Can social norms communicated through entertainment television media reduce prejudice?

By

Sohad Murrar

A dissertation submitted in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

(Psychology)

at the

University of Wisconsin-Madison

2018

Date of final oral examination: 08/13/2018

The dissertation is approved by the following members of the Final Oral Committee:
Markus Brauer, Professor, Psychology
Patricia G. Devine, Professor, Psychology
Marie-Louise Mares, Professor, Communication Science
Kristin Shutts, Associate Professor, Psychology

Table of Contents

Acknowledgments

I want to acknowledge and thank everyone who helped make the completion of this dissertation possible. My advisor, Markus Brauer, is my pro-social science role model. He has been an unwavering support and guide for me throughout this project and all of my graduate studies. He has helped me learn how to do solid research in a meaningful, relevant, and impactful way. I would also like to thank the other members of my dissertation committee: Trish Devine, Kristin Shutts, and Louise Mares. Their feedback at different stages of this research has been invaluable. I also want to recognize Sarah Gavac and Mitchell Campbell for their feedback on this research from its infancy, the comic relief they always offered, and their friendship over the years. I could not have dreamt up better academic siblings. I want to recognize the research assistants in the *Bruaer Group Lab* who helped me complete this project, especially Andy Hung, Josh Deitte, and Jake Lundy who spent hundreds of hours watching, coding, and editing videos. I also want to thank Kevin Belt for his help and kindness over the years as the Graduate Studies Program Coordinator.

Finally, I want to thank my parents, Ali and Wadia Murrar. They have provided me with a boundless supply of love, support, and inspiration throughout this dissertation, my graduate studies, and my entire life. They are my heroes.

Abstract

Prejudice continues to be a deeply entrenched problem throughout the world today. Entertainment media are among the most powerful communicators of information that shape social attitudes and norms. Recent studies show that entertainment media (e.g., sitcoms) can effectively reduce prejudice towards targeted minority groups, but little is known about the psychological processes occurring when such changes take place. Research has demonstrated that social norms and perceptions of them are highly predictive of people's attitudes and behaviors. The current research explores how entertainment television media influence social norms and intergroup attitudes. In the Pilot Study, we completed a systematic multi-step process to create standardized experimental video stimuli for use in subsequent research including Studies 1 and 2. In Study 1, we examined whether entertainment television shows that make salient a social norm of valuing diversity and behaving inclusively influence people's perceptions of social norms regarding diversity and reduce prejudice compared to matched control shows. In Study 2, we compared entertainment television shows that make salient pro-diversity social norms to shows that make salient other psychological constructs related to prejudice reduction (i.e., intergroup friendship, minority counterstereotypicality). Across the studies, we found that television shows that make salient pro-diversity social norms can effectively improve intergroup attitudes and increase inclusive behaviors, and that, in some cases, they do this more strongly than shows that make salient other psychological constructs related to reducing prejudice.

Introduction

In his 1964 book, *Understanding Media: The Extensions of Man*, Marshall McLuhan opened his first chapter with the following sentence: "In a culture like ours, long accustomed to splitting and dividing all things as a means of control, it is sometimes a bit of a shock to be reminded that, in operational and practical fact, the medium is the message (p. 7)." McLuhan was focused on the emergence of new forms of media for communication, such as television, and was highlighting the idea that they are powerful, immersive forces for transmitting information to people. It is this very phenomenon that has inspired the current research.

Media are arguably the most powerful communicators of information that influence social attitudes and norms. In industrialized nations, people spend a majority of their waking hours consuming media. Recent reports find that the average American consumes nearly 11 hours of media a day (The Nielson Total Audience Report, Q1, 2016), totaling to about 4000 hours a year. Approximately half of those hours are spent watching television. As McLuhan noted, media are a means of control and should thus be studied thoroughly to identify how exactly they exercise this control and in what domains.

Recent research shows that entertainment media, such as television shows, can have beneficial effects on people's intergroup attitudes,[1] but little is known about the concrete content

[1] By *intergroup attitudes*, I mean attitudes towards other groups and their members. An *attitude* is composed of cognitive, affective, and behavioral components (Breckler, 1984) that correspond, respectively, to one's "beliefs, feelings, and behavioral tendencies towards socially significant objects, groups, events or symbols" (Hogg & Vaughan 2005, p. 150). "Like other attitudes, an individual's attitude toward a group can be conceptualized as having cognitive (stereotypes), affective (prejudice), and behavioral (discrimination) components" (Er-Rafiy & Brauer, 2013, p. 2). Although *stereotypes* (beliefs about the personal attributes of a group of people) and *discrimination* (unjustified negative behavior toward a group or its members) are associated with *prejudice* (a general negative affect towards members of an outgroup) and are often referred to as "prejudice," they are conceptually distinct from prejudice. For the purpose of this dissertation proposal, intergroup attitudes will refer to the affective and behavioral components, broadly. Prejudice will refer to the affective component and the behavioral component will be delineated by explicit references to behavior.

and underlying mechanisms that make entertainment television effective. Perceived social norms have been found to be predictive of human attitudes and behavior, and recent theorizing suggests that perceived social norms about inclusiveness may influence people's intergroup attitudes. The goal of the present research is to examine the effects of pro-diversity social norms – made salient through entertainment television – on intergroup attitudes and to identify the psychological processes that play a key role in these effects.

Background

Entertainment media, such as television shows, are pervasive and widely consumed in society. The impact of entertainment media on people's intergroup attitudes is mixed, sometimes leading them to be positive and sometimes negative. For example, data show that portrayals of minorities fluctuated between 1970 and 2000, and that less frequent portrayals of racial/sexual minorities and working women on television was associated with more negative attitudes towards these groups among people who watched television frequently, but not in non-viewers. However, social tolerance among heavy television viewers surpassed that of non-viewers when minorities were represented more frequently (Garretson, 2015). Correlational research has also shown that entertainment media's depictions of minorities have shifted over the years in both quantity and quality. For example, the percentage of characters who were Black in the early 1990s was about 20%, but decreased drastically by the mid-1990s and has been at a steady rate of about 10% over the last 15-20 years (Tukachinsky, Mastro, & Yarchi, 2015). Latinos, Asians, Native Americans, and other minority groups still remain grossly underrepresented compared to their percentage in the general population (Mastro, 2009). Additionally, television portrayals of minorities as "good" (on a good-ambivalent-bad rating scale) are associated with more warmth, among viewers, towards those particular groups represented, and prevalent stereotypical

portrayals of minority groups (e.g., Latinos as highly sexual) are associated with more negative attitudes towards them (Tukachinsky et al., 2015). In summary, entertainment media can create both more positive and more negative attitudes towards underrepresented groups, which are typically social minorities. These differential potentials call for a better understanding of how entertainment television media impact intergroup attitudes.

The Good, the Bad, and the Complexities of Entertainment Television Media

Recent research provides additional evidence for the idea that entertainment television media have the capacity to produce positive outcomes in the domain of intergroup relations, improving attitudes towards members of minority groups and reducing prejudice. For example, research in our lab (Murrar & Brauer, 2017) found that participants who were randomly assigned to watch 6 episodes of a popular sitcom portraying Muslims in a relatable way (*Little Mosque on the Prairie*) showed less prejudice towards Muslims (immediately after viewing and 4 weeks later) compared to individuals who watched 6 episodes of a popular sitcom that did not portray any minorities or issues related to intergroup relations (*Friends*). Schiappa, Gregg, and Hewes (2005) found that college students who watched 3 episodes of a television show about 5 homosexual men who provide advice to heterosexual men regarding fashion, interior design, and personal grooming (*Queer Eye for the Straight Guy*) had more positive attitudes towards gays than students who did not watch any television show. Individuals exposed to a film about the massacre of Blacks in Florida during the 1920s (*Rosewood*) showed an improvement in their attitudes towards Blacks compared to those who watched a film about two vigilante Caucasian brothers (*The Boondock Saints*; Eno & Ewoldsen, 2010). Joyce and Harwood (2012) found that showing individuals a positive interaction between a White border patrolman and an immigrant

improved attitudes towards immigrants in comparison to a group that watched a negative interaction and a control group in which individuals watched a clip from a nature documentary.

Similarly, research on a popular television show depicting two gay men going about their daily lives in New York City with their friends (*Will & Grace*) found that more frequently watching the show was negatively correlated with prejudiced attitudes towards gays (Schiappa, Gregg, & Hewes, 2006). Ortiz and Harwood (2007) showed similar results: a negative correlation between exposure to *Will & Grace* and the extent to which college students report distancing themselves from gays. They also found that the more college students were exposed to a reality show (*The Real World: Austin*) depicting two young Black and White men living together in a new place among a group of peers, the less they reported distancing themselves from Black people.

Taken together, the literature supports the idea that entertainment television media can be used to engender more positive intergroup attitudes. Research on other forms of entertainment media show similar results in areas such as literature (Hughes, Bigler, & Levy, 2007; Johnson, Jasper, Griffin, & Huffman, 2013), radio broadcasted soap operas (Paluck, 2009), and YouTube music videos (Greitmeyer & Schwab, 2014; Murrar & Brauer, 2017). Positive television media effects on children and their pro-social behavior, some of which are in the domain of intergroup relations, have also been documented in recent reviews (Mares & Woodard, 2005; Mares & Pan, 2013). While other forms of media can also have a positive impact on people's intergroup attitudes, new research shows that the format through which entertaining content is presented affects the strength of outcomes related to intergroup attitudes. When comparing a story in written format (i.e., just words) and in written format with visual cues (i.e., words and pictures) with a televised depiction of the same story (i.e., a video with a person telling the story), the

televised depiction of the story produces less stereotyping of and bias against minorities from the racial group represented in the story (Pietri, Chu, Murrar, & Rosen, 2018). This research suggests that the television format produces stronger effects than other formats. Consequently, the present research is focused only on television media.

While entertainment television media clearly have the capacity to create more positive intergroup attitudes, there is conflicting research that demonstrates that the topic is more complex. For example, watching a television show like *All in the Family* – a show that aimed to reduce prejudice by depicting a character, *Archie*, as ridiculous and hyperbolic in his racist views – was actually positively correlated with prejudice (Vidmar & Rokeach, 1974). According to the research, the more people who felt similar and related to Archie watched the show, the more they became convinced of the authoritarian and prejudiced views they and Archie held. Weisbuch, Pauker, and Ambady (2009) exposed participants to 10-second video clips from popular primetime television shows that were edited to portray interpersonal interactions between White and Black characters, stripped of sound, and classified as displaying nonverbal biases against Blacks. The researchers found that more exposure to such clips led to an increase in implicit prejudice against Blacks. Additionally, the impact of entertainment television media intended to create an understanding of minority groups and improve attitudes towards those groups is complex in that such media sometimes produce inconsistent effects among viewers. For example, *The Cosby Show*, considered a groundbreaking show for the advancement of race relations in the United States, generated mixed results. After running focus groups with White Americans, Jhally and Lewis (1992) found that, although people enjoyed watching the show and welcomed the Huxtable family – the protagonist family of the show– into their homes, the observed attitude change did not generalize to other Blacks. Viewers found the Huxtables to be

exceptional from other Blacks and ultimately "subtyped" them (Weber & Crocker, 1983). Another negative impact discovered through the focus groups was that the Huxtables were perceived as fully living the “American dream.” Due to the family’s high status in the show – with the mother being a lawyer and the father being a doctor—many White viewers came to believe that such a life was easily accessible to Blacks and therefore Blacks, in the real world, had no legitimate claims to inequality and racism. Experimental studies with children exposed to a pro-diversity television show over several weeks compared to a neutral show found that the children had a pro-White bias before and after exposure with no improvements in their attitudes about other races (Persson & Musher-Eizenman, 2004). These findings demonstrate that the effects of entertainment television are complex and can have a negative impact on intergroup attitudes.

Taken together, the research on the influence of entertainment television media suggests that it may have a positive effect on intergroup attitudes in some cases, but a negative impact in other cases. Furthermore, it is important to note that the research is also limited by a number of methodological issues. For example, most studies are correlational or do not have random assignment making it impossible to draw conclusions about causal relationships. Many studies are plagued by experimental demand effects or only measure outcomes immediately after exposure, making it difficult to confirm that the observed effects are not merely salience effects. Additionally, some studies lack extended exposure, typically showing only one episode or one movie, which makes it difficult for viewers to become transported in the presented narrative or to identify with the characters – two important processes people experience when consuming entertainment media (Green & Brock, 2000; Cohen, 2001). Finally, most researchers do not demonstrate that the television show or film used in the control condition is comparable to the

one shown in the experimental condition on important dimensions (e.g., how funny it is, how attractive the characters are, etc.).

Nevertheless, the research discussed in the previous paragraphs has been useful in showing that entertainment television can impact intergroup attitudes – positively and negatively. These contrasting findings highlight a need to better understand what aspects of entertainment television media, with respect to their content and messaging, produce positive effects on intergroup attitudes. Additionally, identifying the psychological processes that are activated by the content and messages must also be understood. As we describe below, we hypothesize that a shift in perceived social norms regarding others' openness to diversity and inclusive behaviors is one of the important underlying mechanisms. As such, the current research is an important contribution to both the television media and the intergroup relations literatures because it examines what content, messaging, and psychological processes are involved in making entertainment television media effective at reducing prejudice.

Social Norms and Intergroup Attitudes

What people perceive to be socially normative has been shown to be an impactful psychological process related to attitude and behavior change broadly. Social norms are customary standards or guides for behavior, attitudes, and beliefs that are shared by a group (Cialdini & Trost, 1998). They play a powerful role in shaping people's behaviors (Cialdini, Reno, & Kallgren, 1990). Research has found that simply perceiving a behavior to be highly normative predicts the extent to which people engage in that behavior, regardless of what the actual norm is (Perkins & Berkowitz, 1986). Relying on the power of perceived norms, making social norms salient has been used to influence people's perceptions of norms and produce pro-social behaviors. According to social norms theory, people will modify their own attitudes and

behaviors to align with what they perceive to be socially normative (Berkowitz, 2005). Targeting social norms entails providing individuals with pieces of information about their peers or relevant others, which has the potential to change people's understanding of group norms, their place in the group, and the evaluative significance of the message's content (Miller & Prentice, 2016).

Communications that provide information about social norms, sometimes called social norms messages, typically include descriptive norms (e.g., "most of your peers engage in this behavior") and injunctive norms (e.g., "your peers would approve of you engaging in this behavior"). Providing people with information about social norms has produced abundant pro-social change including the reduction of alcohol and tobacco abuse among college and high school students and adolescents (Jones, Andrews, & Francis, 2017; Perkins & Craig, 2006; Haines, Barker, & Rice, 2003). Social norms messages have also been used to enhance environmental conservation by increasing towel reuse in hotels (Goldstein, Cialdini, Griskevicius, 2008), reducing residential energy use (Allcott & Rogers, 2014), and decreasing people's water use (Bernedo, Ferraro, & Price, 2014). The success of making social norms salient to people in other domains of social behavior points to the potential of social norms messages to create more positive intergroup relations.

Although communicating information about social norms has been shown to produce pro-social change in a variety of social attitudes and behaviors, little is known about the extent to which perceived social norms can be leveraged to create more positive intergroup attitudes. Since the 1960s, the social landscape of prejudice has shifted such that it is considered unacceptable to outwardly or explicitly express prejudice and people are expected to endorse egalitarianism (McConahay & Hough, 1976; Gaertner & Dovidio, 1986; Katz & Hass, 1988;

Pettigrew & Meertens, 1995). Due to this normative environment, explicit expressions of prejudice have decreased and a more subtle, aversive form of prejudice has emerged (Gaertner & Dovidio, 1986; McConahay, 1986; Sears, 1988). Individuals may openly endorse egalitarian views and be unaware that they actually harbor prejudiced attitudes and beliefs (Devine, 1989). The emergence of these contemporary forms of prejudice is considered to be partly due to the shift in social expectations to be egalitarian rather than racist, which has motivated people to maintain an egalitarian self-image (Pearson, Dovidio, & Gaertner, 2009). The motivation to be egalitarian in light of social expectations speaks to the potential of social expectations and norms to reduce prejudice. Thus, shifting people's perceptions of norms regarding prejudice (i.e., that it is socially normative to be non-prejudiced and open to people from different social backgrounds) is likely to be an important process for reducing prejudice, yet the communication of social norms messages in this domain has been minimally explored.

There are some notable exceptions, however. Some research suggests that being told one's peers endorse non-stereotypical views of Blacks can lead to less stereotyping of Blacks (Stangor, Sechrist, & Jost, 2001) and overhearing a peer condemn racism can reduce the expression of racist opinions (Blanchard, Crandall, Brigham, & Vaughn, 1994). Crandall, Eshelman and O'Brien (2002) also found that individuals are more accepting of discrimination against social groups when their peers report more acceptance of prejudice against those groups (e.g., ex-convicts, Hispanics, Black Americans). Furthermore, while this research suggests that intergroup attitudes can be influenced by changes in norm perceptions, it does not show that these findings are anything more than short-term salience effects. In recent work, Murrar and Brauer (2018) have tested whether making salient pro-diversity norms creates positive intergroup attitudes on a college campus. We ran 6 field and laboratory experiments in which participants

were randomly assigned to a condition in which pro-diversity social norms regarding openness to diversity were made salient (using posters and videos) or a control condition in which such norms were not made salient. We found that making pro-diversity norms salient led to more positive intergroup attitudes and the effect persisted for more than 10 weeks in some of the studies.

The current research sits at the intersection of two bodies of literature. More specifically, we connect research on improving intergroup attitudes with the literature on using social norms to produce positive attitude and behavior change. We examine whether making salient pro-diversity social norms in a subtle way and in a unique context (entertainment television media) has similarly positive effects on intergroup attitudes. In addition to exploring the impact of social norms in influencing prejudice, this research also provides an experimental framework that can be used to test the underlying role of social norms perceptions in driving improvements in intergroup attitudes.

Forging Social Reality from Television

Research shows that television media exposure to individuals belonging to social outgroups influences peoples' mental representations and perceptions of and their beliefs about social outgroups (Dixon & Linz, 2000; Dixon, 2008; Mastro, 2009; Mastro, Behm-Morawitz, & Ortiz, 2007; Schemer, 2013), especially in cases where actual contact with those social groups is limited (Fujioka, 1999; Schapiro & McDonald, 1992; Armstrong, Neuendorf, & Brentar, 1992). When these perceptions and beliefs are formed about ethnic and racial minority groups, they are usually negative (Busselle & Crandall, 2002; Dong & Murillo, 2007). What is evident from the literature is that television media have a powerful capacity to influence people. While some

research has focused on why such media influence people, the surface of fully understanding *how* and *why* television media are so powerful has barely been scratched.

One prominent theory that has put forth potential explanations for how and why television media are so powerful is cultivation theory. Cultivation theory asserts that exposure to the content and consistent messages of television over time leads people to create a social reality in their minds based on this exposure (Gerbner, Gross, Morgan, & Signorielli, 1994; Gerbner, Gross, Morgan, Signorielli, & Shanahan, 2002). According to the theory, the more "heavily" or frequently people watch television, the more likely they are to conceptualize reality as it is depicted in television. In this way, television provides viewers with "knowledge" of the social world (Shrum & Bischak, 2001). Traditionally, cultivation research has focused on studying broad, macro-level consumption of television with particular content (e.g., frequency of watching television with violent content) and perceptions of social reality (e.g., frequency of crimes or likelihood of being the victim of a crime that people report). While cultivation theory originally emerged to understand the relationship between media and culture, it developed a focus on the relationship between media consumption and perceptions of social reality (Roskos-Ewoldsen, Davies, & Roskos-Ewoldsen, 2004). Cultivation research has primarily investigated the impact of media through a three-pronged process (Gerbner, 1998). The first prong entails content analysis of widespread and consistent messages depicted on television, the second prong entails focusing on particular time frames of television (e.g., a week of television media) and doing a content analysis of the different messages within the entire time frame, and the third prong involves the examination of people's responses to questions regarding their beliefs about social reality as it relates to their level of television exposure (for a review of cultivation research, see Morgan & Shanahan, 1997). While cultivation research has provided a useful

framework for studying media impact and points to the importance of perceived social norms, there is still much to be learned.

First, although cultivation research is informative for creating an understanding of television's impact on social understanding broadly, it does not specify concrete psychological processes underlying the impact of television media on people's social perceptions and attitudes. The current studies advances cultivation theory research by applying a micro level approach for examining particular qualities of entertainment media and how these qualities, specifically in the domain of social norms communications, affect perceptions of reality and intergroup attitudes. Second, due to the nature of the theory itself, cultivation theory research usually assesses the relationship between overall television consumption, ranging from news to situational comedies, and viewers' conceptualizations of reality with cross-sectional designs (Gerbner, Gross, Morgan, Signorielli, & Shanahan, 2002; Mastro, Behm-Morawitz, & Ortiz, 2007). Such designs limit the extent to which the research can discover causal relationships between television media and social perceptions and attitudes. They also limit the extent to which researchers can determine what exactly about the media might be moderating and underlying any causal effects. The current studies further advance television media research by experimentally examining the impact of television media with particular qualities on social perceptions and attitudes. The use of experimental designs will allow for an empirical test of whether perceptions of social norms serve as an underlying mechanism for any effects entertainment television might have on social attitudes.

The studies presented below address some of these theoretical and empirical issues and help contribute a fuller understanding of how social norms can influence intergroup attitudes and behaviors.

The Current Research

In light of the current state of the literature, we put forth a number of theoretical predictions. First, considering the power of perceived social norms on behavior, we predicted that people's perceptions of social norms regarding diversity and inclusiveness would have an impact on their intergroup attitudes. We expected this impact would be so strong that making pro-diversity social norms salient to people in a very subtle, indirect way (e.g., short scenes in which characters are behaving inclusively embedded in an entertaining television show) would lead to more positive intergroup attitudes. Second, we predicted that any positive effects on intergroup attitudes that might be observed would be driven by shifts in perceptions of social norms regarding diversity (as opposed to being caused by short-term salience effects). Third, we expected that subtly inducing shifts in perceptions of social norms regarding diversity would be more impactful than other psychological constructs that have been shown to affect intergroup attitudes and that might be influenced by exposure to entertainment media.

The research we present below included a pilot study that served to create the experimental stimuli, and two experimental studies that sought to help us better understand how entertainment media can shape viewers' intergroup attitudes. We explored the role of television media that communicate pro-diversity social norms messages on perceptions of social norms and examined the role such perceptions have on intergroup attitudes. We sought to identify which characteristics of entertainment media are most effective at shifting normative perceptions about diversity and improving intergroup attitudes. Taken together, the research addresses a number of theoretical shortcomings in media literature and ties together various bodies of literature to create an understanding of how entertainment television media can be harnessed to produce pro-social change in the domain of intergroup prejudice. Below are 5 concrete aims we worked to fulfill.

Aim 1: Create standardized experimental stimuli for use in Studies 1 and 2. The goal was to create an experimental version and a control version of several episodes of television shows, such that the two versions are virtually identical except with respect to the psychological construct under consideration.

Aim 2: Examine whether entertainment television shows that make pro-diversity social norms salient improve intergroup attitudes compared to shows that do not make such norms salient.

Aim 3: Examine whether entertainment television shows that make pro-diversity social norms salient shift people's perceptions of social norms regarding prejudice compared to shows that do not.

Aim 4: Examine whether the effect described in Aim 2 is mediated by people's perceptions of social norms.

Aim 5: Examine whether entertainment television shows that make pro-diversity social norms salient lead to a greater reduction in prejudice than television shows that transmit other psychological constructs that have been shown to affect intergroup attitudes (i.e., intergroup friendship, minorities being shown in a counterstereotypical way).

Pilot Study (Creating the Stimuli)

Method

The purpose of the Pilot Study was to create standardized experimental stimuli. We created episodes of entertainment television shows that isolated the psychological construct of interest and minimize the presence of other constructs related to intergroup relations. We also created appropriate control episodes that were neutral in the domain of intergroup relations, but were comparable to the experimental episodes. The goal of the pilot study was to verify that the experimental and control versions varied with regard to the constructs we wanted to manipulate (i.e., making salient pro-diversity social norms, intergroup friendship, and minority counterstereotypicality), but were comparable on a number of other dimensions that might impact viewers' self-reported intergroup attitudes (e.g., a version's funniness might affect participants' mood, which might influence how they rate their intergroup attitudes). In order to be able to generalize our findings from the main experiments, it was important that the stimulus material were adapted from several different TV shows and displayed several different minorities.

Participants. Participants were recruited through Amazon Mechanical Turk. We recruited approximately 15 people to watch one version of the episodes described below for a total of 669 participants to complete the study. Twelve participants opted not to provide any demographic information. All participants were from the U.S. (233 males, 423 females, 1 both male and female; M_{Age} = 38.35, SD_{Age} = 12.57; 467 White/Caucasian[non-Hispanic], 79 Black/African-American, 42 Asian/Pacific Islander, 40 Latino or Hispanic, 4 Native American or Aleut, 19 multiracial, and 6 other). Participants were given cash payment for their participation through the Mechanical Turk worker compensation portal at the end of the study.

Stimulus Material. The stimulus videos that were evaluated in the pilot study were created through a systematic process that consisted of multiple steps.

The first step of the process entailed identifying television shows with ethnic or racial minority characters. Shows ranged in popularity, but those that were off the air already or were produced to be consumed through online interfaces only were given priority. Such shows were expected to be viewed by fewer people and would therefore make it easier to fulfill the goal of recruiting participants who had minimal or no previous exposure to them. This step yielded 31 television shows, which were primarily situational comedies (sitcoms) and prime-time dramas.

The second step entailed four coders reading synopses and descriptions for every episode of the shows with the goal of identifying episodes that included social minority characters in the main storyline. We retained 127 unique episodes. Next, the coders "skim-viewed" the episodes to make sure that the minority characters were featured a certain amount of time (approximately 35%-65% of the episode). This step yielded 101 unique episodes from 26 different television shows (approximately 4 episodes per show).

Next, three research assistants viewed each episode and rated the extent to which it made salient psychological constructs that the scientific literature has shown to affect prejudice. These included the primary construct of interest, i.e., majority group members behaving in an inclusive manner towards minorities and bringing across the message that it is socially normative to be inclusive and open to diversity. Raters also evaluated each episode with regard to the following constructs: the representation of intergroup friendships; the counterstereotypicality of the minority characters (operationalized by the portrayal of minorities as highly competent); the depiction of intergroup marriages or romantic relationships; the representation of a minority group as heterogeneous; the portrayal of White characters behaving in anti-social, discriminatory

ways; the depiction of minorities as opinion leaders who influence others; the illustration of minorities in powerful, decision-making roles; the representation of minority characters who foster viewer empathy; the depiction of minority characters who foster perspective-taking; the representation of minorities as role models; the representation of situations in which being from a diverse background helps a minority character succeed; and the portrayal of minorities who have successfully embodied a dual identity (e.g., Mexican-American). The raters also provided qualitative evaluations by commenting on whether an episode exhibited each construct clearly, or whether each construct was too enmeshed with the other constructs to be used as a stimulus video.

Next, we used the ratings and the comments to identify the episodes that most clearly and predominantly communicated that it was socially normative to behave inclusively and be open to diversity, and made minimal references to the other constructs. In addition, we determined two additional constructs that emerged most frequently in the episodes – the depiction of intergroup friendship and the portrayal of minorities in a counterstereotypical way – and identified the episodes that most clearly and predominantly communicated these constructs. Again, episodes selected to represent each of the three constructs made minimal reference to all of the other constructs. The episodes were chosen so that at least two of them made the same psychological construct salient, belonged to the same TV show, and were somewhat related to each other (e.g., were initially shown in the same season). This step yielded a total of 22 episodes in total with 6 to 9 episodes representing each of the three constructs.

In the next step, we used video-editing software to create an experimental version and a control version of each of the episodes. For the pro-diversity social norms construct, the control version was created by removing all social norms scenes from the episode so that it contained

only "neutral" scenes (i.e., scenes that did not communicate that it was a social norm to value diversity or be inclusive). The experimental version was created by replacing some of the neutral scenes in the control version by the social norms scenes that were previously removed. The removing and replacing of scenes was done so that the main story line was maintained and there were no internal inconsistencies or "loose ends" in each of the episodes. For each experimental and control pair, episodes were edited to match in length. We proceeded in the same way to create the experimental and the control versions of the episodes that highlighted the other two constructs (intergroup friendship and minority counterstereotypicality).

The video editing yielded experimental and control versions of 22 episodes. As can be seen in Appendix A Table 1, 9 episodes made the construct of pro-diversity social norms salient, from which 9 experimental versions and 9 control versions were made and tested in the pilot study. Six episodes contained representations of intergroup friendship (from which 7 experimental versions and 6 control versions were made); and 7 episodes portrayed counterstereotypical minorities (yielding 7 experimental versions and 7 control versions). The edited episodes ranged between about 7 minutes and 20 minutes in length.

Knowledge Questions. To ensure that participants attentively watched the particular episode to which they were randomly assigned, they were asked 2 questions regarding the specific content of it. Sample knowledge questions are included in Appendix A.

Outcome Measures. Participants gave their responses on 7-point Likert scales with appropriately labeled endpoints. The outcome measures are described in the next paragraphs. See Appendix A for the exact wording of all questions that were used in the pilot study.

Construct ratings. The primary construct of pro-diversity social norms and the secondary constructs of intergroup friendship and minority counterstereotypicality were assessed with 3

questions each. All other constructs related to prejudice (identified above) were assessed with 1 question. Participants were asked to rate the extent to which the version they watched depicted the constructs. An example question included, "To what extent did the episode depict minorities as accepted, included, and liked by others, suggesting that they are part of the group and 'belong'."

Ratings of subjective dimensions. Participants were asked questions about dimensions unrelated to prejudice reduction that could potentially influence the impact of media on intergroup attitudes. Some of the dimension ratings pertained to character attractiveness, relatability, likability, annoyingness, and how much participants identified with them. Other dimension ratings pertained to the overall version or storyline and how funny, comprehensible, believable, interesting, relatable, engaging, thought-provoking, boring, annoying, and entertaining it was and how transported into it participants became. Finally, a number of the dimensions pertained to the participants' emotional response to the episode. They rated how happy, sad, fearful, disgusted, uncomfortable, and anxious they felt after viewing the version.

Procedure. Participants were given a link to the study through the Amazon Mechanical Turk interface and were instructed to keep the Mechanical Turk window open. After consenting to partake in the study, participants were randomly assigned to watch 1 of the 45 different versions created. The study thus had a fully between-subjects design. After viewing a single episode, participants answered the 2 knowledge questions, then all of the construct ratings, and finally the ratings of the subjective dimensions. Questions within each block were randomized for each participant. After completing the study, participants were thanked, given a completion code, and directed back to the Mechanical Turk interface to submit their code and get their monetary compensation for participating.

Results and Subsequent Modifications

To choose the optimal stimuli for the main studies, we examined how participants rated each of the 45 different versions on the constructs of interest and the subjective dimensions. First, we computed a *Pro-Diversity Norm* variable, which averaged across the first 2 questions regarding diversity norms depicted in the episodes (r = .62; see Appendix A for items). The third item was left independent due to its low correlation with the other items (rs < .002). We also computed an *Intergroup Friendship* variable, averaging across the 3 items regarding the depiction of intergroup friendships in the episodes (α = .89) and a *Counterestereotypicality* variable, averaging across the 3 items regarding the depiction of the minority characters in a counterstereotypical way (α = .83). From the subjective dimension ratings, we created an overall *Emotional Reaction* variable that averaged across the 6 questions that inquired about participants emotional reaction after reverse-coding all of the items with a negative valence (α = .79). All of the other items were considered independently.

Next, we paired each control version with its matched experimental version. We then computed difference scores on each of the outcome variables between the experimental and control versions with higher values indicating a stronger presence of variable in the experimental version. The goal was to choose pairs of episodes in which the control and experimental versions most strongly differed on the constructs of interest and, simultaneously, displayed little to no presence of the other constructs and were comparable on the subjective. That is, we chose the episode pairings that had the largest difference scores on the constructs of interest and smallest difference scores on the other constructs and the subjective dimensions. See Appendix A Tables 2-4 for difference scores for each of the episode pairings (i.e., experimental video rating minus control video rating) on all of the variables. Based on these criteria, we ultimately selected 6

episodes (with 6 control versions and 6 experimental version) for the primary constructs of interest and 4 for each of the secondary constructs. Chosen episodes are indicated with asterisks in Appendix A, Table 1.

After selecting the episodes that most dominantly manipulated the constructs of interest and minimally manipulated the other constructs and subjective dimensions, we completed a subsequent editing process. Three trained coders watched each of the episodes and wrote commentaries on ways to further increase the salience of the constructs of interest and reduce the presence of the other constructs. Overlapping suggestions from the three coders were used to inform further editing of some of the episodes. Modifications entailed removing dialogue or scenes that activated constructs apart from the primary construct of interest in a given episode and replacing them with neutral content. These final modifications ranged between 30 and 60 seconds in content length.

Study 1

In Study 1, we tested whether making salient pro-diversity norms through entertainment television leads to more positive intergroup attitudes and behaviors, and shifts in people's perceptions of social norms regarding others' openness to diversity. We hypothesized that participants exposed to versions of entertainment television shows that communicate pro-diversity social norms messages would have lower levels of prejudice than participants exposed to control versions (H1). We also hypothesized that participants exposed to versions of entertainment television shows that make salient pro-diversity social norms would show a shift in their perceptions about social norms regarding diversity, such that they would perceive others as being more inclusive and open to diversity (H2). Finally, we hypothesized that the positive effect of versions of entertainment television shows that communicate pro-diversity norms on intergroup attitudes and behaviors would be mediated by people's perceptions of broad social norms regarding diversity and inclusion (H3).

Method

Participants. Participants were recruited through the University of Wisconsin psychology participant pool during the Spring 2018 Semester. Students were prescreened through the early semester mass survey and asked about the frequency with which they had consumed particular television shows to ensure that they had no or minimal exposure to the particular television shows used in the study. All participants were given extra credit in their introduction to psychology course for completing the study. Based on an a priori power analysis for an independent samples t-test, we needed at least 64 participants in each condition to detect a medium effect (η^2 = .06, equivalent to f = .25, d = .50) with 80% power and a significance level of α = .05. We originally aimed to oversample by 10% to ensure a sufficiently powered study in

the case that any participants were lost due to technical failures and incomplete responses. We kept the study open for participation to students through the end of the semester and ended up with a total *N* of 154 participants (68 males, 86 females; M_{Age} = 19.08, SD_{Age} = 1.78; 153 White/Caucasian [non-Hispanic], 1 Latino or Hispanic).

Stimulus Material. All participants were randomly assigned to either the pro-diversity social norms condition or the control condition. They were then randomly assigned to watch one of the three TV shows (Awkward, Scrubs, or Cristela), and every participant watched two episodes of the same show. For example, if someone was randomly assigned to the pro-diversity social norms condition and then randomly assigned to watch a pair of episodes for the show *Awkward*, they watched the experimental versions of both episodes 4 and 5 (see Appendix A, Table 1). If the participant was randomly assigned to the control condition and to the show Awkward, then they watched the control versions of episodes 4 and 5.

Knowledge Questions. As in the Pilot Study, participants were asked 2 questions per episode regarding the specific content of the episode.

Outcome & Mediator Measures. All of the measures in the experiment were adapted to the target group depicted in the episodes. For example, if the experimental versions featured Black characters, a group-specific outcome measure had "Blacks" as the target minority group. Unless otherwise mentioned, participants gave their responses on 7-point Likert scales with appropriately labeled endpoints. See Appendix B for the exact wording of the items.

Feelings thermometers. Participants were asked to indicate their feelings toward approximately 20 different social groups (racial and nonracial) on a 0 to 100 point scale (0 = very cold, 100 = very warm). These ratings were collected at post-test (T1: after participants had viewed the episodes) and at the follow-up (T2: approximately 1 week after the post-test).

Allophilia. Participants were asked 8 questions taken from a modified Allophilia scale (Alfieri & Marta, 2011) to evaluate the extent to which they hold positive attitudes towards people from ethnic, racial, and social outgroups, broadly. They were asked to indicate the extent to which they agreed with statements such as "In general, I have positive attitudes about people from different ethnic and racial groups" and "I am motivated to get to know people from different ethnic and racial groups." These ratings were collected at post-test (T1: $\alpha = .90$) and the follow-up (T2: $\alpha = .93$).

Behavioral measure of prejudice. Participants were given $50 in $5 bills at the end of the study and chose how to distribute the money across 3 charitable organizations. One organization was said to advocate for the target minority group featured in the show participants viewed (i.e., African Americans rights, Hispanic and Latino rights, or LGBT rights). The other two organizations were said to be known as advocates for causes that are neutral on the dimension of intergroup relations (i.e., environmental sustainability and elephant rescues). The outcome of interest was how much money was distributed to the organization advocating for the target minority rights. This measure was completed at post-test. See Appendix B for descriptions of the 3 charities participants read before distributing the $50.

Perceptions of diversity norms. There were two measures of participants' perceptions of norms among their peers regarding diversity. For the first, participants were asked about their level of agreement with 8 statements that pertain to how normative being open to diversity and inclusive is among their peers. Items included statements such as "The overwhelming majority of my peers do their best to behave inclusively" and "It's a norm in my peer group to be welcoming to people from all backgrounds." These ratings were collected at post-test (T1: $\alpha = .97$) and the follow-up (T2: $\alpha = .98$). The second measure of perceived norms entailed participants dividing

the American population into 6 categorical groups that vary in their degree of openness and discrimination towards social minorities. They were asked to list a percentage of the population that fits each categorical description to sum up to 100%. See Appendix B for items. The outcome of interest was the percentage of their peers that participants distributed into the top 2 most inclusive and open to diversity categories. This measure has been used and validated in prior research by Campbell and Brauer (in preparation).

Construct Ratings & Ratings of Subjective Dimensions. We included 2 questions to assess the primary construct of pro-diversity social norms and 1 question for each of the secondary constructs of intergroup friendship and minority counterstereotypicality because of the minor modifications made to some of the stimuli as a result of the pilot study. We also included all of the 22 ratings of the subjective dimensions used in the Pilot Study. All of the items used are delineated with asterisks in Appendix A.

Procedure. The study was conducted in one of the laboratory rooms in the psychology building. The procedure is adapted from earlier research (Murrar & Brauer, 2017). After consenting to partake in the study, the experimenter informed the participants that the study was intended to examine television-watching behaviors and that they would be watching one of 12 possible television shows to reduce experimental demand. Next, participants were escorted to a computer in another room, seated in front of the computer, and given headphones. The experimenter opened a link to the study and left the participant to proceed. Once the participants began, they were taken to a page that featured the titles and cover photos for 12 different shows they supposedly had a chance of watching. The study was programmed so that when participants clicked the "Next" button to supposedly be assigned 1 of the 12 shows, they were actually randomly assigned to either the pro-diversity social norms condition or the control condition and

then to 1 of 3 shows for their condition. They then watched the experimental pro-diversity norms versions of the pair of episodes or the control versions of their respective shows. After each episode, participants answered two knowledge questions pertaining to the episode to ensure that they had been attending to what they were watching.

After participants finished watching the versions to which they were randomly assigned, they were led to a page where they were told that they had 2 to 5 minutes to get up, stretch, and use the restroom if needed. This "break" was intended to reduce fatigue and serve as a distraction prior to completing the remainder of the study. Next participants completed the outcome and mediator measures. Half of the participants completed the feeling thermometers and Allophilia scale (presented in random order) followed by the perception of diversity norms measures (the order of which was also presented randomly), and the other half completed them in the opposite order with the perceptions of diversity norms measures coming first. They then completed the ratings of the constructs and subjective dimensions. Next, they were instructed to inform the experimenter when they had completed the study in order to get the extra credit points in their psychology course. At that point, the participants returned to the room with the experimenter and completed the behavioral measure of prejudice. They were told that an alumna of the Department of Psychology had $10,000 she wanted to donate to charities and that she wanted the money to go to charitable causes that matter to University of Wisconsin psychology students. The experimenter explained that they were 1 of 200 students chosen to distribute $50 as they wished among 3 charities that the donor had previously chosen. The experimenter then presented the participants with three envelopes, one for the target minority group and two for the neutral organizations. Each envelope contained the name of the organization and a small description of what the organization stands for. The experimenter handed the participant the $50 in 5-dollar

bills, asked them to distribute them among the three envelopes and left them alone to complete the task. The participant informed the experimenter when they finished and the experimenter thanked them for their participation and informed them about the follow-up survey to which they would be invited to complete. The experimenter recorded how the participant distributed the $50 afterwards to reduce any demand effects. This part of the study took about 40-60 minutes[2] to complete. Approximately 1 week after completing the lab part of the study, all participants were sent a link to complete the follow-up survey, which included the feeling thermometers, the Allophilia scale, and the perceptions of diversity norms measures. After completing the survey, the participants were thanked and fully debriefed. Participants received extra credit points for the main part of the study and the follow-up separately.

Results

We ran a number of preliminary analyses. We first wanted to ensure participants had actively watched the versions of the television shows they had been assigned to. We determined the number of questions participants answered correctly and decided to remove individuals who got less than 2 (out of 4) questions correct. Most participants answered all 4 knowledge questions correctly (N = 144), 8 answered 3 questions correctly, 1 answered 2 questions correctly, and 1 answered 1 question correctly (removed). After checking the knowledge questions, the total sample in the study was N = 153.

Next, we formed a number of thermometer variables that served as outcome measures of prejudice. The first thermometer variable, *Target Minority Thermometer*, represented participants' warmth towards the particular minority group featured in the television show they had viewed. That is, if a participant watched Cristela, their score on this thermometer was their

[2] Note that the experimental and control episodes made for the pro-diversity norms construct ranged from about 7 minutes to 16 minutes.

warmth towards Hispanics, whereas the score of a participant who watched Scrubs was their warmth towards Blacks, and for those who watched Awkward, their score was their warmth towards gay men. We then created a *Target Minority Difference* variable, which represented participants' warmth towards the dominant group foiling the target group featured in each show minus their warmth towards the target group (e.g., warmth towards Whites minus warmth towards Hispanics, or warmth towards straight men minus warmth towards gay men).

The third thermometer variable, *Ethnic Minority Thermometer*, was participants' average warmth towards Blacks, Hispanics, and Arabs (T1: $\alpha = .94$; T2: $\alpha = .94$). We then created an *Ethnic Minority Difference* variable, which was the difference between participants' warmth towards Whites and their warmth scores on composite Ethnic Minority Thermometer. Similarly, we created a *Sexual Minority Thermometer*, which was the average of participants' warmth towards gay men, lesbians, bisexuals, and transgender people (T1: $\alpha = .96$; T2: $\alpha = .96$). We then formed an average thermometer score for straight women and men (T1: $r = .82$; T2: $r = .82$) in order to compute a *Sexual Minority Difference* variable, i.e., participants' warmth towards straight men and women minus their scores on the Sexual Minority Thermometer.

Next, we wanted to test H1 and determine whether those in the pro-diversity norms conditions had lower levels of prejudice than those in the control condition. See Appendix C Table 1 for the bivariate correlations for all of the prejudice outcomes. We ran an independent samples *t* test to determine whether there was a significant difference between conditions on the Target Minority Thermometer. Although the results were aligned with H1, they did not reach conventional levels of significance, $b = 3.83$, $t\ (151) = 1.71$, *ns*. Similarly, the condition effect on the Target Minority Thermometer Difference was non-significant, but in the predicted direction with those in the pro-diversity norms conditions showing less of a preference for the dominant

group over the target minority group in the show they watched, b = -.78, t (151) = .38, *ns*. Similarly, the remaining thermometer ratings and the Allophilia scale did not show significant differences between conditions immediately after viewing the shows (T1) and at the 1-week follow up (T2). See Appendix C Table 2 for all of the results for the prejudice outcomes at both time points.

We then tested whether participants varied between conditions on the behavioral measure of prejudice. Contrary to the other outcome measures, we found that there were condition differences in how participants distributed their $50. That is, those in the pro-diversity norms conditions donated significantly more money to a charitable organization that stood for the rights of the target minority group featured in the show they watched compared to those in the control condition, b = 9.81, t (151) = 7.52, $p < .001$.

Next, we wanted to examine whether condition effects on the outcome measures of prejudice were moderated by the particular show to which participants were assigned. We ran a number of 2 x 3 ANOVAs with experimental condition (control vs. pro-diversity norms) and show (Awkward vs. Scrubs vs. Cristela) as independent variables and each of the outcome measures as the dependent variables. We did not find that there were any significant main effects of condition and show or interaction effects across the models except on one outcome variable. While the main effects of condition and show on the Target Minority Thermometer were not significant, we found a significant interaction between condition and show on the Target Minority Thermometer at T1, F (2, 147) = 3.19, $p < .05$. Participants who watched Awkward and Scrubs in the pro-diversity norms condition had more warmth towards the target minority groups featured in the shows compared to the controls, but those who watched Cristela showed the opposite trend. See Appendix C Figure 1.

After examining the primary prejudice outcomes of interest, we wanted to test H2, i.e., that those in the pro-diversity norms condition would perceive their peers to be more inclusive and open to diversity, and H3, that these perceptions would mediate the condition effects on prejudice. Thus, we ran independent samples *t* tests on the two measures of peer diversity norms at T1 and T2. Contrary to H2, we found no condition effect on either of the measures of peer diversity norms, *p*s > .24, which precluded us from testing H3. See Appendix C Table 3 for correlations between these predicted mediator measure and Appendix C Table 4 for descriptive and inferential statistics for these measures.

After examining condition differences on our primary outcomes of interest, we tested whether the videos differed on the construct ratings and the ratings of the subjective dimensions. See Appendix C Table 5 for bivariate correlations of all scales used to measure the construct and subjective dimension ratings. We first averaged across the two items that assessed the extent to which the episodes exhibited a social norm of inclusion (r = .67). We then tested whether there were significant differences between the control conditions and the pro-diversity norms conditions on the 3 main constructs (see the top half of Appendix C Table 6). In comparison to the control videos, the videos in the pro-diversity norms condition did in fact make salient a pro-diversity social norm of inclusion and openness towards minorities, b = 1.93, t $t(151) = 7.78$, $p <$ .001. Similar differences were found on the other constructs of interest; contrary to the goals of the pilot study, the pro-diversity norms videos were judged as having notable levels of the intergroup friendship and counterstereotypicality constructs.

We then examined the subjective dimensions. We formed 3 scales from the items. The first scale, *Character Judgment*, was an average of all the items that assessed participants' overall judgment of the characters (α = .78). The second scale, *Episode Judgment*, was an

average of all the items that assessed participants' judgment of the episode and plot, more broadly (α = .90). The third scale, *Emotional Reaction*, was an average of the 6 items (negative items were reverse-coded) that assessed participants' emotional responses to the episodes (α = .70). We then ran a series of independent samples *t* tests to determine whether there were differences between conditions on these 3 scales and the transportation and identification variables. There were no significant differences between conditions on any of the variables (see bottom half of Appendix C Table 6), thus illustrating that the videos used in the control and pro-diversity norms conditions were equivalent on a number of dimensions that could potentially influence outcomes on the prejudice measures.

Discussion

The results of Study 1 were mixed. Although we did not find that participants who watched the pro-diversity norms versions of episodes were less prejudiced on a number of self-report measures, compared to those who watched the control versions, we did find significant condition effects on our behavioral measure of prejudice. Thus, watching the pro-diversity norms version of episodes led to more charitable behavior towards the minority groups depicted in the episodes. These differential findings partially support our predictions in H1, i.e., that television shows with pro-diversity social norms messages can reduce prejudice towards target minority groups.

Contrary to H2, we did not find that watching the television shows that make salient pro-diversity norms messages led people to perceive their peers to be more open towards diversity and inclusive of people from different backgrounds. This prevented us from testing H3. The lack of effects on perceptions of peer norms may, in part, be due to the verbiage in the items used to assess perceptions. The word "peers" may have been too broad for participants in the context of

television viewing, and my have been further muddled by the university context in which the study took place.

The data also illustrated that the content of the television shows may have played some role in influencing the outcomes. The results were in the predicted direction and quite strong for two of the three shows, but not for the third one. Analyses of the experimental versions of each of the episodes also demonstrated that the construct of interest, i.e., pro-diversity norms, was difficult to manipulate in isolation. This complicates our ability to identify exact psychological processes that may cause entertainment media to be effective in reducing prejudice. Never-the-less, the data demonstrated that the experimental versions of the episodes (control vs. pro-diversity norms) were highly comparable on a number of subjective dimensions that could influence intergroup attitudes, which speaks to the validity of the video stimuli as interventions for influencing intergroup attitudes, especially pro-diversity behaviors.

Study 2

The primary goal of Study 2 was to compare television content that communicates a pro-diversity social norms message to content that reflects other psychological constructs known to affect intergroup attitudes (i.e., depicting intergroup friendship or depicting minorities in a counterstereotypical way). There is abundant evidence showing that shifting perceptions of social norms is very powerful in influencing concrete behaviors among people in a variety of domains. Also, apart from having actual encounters with individuals in real life, most psychological constructs that have been found to affect prejudice are manipulated in fairly heavy-handed ways. For example, intergroup friendship is considered a particularly effective form of intergroup contact in reducing prejudice (Pettigrew & Tropp, 2006; but see Paluck, Green, & Green, 2018), and although friendships are not typically manipulated experimentally, intergroup contact is. Intergroup contact studies are typically very involved and entail creating optimally positive conditions, equal-status among interaction partners or groups, and even the induction of interdependence between participants (Pettigrew, Tropp, Wagner, & Christ, 2011). Even imagined contact calls on participants to engage in an elaborate thought exercise in which they imagine themselves interacting with a member of an outgroup in a very specific way (Crisp & Turner, 2009). Similarly, studies that make counterstereotypical minority exemplars salient typically rely on participants' previous knowledge of popular figures (Dasgupta & Greenwald, 2001), which limits the types of social groups that can be used and also calls on the participant to be cognizant enough to know and recall specific cultural references. Such studies can be physically and cognitively demanding for participants and while they have been shown to affect intergroup prejudice in a number of studies, many are limited to the particular context of laboratories. Unlike these approaches, efforts to shift social norms have typically been quite

subtle in nature and have been applied and shown to be effective in many real-world contexts. As such, we hypothesized that versions of television shows that make salient pro-diversity social norms compared to control versions would create more positive intergroup attitudes than versions of television shows that depict intergroup friendship or counterstereotypical minorities compared to their respective control versions (H4). Study 2 aimed to build an understanding of what kind of content related to intergroup attitudes is most effective at reducing prejudice.

Method

Participants. Participants were recruited through Amazon Mechanical Turk. They were prescreened through a baseline survey, in which they were asked about the frequency with which they consumed particular television shows. As in Study 1, the prescreening ensured that participants in the study had no or minimal exposure to the particular television shows used in the study. Participants were randomly assigned to one of six conditions of the experimental design (see below). Based on an a priori power analysis for a two-way ANOVA with six groups, we needed about 68 participants in each group to detect a small to medium effect ($\eta^2 = .04$, equivalent to $f = .20$, $d = .40$) with 80% power and a significance level of $\alpha = .05$. We attempted to oversample by about 10% to ensure a sufficiently powered study in the case that any participants were lost due to technical issues. In light of time and budget, we reached a total N of 431 participants (187 males, 239 females, 1 both male and female, 4 outside of the gender binary (gender neutral, genderqueer, genderfluid, other gendered); $M_{Age} = 34.88$, $SD_{Age} = 11.32$; 277 White/Caucasian[non-Hispanic], 51 Black/African-American, 39 Asian/Pacific Islander, 33 Latino or Hispanic, 12 Native American or Aleut, 16 multiracial, and 3 other). All participants were given cash payment for their participation through the Mechanical Turk worker compensation portal at the end of the study.

Design and Stimulus Material. Participants were randomly assigned to one cell of the 2 (Experimental Condition: experimental version vs. control version) X 3 (Intergroup Construct of Interest: pro-diversity social norms vs. intergroup friendship vs. counterstereotypical minority) design. Within each cell, they were randomly assigned to one of the shows included in our stimulus material. That is, participants in the pro-diversity social norm condition were randomly assigned to either Awkward or Scrubs; participants in the intergroup friendship condition were randomly assigned to Everybody Hates Chris or Modern Family; and participants in the minority counterstereotypicality condition were randomly assigned to Cristela or Scrubs. All participants watched two episodes of the same show. As previously described, the experimental and the control versions of each episode displayed (or not) one of three psychological constructs known to affect prejudice (see Appendix A Table 1).

Knowledge Questions. Participants were asked 4 questions regarding the specific content of each of the versions (2 questions per episode).

Outcome Measures. As in Study 1, all of the measures in the experiment were modified such that the target group in the items matched the racial/ethnic or sexual minority group depicted in the episodes when necessary. And, unless otherwise mentioned, participants gave their responses on 7-point Likert scales with appropriately labeled endpoints. Study 2 included the feeling thermometers, the Allophilia scale ($\alpha = .94$), the first measure of Perceptions of Diversity Norms ($\alpha = .96$), and the construct and subjective dimension ratings used in Study 1 (see Appendix B).

We included two new behavioral measures of prejudice were included to fit the online format of Study 2. For the first measure we presented participants with pictures of 2 rooms. The rooms were a small classroom and a lounge. Each of the room photos included a number of

individuals sitting in the room. All of the individuals were dressed in similar, neutral clothing (black or blue jeans, solid white or black tops). One row of 4 seats in the classroom and lounge were empty and labeled 1 to 4. On each side of the 4 empty seats were two individuals (one person from the target minority group featured in the episodes on one side of the 4 seats and another person from the dominant social group that foil that minority group on the other side). The angle from which the photo was taken was the same in all of the photos (left side for all of the classroom photos and straight forward in the lounge photos). The placement of the minority and dominant group individuals was counterbalanced. All participants saw 6 of 12 photos (3 lounge photos, 3 classroom photos) with different individuals featured in the main seats of interest (those on either side of the 4 empty seats) from the target minority groups. Of the 6 photos participants saw there were 2 photos for each minority group: Blacks, Hispanics, and sexual minorities (represented by a person dressed in a gender non-conforming way). Participants were told to imagine that they would be spending an hour in the room featured in the photo and asked to choose a seat in which they would like to sit for that duration (4-point scale). Sample images for the classroom and lounge are featured in Appendix B.

A second virtual measure of prejudice entailed participants reading 9 positive, neutral, and negative tweets (3 of each) regarding minorities. All of them were based on real tweets found on Twitter with modifications for privacy purposes. The neutral tweets were included to dilute the prominence of intergroup relations as the subject of interest. The tweets were pre-tested for valence and relevance to the domain of intergroup relations. Participants were asked to respond to the tweets on a 3-point scale (1 = dislike, 2 = neither like nor dislike, 3 = like). An illustrative thumb icon accompanied each answer choice. The tweets were presented in random order. An additional behavioral intention measure was collected in which people were asked to

specify how likely they were to retweet the original tweet (scale labeled from 1 = *highly unlikely* to 7 = *highly likely*). See Appendix B for tweets and response items.

Procedure. Participants were recruited through Amazon Mechanical Turk. After consenting to partake in the study, all participants completed the prescreening questionnaire. Those who qualified were directed to the website with the full study. They saw a page that described that the researchers are interested in television-watching behaviors and they would be asked to watch 2 episodes of a television show. Like in Study 1, to reduce experimental demand, they saw a page with the 12 potential shows that were supposedly included in the study and were instructed to click forward to see which show the randomizer assigned them to. The study was programmed to randomize them to one of the intergroup constructs of interest (pro-diversity social norm, intergroup friendship, minority counterstereotypicality) and to either the experimental version or the control version, and finally to television show in the cell. The participants then viewed 2 episodes of whichever version, intergroup construct of interest, and show to which they were randomly assigned and answered the 4 knowledge questions. Next, they completed the outcome measures with half of participants completing the feeling thermometers first then the Allophilia scale, and the other half of participants filling them out in the opposite order. All participants then completed the virtual behavioral measures of prejudice and perceptions of peer norms in random order. Lastly, they completed the ratings of the constructs of interest that were related to intergroup attitudes and the ratings of the subjective dimensions. Once they had completed the outcome measures, participants were debriefed about the study, given a completion code, and directed back to the Mechanical Turk interface to submit their code and get their monetary compensation for participating.

Results

As in Study 1, we first wanted to determine which participants had answered less than 2 of the knowledge questions correctly and to remove them from the sample, as this was a clear indicator that they had not attentively watched the videos to which they were assigned. More than half of the participants answered all 4 questions correctly (N = 223), 96 answered 3 questions correctly, 40 answered 2 questions correctly, 50 answered 1 question correctly, and 22 answered all 4 questions incorrectly. We removed all those who answered 0 or 1 correctly (i.e., 72 people), yielding a total N of 359 people in the data analysis.

Next, we computed the various thermometer ratings exactly as we did in Study 1. In addition to the *Target Minority Thermometer* and *Target Minority Difference*, we computed the *Ethnic Minority Thermometer* (α = .89), the *Ethnic Minority Difference*, the *Sexual Minority Thermometer* (α = .96), the average thermometer score for straight men and women (r = .73) to compute the *Sexual Minority Difference*. Next we computed a number of virtual behavior variables from the virtual behavior questions. All of the appropriate seating items were recoded so that higher values always indicated sitting closer to the target minority in the photo. We then created a *Target Minority Seating* variable, which represented where participants chose to sit in proximity to the particular target group that was featured in the show that they watched. That is, for participants who watched shows featuring black characters, we averaged across the two seating items featuring black individuals (r = .18), for shows featuring Hispanics, we averaged across the two seating items featuring Hispanic individuals (r = -.01), and for shows featuring gay men, we averaged across the two seating items featuring the gender non-conforming individuals (r = .08). We also computed a *General Minority Seating* variable, which was an

average across all 6 seating items (α = .28), but due to the scale's lack of reliability we did not consider the measure in further analyses.

Next, we reverse-coded the 3 liking ratings and the 3 likelihood to retweet ratings for all of the negative tweets. We then standardized all 6 items and averaged them to create an *Anti-diversity Tweeting* virtual behavior variable (α = .85). We also standardized and averaged across all of the liking ratings and the retweet ratings for the positive tweets and created a *Pro-diversity Tweeting* virtual behavior variable (α = .86). See Appendix C Table 7 for the bivariate correlations for all of the prejudice outcomes and the perceptions of the peer norms.

We ran a number of 2 x 3 between-subjects ANOVAs with experimental condition and intergroup construct of interest as the independent variables and each of the outcome measures as the dependent variables. The assumption of constant variance was met for the reported models. We first examined the primary hypothesis that Study 2 was designed to test, H4, i.e., that versions of shows that make salient pro-diversity social norms compared to their controls would more effectively reduce prejudice than shows that make salient intergroup friendship and minority counterstereotypicality compared to their respective controls. Appendix C Table 8 shows the means and standard deviations for the outcome variables between conditions for all 3 intergroup constructs of interest to which participants were assigned.

In light of H4, we analyzed the data using a contrast that tested the pro-diversity norms construct against the other 2 constructs (.67, -.33, -.33). We also included a second contrast that tested the other two constructs against one another (0, .5, -.5), following recommendations by Abelson and Prentice (1997). We crossed these contrasts of the intergroup constructs of interest with experimental condition. In accordance with H4, the interaction of the intergroup contrast of interest (.67, -.33, -.33) with condition was significant for Allophilia, $F(1, 353) = 5.26$, $p = .02$,

η^2 = .015, Anti-diversity Tweeting, $F(1, 353) = 4.15$, $p = .04$, $\eta^2 = .012$, and Pro-diversity Tweeting $F(1, 353) = 4.39$, $p = .04$, $\eta^2 = .012$. The interaction of the contrast of interest with condition did not yield significant results for any of the other outcome measures, *F*-values ranged from .002 to 3.18, *p*s > .08. In support of H4, we found that the intergroup contrast of interest moderated the experimental condition effect on Allophilia and both of the Tweeting behavioral outcome measures (See Appendix C Figures 2 – 4 for visual representations of these effects). In other words, when compared to their respective control versions, the experimental versions of the pro-diversity social norms videos more effectively reduced prejudice than the experimental versions of the intergroup friendship and minority counterstereotypicality versions.

Next, as done in Study 1, we tested whether there were any differences across experimental conditions and intergroup constructs of interest on Perceptions of Diversity Norms. See the bottom of Appendix C Table 8 for the means and standard deviations for Perceptions of Diversity Norms. Neither experimental condition, $F(1,353) = 2.41$, $p = .12$ nor intergroup construct of interest, $F(2,353) = .08$, $p = .93$ yielded significant effects on Perceptions of Diversity Norms. Furthermore, the effect of experimental condition was not moderated by intergroup construct of interest either, $F(2,353) = .91$, $p = .40$.

Finally we tested whether the control and experimental versions differed on the construct ratings and the ratings of the subjective dimensions across assigned constructs. See Appendix C Table 9 for bivariate correlations of all the scales used to measure the construct and subjective dimension ratings. We averaged across the two items that assessed the Pro-Diversity Norm in the videos ($r = .80$). We then ran a 2 x 3 between-subjects ANOVA with experimental condition and intergroup construct of interest as the independent variables with the construct ratings as the dependent variables. See the top half of Appendix C Table 10 for the means and standard

deviations for all of the construct ratings across experimental conditions and intergroup constructs of interest. For the Pro-Diversity Norm construct rating, the analyses revealed a main effect of experimental condition, $F(1,353) = 11.34$, $p = .001$, a main effect of intergroup construct of interest, $F(2,353) = 3.46$, $p = .03$, and a significant interaction effect between the two, $F(2,353) = 13.82$, $p < .001$. Post-hoc analyses showed the experimental condition difference was significant for those people assigned to the Pro-diversity/Inclusive Social Norms construct and those assigned to the Minority Counterstereotypicality constructs only, $p = .004$.

For the Intergroup Friendship construct rating, the analyses similarly revealed a main effect of experimental condition, $F(1,353) = 29.16$, $p < .001$, a main effect of the intergroup construct of interest, $F(2,353) = 9.44$, $p < .001$, and a significant interaction effect between the two, $F(2,353) = 7.57$, $p = .001$. Post-hoc analyses showed that all of the experimental condition differences were significant across the intergroup constructs of interest to which participants were assigned, ps $< .001$, except for the difference between individuals assigned to the Intergroup Friendship and Minority Counterstereotypicality constructs, $p = .32$. For the Counterstereotypicality construct rating, the analyses again revealed a main effect of experimental condition, $F(1,353) = 6.19$, $p = .013$, a main effect of intergroup construct of interest, $F(2,353) = 7.34$, $p = .001$, and a significant interaction effect between the two, $F(2,353) = 7.83$, $p < .001$. The post-hoc analyses showed that all of the experimental condition differences were significant across the intergroup constructs of interest, ps $< .001$, except for the difference between individuals assigned to the Pro-diversity/Inclusive Social Norms and the Intergroup Friendship constructs, $p = .91$.

We then examined the subjective dimensions. As done in Study 1, after reverse-coding the appropriate items, we formed 3 scales from the items: *Character Judgment* ($\alpha = .77$), *Episode*

Judgment (α = .92), and *Emotional Reaction* (α = .82). Again, we wanted to ensure that the control and experimental versions of the videos for each of the constructs of interest were comparable on the subjective dimensions (see bottom half of Appendix C Table 10). We did not find significant main effects of experimental condition on any of the subjective dimensions, *F*s ranged between .31 and 3.11, *p*s < .08. There were significant main effects of intergroup construct of interest on both the Episode Judgment, $F(2,353) = 5.76$, $p = .003$, and Emotional Reaction, $F(2,353) = 3.99$, $p = .02$. However, none of the experimental condition by intergroup construct of interest interactions yielded significant effects on any of the subjective dimensions, *F*s < 2.95, *p*s < .05. Thus, there were no experimental condition differences within any of the intergroup constructs of interest on any of subjective dimensions, suggesting that the experimental and control versions of videos for each of the intergroup constructs of interest were comparable on the subjective dimensions.

Discussion

The results of Study 2 generally demonstrated that television shows that make salient pro-diversity social norms can have a larger positive impact on intergroup attitudes than shows that make other psychological constructs associated with prejudice reduction salient (i.e., intergroup friendship and minority counterstereotypicality). Although we did not find any significant effects of experimental condition by intergroup construct of interest on any of the feeling thermometer ratings, the results did support H4 for many of the other outcome measures. We found that individuals who watched versions of television shows that make salient pro-diversity social norms, compared to individuals who watched appropriate control versions of the shows, had higher Allophilia ratings and overall more positive diversity tweeting behaviors than those exposed to versions of television shows that depict intergroup friendship or

counterstereotypical minorities in comparison to individuals who watched appropriate control versions of those shows. These findings suggest that making salient pro-diversity social norms in television shows may be a powerful way to create more positive intergroup attitudes and behaviors. It is important to note that the control versions of the shows that made salient pro-diversity social norms yielded lower scores on some of the outcome measures than the control versions of the shows for the other intergroup constructs of interest.

As in Study 1, we did not find that Perceptions of Diversity Norms were influenced by experimental condition across all of the intergroup constructs of interest. Again, this may simply be due to the generality of the target group mentioned in the items measuring this construct. In light of the lack of significant effects, we were unable to use the outcomes of Study 2 to tests H2 and H3.

Similar to Study 1, the data illustrated that the versions of televisions shows created to isolate each of the constructs of interest did not fully achieve this goal. That is, for example, some of the experimental versions of episodes created to make salient pro-diversity norms also made salient the other constructs of interest (i.e., intergroup friendship and minority counterstereotypicality) to some extent. Again, this complicates our ability to identify exactly which psychological processes may be causing entertainment media to improve intergroup attitudes and behaviors. However, the findings in Study 2 mirror those in Study 1 with regards to the differences between the experimental versions of all the episodes and their respective controls. The data demonstrated that the control and experimental versions of all the episodes were uniform on the subjective dimensions.

General Discussion

At the outset of the research presented above, we had a number of aims. The first goal of was to create standardized experimental stimuli for use in the subsequent experiments and future research seeking to examine entertainment television media effects on intergroup attitudes and behaviors. We wanted to create experimental versions and control versions of several episodes of television shows and ensure that the two versions were virtually identical except with respect to the psychological constructs under consideration. As discussed in the Pilot Study, we completed a very meticulous process for coding and creating a number of experimental and control videos and identifying which videos were optimal for the purposes of the current research. We then examined the presence of the psychological constructs of interest and a number of subjective dimensions in the videos in Studies 1 and 2.

In line with our goals, the results of both studies demonstrated that the experimental versions of particular episodes did make salient particular constructs of interest (i.e., pro-diversity norms, intergroup friendship, and minority counterstereotypicality) above and beyond the control versions. However contrary to our goals, the experimental versions that were intended to make salient only one of the three constructs of interest often made salient more than one of the constructs. On the one hand, these findings limit our ability to make claims about the singular effect of any of the psychological constructs of interest. On the other hand, these results may demonstrate that entertainment television media can only be a multi-faceted ecology of psychology processes. Furthermore, we found that the experimental and control versions of the episodes we created and used were in fact similar on a number of subjective dimensions in both Studies 1 and 2. Most studies on media effects often do not contain any control groups and, to our best knowledge, have not included such strong controls. As such, it is an important strength

of the current research that we created and used experimental stimuli that are uniform on numerous dimensions that could potentially influence our outcomes, but differ only to the extent that they make salient intergroup dynamics and relations.

The next aim of our research was to examine whether exposure to entertainment television media that make pro-diversity social norms salient leads to more positive intergroup attitudes and behaviors. In Study 1, we found that participants exposed to the experimental versions of the pro-diversity social norms shows did not have more positive intergroup attitudes on a number of self-report outcome measures of prejudice compared to participants exposed to the matched control versions of the shows. However, we found that those exposed to the experimental versions of the pro-diversity social norms shows did differ behaviorally from those in the control group. That is, they donated more money to charities that advocate for the rights of minority groups featured in the shows they watched than people in the control group. In Study 2, we found that participants randomly assigned to the experimental versions within the pro-diversity/inclusive social norms construct were less prejudiced on a number of the attitudinal and virtual behavioral outcome measures compared to those who saw the control versions. Thus, our overall results support H1 and demonstrate that entertainment television media that make salient pro-diversity and inclusive social norms can lead to more positive intergroup attitudes.

Our next two aims were to examine if exposure to entertainment television media that make salient pro-diversity norms create shifts in perceptions of peer social norms regarding openness to diversity and whether such shifts play an underlying role in driving any of the positive effects described in the previous paragraph. In Study 1, we included two measures of perceptions of peer diversity norms, and in Study 2 we only included one of the measures. Contrary to our predictions in H2 and H3, we found no effect of exposure to pro-diversity norms

television shows on perceptions of peer norms regarding diversity. We believe that these results are likely due to the fact that the items used to assess perceptions of peer norms too broadly referred to a peer group. The items made no specifications of which peers participants should refer to in answering the question. As such, it is a possibility that participants imagined non-relevant peer groups to the context of television viewing, did not imagine peers in a way that was relevant to the topic of diversity, did not identify with the imagined peers, or did not bring to mind any peers at all. Indeed, research shows that an important mechanism for attitude and behavior change vis-à-vis social norms is the relevance of the referent peers and context (Prentice, 2018). Future studies on this topic should more clearly define a referent peer group for participants and/or inquire about the nature of which peers participants imagine in the process of answering such questions. For example, a likely better option than just asking participants about their "peers" is to ask about "fellow Americans" because most advertisements for television programs target national groups like "Americans" and the prominent rating systems are based on national groups. Thus, national groups are likely more salient and relevant to people as a referent peer group when they consider television viewing.

The final aim of the current research was to test whether shows that make pro-diversity social norms salient lead to a greater reduction in prejudice than television shows that make salient other psychological constructs that have been shown to affect intergroup attitudes (i.e., intergroup friendship, minority counterstereotypicality). Despite some inconsistencies across outcome measures, the results of Study 2 generally supported H4. Individuals who watched experimental versions of the pro-diversity social norms episodes were more open to diversity (higher Allophilia scores) and behaved more inclusively (demonstrated more pro-diversity tweeting behaviors) than those who watched the control versions, and this difference was bigger

than participants who viewed television shows that made experimental versions of the intergroup friendship and minority counterstereoypticality salient (or not). While these results suggest that it is useful for entertainment television media to make salient pro-diversity social norms in order to positively influencing intergroup attitudes and behaviors, the control versions across the intergroup constructs of interest yielded different results. These results limit our ability to conclude that making salient pro-diversity social norms is more effective than making salient other intergroup constructs. For example, it is possible that the larger differences observed between the experimental and control versions of the shows that make salient pro-diversity social norms were due to the lower scores on the outcome measures in the control groups compared to the shows for the other intergroup constructs of interest, which had similar scores in the control groups. Some ways to address this issue in future studies are to include baseline measures of the outcomes to which we could compare the post-test measures or to include a no exposure control group to which we could compare all of the other groups.

In addition to the systematically created experimental stimuli that were comparable across conditions on a number of dimensions and finding positive effects on intergroup attitudes, a major strength of the current research was the measurement of real behavioral outcomes in both Studies. Measuring behavioral outcomes and finding effects on actual behaviors related to intergroup relations directly addresses a major shortcoming in the prejudice reduction literature. Research on this topic should continue to include behavioral outcome measures and may consider other behaviors (e.g., helping frequency, friendships with members of other groups, attending events related to diversity, etc.). It is also important to note that, although the experimental stimuli do demonstrate that entertainment television media that make salient some psychological constructs related to prejudice reduction can create more positive intergroup

attitudes and behaviors, we are limited in the causal conclusions we can draw about the precise psychological processes taking place due to the layered nature of the stimuli used. Future studies should try to further isolate particular constructs within and activated by the media stimuli in order to build a better understanding of which psychological processes are occurring when entertainment media are effectively improved intergroup attitudes and behaviors.

Furthermore, it is important to note some additional shortcomings of the current research not previously discussed. First, although we took measures to reduce experimental demand in both studies, it is possible that there were some experimental demand effects, especially when participants directly engaged with an experimenter, for example. As such, future studies should consider ways to further minimize the potential for demand effects such as reducing participant interaction with an experimenter. Secondly, the behavioral measures in Study 2 were not direct behaviors, but were self-reported behavioral intentions instead. Future studies might consider tracking online behavior of participants (e.g., their Twitter or Facebook activity) and applying alternative methods for interpreting it (e.g., content analyses). Finally, the television shows and episodes used across the three intergroup constructs of interest were different, which could have confounded the results. This may also explain why there were some observed interactions between experimental condition and intergroup construct of interest in Study 2. It is possible that the differences between the control versions and experimental versions of the pro-diversity norms episodes and the control and experimental versions of the other intergroup constructs of interest may be due to the fact that participants watched different shows. Future research might entail having participants watching the same shows to address this issue.

The current research tied together the literatures on social norms broadly, cultivation theory, media and social perceptions, and prejudice reduction to help build a better

understanding of entertainment televisions role in shaping intergroup relations. Overall, the findings in the current research demonstrate the potential benefits of making salient pro-diversity/inclusive norms through entertainment television media to reduce prejudice and create more inclusive behaviors. With regards to the literature on prejudice reduction, Studies 1 and 2 provide some evidence that making salient pro-diversity social norms can reduce prejudice and create more inclusive behaviors. Essentially, the current research draws a link between pro-diversity social norms and positive intergroup attitudes, thus bolstering the idea that the salience of pro-diversity social norms is an important psychological construct for prejudice reduction, and should therefore be considered and studied more rigorously by researchers in this domain. Furthermore, the current research sought to go beyond simply establishing this link, but we are limited in our understanding of what underlying processes actually influence people's prejudices when pro-diversity norms are salient and in the conclusions we can draw about how salient pro-diversity social norms influence intergroup attitudes in relation to other constructs associated with prejudice reduction. Never-the-less, it is an important contribution of the current research that we show that entertainment television media that activate constructs related to prejudice reduction are more effective than entertainment media that do not. In other words, entertainment television media that more consciously and prevalently represent minorities, based on knowledge of the psychology of prejudice, can have a positive influence on intergroup attitudes. This is important for how we consider going about improving intergroup attitudes and behaviors.

In light of current events and the rise in intergroup prejudice as reported by polling organizations such as the Pew Research Center and Gallup, developing strong and effective ways to reduce prejudice is of utmost pertinence. Entertainment television media, as mentioned at the beginning of this paper, is highly pervasive, making it a particularly useful avenue for creating

pro-social change. The research presented in this paper can help interested writers, producers, policy makers, educators, and other interested parties learn how harness entertainment television to serve the pro-social purpose of breaking down barriers of hate and prejudice between groups and building a future with more harmonious intergroup relations.

References

Abelson, R. P., & Prentice, D. A. (1997). Contrast tests of interaction hypothesis. *Psychological Methods, 2*, 315–328.

Alfieri, S., & Marta, E. L. E. N. A. (2011). Positive attitudes toward the outgroup: adaptation and validation of the Allophilia scale. *Testing, Psychometrics, Methodology in Applied Psychology*, *18*(2), 99-116.

Allcott, H., & Rogers, T. (2014). The short-run and long-run effects of behavioral interventions: Experimental evidence from energy conservation. *The American Economic Review, 104*(10), 3003-3037.

Armstrong, G., Neuendorf, K., & Brentar, J. (1992). TV entertainment, news, and racial perceptions of college students. *Journal of Communication*, 42, 153–176.

Berkowitz, A. D. (2005). An overview of the social norms approach. *Changing the culture of college drinking: A socially situated health communication campaign*, 193-214.

Bernedo, M., Ferraro, P. J., & Price, M. (2014). The persistent impacts of norm-based messaging and their implications for water conservation. *Journal of Consumer Policy*, *37*(3), 437-452.

Blanchard, F. A., Crandall, C. S., Brigham, J. C., & Vaughn, L. A. (1994). Condemning and condoning racism: A social context approach to interracial settings. *Journal of Applied Psychology*, *79*(6), 993-997.

Breckler, S. J. (1984). Empirical validation of affect, behavior, and cognition as distinct components of attitude. *Journal of Personality and Social Psychology*, 47(6), 1191-1205.

Busselle, R., & Crandall, H. (2002). Television viewing and perceptions about race differences in socioeconomic success. *Journal of Broadcasting & Electronic Media*, *46*(2), 265-282.

Campbell, M., & Brauer, M. (in preparation). Field studies suggest discrimination is case of a few bad apples, not widespread subtle bias.

Cialdini, R. B., Reno, R. R., & Kallgren, C. A. (1990). A focus theory of normative conduct: Recycling the concept of norms to reduce littering in public places. *Journal of Personality and Social Psychology, 58*(6), 1015.

Cialdini, R. B., & Trost, M. R. (1998). Social influence: Social norms, conformity and compliance. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (pp. 151-192). New York: McGraw-Hill.

Chu, C., Pietri, E., Murrar, S., & Rosent, R. (2018). The impact of different media formats for bias reduction interventions. *Unpublished manuscript currently under review.*

Cohen, J. (2001). Defining identification: A theoretical look at the identification of audiences with media characters. *Mass Communication & Society*, 4(3), 245-264.

Crisp, R. J., & Turner, R. N. (2009). Can imagined interactions produce positive perceptions?: Reducing prejudice through simulated social contact. *American Psychologist*, 64(4), 231-240.

Dasgupta, N., & Greenwald, A. G. (2001). On the malleability of automatic attitudes: combating automatic prejudice with images of admired and disliked individuals. *Journal of Personality and Social Psychology,* 81(5), 800-814.

Devine, P. G. (1989). Stereotypes and prejudice: Their automatic and controlled components. *Journal of Personality and Social Psychology, 56*(1), 5-18.

Dixon, T. L. (2008). Network news and racial beliefs: Exploring the connection between national television news exposure and stereotypical perceptions of African Americans. *Journal of Communication, 58*(2), 321-337.

Dixon, T. L., & Linz, D. (2000). Overrepresentation and underrepresentation of African Americans and Latinos as lawbreakers on television news. *Journal of Communication, 50*(2), 131-154.

Dong, Q., & Murrillo, A. P. (2007). The impact of television viewing on young adults' stereotypes towards Hispanic Americans. *Human Communication*, *10*(1), 33-44.

Eno, C. A., & Ewoldsen, D. R. (2010). The influence of explicitly and implicitly measured prejudice on interpretations of and reactions to black film. *Media Psychology*, *13*(1), 1-30.

Er-rafiy, A., & Brauer, M. (2013). Modifying perceived variability: four laboratory and field experiments show the effectiveness of a ready-to-be-used prejudice intervention." *Journal of Applied Social Psychology*, 43(4), 840-853.

Fujioka, Y. (1999). Television portrayals and African-American stereotypes: Examination of television effects when direct contact is lacking. *Journalism and Mass Communication Quarterly, 76*, 52–75.

Gaertner, S. L., & Dovidio, J. F. (1986). *The aversive form of racism*. Academic Press.

Garretson, J. J. (2015). Does change in minority and women's representation on television matter?: a 30-year study of television portrayals and social tolerance. *Politics, Groups, and Identities*, *3*(4), 615-632.

Gerbner, G. (1998). Cultivation analysis: An overview. *Mass Communication and Society*, *1*(3-4), 175-194.

Gerbner, G., Gross, L., Morgan, M., Signorielli, N., and Shanahan, J. (2002). Growing up with television: Cultivation processes. In J. Bryant and D. Zillmann (Eds.), *Media effects:*

Advances in theory and research (2nd ed., pp. 43 68). Mahwah, NJ: Lawrence Erlbaum.

Goldstein, N. J., Cialdini, R. B., & Griskevicius, V. (2008). A room with a viewpoint: Using social norms to motivate environmental conservation in hotels. *Journal of Consumer Research*, *35*(3), 472-482.

Green, M. C., & Brock, T. C. (2000). The role of transportation in the persuasiveness of public narratives. *Journal of Personality and Social Psychology*, 79(5), 701-721.

Greitemeyer, T., & Schwab, A. (2014). Employing music exposure to reduce prejudice and discrimination. *Aggressive Behavior*, 40(6), 542-551.

Haines, M. P., Barker, G. P., & Rice, R. (2003). Using social norms to reduce alcohol and tobacco use in two midwestern high schools. In H. Wesley Perkins (Ed.), *The social norms approach to preventing school and college age substance abuse: A handbook for educators, counselors, and clinicians* (pp. 235-244). San Francisco, CA: John Wiley & Sons, Inc.

Hogg, M. A., & Vaughan, G. M. (2005). Social psychology. Harlow. *Englang: Person*.

Hughes, J. M., Bigler, R. S., & Levy, S. R. (2007). Consequences of learning about historical racism among European American and African American children. *Child Development*, *78*(6), 1689-1705.

Jhally, S. & Lewis, J. (1992). *Enlightened racism: The Cosby Show, audiences, and the myth of the American dream*. Boulder, CO: Westview Press.

Johnson, D. R., Jasper, D. M., Griffin, S., & Huffman, B. L. (2013). Reading narrative fiction reduces Arab-Muslim prejudice and offers a safe haven from intergroup anxiety. *Social Cognition*, *31*(5), 578-598.

Jones, S. C., Andrews, K., & Francis, K. (2017). Combining social norms and social marketing to address underage drinking: development and process evaluation of a whole-of-community intervention. *PLoS One, 12*(1), e0169872.

Joyce, N., & Harwood, J. (2014). Improving intergroup attitudes through televised vicarious intergroup contact: Social cognitive processing of ingroup and outgroup information. *Communication Research, 41*(5), 627-643.

Katz, I., & Hass, R. G. (1988). Racial ambivalence and American value conflict: Correlational and priming studies of dual cognitive structures. *Journal of Personality and Social Psychology, 55*(6), 893.

Mares, M. L., & Pan, Z. (2013). Effects of Sesame Street: A meta-analysis of children's learning in 15 countries. *Journal of Applied Developmental Psychology, 34*(3), 140-151.

Mares, M. L., & Woodard, E. (2005). Positive effects of television on children's social interactions: A meta-analysis. *Media Psychology, 7*(3), 301-322.

Mastro, D. (2009). Effects of racial and ethnic stereotyping. In J. Bryant & M.B. Oliver (Eds.), Media effects: Advances in theory and research (third edition) (pp. 325-341). Hillsdale: NJ: Lawrence Erlbaum Assoc.

Mastro, D., Behm-Morawitz, E., & Ortiz, M. (2007). The cultivation of social perceptions of Latinos: A mental models approach. *Media Psychology*, **9**, 1–19.

McConahay, J. B. (1986). Modern racism, ambivalence, and the modern racism scale. In J. F. Dovidio & S. L. Gaertner (Eds.), *Prejudice, discrimination, and racism* (pp. 91-125). Orlando, FL: Academic Press.

McConahay, J. B., & Hough, J. C. (1976). Symbolic racism. *Journal of Social Issues, 32*(2), 23-45.

McDonald, R. I., & Crandall, C. S. (2015). Social norms and social influence. *Current Opinion in Behavioral Sciences, 3*, 147-151.

Miller, D. T., & Prentice, D. A. (2016). Changing norms to change behavior. *Annual Review of Psychology, 67*, 339-361.

Morgan, M., & Shanahan, J. (1997). Two decades of cultivation research: An appraisal and meta-analysis. *Annals of the International Communication Association, 20*(1), 1-45.

Murrar, S., & Brauer, M. (2017). Entertainment-education effectively reduces prejudice. *Group Processes & Intergroup Relations*.

Murrar, S., & Brauer, M. (2018). Using a descriptive norms messaging campaign to improve intergroup relations and inclusion. *Unpublished manuscript, currently submitted for publication*.

Nielsen (2016). *The Nielsen total audience report Q1 2016*. Nielsen. Retrieved from: http://www.nielsen.com/us/en/insights/reports/2016/the-total-audience-report-q1-2016.html.

Ortiz, M., & Harwood, J. (2007). A social cognitive theory approach to the effects of mediated intergroup contact on intergroup attitudes. *Journal of Broadcasting & Electronic Media, 51*(4), 615-631.

Paluck, E. L. (2009). Reducing intergroup prejudice and conflict using the media: a field experiment in Rwanda. *Journal of Personality and Social Psychology, 96*(3), 574-587.

Paluck, E. L., Green, S. A., & Green, D. P. (2018). The contact hypothesis re-evaluated. *Behavioural Public Policy*, 1-30.

Pearson, A. R., Dovidio, J. F., & Gaertner, S. L. (2009). The nature of contemporary prejudice: Insights from aversive racism. *Social and Personality Psychology Compass, 3*(3), 314-338.

Perkins, H. W., & Berkowitz, A. D. (1986). Perceiving the community norms of alcohol use among students: Some research implications for campus alcohol education programming. *International Journal of the Addictions, 21*(9-10), 961-976.

Perkins, H. W., & Craig, D. W. (2006). A successful social norms campaign to reduce alcohol misuse among college student-athletes. *Journal of Studies on Alcohol*, 67(6), 880–889

Persson, A., & Musher-Eizenman, D. R. (2004). The impact of a prejudice-prevention television program on young children's ideas about race. *Early Childhood Research Quarterly, 18*(4), 530-546.

Pettigrew, T. F., & Meertens, R. W. (1995). Subtle and blatant prejudice in Western Europe. *European Journal of Social Psychology, 25*(1), 57-75.

Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology, 90*(5), 751-783.

Pettigrew, T. F., Tropp, L. R., Wagner, U., & Christ, O. (2011). Recent advances in intergroup contact theory. *International Journal of Intercultural Relations, 35*(3), 271-280.

Prentice, D. A. (2018). Intervening to Change Social Norms: When Does It Work?. *Social Research: An International Quarterly*, 85(1), 115-139.

Roskos-Ewoldsen, B., Davies, J., & Roskos-Ewoldsen, D. (2004). Implications of the mental models approach for cultivation theory. *Communications, 29*, 345–363.

Schemer, C. (2013). Media effects on racial attitudes: Evidence from a three-wave panel survey in a political campaign. *International Journal of Public Opinion Research, 26*(4), 531-542.

Schiappa, E., Gregg, P. B., & Hewes, D. E. (2005). The parasocial contact hypothesis. *Communication Monographs, 72*(1), 92-115.

Schiappa, E., Gregg, P. B., & Hewes, D. E. (2006). Can one TV show make a difference? A Will & Grace and the parasocial contact hypothesis. *Journal of homosexuality, 51*(4), 15-37.

Sears, D. O. (1988). Symbolic racism. In P. A. Katz & D. A. Taylor (Eds.*), Eliminating racism: Profiles in controversy* (pp. 53-84). New York: Plenum

Shapiro, M. A., & McDonald, D. G. (1992). I'm not a real doctor, but I play one in virtual reality: implications of virtual reality for judgments about reality. *Journal of Communication* 42(4), 94-114.

Shrum, J., & Bischak, D. (2001). Mainstreaming, resonance, and impersonal impact. *Human Communication Research, 27*(2), 187-215.

Stangor, C., Sechrist, G. B., & Jost, J. T. (2001). Changing racial beliefs by providing consensus information. *Personality and Social Psychology Bulletin, 27*(4), 486-496.

Tukachinsky, R., Mastro, D., & Yarchi, M. (2015). Documenting Portrayals of Race/Ethnicity on Primetime Television over a 20-Year Span and Their Association with National-Level Racial/Ethnic Attitudes. *Journal of Social Issues, 71*(1), 17-38.

Vidmar, N., & Rokeach, M. (1974). Archie Bunker's bigotry: A study in selective perception and exposure. *Journal of Communication, 24*(1), 36-47.

Weber, R., & Crocker, J. (1983). Cognitive processes in the revision of stereotypic beliefs. *Journal of Personality and Social Psychology*, 45(5), 961-977.

Weisbuch, M., Pauker, K., & Ambady, N. (2009). The subtle transmission of race bias via televised nonverbal behavior. *Science, 326*(5960), 1711-1714.

Appendix A

Sample of Knowledge Questions (Pilot Study)

Everybody Hates Chris (Episode 1)

(Control)

Q: What does Julius stumble upon that's worth $200?

A: Food stamps. Other answers: Trading cards, cash, a phone

Q: What activity does Julius want to do with the family?

A: Go to the movies. Other answers: Eat at a nice restaurant, go to a concert, throw a party and have people over

(Experimental)

Q: What does Julius stumble upon that's worth $200?

A: Food stamps. Other answers: Trading cards, cash, some phones

Q: What do Chris and Greg do for their science project?

A: Make a model solar system. Other answers: Make a baking soda volcano, put Mentos in Coke, grow plants in different lights

Everybody Hates Chris (Episode 10)

(Control)

Q: What is Chris's new nickname after he makes the basketball team?

A: Swish. Other answers: Buddy, AirBud, the Chosen One

Q: Julius rented the apartment upstairs to a man named Tate. Where did Tate claim to be from?

A: Philadelphia. Other answers: Madison, San Francisco, New York

(Experimental)

Q: What is Chris's new nickname after he makes the basketball team?

A: Swish. Other answers: Buddy, AirBud, the Chosen One

Q: Julius rented the apartment upstairs to a man named Tate. Where did Tate claim to be from?

A: Philadelphia. Other answers: Madison, San Francisco, New York

Scrubs (Episode 14)

(Control)

Q: What medical specialty does Elliot's dad want her to go into?

A: Obstetrics/Gynecology. Other answers: Cardiology, neurosurgery, oncology

Q: When forced to choose between women, who does Perry choose?

A: Jordan, his pregnant ex-wife. Other answers: Julie, his girlfriend; Laverne, a nurse; Elliot, his friend

(Experimental)

Q: What medical specialty does Elliot's dad want her to go into?

A: Obstetrics/Gynecology. Other answers: Cardiology, neurosurgery, oncology

Q: What food item do JD and Turk steal from the hospital and keep in the trunk of their car?

A: Pudding. Other answers: Granola bars, cookies, sandwiches

Cristela (Episode 19)

(Control)

Q: Who is the "shark," Trent's favorite client?

A: Mark Cuban. Other answers: Elon Musk, Bill Gates, Steve Wozniak

Q: Josh's lack of knowledge and interest in what domain causes Trent, his boss, to like him less?

A: Sports. Other answers: Books, movies, music

(Experimental)

Q: Who is the "shark," Trent's favorite client?

A: Mark Cuban. Other answers: Elon Musk, Bill Gates, Steve Wozniak

Q: How does Cristela help Josh get on the shark's good side?

A: She tells him what to say to the shark via Bluetooth. Other answers: She tells him the shark's favorite restaurant, She helps him figure out the shark's favorite hobbies, She helps him throw a party for the shark

Table 1. Forty-five versions of 22 episodes that represent the primary construct of interest (making salient pro-diversity social norms) and the 2 other most prominent constructs (intergroup friendship and minority counterstereotypicality).

Episode	Construct of Interest	Television Show	Season – Episode # in Season	Version (Featured Minority Group)	Length (mins: secs)
1	Pro-diversity/ Inclusive Social Norm	Everybody Hates Chris	1 - 9	Control	14:15
				Experimental (Blacks)	15:14
2	Pro-diversity/ Inclusive Social Norm	Everybody Hates Chris	1 - 14	Control	14:46
				Experimental (Blacks)	15:38
3	Pro-diversity/ Inclusive Social Norm	Everybody Hates Chris	2 - 10	Control	12:28
				Experimental (Blacks)	12:35
4*	Pro-diversity/ Inclusive Social Norm	Awkward	1 - 12	Control	15:00
				Experimental (Gay men)	16:12
5*	Pro-diversity/ Inclusive Social Norm	Awkward	4 - 14	Control	15:42
				Experimental (Gay men)	16:35
6*	Pro-diversity/ Inclusive Social Norm	Scrubs	4 - 20	Control	8:20
				Experimental (Blacks)	9:49
7*	Pro-diversity/ Inclusive Social Norm	Scrubs	5 - 9	Control	10:48
				Experimental (Blacks)	9:58
8*	Pro-diversity/ Inclusive Social Norm	Cristela	1 - 7	Control	11:59
				Experimental (Hispanics)	13:27
9*	Pro-diversity/ Inclusive Social Norm	Cristela	1 - 20	Control	6:43
				Experimental (Hispanics)	7:14
10*	Intergroup Friendship	Everybody Hates Chris	1 - 3	Control	14:27
				Experimental (Blacks)	14:43
11*	Intergroup Friendship	Everybody Hates Chris	3 - 9	Control	11:46
				Experimental (Blacks)	11:07

12*	Intergroup Friendship	Modern Family	4 - 6	Control*	10:51
				Experimental A (Gay men)*	12:43
				Experimental B (Hispanics)	11:48
13*	Intergroup Friendship	Modern Family	4 - 7	Control	13:06
				Experimental (Gay men)	13:25
14	Intergroup Friendship	Scrubs	2 - 8	Control	12:10
				Experimental (Blacks)	12:20
15	Intergroup Friendship	Scrubs	8 -10	Control	14:04
				Experimental (Blacks)	14:10
16	Minority Counter-stereotypicality	Grey's Anatomy	4 - 15	Control	20:07
				Experimental (Blacks)	21:49
17	Minority Counter-stereotypicality	Grey's Anatomy	5 - 24	Control	17:10
				Experimental (Blacks)	16:03
18	Minority Counter-stereotypicality	Grey's Anatomy	6 - 15	Control	16:55
				Experimental (Blacks)	16:08
19*	Minority Counter-stereotypicality	Cristela	1 - 5	Control	8:11
				Experimental (Hispanics)	9:48
20*	Minority Counter-stereotypicality	Cristela	1 - 10	Control	10:35
				Experimental (Hispanics)	11:46
21*	Minority Counter-stereotypicality	Scrubs	8 - 11	Control	8:19
				Experimental (Blacks)	6:40
22*	Minority Counter-stereotypicality	Scrubs	9 - 9	Control	10:05
				Experimental (Blacks)	9:37

Construct Ratings (Pilot Study)

The following questions will be rated on a 7-point Likert scale (1 = Not at all to 7 = Very much).

1. *[Pro-diversity social norm] To what extent did the episode depict minorities as accepted, included, and liked by others, suggesting that they are part of the group and "belong?"
2. *[Pro-diversity social norm] To what extent did the episode depict [insert name of majority group in episode] who behave in an inclusive way and make members of one or more minority groups feel welcome?
3. [Pro-diversity social norm] To what extent did the episode depict individuals who disapprove of [insert name of majority group in episode] characters who behave in a prejudiced, racist, or bigoted way?
4. *[Intergroup friendship] To what extent did the episode depict intergroup friendship (friendship between members of a minority group and majority group)?
5. [Intergroup friendship] To what extent did the episode depict a bond between two or more characters from different social backgrounds?
6. [Intergroup friendship] To what extent did the episode depict a close relationship between characters from different social backgrounds in which they relied on and confided in each other?
7. [Counterstereotypicality] To what extent did the episode depict minorities as highly competent and intelligent?
8. *[Counterstereotypicality] To what extent did the episode portray minorities in a way that does not fit usual stereotypes of them?
9. [Counterstereotypicality] To what extent did the episode depict minorities as hard working and reliable?

10. [Intergroup marriage] To what extent did the episode depict a romantic relationship between members of minority group and majority group?
11. [Empathy] To what extent did the episode depict minorities behaving in a way that fosters empathy (for minorities)?
12. [Perspective-taking] To what extent did the episode depict minorities behaving in a way that fosters perspective taking (or seeing things in the shoes of minorities)?
13. [Minority group heterogeneity] To what extent did the episode depict minorities as being heterogeneous?
14. [Minority leadership] To what extent did the episode depict minorities in powerful, decision-making roles, as opposed to subordinate roles?
15. [Minority as influential] To what extent did the episode depict minorities as opinion leaders who have influence over other people?
16. [Minority role model] To what extent did the episode depict minorities as role models (e.g., minority characters who behave in a highly ethical, moral, or generous way)?
17. [Diverse background valued] To what extent did the episode depict situations in which being from a diverse background is a plus and helps a minority character succeed or solve a problem?
18. [Dual-identity] To what extent did the episode depict minorities who have successfully achieved a positive dual identity (e.g., being Mexican American)?

Ratings of Subjective Dimensions (Pilot Study)

The following questions will be rated on a 7-point Likert scale (1 = Not at all to 7 = Very).

1. *How funny was the episode?
2. *How physically attractive were the characters?
3. *How comprehensible was the plot?
4. *How believable was the story?
5. *How interesting was the story?
6. *How relatable was the story?
7. *How relatable were the characters?
8. *How likable were the characters?
9. *How engaging was the episode?
10. *How thought provoking was the episode?
11. *How boring was the episode?
12. *How annoying was the episode?
13. *How annoying were the characters?
14. *How entertaining did you find the episode?
15. *How happy did this episode make you feel?
16. *How sad did this episode make you feel?
17. *How fearful did this episode make you feel?
18. *How disgusted did this episode make you feel?
19. *How uncomfortable did this episode make you feel?
20. *How anxious did this episode make you feel?
21. *How transported into the narrative did you feel?

22. *How much did you identify with the [insert social group] character(s)?

Table 2. Difference scores (experimental version minus control version) for each of the episodes created to isolate pro-diversity/inclusive norms on all the constructs of interest and constructs related to intergroup relations (top) and all of the subjective dimensions (bottom). Higher values indicate stronger presence of the variable in the experimental version of the episode.

Pro-diversity/Inclusive Norm									
	Episode 1	**Episode 2**	**Episode 3**	**Episode 4**	**Episode 5**	**Episode 6**	**Episode 7**	**Episode 8**	**Episode 9**
	N(C=16, Tr=18)	*N*(C=18, Tr=12)	*N*(C=17, Tr=17)	*N*(C=16, Tr=17)	*N*(C=20, Tr=14)	*N*(C=15, Tr=15)	*N*(C=12, Tr=17)	*N*(C=13, Tr=14)	*N*(C=7, Tr=19)
Variable									
Pro-diversity Norm	0.10	0.74	0.09	1.93	1.86	2.73	3.15	1.75	1.92
Pro-diversity Social Norm (Question 3)	0.38	0.19	0.12	0.95	2.03	0.92	1.76	0.35	-1.26
Intergroup Friendship	2.92	3.59	2.45	0.71	2.35	2.24	2.59	1.56	1.23
Counterstereotypicality	-0.65	-0.16	-0.10	0.72	1.68	1.90	2.43	0.30	0.78
Intergroup Marriage	0.22	-0.42	0.29	0.72	2.55	1.43	1.39	-0.53	1.02
Empath	-0.64	0.75	0.41	1.15	1.44	2.20	1.10	-0.04	-0.33
Perspective-Taking	-0.50	1.33	-0.29	0.51	1.27	0.87	1.71	0.47	-0.58
Minority Group Heterogeneity	0.05	0.00	-0.06	0.72	1.46	1.07	2.37	0.79	-0.02
Minority Leadership	0.74	-0.19	-0.24	0.74	0.74	0.60	2.41	-0.03	-1.15
Minority as Influential	0.13	0.06	-0.06	-0.03	1.11	0.80	2.59	0.19	0.85
Minority Role Model	-1.19	0.08	-0.35	0.31	1.36	1.87	2.68	0.53	1.22
Diverse Background Valued	-0.99	1.08	-0.53	0.38	1.21	0.53	2.44	0.18	-0.21
Dual-Identity	0.02	0.72	-0.76	0.78	1.27	2.27	2.75	0.21	-0.65
Episode Funniness	-1.50	-0.14	-0.12	-0.21	-0.41	-0.20	-0.83	-0.68	-0.88
Character Attractiveness	-0.67	-0.42	-0.06	-0.26	-0.86	1.13	-0.35	-0.20	-0.59
Plot Comprehensibility	-0.83	-0.03	-0.71	-0.24	-0.78	1.27	-0.46	0.76	-0.53
Story Believability	-0.40	-0.69	-0.88	-1.44	-1.44	1.33	-0.17	-0.09	-0.07
Story Interestingness	-1.17	-0.36	-0.35	-1.18	-1.08	0.47	-0.75	-0.34	-0.49
Story Relatability	-1.05	-1.31	-0.94	-0.74	-0.63	1.40	-0.44	-0.45	-0.73
Character Relatability	-0.55	-0.86	-0.47	-1.05	-0.74	1.27	-0.35	-0.19	-0.65
Episode Engagement	-1.28	-0.25	-0.53	-1.19	-1.21	0.33	-0.44	0.18	-0.32
Episode Thought Provocation	-1.07	-0.39	-0.41	-1.50	-0.19	0.00	0.67	0.14	-0.02
Episode Boringness	1.15	0.00	0.41	1.51	1.05	-0.93	0.44	-0.14	0.35
Episode Annoyingness	0.67	0.17	0.35	1.53	1.46	-0.80	0.23	0.26	-0.78
Character Annoyingness	1.17	-0.22	0.53	0.98	1.09	-1.40	0.04	-0.41	-0.43
Episode Entertainment	-1.26	-0.11	-0.24	-0.59	-0.93	-0.07	-0.64	-0.39	-0.97
Emotional Raection	-0.22	-0.69	-0.28	-0.38	-1.05	0.27	-0.25	0.18	-0.11
Transportation	-0.58	0.72	0.35	0.54	0.17	0.27	-0.35	-0.24	-0.50
Identification	-1.54	0.58	0.53	-0.08	0.09	1.53	0.72	0.15	-0.08

Note: C = Control, Tr = Treatment

Table 3. Difference scores (experimental version minus control version) for each of the episodes created to isolate intergroup friendship on all the constructs of interest and constructs related to intergroup relations (top) and all of the subjective dimensions (bottom). Higher values indicate stronger presence of the variable in the experimental version of the episode.

Intergroup Friendship							
	Episode 10	**Episode 11**	**Episode 12A**	**Episode 12B**	**Episode 13**	**Episode 14**	**Episode 15**
	N(C=13, Tr=16)	*N*(C=20, Tr=15)	*N*(C=18, Tr=16)	*N*(C=18, Tr=16)	*N*(C=6, Tr=26)	*N*(C=15, Tr=21)	*N*(C=14, Tr=13)
Variable							
Pro-diversity Norm	0.12	0.03	0.51	0.73	-0.14	2.19	-0.13
Pro-diversity Social Norm (Question 3)	0.20	-0.35	-0.08	-0.21	0.85	1.26	-0.25
Intergroup Friendship	2.03	1.55	1.46	1.64	0.03	2.55	0.41
Counterstereotypicality	0.08	-0.62	0.82	1.09	0.33	2.12	-0.09
Intergroup Marriage	0.55	-0.43	1.22	1.03	-0.29	1.67	1.57
Empath	1.04	0.12	1.16	0.16	0.23	1.83	0.29
Perspective-Taking	1.39	-0.35	0.98	0.60	0.83	1.93	-0.30
Minority Group Heterogeneity	0.98	-0.53	0.88	-0.06	1.21	2.46	0.09
Minority Leadership	0.01	-1.12	0.14	1.26	-0.73	2.34	0.96
Minority as Influential	0.03	-0.12	1.92	1.48	-0.40	2.85	0.74
Minority Role Model	0.41	-1.08	1.37	1.06	0.48	2.63	0.53
Diverse Background Valued	0.37	-0.58	1.57	1.01	1.29	2.07	0.33
Dual-Identity	1.07	0.03	1.31	1.62	-0.15	2.46	1.10
Episode Funniness	0.33	-0.90	-0.13	0.18	0.44	-0.01	0.60
Character Attractiveness	0.15	-1.02	-0.44	0.31	0.02	0.39	-0.10
Plot Comprehensibility	0.85	-0.03	0.14	-0.11	-0.04	0.05	-0.16
Story Believability	0.35	-0.20	0.58	-0.30	-0.85	-0.70	-0.12
Story Interestingness	0.43	-0.72	0.05	0.30	0.67	-0.36	0.32
Story Relatability	0.64	-0.22	-0.56	-0.31	0.52	-0.08	-0.63
Character Relatability	1.13	-0.17	0.06	0.06	0.90	0.24	-0.14
Episode Engagement	0.99	-0.53	0.15	-0.10	0.71	-0.38	-0.12
Episode Thought Provocation	1.56	-0.62	0.28	-0.40	2.17	0.13	-0.29
Episode Boringness	-0.12	0.17	-0.71	-0.46	-0.65	0.45	-0.58
Episode Annoyingness	0.08	-0.35	-0.39	-0.39	-1.69	0.68	-0.58
Character Annoyingness	0.10	-0.25	-0.40	-0.65	-1.02	0.45	-0.20
Episode Entertainment	0.89	-0.27	0.48	0.04	0.48	-0.33	0.62
Emotional Raection	0.10	0.09	0.18	0.18	0.99	-0.03	0.16
Transportation	0.19	0.58	0.26	0.33	-0.71	0.70	0.37
Identification	1.15	-0.03	-0.02	-0.02	-1.60	0.81	0.59

Note: C = Control, Tr = Treatment

Table 4. Difference scores (experimental version minus control version) for each of the episodes created to isolate minority counterstereotypicality on all the constructs of interest and constructs related to intergroup relations (top) and all of the subjective dimensions (bottom). Higher values indicate stronger presence of the variable in the experimental version of the episode.

Minority Counterstereotypicality							
	Episode 16	**Episode 17**	**Episode 18**	**Episode 19**	**Episode 20**	**Episode 21**	**Episode 22**
	N(C=12, Tr=10)	*N*(C=6, Tr=6)	*N*(C=15, Tr=14)	*N*(C=20,Tr=20)	*N*(C=14, N=13)	*N*(C=9, Tr=19)	*N*(C=19, Tr=16)
Variable							
Pro-diversity Norm	0.75	-0.17	-0.93	1.20	0.04	1.20	1.05
Pro-diversity Social Norm (Question 3)	1.17	-0.17	0.82	0.10	0.47	0.01	0.13
Intergroup Friendship	1.58	-0.17	-1.20	0.40	-0.23	1.52	1.05
Counterstereotypicality	1.26	-0.67	-0.45	0.52	0.94	2.24	1.62
Intergroup Marriage	2.52	-1.17	-2.00	0.00	-1.22	1.92	1.52
Empath	1.67	0.17	-0.86	-0.30	-0.71	2.13	1.41
Perspective-Taking	1.08	-0.33	-0.58	-0.95	-0.64	1.10	0.82
Minority Group Heterogeneity	1.22	-1.00	-0.54	0.20	0.82	0.90	2.15
Minority Leadership	1.98	-0.33	0.61	0.50	0.38	2.85	2.82
Minority as Influential	1.97	-1.83	-0.07	0.00	0.17	3.33	2.87
Minority Role Model	2.37	-0.67	-0.43	0.15	-0.04	3.33	2.65
Diverse Background Valued	1.42	0.17	-1.63	-0.85	-0.14	1.95	1.44
Dual-Identity	1.80	0.50	-0.91	-0.25	0.47	1.88	1.47
Episode Funniness	0.92	-0.83	0.55	0.05	-0.15	1.02	-0.63
Character Attractiveness	-0.07	-0.67	-0.88	0.10	0.06	1.46	-0.28
Plot Comprehensibility	-0.53	0.67	0.17	0.95	0.02	1.62	-0.27
Story Believability	0.18	0.00	0.28	0.75	-0.35	0.64	-0.99
Story Interestingness	-0.93	-0.17	-0.20	0.35	-0.50	1.47	-0.38
Story Relatability	-0.38	1.17	0.49	-0.15	-0.86	1.08	-0.57
Character Relatability	0.17	0.67	0.17	0.25	-0.99	1.40	0.02
Episode Engagement	-0.38	0.00	0.01	0.10	-0.41	2.78	-0.79
Episode Thought Provocation	-0.85	0.00	0.32	-0.50	-0.98	1.51	-0.09
Episode Boringness	0.53	0.83	-0.30	-0.05	-0.65	-2.28	-0.12
Episode Annoyingness	0.70	-0.50	0.37	-0.40	-0.95	-2.05	0.00
Character Annoyingness	0.63	-0.17	0.25	-0.80	-0.95	-2.11	0.13
Episode Entertainment	-1.07	-0.33	0.45	0.05	-0.29	1.26	0.04
Emotional Raection	-0.79	0.19	0.09	0.17	0.05	0.93	-0.35
Transportation	0.00	-0.33	0.07	0.00	-0.96	1.04	-0.31
Identification	0.18	-1.00	0.26	0.40	-1.02	1.47	0.38

Note: C = Control, Tr = Treatment

Appendix B

Feeling Thermometers (Studies 1 and 2)

For each of the following groups, indicate how warm you feel toward that group on a scale from 0 (very cold) to 100 (very warm).

- Black people
- White people
- Hispanic people
- Arabs
- Asians
- Christians
- Muslims
- Jews
- Atheists
- Straight men
- Gay men
- Straight women
- Lesbians
- Bisexuals
- Transgender people
- The elderly
- People with physical disabilities

- People with mental illness
- Republicans
- Democrats

Allophilia Scale (Studies 1 and 2)

The following questions will be rated on a 7-point Likert scale (1 = Strongly agree 7 = Strongly disagree).

1. In general, I have positive attitudes about people from social groups I am not a part of.
2. I am at ease around people from different social groups than me.
3. I feel a sense of belonging with people from different social groups than me.
4. I am truly interested in understanding the point of view of people from social groups I am not a member of.
5. I am motivated to get to know people from different social groups than me.
6. To enrich my life, I would try and make more friends who are from social groups I am not a part of.
7. I am interested in hearing about the experiences of people from different social groups than me.
8. I am enthusiastic about people from social groups I am not a member of.

Perceptions of Diversity Norms (Studies 1 and 2)

Perceptions of Diversity Norms 1

The following questions will be rated on a 7-point Likert scale (1 = Strongly agree 7 = Strongly disagree).

1. Most of my peers do their best to behave inclusively.
2. It's a social norm in my peer group to be welcoming of people from all backgrounds.
3. If I did or said something discriminatory in public, other people would react negatively.
4. Most of my peers enjoy the fact that there are people from many different social groups in the U.S.
5. Most of my peers try to treat members of other social groups with respect and kindness.
6. Most of my peers value cultural and ethnic diversity.
7. Most of my peers are concerned about discrimination against social minority groups in the U.S.
8. Most of my peers like learning about people from different social backgrounds than them.

Perceptions of Diversity Norms 2

Divide your peers into these 6 groups by percent (these numbers should add to 100%):

a. Those who have very positive attitudes toward people from different social groups and have lots of involvement with diversity (organizations, events, cross-group friendships, etc).
b. Those who have relatively positive attitudes toward people from different social groups and occasionally get involved with diversity.

c. Those who have middle-of-the-road attitudes toward members of different social groups and make little to no effort to get to know people who are different than them or attend diversity events.
d. Those who have slightly negative attitudes toward members of different social groups and engage in indirect forms of discrimination (ex: not holding the door for a person from a different ethnic group).
e. Those who have very negative attitudes toward members of different social groups and engage in explicit forms of discrimination (ex: using slurs to refer to members of different social groups).
f. Those who don't belong to any of these categories.

Charitable Organization Descriptions (Study 1)

CHARITY # 1

African American Rights Advocates

This is a non-profit civil rights organization working for the advancement of African Americans in the U.S. The organization advocates for the constitutional rights of African Americans in all aspects of life and supports policies and social welfare projects that promote the educational and economic growth of African Americans. The organization houses a special unit that focuses on improving African American access to health care and health education.

Hispanic & Latino Rights Advocates

This is a non-profit civil rights organization working for the advancement of Hispanics and Latinos in the U.S. The organization advocates for the constitutional rights of Hispanics and Latinos in all aspects of life and supports policies and social welfare projects that promote the educational and economic growth of Hispanics and Latinos. The organization houses a special unit that focuses on improving Hispanic and Latino access to health care and health education.

LGBT Rights Advocates

This is a non-profit civil rights organization working for the advancement of LGBT (lesbian, gay, bisexual, transgender) people in the U.S. The organization advocates for the constitutional rights of LGBT people in all aspects of life and supports policies and social welfare projects that promote the educational and economic growth of LGBT people. The organization houses a special unit that focuses on improving LGBT access to health care and health education.

CHARITY # 2

Environmental Sustainability Advocates

This is a non-profit advocacy organization working to save the environment. The organization advocates for legislation, policies, and social programs that promote sustainability. The organization provides programming and infrastructure support to institutions seeking to reduce their carbon footprint and implement policies that minimize the use of natural resources.

CHARITY # 3

Elephant Rescue Advocates

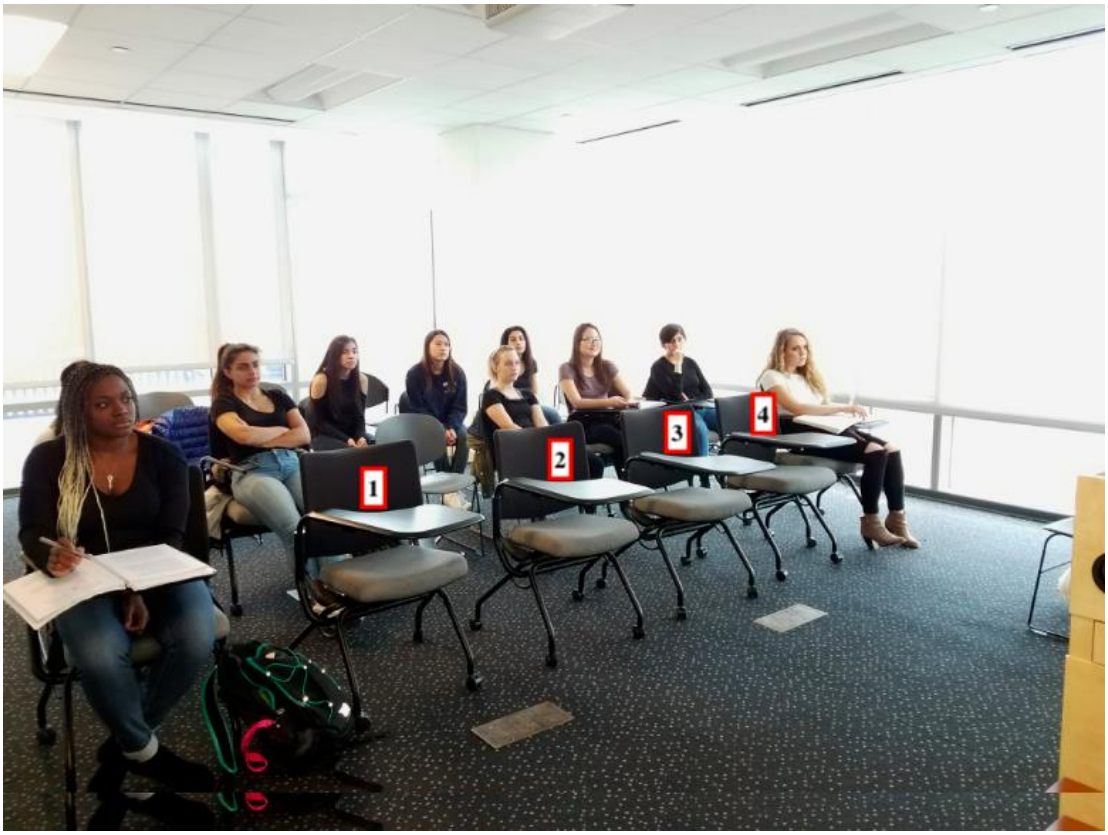
This is a non-profit advocacy organization working to rescue elephants. The organization advocates for policies and legislation that prevent the capture of elephants. The organization helps place captive elephants in safe havens that provide the elephants with individualized medical care to restore physical health and herd companionship to optimize their well-being.

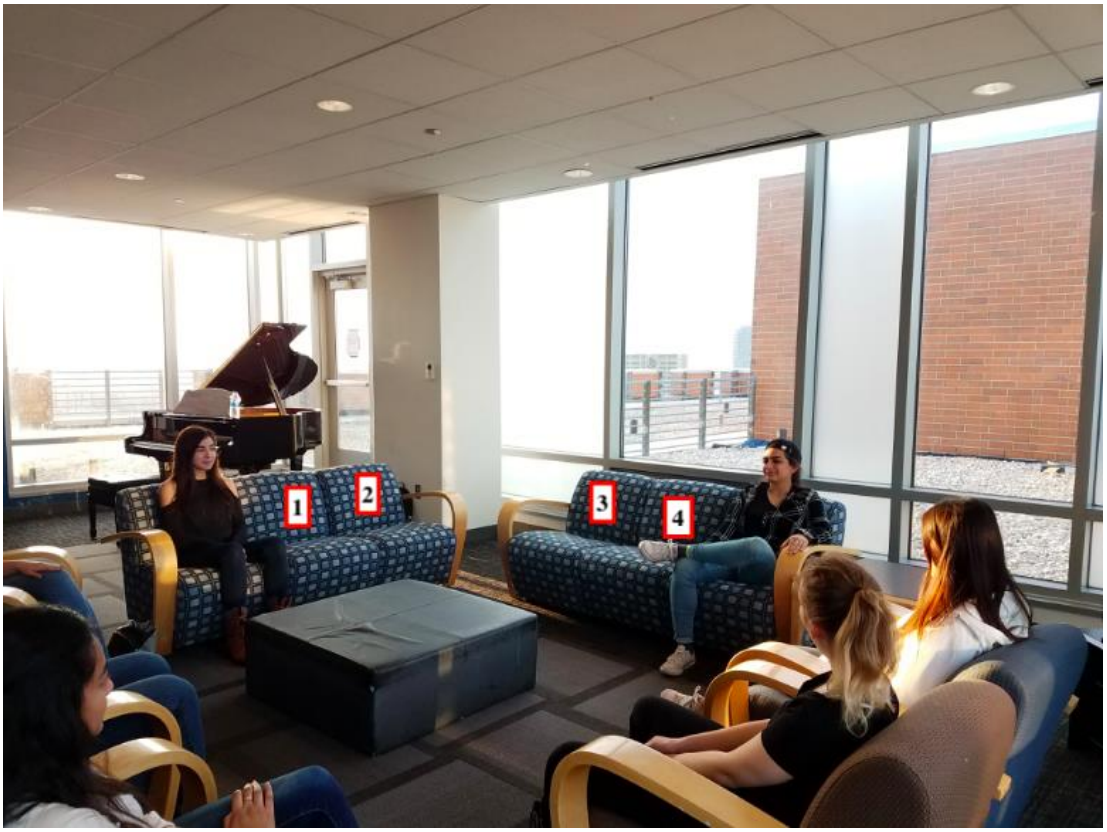
Virtual Behavior Measures of Prejudice (Study 2)

Seating Distance

Participants were presented with 6 photos. Below each photo, participants read: *Imagine you would be spending an hour in the above classroom [lounge] with this group of people. Choose one of the numbered seats you would like to sit in.* They were given 4 choices (Seat 1 to Seat 4).

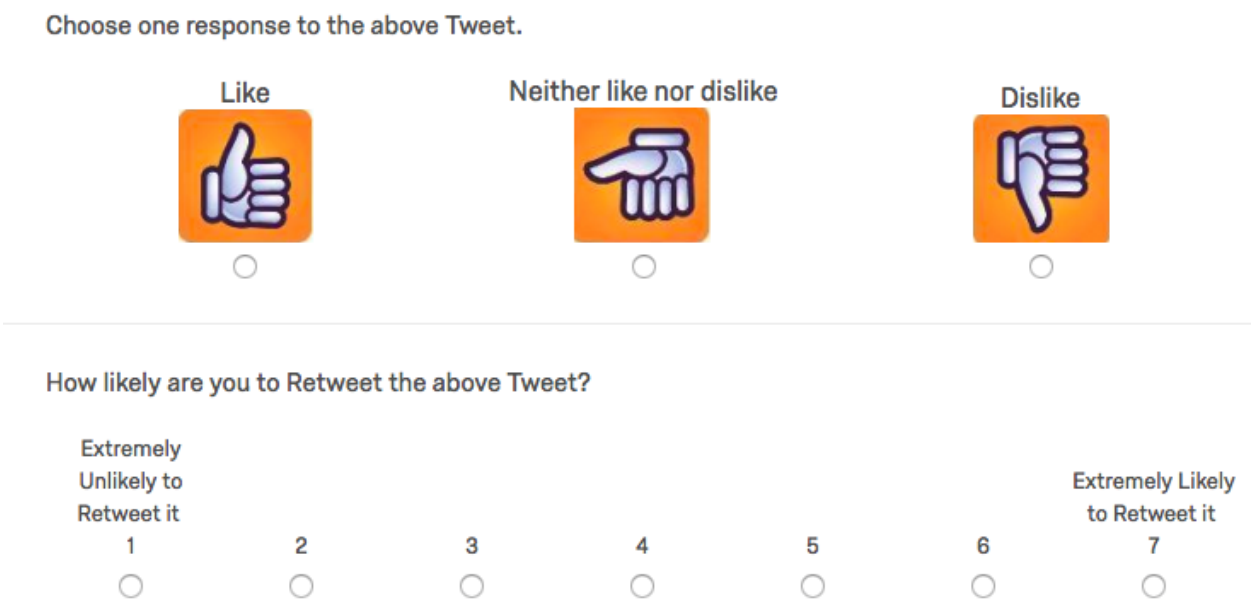
Sample Photos



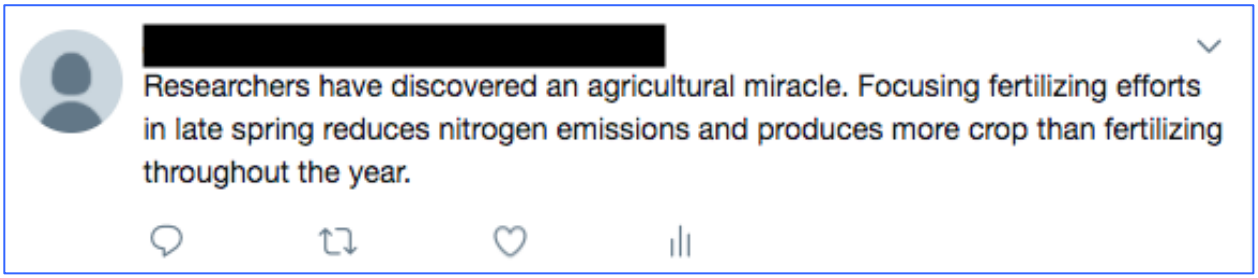

1
2
3
4

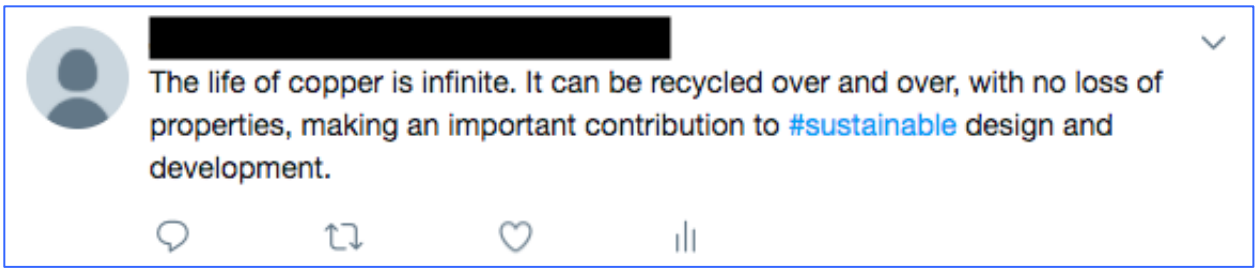
Pro-diversity Tweeting

After each tweet, the following two questions appeared:

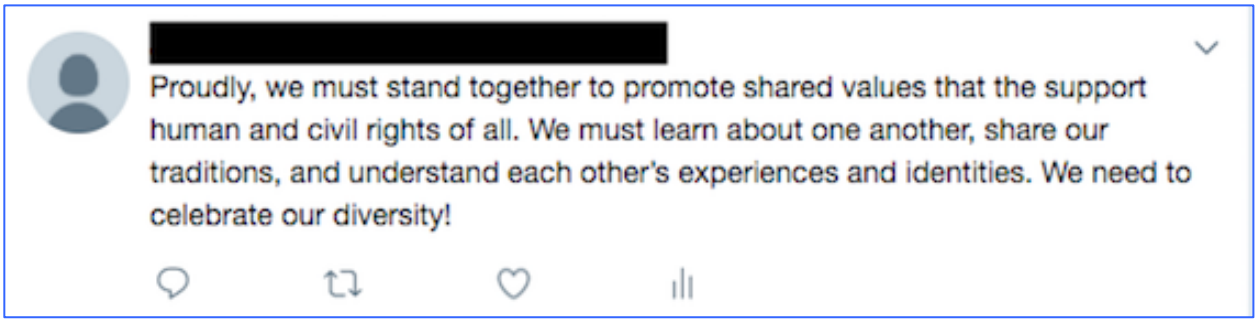


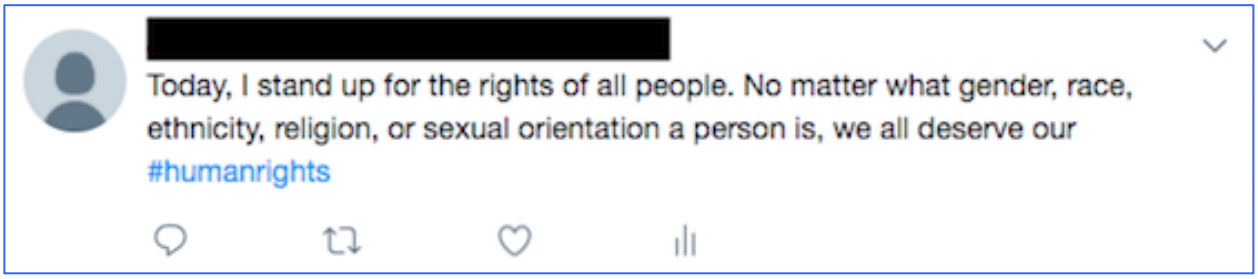
Neutral Tweets





Positive Tweets (Pro-diversity)





Negative Tweets (Anti-diversity)


[redacted]
America: Where you have the right to an opinion and free speech, as long as it doesn't piss off any minorities.
[redacted]
The reality is "diversity" means less white people and that is a little too close to home for me to be comfortable with.

Appendix C

Table 1. Bivariate correlations for the prejudice outcome variables in Study 1 above the diagonal. Partial correlations controlling for condition below the diagonal.

Outcome Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) Target Minority Thermometer	---	.35**	.91**	-.27**	.84**	-.21**	.45**	.23**	.72**	-.32**	.66**	-.25**	.72**	.32**	.43**
(2) Target Minority Difference	-.37**	---	-.18*	.77**	-.32**	.58*	-.25**	-.11	-.35**	.53**	-.25**	.50**	-.36**	.53**	-.30**
(3) Ethnic Minority Thermometer	.89**	-.19**	---	-.36**	.84**	-.24**	.49**	.21**	.67**	-.25**	.75**	-.37**	.72**	-.32**	.44**
(4) Ethnic Minority Difference	-.27**	.77**	.37**	---	-.37**	.65**	-.37**	-.11	-.36**	.45**	-.40**	.68**	-.44**	.56**	-.37**
(5) Sexual Minority Thermometer	.84**	-.32**	.85**	-.39**	---	.55**	.47**	.20*	.65**	-.41**	.68**	-.45**	.81**	-.56**	.45**
(6) Sexual Minority Difference	-.19*	.54**	-.23**	.64**	-.57**	---	-.33**	-.12	-.27**	.55**	-.30**	.68**	-.48**	.82**	-.35**
(7) Allophilia	.51**	-.26**	.56**	-.40**	.42**	-.35**	---	.14	.51**	-.31**	.52**	-.46**	.55**	-.42**	.81**
(8) Charity	.23**	-.10	.22*	-.09	.21*	-.11	.14	---	.17	-.21**	.13	-.13	.19	-.16	.13
(9) Target Minority Thermometer T2	.73**	-.35**	.68**	-.37**	.66**	-.28**	.51**	.24**	---	-.23**	.91**	-.30**	.80**	-.36**	.52**
(10) Target Minority Difference T2	-.32**	.53**	-.25**	.45**	-.40**	.55**	-.31**	-.17	-.24**	---	-.17	.77**	-.42**	.70**	-.40**
(11) Ethnic Minority Thermometer T2	.67**	-.25**	.76**	-.40**	.70**	-.30**	.52**	.20*	.91**	-.19**	---	-.40**	.84**	-.35**	.49**
(12) Ethnic Minority Difference T2	-.25**	.49**	-.37**	.68**	-.45**	.68**	-.46**	-.11	-.31**	.77**	-.41**	---	-.48**	.75**	-.45**
(13) Sexual Minority Thermometer T2	.72**	-.36**	.72**	-.44**	.81**	-.48**	.55**	.25**	.80**	-.43**	.84**	-.49**	---	-.63**	.54**
(14) Sexual Minority Difference T2	-.32**	.53**	-.32**	.56**	-.56**	.82**	-.42**	-.14	-.37**	.70**	-.36**	.74**	-.63**	---	-.47**
(15) Allophilia T2	.43**	-.30**	.44**	-.37**	.45**	-.35**	.81**	.12	.52**	-.40**	.49**	-.45**	.54**	-.47**	---

Note: * p < .050, ** p < .010

Table 2. Means and standard deviations by condition and inferential statistics for the outcomes immediately after viewing (top) and at the 1-week follow up (bottom) in Study 1.

	Control Version $N = 74$		Pro-Diversity Norms Version $N = 79$					
Outcome Variable	Mean	SD	Mean	SD	*t*	*df*	*p*	η^2
(1) Target Minority Thermometer	77.46	21.67	81.29	18.77	1.71	151	.24	.009
(2) Target Minority Difference	2.72	13.44	1.94	11.69	.38	151	.70	.001
(3) Ethnic Minority Thermometer	75.96	19.43	78.86	20.11	.91	151	.37	.005
(4) Ethnic Minority Difference	5.36	10.91	4.66	13.52	.35	151	.73	.001
(5) Sexual Minority Thermometer	71.98	22.48	75.99	20.40	1.16	151	.25	.009
(6) Sexual Minority Difference	9.16	17.96	7.88	16.19	.46	151	.65	.001
(7) Allophilia	5.65	.98	5.77	.84	.81	151	.42	.004
(8) Charity	13.04	7.30	22.85	8.72	7.52	151	.00	.272
(9) Target Minority Thermometer T2	79.98	21.86	76.97	21.88	.78	125	.44	.005
(10) Target Thermometer Difference T2	5.44	17.05	1.22	17.43	1.38	125	.17	.015
(11) Ethnic Minority T2	79.24	19.19	75.79	21.14	.96	125	.34	.007
(12) Ethnic Minority Difference T2	6.63	13.72	4.84	14.16	.73	125	.47	.004
(13) Sexual Minority Thermometer T2	76.12	24.01	74.49	21.13	.41	125	.69	.001
(14) Sexual Minority Difference T2	10.24	18.87	7.46	16.01	.90	125	.37	.006
(15) Allophilia T2	5.62	1.05	5.70	.84	.49	125	.62	.002

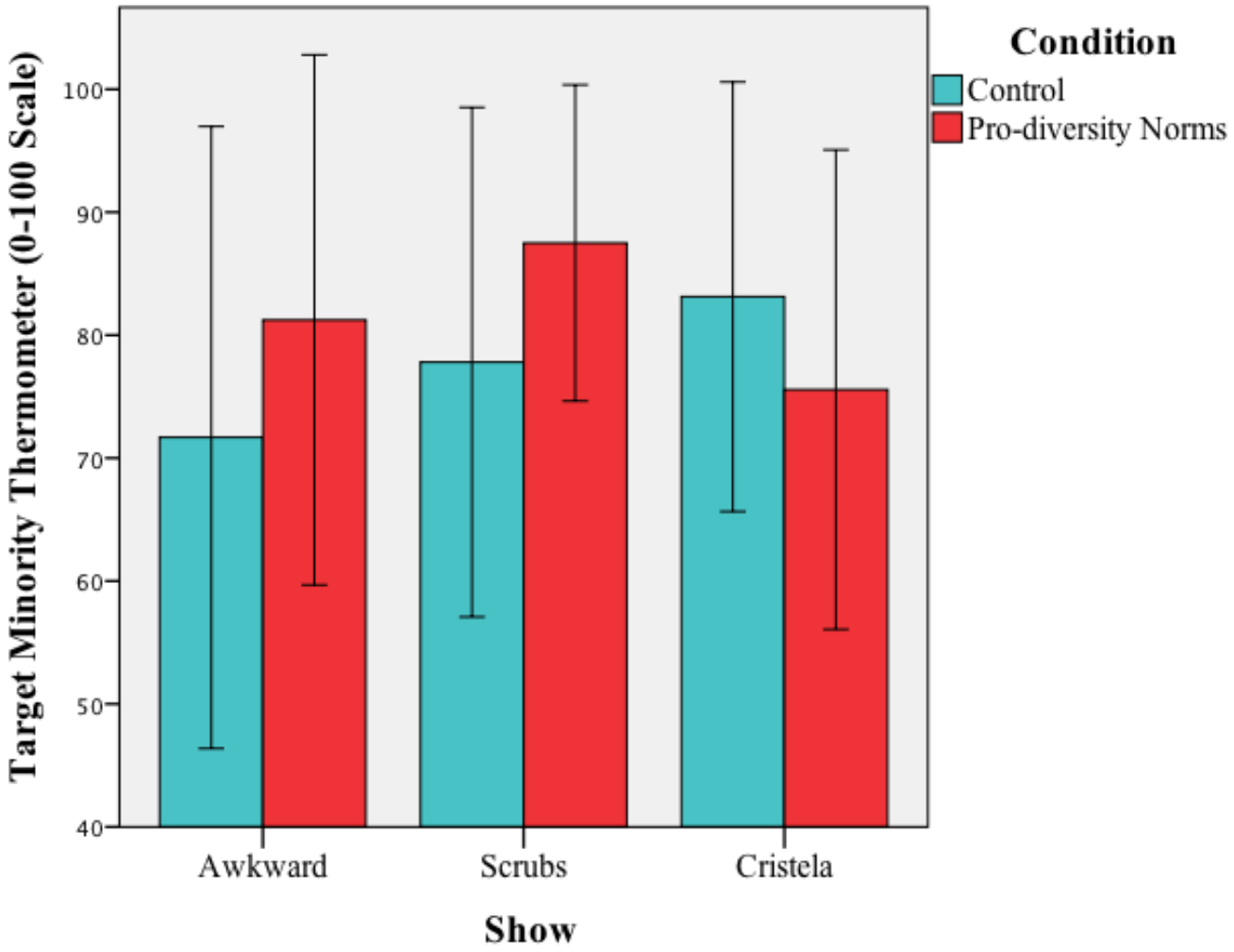


Figure 1. Average Target Minority Thermometer rating as a function of experimental condition and show in Study 1. Error bars represent one standard error above and below the mean.

Table 3. Bivariate correlations for the mediator variables of interest in Study 1 above the diagonal. Partial correlations controlling for condition below the diagonal.

Outcome Variable	(1)	(2)	(3)	(4)
(1) Perceptions of Diversity Norms 1	---	-.07	.25**	-.02
(2) Perceptions of Diversity Norms 2	-.10	---	.01	.68**
(3) Perceptions of Diversity Norms 1 T2	.25**	.01	---	-.01
(4) Perceptions of Diversity Norms 2 T2	-.02	.68**	-.01	---

Note: * p < .050, ** p < .010

Table 4. Means and standard deviations by condition and inferential statistics for the mediator variables of interest in Study 1 immediately after viewing (top) and at the 1-week follow up (bottom).

	Control Condition $N = 74$		Pro-Diversity Norms Condition $N = 79$				
Outcome Variable	Mean	SD	Mean	SD	t	df	p	η^2
(1) Perceptions of Diversity Norms 1	4.56	1.83	4.63	1.90	.24	151	.81	.000
(2) Perceptions of Diversity Norms 2	60.76	23.47	65.27	23.58	1.19	151	.24	.009
(3) Perceptions of Diversity Norms 1 T2	4.60	1.83	4.58	1.81	.09	125	.93	.000
(4) Perceptions of Diversity Norms 2 T2	63.08	23.87	65.38	23.05	.55	125	.58	.002

Table 5. Bivariate correlations for the constructs of interest and subjective dimension ratings in Study 1 above the diagonal. Partial correlations controlling for condition below the diagonal.

Outcome Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Pro-diversity Norm	---	.82**	.65**	.23**	.24**	.31**	.26**	.11
(2) Intergroup Friendship	.73**	---	.61**	.20*	.22**	.30**	.25**	.07
(3) Counterstereotypicality	.59**	.54**	---	.16	.19*	.25**	.20*	.12
(4) Character Judgment	.23**	.21*	.15	---	.82**	.43**	.32**	.53**
(5) Episode Judgment	.20*	.18*	.16*	.82**	---	.36**	.26**	.69**
(6) Emotional Reaction	.30**	.29**	.23**	.42**	.35**	---	.01	.08
(7) Identification	.23**	.23**	.17*	.32**	.25**	.09	---	.27**
(8) Transportation	.08	.02	.10	.53**	.68**	.07	.26	---

Note: * p < .050, ** p < .010

Table 6. Means and standard deviations by condition and inferential statistics for the construct ratings (top) and ratings of the subjective dimensions (bottom) in Study 1.

	Control Version $N = 74$		Pro-Diversity Norms Version $N = 79$					
Outcome Variable	Mean	SD	Mean	SD	*t*	*df*	*p*	η^2
(1) Pro-diversity Norm	2.99	1.54	4.92	1.52	7.78	151	.00	.286
(2) Intergroup Friendship	2.54	1.89	5.34	1.66	9.77	151	.00	.387
(3) Counterstereotypicality	2.82	1.68	4.08	1.68	4.61	151	.00	.123
(4) Character Judgment	4.51	1.26	4.65	1.16	.73	151	.47	.004
(5) Episode Judgment	4.24	1.19	4.53	1.10	1.54	151	.13	.015
(6) Emotional Reaction	5.97	.75	6.13	.66	1.42	151	.16	.013
(7) Identification	2.20	1.40	2.57	1.55	1.53	151	.13	.015
(8) Transportation	3.20	1.64	3.48	1.54	1.09	151	.28	.008

Table 7. Bivariate correlations for the prejudice outcome measures and mediator measure of interest in Study 2 above the diagonal. Partial correlations controlling for condition below the diagonal.

Outcome Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) Target Minority Thermometer	---	-.57**	.82**	-.39**	.77**	-.37**	.46**	.20**	-.26**	.36**	.11*
(2) Target Minority Difference	-.57**	---	-.36**	.74**	-.41**	.60**	-.29**	-.23**	.29**	-.26**	-.07
(3) Ethnic Minority Thermometer	.82**	-.37**	---	-.50**	.74**	-.31**	.54**	.19**	-.25**	.40**	.09
(4) Ethnic Minority Difference	-.39**	.74**	-.51**	---	-.36**	.49**	-.35**	-.21**	.29**	-.30**	-.01
(5) Sexual Minority Thermometer	.77**	-.41**	.74**	-.36*	---	-.66**	.47**	.19**	-.25**	.37**	.06
(6) Sexual Minority Difference	-.37**	.60**	-.31**	.49**	-.66**	---	-.34**	-.22	.24**	-.29**	-.05
(7) Allophilia	.45**	-.29**	.53**	-.35**	.47**	-.34**	---	.30**	-.15**	.54**	.12*
(8) Target Minority Seating	.20**	-.23**	.19**	-.21*	.19**	-.22**	.30**	---	-.17**	-.27**	.11*
(9) Anti-diversity Tweeting	-.27**	.29**	-.26**	.29**	-.25**	.24**	-.15**	-.17**	---	-.11*	-.28**
(10) Pro-diversity Tweeting	.35**	-.26**	.40**	-.30**	.37**	-.29**	.53**	.27**	-.11*	---	-.06
(11) Perceptions of Diversity Norms	.11*	-.07	.08	-.01	.06	-.05	.11*	.11*	-.28**	.06	---

Note: * $p < .050$, ** $p < .010$

Table 8. Means and standard deviations for the outcome measures of prejudice and mediator measure of interest between experimental conditions for each of the intergroup constructs of interest in Study 2.

	Pro-Diversity/ Inclusive Social Norms		Intergroup Friendship		Minority Counterstereotypicality	
	Control Version *N* = 65	Experimental Version *N* = 42	Control Version *N* = 61	Experimental Version *N* = 59	Control Version *N* = 72	Experimental Version *N* = 60
Outcome Variable	Mean [SD]	Mean [SD]	Mean [SD]	Mean [SD]	Mean [SD]	Mean [SD]
(1) Target Minority Thermometer	62.65 [25.52]	71.48 [26.31]	68.05 [23.94]	67.46 [27.86]	71.32 [22.66]	73.18 [26.59]
(2) Target Minority Difference	2.62 [23.44]	3.79 [31.35]	1.43 [29.30]	4.76 [29.70]	2.28 [19.31]	-.18 [20.01]
(3) Ethnic Minority Thermometer	60.25 [21.18]	71.18 [21.78]	65.60 [21.59]	67.34 [22.35]	69.26 [22.95]	70.27 [26.36]
(4) Ethnic Minority Difference	6.01 [17.86]	3.46 [27.88]	1.05 [26.67]	7.97 [22.62]	4.35 [22.11]	2.73 [19.67]
(5) Sexual Minority Thermometer	57.02 [28.07]	65.17 [26.84]	66.84 [20.27]	61.22 [30.85]	64.74 [29.08]	67.62 [25.84]
(6) Sexual Minority Difference	11.00 [25.48]	10.99 [27.91]	6.24 [21.05]	13.16 [34.27]	11.46 [26.49]	5.15 [18.13]
(7) Allophilia	4.79 [1.21]	5.44 [1.21]	5.16 [1.16]	5.26 [.98]	5.51 [.99]	5.55 [.98]
(8) Target Minority Seating	2.37 [.61]	2.56 [.73]	2.38 [.72]	2.36 [.62]	2.58 [.50]	2.49 [.60]
(9) Anti-diversity Tweeting	-.06 [.65]	.23 [.96]	-.16 [.75]	-.04 [.66]	.16 [.84]	-.09 [.66]
(10) Pro-diversity Tweeting	-.22 [.82]	.13 [.84]	.02 [.80]	-.05 [.74]	.07 [.71]	.09 [.69]
(11) Perceptions of Diversity Norms	4.48 [1.64]	4.58 [1.85]	4.48 [1.70]	4.61 [1.67]	4.15 [1.75]	4.78 [1.75]

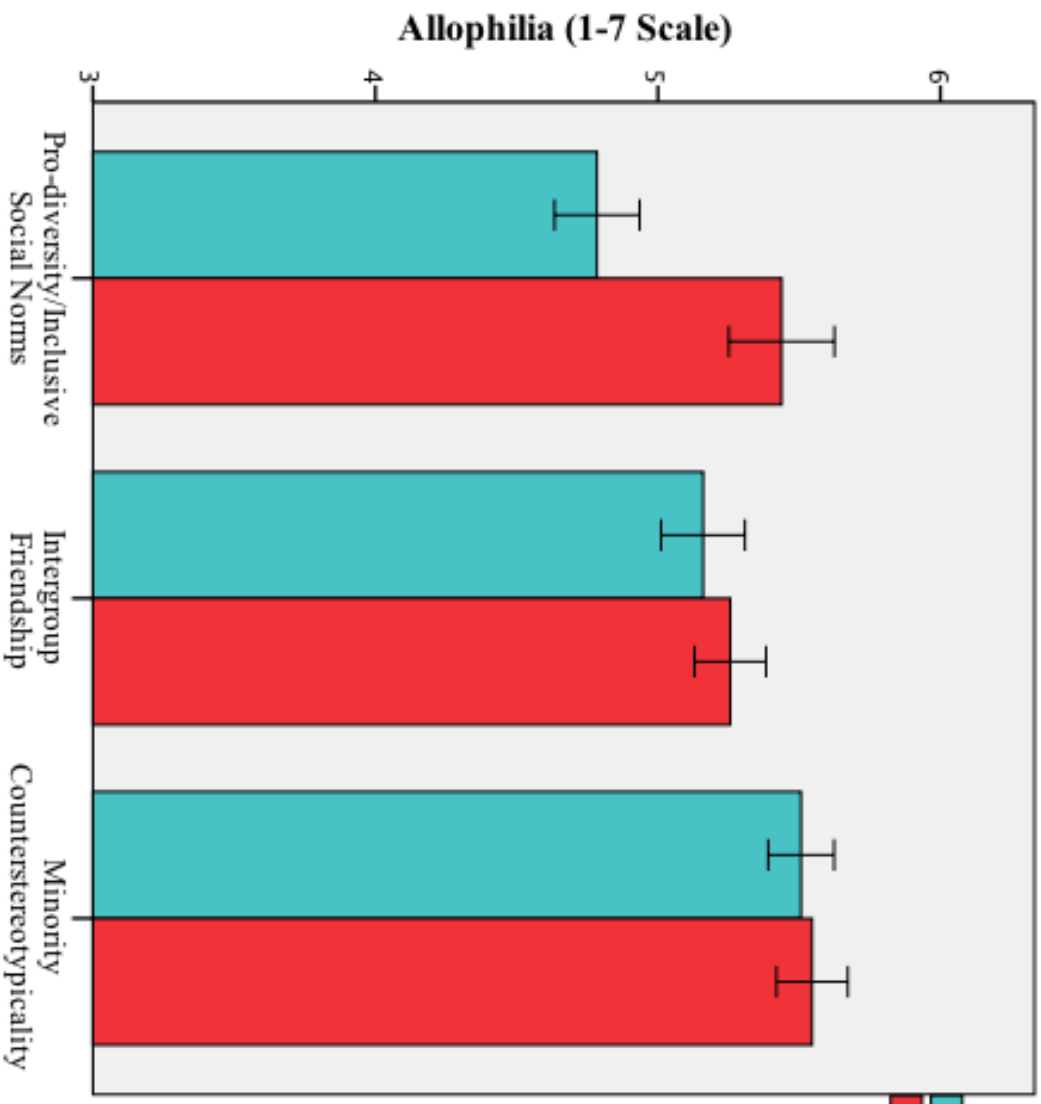


Figure 2. Average Allophilia rating as a function of experimental condition and intergroup construct of interest in Study 2. Error bars represent one standard error above and below the mean.

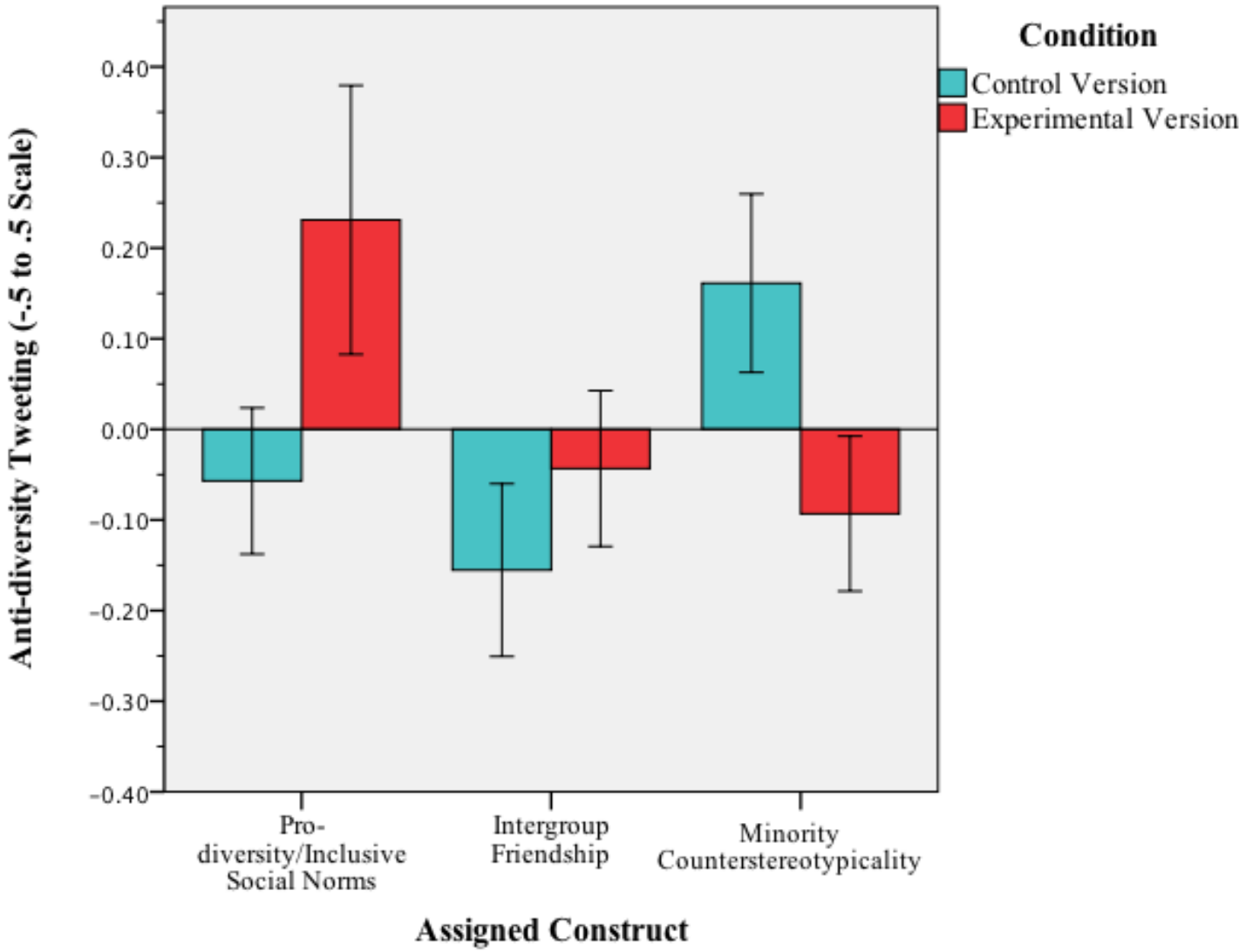


Figure 3. Standardized Anti-diversity Tweeting rating as a function of experimental condition and intergroup construct of interest in Study 2. Error bars represent one standard error above and below the mean. Lower values represent more anti-diversity tweeting behaviors, whereas higher values represent less anti-diversity tweeting behaviors.

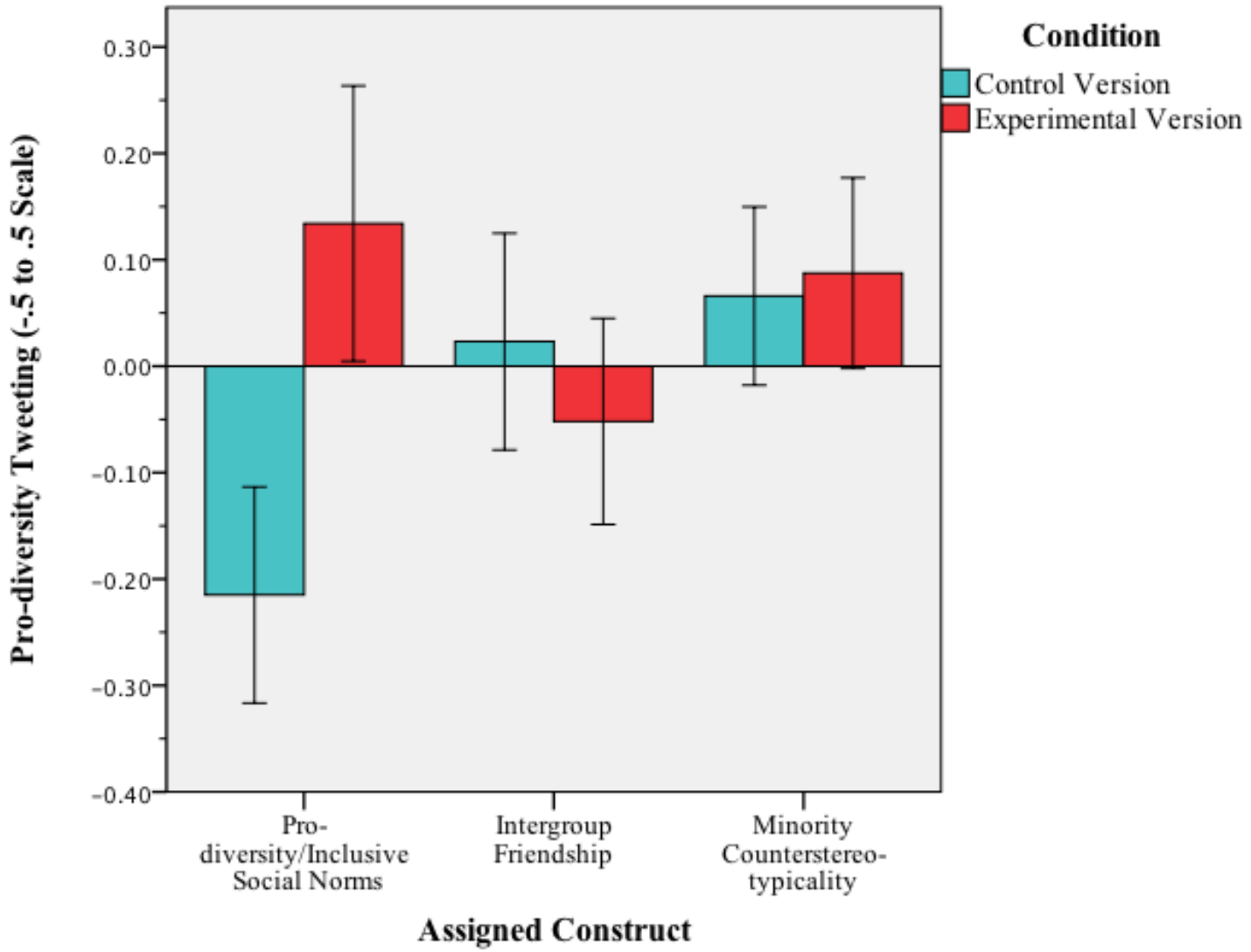


Figure 4. Standardized Pro-diversity Tweeting rating as a function of experimental condition and intergroup construct of interest in Study 2. Error bars represent one standard error above and below the mean. Lower values represent less pro-diversity tweeting behaviors, whereas higher values represent more pro-diversity tweeting behaviors.

Table 9. Bivariate correlations for the constructs of interest and subjective dimension ratings in Study 2 above the diagonal. Partial correlations controlling for condition below the diagonal.

Outcome Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Pro-diversity Norm	---	.56**	.44**	.20**	.16**	.04	.14**	.11*
(2) Intergroup Friendship	.55**	---	.38**	.22**	.21**	.09	.21**	.11*
(3) Counterstereotypicality	.43**	.36**	---	.15**	.15**	-.11*	.33**	.22**
(4) Character Judgment	.19**	.22**	.15**	---	.88**	.30**	.39**	.51**
(5) Episode Judgment	.15**	.20**	.14**	.88**	---	.26**	.42**	.60**
(6) Emotional Reaction	.05	.10	-.11*	.30**	.26**	---	-.18**	-.10
(7) Identification	.13*	.19**	.32**	.39**	.41**	-.19**	---	.47**
(8) Transportation	.10	.10	.21**	.51**	.60**	-.10	.47**	---

Note: * $p < .050$, ** $p < .010$

Table 10. Means and standard deviations for the constructs of interest and subjective dimension ratings between experimental conditions for each of the intergroup constructs of interest in Study 2.

	Pro-Diversity/ Inclusive Social Norms		Intergroup Friendship		Minority Counterstereotypicality	
	Control Version $N = 65$	Experimental Version $N = 42$	Control Version $N = 61$	Experimental Version $N = 59$	Control Version $N = 72$	Experimental Version $N = 60$
Outcome Variable	Mean [SD]	Mean [SD]	Mean [SD]	Mean [SD]	Mean [SD]	Mean [SD]
(1) Pro-Diversity Norm	3.29 [1.58]	4.96 [1.56]	4.52 [1.74]	3.97 [1.65]	4.35 [1.51]	4.92 [1.57]
(2) Intergroup Friendship	3.26 [1.73]	5.14 [1.63]	4.84 [1.75]	5.41 [1.32]	4.68 [1.64]	5.00 [1.45]
(3) Counterstereotypicality	3.14 [1.66]	4.57 [1.97]	3.79 [1.74]	3.42 [1.63]	4.26 [1.53]	4.55 [1.75]
(4) Character Judgment	4.64 [1.34]	5.08 [1.11]	5.09 [1.12]	4.77 [1.22]	4.51 [1.29]	4.74 [1.20]
(5) Episode Judgment	4.51 [1.34]	4.94 [1.01]	5.03 [1.28]	4.98 [1.21]	4.38 [1.30]	4.54 [1.36]
(6) Emotional Reaction	5.81 [1.10]	5.73 [1.23]	6.13 [.89]	5.81 [1.07]	5.47 [1.21]	5.68 [1.14]
(7) Identification	2.82 [1.83]	3.55 [1.80]	3.59 [1.74]	3.42 [1.71]	3.51 [1.69]	3.95 [1.85]
(8) Transportation	3.29 [1.67]	4.05 [1.82]	3.98 [1.86]	3.78 [1.44]	3.42 [1.61]	3.50 [1.86]