between the TS and the HATH in all instances ($r_s = .64$ to $.77, p < .01$), however, a notable discrepancy was apparent between the MHS-G/TS and the MHS-L/TS. Specifically, baseline levels of transnegativity and modern homonegativity towards lesbian women resulted in a relatively small, non-significant, correlation ($r = .28, p = ns$), while the association between transnegativity and modern homonegativity towards gay men was much more robust ($r = .76, p < .01$). To determine whether these effect sizes were indeed different, the individual correlation coefficients were compared using Fisher’s r to z transformation. This analysis revealed significant differences were apparent between the baseline MHS-G/TS and MHS-L/TS coefficients, $z = 2.78, p < .001$ but not the week 5 MHS-G/TS and MHS-L/TS coefficients, $z = 1.83, p = ns$.

 INSERT TABLE 3 AROUND HERE

Discussion

In this study, the utility of a combination of a panel speaker presentation and parasocial contact (by means of a biographical film) as a mechanism to reduce levels of self-reported transnegativity among a sample of University students in Western Europe was assessed. Additionally, this study examined: 1) the extent to which this intervention remained effective over an extended period of time; and 2) the relationship between transnegativity and constructs such as homonegativity towards gay men and lesbian women, homophobia, religiosity and social dominance orientation.

With respect to hypothesis one (H1), levels of transnegativity immediately after the intervention were significantly lower than respondents' pre-intervention scores and this result was statistically significant. Whilst levels of transnegativity pre-intervention were moderate and fell below scale midpoints amongst the sample of university students, the significant reduction is indicative of an amelioration in transnegativity. This finding is in line with those reported by both Case and Stewart (2013) and Walch et al. (2012). Case and Stewart (2013) also report that levels of self-reported transnegativity among their sample were moderate at the outset, due to the demographic profile of their sample; however, the decline evidenced by these authors and the current study is indicative of a statistically significant change. The novelty of this finding is further underscored by the fact that it is the first known assessment of the utility of such an intervention among a sample of Western European university students. Despite evidence suggesting that there are distinct differences in attitudes towards sexual minorities between North American and European samples (McDermott & Blair, 2012), these data indicate that such interventions may be equally effective, despite variations in geographic locations and cultural contexts.

The utility of such interventions to precipitate a decline in attitudes immediately post- intervention, while promising, is not unexpected due to the nature of the methodology. It would be remiss to assume that some respondents participating in this research were not cognizant of its purpose, which may have resulted in demand characteristics. However, we argue that the time-lag between measurement points (week 1, week 5, week 12) would mitigate against this effect as familiarity with the measure and the participants' ability to recall individual items and responses would be minimised. More importantly, the utility of such interventions is demonstrated by their ability to result in a

lasting change in transnegativity. As tested by hypothesis H1b, if this intervention is efficacious, then the decline in self-reported attitudes at time three (week 12) should be comparable to measurements taken immediately post intervention. Our data revealed that respondents' scores on the transnegativity measure at week 12 remained comparable to scores obtained at week 5, an interval that is more than double previous efforts to assess the temporal stability of pedagogic interventions (Walch et al., 2012). The demonstrated lack of a 'rebound effect' (Wallick et al., 1995) lends evidence to the utility of such interventions as an effective means of fostering *and* maintaining positive attitude change over an extended period of time. Recent evidence provided by Broockman and Kalla (2016) serves to support this effect. In their randomised control trial, these authors demonstrated that canvassing members of the general public ($N = 501$) on trans related issues resulted in a significant decrease in transnegativity. Furthermore, canvassing was also associated with an increase in support for a non-discrimination law both immediately after the canvassing, and up to three months after the initial intervention.

This study tested the relationship between transnegativity and negative attitudes towards sexual minority men and women. In particular, we examined the extent to which levels of transnegativity were associated with the constructs of old-fashioned prejudice towards sexual minorities, as a collective construct (Wright et al., 1999), and modern homonegativity towards gay men and lesbian women.

At baseline, transnegativity correlated significantly with all measures of prejudice towards sexual minorities. Consistent with previous research, levels of transnegativity were associated with levels of self-reported homophobia as indicated by Wright et al.'s (1999) HATH measure. The relationship between these scores remained stable across the measurement time points. Furthermore, the lack of significant change in HATH scores from baseline and immediately post intervention suggests that the positive impact seen in transnegativity scores does not generalise to attitudes directed at the more collective construct of 'homosexuals'.

The relationship between the MHS-G and MHS-L scores and transnegativity is not as apparent. Correlational analyses reveal that across all measurement time points, scores on

the MHS-G correlate significantly with levels of transnegativity. Additionally, the overall strength of these associations are both strong and consistent. Contemporaneously, the relationship between MHS-L scores and transnegativity is substantially and significantly weaker. This suggests that the androcentricity often associated with prejudice towards sexual minorities (Herek, 2002) similarly extends to transnegativity. That is, it appears that there is an assumption that the concept of trans is associated with representations of trans women, or that the prejudices elicited are more closely linked to censorious beliefs pertaining to gay men's perceived gender transgressions. The distinguishing connection between MHS-G and transnegativity can be explained through two key theories: Serano's (2007) concept of effemimania and Hoskin's (2017a; 2017b) concept of Femmephobia/Femme-negativity. These concepts illustrate the specific devaluation of femininity and the tendency for prejudice to be directed at 'misplaced' femininity. What gay men and trans women do have in common is the shared (and often false) perception that they have abandoned societally valued masculinity for enactments of societally devalued femininity. Therefore, in a similar vein to McDermott and Blair (2012) who argue that researchers should discriminate between attitudes towards gay men and lesbian women, we argue that: 1) the relationships between transnegativity, femme-negativity, and homonegativity directed towards gay men and lesbian women should be more carefully explored; and 2) the construct of transnegativity should be refined to assess whether discrete differences exist in attitudes towards trans men and trans women.

In line with previous studies, transnegativity was also positively associated with constructs known to correlate with prejudicial attitudes, as demonstrated by the positive associations with self-reported levels of social dominance orientation and religiosity. Regarding the latter, the positive association with religiosity indicates that those who hold stronger religious beliefs, irrespective of their affiliation, tend to demonstrate higher levels of transnegativity. Nagoshi et al. (2008) reported a similar result. As iterated previously, a key distinction between fundamentalism and religiosity is the extent to which respondents consider doctrine sacrosanct. Further, the positive association with religiosity indicates that these forms of beliefs are not just held by those with strict adherence to religion. Our finding suggests that levels of transnegativity extend beyond those with strict religious

fundamentalist beliefs and includes those whose religious identity is less dogmatic in nature. The positive relationship demonstrated between transnegativity and social dominance orientation by this study also adds to the known associations of transnegativity with right wing authoritarianism, a construct that has been demonstrated to correlate with social dominance orientation and prejudice towards sexual minorities (Stones, 2006).

The final aim of this study was to add to the growing body of literature that seeks to determine the utility the Parasocial Contact Hypothesis (PCH; Schiappa et al., 2005). In this study, we combined mediated contact with a panel presentation (indirect contact) as part of the overall intervention. The present results support this theory and demonstrate the utility of PCH as an effective means of promoting positive attitudes towards gender minority individuals. Further, the reported lack of a 'rebound effect' in levels of transnegativity suggests that mediated contact can have both immediate and longer lasting effects vis-à-vis attitude change. This finding is promising as it suggests that such activities, which are easily developed, implemented, and can reach large groups of people, can be used to ameliorate negativity towards groups who face prejudice. Additionally, it adds to this literature by providing evidence of the generalisability of such interventions to minority groups beyond gay men and transvestites as tested by Schiappa et al., (2005).

Limitations and Directions for Future Research

Despite the aforementioned positive features and outcomes of this study, there are a number of limitations and directions for future research that should be noted. Firstly, the sample of the current study consisted wholly of female participants currently taking a course in the psychology of sexuality and gender. It has been previously demonstrated that such samples tend to represent the most liberal individuals, particularly with respect to attitudes towards minority groups (Sears, 1986). This sampling feature may partly explain the initial low levels of transnegativity demonstrated by these participants prior to the intervention. Recent evidence from Mansoori-Rostam and Tate (2017) suggest that there are appreciable differences in the forms of prejudices held by students completing liberal arts courses when compared to students completing biological science based courses – a factor which may have influenced respondents' levels of transnegativity. Despite these

factors, the evidence presented herein demonstrates that such interventions do hold utility even among groups already known to hold beliefs that are more liberal. Additionally, evidence provided by Broockman and Kalla (2016) suggest that information based interventions demonstrate immediate and temporally stable attitude change among members of the general public. Future research should aim to assess the utility of this and other interventions with a wider and more representative sample of participants.

Secondly, the lack of a comparable non-intervention control condition should be highlighted. Whilst internal control is provided by the measurement of attitudes at baseline from which post intervention and time three attitudes levels can be compared, the utility of such interventions would be strengthened with between-groups comparisons alongside within-groups comparisons. Factors influencing this decision included the resources associated with recruitment of a separate sample and the fact that the first author, who was only teaching one course over this period, conducted the data collection. However, Case and Stewart (2013) provide precedence for this design, as they similarly demonstrated the utility of such interventions by means of within group comparisons. Future explorations would add to this literature through the addition of a demographically homogenous control condition.

Thirdly, the use of a dichotomous variable to measure contact between cisgendered and trans people is a factor that should be noted. Whilst this measure did provide an indication as to whether respondents have previously had contact with a trans person, it does not provide an indication as to the amount of contact that occurred, the frequency, and whether or not contact was positive or negative (Turner, Hewstone & Voci, 2007). Further, it should be noted that while the film used in this experiment had a trans focus, its primary characters were a trans woman and a cisgendered man. As such, it is not known whether the focus on a transwoman character as opposed to trans male characters inadvertently impacted respondents' attitudes. Future research should endeavour to test this effect with more diverse and inclusive forms of media.

Finally, the self-report nature of this research should be acknowledged. Evidence has demonstrated that attitudes towards sexual minorities are susceptible to self-presentation

biases and motivations to control prejudice (Lemm, 2006). As such, the potential for such factors to influence these results cannot be ignored. Nevertheless, as demonstrated by West and Hewstone (2012), different social groups are more or less likely to elicit such controlled behaviours among respondents and given the relatively recent emergence of trans-visibility we contend that this target group are less likely to fall susceptible to such effects - however, the veracity of this statement is yet to be determined. Future research should endeavour to incorporate measurement of these factors into their designs and account for their influence. Furthermore, the utility of such interventions would be strengthened through the addition of implicit attitude measurement (Steffens & Jonas, 2011), which previous evidence has demonstrated are less likely to be influenced by direct or indirect contact based interventions (McDermott et al., 2012).

Conclusion

In this study we sought to extend the empirical study of prejudice towards trans people by demonstrating the efficacy and temporal stability of a pedagogic prejudice reduction intervention as a means of reducing transnegativity. Additionally, we put forward an alternative set of terminology to describe this construct, assess its relationship to more specific forms of sexual minority prejudice, and add to the burgeoning literature assessing the utility of the Parasocial Contact Hypothesis as a means of prejudice reduction. The present results demonstrate the malleability of transnegativity and the longer-term benefits of a simple education based intervention as a means of prejudice reduction. Additionally, this work illustrated the key distinctions in the relationship between transnegativity and, prejudice towards sexual minorities, as a collective construct and as discrete forms of prejudice directed towards gay men and lesbian women.

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Table 1.

Means and Standard Deviation Scores for current study measures stratified by time point.

Measure	<i>n</i>	Week 1		Week 5		Week 12	
		<u><i>M</i></u>	<u><i>SD</i></u>	<u><i>M</i></u>	<u><i>SD</i></u>	<u><i>M</i></u>	<u><i>SD</i></u>
TS	66	22.46	5.24	20.80	5.67	20.86	5.23
MHS-G	36	20.27	6.70	19.36	6.12	-	-
MHS-L	30	21.67	5.81	19.90	6.62	-	-
HATH	66	31.97	9.67	32.07	9.90	-	-
SDO	66	15.68	4.41	14.80	4.21	-	-

Note. TS = Transphobia Scale; MHS-G = Modern Homonegativity Scale – Gay Men; MHS-L = Modern Homonegativity Scale – Lesbian Women; HATH = Heterosexuals’ Attitudes Towards Homosexuality Scale; SDO = Social Dominance Orientation Scale.

Table 2.

Cronbach's α and confidence intervals for current study measures stratified by time point.

Measure	Week 1		Week 5		Week 12	
	α	(95% CI)	α	(95% CI)	α	(95% CI)
TS	.79	(.70 - .86)	.88	(.83 - .92)	.83	(.76 - .88)
MHS-G	.89	(.83 - .94)	.90	(.84 - .94)	-	-
MHS-L	.84	(.73 - .91)	.92	(.83 - .94)	-	-
HATH	.92	(.88 - .94)	.93	(.90 - .95)	-	-
SDO	.78	(.69 - .85)	.82	(.75 - .88)	-	-

Note. TS = Transphobia Scale; MHS-G = Modern Homonegativity Scale – Gay Men; MHS-L = Modern Homonegativity Scale – Lesbian Women; HATH = Heterosexuals' Attitudes Towards Homosexuality Scale; SDO = Social Dominance Orientation Scale.

Table 3.
Summary of Pearson Product Correlations of demographic and psychometric measures

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Age	-															
2. Religiosity	.22	-														
3. Education	.08	.13	-													
4. Know FtM	.04	-.26*	-.04	-												
5. Know MtF	-.02	-.34**	-.13	.61**	-											
6. MHS-G Time 1	-.04	-.24	.08	.37**	.33*	-										
7. MHS-G Time 2	-.08	.24	.37*	.31	.22	.88**	-									
8. MHS-L Time 1	.14	-.34	.13	.27	.08	—	—	-								
9. MHS-L Time 2	.35	-.46	.11	.24	-.06	—	—	.74	-							
10. TS Time 1	-.09	-.44**	.08	.36**	.37**	.76**	.80**	0.28	.30	-						
11. TS Time 2	.03	-.38**	.21	.28*	.31**	.76**	.81**	0.39	.57**	.79**	-					
12. TS Time 3	.03	-.33**	.15	.31**	.27*	.66**	.77**	.50**	.67**	.70**	.82**	-				
13. HATH Time 1	.02	-.50**	.03	.40**	.26*	.86**	.83**	.68**	.77**	.67**	.68**	.62**	-			
14. HATH Time 2	.10	-.45**	.12	.35**	.20	.80**	.81**	.59**	.77**	.64**	.75**	.64**	.91**	-		
15. SDO Time 1	-.16	-.06	.13	.25*	.08	.54**	.61**	.39**	.10	.31*	.25*	.25*	.39**	.34**	-	
16. SDO Time 2	.11	-.01	.29*	.17	-.02	.54**	.70**	0.36	.44*	.34**	.45**	.45**	.47**	.49**	.67**	-

Note. FtM = female-to-male trans man; MtF = male-to-female trans woman; MHS-G = Modern Homonegativity Scale – Gay Men; MHS-L = Modern Homonegativity Scale – Lesbian Women; TS = Transphobia Scale; HATH = Heterosexuals’ Attitudes Towards Homosexuality Scale; SDO = Social Dominance Orientation Scale; Time 1 = week 1; Time 2 = week 5; Time 3 = week 12.

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