Facebook LGBTQ Pictivism: The Effects of Women’s Rainbow Profile Filters on Sexual Prejudice and Online Belonging

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Abstract
Facebook’s rainbow profile filter represents a popular display of activism (“pictivism”) commonly used by women, yet little is known of pictivism’s potential for creating social change. We tested whether women’s group status (belonging to a dominant vs. marginalized group) and filter use influenced viewers’ perceptions, attitudes, and behaviors. We conducted a series of 2 (target sexual orientation: queer or heterosexual) × 2 (filter use: filter or no filter) experiments with heterosexual (N₁ = 198, N₂ = 186) and LGBTQ (N₃ = 290) participants. Participants rated women who used rainbow filters as more activist than women who did not engage in pictivism. Although neither target sexual orientation nor filter use influenced participants’ ally behavior (donations), heterosexual people who viewed a woman using a filter reported greater closeness to LGBTQ people and greater intentions of supporting LGBTQ people when the woman was queer than heterosexual. Exposure to rainbow filters caused LGBTQ participants to express greater online and societal belonging than when filters were absent. Taken together, women’s pictivism and the online visibility of queer women yielded some psychological benefits for heterosexual and LGBTQ viewers. If the goal of pictivism is to enhance marginalized groups’ feelings of support, it works as intended. We thus recommend that both heterosexual and LGBTQ people who care about LGBTQ rights and seek to affirm LGBTQ individuals’ sense of belonging embrace opportunities on social media, specifically through profile picture filters, to communicate their support. Additional online materials for this article are available on PWQ’s website at http://journals.sagepub.com/doi/suppl/10.1177/0361684320930566

Keywords
activism, allyship, social media, sexual prejudice, belonging, slacktivism

In recent years, the United States (U.S.) demonstrated commendable progress in advancing lesbian, gay, bisexual, transgender, and queer (LGBTQ) rights with events like the Supreme Court ruling for same-sex marriage equality, state-based adoption of LGBTQ workplace protection policies, and greater visibility of LGBTQ people (e.g., public figures, celebrities). Indeed, public acceptance of LGBTQ people has steadily risen, such that the majority of Americans agree society should accept and support LGBTQ people (Pew Research Center, 2017). The growth of support for LGBTQ rights is arguably one of the fastest growing social movements in modern history. For example, in the early 2000s, only one state (Massachusetts) had legalized same-sex marriage, but within a short span of 10–15 years, a Supreme Court ruling granted nationwide marriage rights in the U.S. How did people’s attitudes toward LGBTQ people shift so quickly? Although the answer may be multifaceted, widespread networking through technology, and the advancement of social media in particular, likely shifted public opinion and support for LGBTQ-focused causes (Ayoub, 2018). Social media websites, such as Facebook, may have shaped attitudes by facilitating allyship across communities through its release of pro-LGBTQ rainbow profile filters (State & Adamic, 2015). Profile filters allow Facebook users to select a frame, image, or watermark to embed in profile photos. To support LGBTQ rights or celebrate LGBTQ Pride Month, Facebook users could adopt a rainbow symbol or flag to add to their profile photos. Women, compared to men, tend to be more involved in filter campaigns (e.g., women were more likely than men to have adopted the equality sign profile filter in support of same-sex marriage), and women tend to be more engaged with raising awareness for social and political...
causes on social media (Penney, 2015; Sehl, 2018; State & Adamic, 2015). The basic premise of filter use is that if an individual supports a cause or desires to bring increased attention to an issue, they may adopt a filter to express their attitudes or acknowledge a problem or event. Popular filters have been used to signal solidarity after terrorist attacks (e.g., the French flag), to celebrate Earth Day, and to raise awareness of injustice (e.g., Black Lives Matter). As a result, filter use has become a visible way to demonstrate one’s social and political support, allegiance to a cause, or desire to create social change. Despite the popularity of filters, little is known about how people perceive this behavior in their online networks and, in turn, how exposure to other people’s filter use influences one’s own attitudes and behaviors. It is unclear whether filters contribute to positive social change or, in contrast, cause negative reactions or are perceived as inauthentic displays of advocacy. In the present studies, we examined profile filters in the context of LGBTQ issues. We assessed whether exposure to pro-LGBTQ filters affected heterosexual people’s attitudes and LGBTQ people’s well-being, and we tested how filter use and the identity of the filter adopter influenced third-party viewers’ perceptions of the filter user. In the following sections, we review research on online social activism, pro-equality messaging, and LGBTQ people’s experiences online.

**Social Media and LGBTQ Activism**

Given the vast popularity of social media sites, more people are sharing news and political opinions on online platforms than ever before. Approximately half of all U.S. adults engage in political behavior on social media (e.g., changing Facebook profile pictures for a cause, participating in political interest groups; Pew Research Center, 2018), and research indicates an established positive relationship between social media use and political participation (e.g., Boulianne, 2015; Chapman & Coffé, 2015; Valenzuela, 2013). In terms of online displays of support for LGBTQ issues, people use social media in various ways (e.g., hashtags, rainbow flag emojis) to mark themselves as LGBTQ or as allies. As a particularly prevalent behavior, changing one’s profile picture or adopting a profile filter—a low effort behavior called “pictivism” (Oeldorf-Hirsch & McGloin, 2017)—emerged as a popular way for internet users to express pro-LGBTQ political support and raise awareness (Chapman & Coffé, 2015). For example, approximately 3 million Facebook users changed their pictures to the Human Rights Campaign’s equality sign logo in light of marriage equality cases in 2013, and 26 million users adopted the rainbow flag filter to celebrate nationwide same-sex marriage rights in 2015 (Dewey, 2015; State & Adamic, 2015). Social media tools, such as the availability of profile filters, provide people with an accessible and low effort method of expressing political support and raising public awareness.

**Clicktivism, slacktivism, and impression management.** Despite the benefits of mobilizing people around social causes online, little is known about the impact of pictivism on social change. The growing use of social media to express sociopolitical beliefs engendered the term “clicktivism” (Cornelissen et al., 2013; Halupka, 2014), accompanied by debate about whether clicktivism is effective activism (e.g., Shulman, 2009). Whereas some perceive clicktivism as presenting a modern form of civic engagement ripe with potential if used efficiently (Halupka, 2014), others view clicktivism as a lazy and shallow form of sociopolitical participation with little purpose. Morozov’s (2009) discussion of the inefficiency of clicktivism—deemed “slacktivism”—highlights risks of engaging in online activism that increases users’ personal satisfaction without yielding meaningful gains on political outcomes. That is, people may partake in “clicking” and various low effort actions (e.g., sharing or liking content, signing online petitions) without creating any substantive social change. Questioning the practical significance of engaging in clicktivism extends to the popularity of pro-LGBTQ gestures like Facebook’s rainbow profile filters. High filter adoption may not necessarily produce intended effects such as effectively reducing people’s sexual prejudice, increasing other people’s support for LGBTQ rights, raising awareness, or signaling to LGBTQ people that they are supported. Motivations behind pictivism are also difficult to decipher as some may use filters with hopes of creating change, whereas others may be inclined to use filters to virtue signal or manage a positive impression among peers in their social networks (Cornelissen et al., 2013). Similar to clicktivism and slacktivism, convenient—though well-intentioned—low-effort allyship behaviors have been referred to as “performative allyship” or “performative wokeness” by members of marginalized groups. As an example, after the 2016 U.S. Presidential election, thousands of White allies campaigned to wear safety pins on their shirts to signal allyship toward people of color. Others quickly deemed this gesture as performative. Critics of the safety pin campaign called for more meaningful and effective activism such as initiating conversations within White communities to reduce racial prejudice (Henry, 2016). Pictivism may similarly risk being read as an inauthentic or unhelpful gesture, given profile filter application requires little effort and sacrifice from users.

There is, however, evidence of online activism’s potential benefits. Lane and Dal Cin (2018) found that observable online activist behaviors, such as publicly sharing a social cause video (e.g., a video about animal welfare), increased participants’ willingness to engage in activism offline among those with low tendency to engage with social causes online. They suggested that the novelty of engaging with social issues online motivated individuals to maintain consistency in their offline lives. Thus, after publicly behaving in a pro-social or activist manner online, people may wish to maintain this impression of themselves offline. Further, even among non-filter users, if online support for LGBTQ people
becomes normative through other people’s activist displays, people may feel compelled to update their perceptions of social norms. People’s beliefs about norms can shift after observing others support a cause (Tankard & Paluck, 2017). For example, State and Adamic (2015) found that women were more likely than men to change their profile pictures to support LGBTQ rights after observing one friend change their picture to participate in the marriage equality pictivism campaign. It is possible online support for LGBTQ people becomes contagious, and it thus seems reasonable that people may be more likely to engage in activism after witnessing others do so. From this perspective, one’s simple gestures like pictivism could trigger future prosocial engagement not only for the self but also for others.

Reactance. Although people use filters in hopes of raising awareness and sparking change, filter use may cause an unintended effect: decreased support for the cause. Psychological reactance describes people’s motivation to reject persuasive messages perceived as threatening (Dillard & Shen, 2005). Numerous examples reveal how psychological reactance interferes with intended messages; for instance, intrusive pop-up advertisements caused avoidance of intended advertisements (Edwards et al., 2002), and anti-smoking messages perceived as using controlling language increased rejection of anti-smoking initiatives (Grandpre et al., 2003). If pictivism is perceived as threatening one’s freedom to consume information fairly, pictivism has the potential to cause reactance and a consequent rejection of the message. In other words, one may find other people’s filter use as controlling the online discourse and then they may reject the message conveyed (e.g., support for LGBTQ rights). However, if online users largely follow or interact with others who share their views, reactance is perhaps more unlikely than when interacting with strangers. In this research, we explored whether women and men’s reactance to Facebook profiles mediated the effects of filter use on attitudinal outcomes.

The Role of Group Membership in Communicating Pro-Equality Messages

Heterosexual allies’ activism has served an important role in advancing LGBTQ rights (Fingerhut, 2011). An ally is someone who belongs to the dominant group but works to end oppression through their support of and advocacy with oppressed persons (Washington & Evans, 1991). Allyship can be enacted in personal, professional, or political areas of life (Duhigg et al., 2010). Research on confronting prejudice suggests allies are effective agents of change in communicating pro-equality messages, and their effectiveness in confrontation and communication varies based on one’s group membership. In evaluating people’s public displays of anti-prejudice and pro-equality messages online, it is thus likely that the identities or group memberships of the messenger also matter in online spaces. Generally, research on persuasion indicates that people perceived as acting outside of group-interest induce greater surprise and deeper message processing in observers (Petty et al., 2001). Men are perceived as more credible confronters of sexism than women, and White confronters of anti-Black racism are viewed more positively and taken more seriously than Black confronters (e.g., Cihangir et al., 2014; Czopp & Monteith, 2003; Czopp et al., 2006; Gervais & Hillard, 2014; Gulker et al., 2013; Schultz & Maddox, 2013). People perceive confronters who are not personally affected by prejudice as more persuasive, whereas marginalized targets who speak against acts of prejudice are viewed as complaining and overreacting (Czopp & Monteith, 2003; Kaiser & Miller, 2001; Kroeper et al., 2014; Rasinski & Czopp, 2010). Heterosexual allies thus may be perceived favorably when engaging in online LGBTQ advocacy because they are perceived as acting selflessly (Drury & Kaiser, 2014), and selflessness is seen as credible (Czopp & Monteith, 2003; Eagly et al., 1978).

On the other hand, a queer target’s messages may be more influential in increasing support for LGBTQ people. People with stigmatized identities are often stereotyped as activists (e.g., lesbian women are associated with feminism and activism; Everitt & Camp, 2009; Swinn et al., 1999); therefore, their activism and advocacy online may be perceived as more authentic and less performative. Further, social media profiles are a means through which people experience intergroup contact without face-to-face interaction. In a reformulation of Allport’s (1954) intergroup contact theory, it has been suggested that mere exposure to an outgroup member could contribute to prejudice reduction by reducing uncertainty about the outgroup (Pettigrew & Tropp, 2006). Specific to digitally mediated contact, the parasocial contact hypothesis (Schiappa et al., 2005) indicates exposure to an outgroup through communication technology increases feelings of familiarity with the outgroup and reduces prejudice. Some research has also focused on electronic contact (“e-contact”) between heterosexual people and lesbian/gay interaction partners (White et al., 2019). Through an online chat paradigm, an e-contact experience with the outgroup has been shown to reduce intergroup anxiety particularly among those who may be in most need of prejudice interventions. Although more work is needed to understand the boundaries of online contact as a prejudice intervention strategy, plenty of evidence suggests online platforms are a new landscape of social contact opportunities.

Taken together, visible sexual orientation of the messenger may play a role in pro-LGBTQ pictivism. From a confronting prejudice perspective, a heterosexual target who engages in pro-LGBTQ pictivism may be most effective with improving heterosexual people’s attitudes and enhancing LGBTQ participants’ feelings of belonging. However, from an e-contact perspective and in light of stereotypes about queer people as activists, it is possible a queer person’s visibility, as well as their use of pictivism, may be more influential in changing other people’s attitudes, behaviors, and
perspectives. Among heterosexual participants, we generally hypothesized (a) queer targets would elicit more positive perceptions and lower expressions of prejudice than heterosexual targets; (b) filter use, compared to no filter, would elicit more positive perceptions and lower expressions of prejudice; and (c) the target’s sexual orientation group membership would significantly interact with their filter use to influence attitudinal outcomes.

Navigating Online Social Networks While Being LGBTQ

To our knowledge, no research has examined the effects of the rainbow filter on LGBTQ perceivers—the people most targeted by the rainbow pictivism campaign. Online communities are associated with benefits to users’ perceived social support, belonging, and life satisfaction (Oh et al., 2014), and these benefits are particularly important to promote among LGBTQ individuals. LGBTQ youth receive greater emotional support from online friendships compared to in-person friendships (Ybarra et al., 2015), and many LGBTQ individuals rely on social networking sites to safely explore their identities and connect with other LGBTQ people (Fox & Ralston, 2016). However, the internet also provides a site for bullying and harassment, often targeted toward the most vulnerable users. LGBTQ people may search for cues of support and safety on the internet as they do in their non-online lives; indeed, people with stigmatized identities are vigilant to cues in their environments that communicate whether settings are safe or threatening (e.g., Major & O’Brien, 2005). Physical environments are saturated with cues people rely on to determine whether a space is accepting and safe. Likewise, people with LGBTQ identities may navigate online environments in search of cues of hostility or, in contrast, social inclusion and allyship. In the current research, we examined the possible effects of Facebook’s rainbow filter on LGBTQ viewers’ feelings of belonging.

We also investigated how LGBTQ people perceive pro-LGBTQ efforts online. Research on sexual prejudice reduction promotes intervention tools such as increased education, social contact with LGBTQ people, and exposure to diverse entertainment media to reduce sexual prejudice among heterosexual individuals (e.g., Bartos et al., 2014; Herek & McLemore, 2013). Similarly, research on LGBTQ allyship chiefly focuses on heterosexual people’s motivations for engaging in ally behaviors and strategies for increasing ally participation (e.g., Fingerhut, 2011; Jones & Brewster, 2017). Although such research is important for increasing support of LGBTQ people, little is known about how LGBTQ people perceive these efforts. We addressed this gap by examining how LGBTQ individuals perceived pro-LGBTQ pictivism and whether exposure to other people’s pro-LGBTQ pictivism contributed to LGBTQ people’s well-being. That is, are those with identities represented by pictivist messages directly benefiting or served by pictivism? Among LGBTQ participants, we expected filter use and exposure to a visibly queer person’s profile to yield more positive psychological outcomes than exposure to no filter use and to a heterosexual person, respectively. We also predicted that viewing a heterosexual person’s pictivism (a public declaration of pro-equality) might incite greater belonging among LGBTQ people, and we explored whether perceiving the target as an activist mediated these effects.

The Current Research

In three experiments, we investigated the effects of pro-LGBTQ pictivism (i.e., the use of Facebook’s popular rainbow filter) on the dominant group (heterosexual women and men) and marginalized group (LGBTQ individuals). We examined whether filter use and the profile user’s visible sexual orientation (i.e., heterosexual vs. queer) influenced (a) perceptions of the target’s activism, attitudes toward LGBTQ people, and donation behavior among heterosexual people, and (b) perceptions of the target’s activism and feelings of belonging among LGBTQ people. We outline specific hypotheses within each study, and when appropriate, we indicate which analyses were exploratory. In our experimental stimuli used across studies, we held constant the target’s gender. We used a woman’s profile picture for manipulating her sexual orientation and profile filter use. The choice of using a woman target provided ecological validity, given women were more likely than men to adopt the Human Rights Campaign’s equality sign profile picture in 2013 (Penney, 2015; State & Adamic, 2015), and women are more active in organizing events for social causes on Facebook (e.g., 70% of fundraisers on Facebook are created by women; Sehl, 2018). The use of a woman target best represents what viewers observe in day-to-day realities when using social media (e.g., while scrolling through their social networks or browsing comments or posts from Facebook users unknown to them). To operationalize the target’s sexual orientation, we created two sexual orientation conditions that depicted the target in a same-gender or different-gender relationship (i.e., profile images featured either a same-gender or different-gender couple). We acknowledge that one’s relationship status does not indicate their sexual orientation (e.g., a woman in a relationship with a man may not identify as heterosexual). However, for ease of interpretation, we refer to the target in the different-gender relationship as “heterosexual” and the target in the same-gender relationship as “queer.” Our language used to refer to targets reflects how participants perceived the targets’ sexual orientations.

Study 1

We conducted a 2 (target sexual orientation: queer or heterosexual) × 2 (profile filter use: filter or no filter) between-subjects experiment with heterosexual participants. We examined the effects of viewing a queer or heterosexual woman’s Facebook profile, with or without the rainbow filter,
on participants’ reactance, perceptions of the target (e.g., perceived activism), and sexual prejudice related outcomes (i.e., LGBTQ-focused feelings, attitudes, and ally behavior).

We predicted a main effect of target sexual orientation on viewers’ perceptions of activism: Participants would perceive queer targets as greater activists than heterosexual targets, consistent with previous stereotyping research. We also predicted exposure to queer targets would result in lower sexual prejudice, given previous digitally mediated social contact effects.

We predicted a main effect of profile filter: Participants would perceive filter users as greater activists and report lower sexual prejudice than when viewing targets without filters. However, we expected filters to elicit greater psychological reactance, and we aimed to explore whether reactance mediated negative reactions to filter use (e.g., expressions of more prejudice).

We predicted an interaction between target sexual orientation and filter use, and we proposed two competing hypotheses grounded in previous literature. On one hand, we considered that viewers exposed to the heterosexual target with the filter would report lower sexual prejudice than those exposed to the heterosexual target without the filter or the queer target with or without the filter. This hypothesis reflected the idea that members of dominant groups engaged in advocacy are more persuasive and viewed more positively than members of marginalized groups. The heterosexual woman target with a filter would thus be most influential. On the other hand, if intergroup exposure is sufficient in online contexts (Allport, 1954; Schiappa et al., 2005), participants exposed to the queer target with the filter would report more positive perceptions of the target and lower sexual prejudice compared to those who view the queer target without the filter or the heterosexual target with or without the filter. The queer woman target with a filter would be most influential. Our analysis plan permitted us to test both hypotheses if a significant interaction between target sexual orientation and filter use occurred.

**Method**

**Participants**

Based on an a priori power analysis in G*Power (Faul et al., 2009), 320 undergraduate students were recruited from a student subject pool to aim for a final sample of 210 participants for a medium effect size with 95% power. The final sample consisted of 198 participants (58% women) who identified their sexual orientation as heterosexual. We excluded participants who did not correctly identify the target’s sexual orientation (heterosexual or queer), failed attention or manipulation checks (e.g., misidentifying the target’s gender), or did not identify as heterosexual (38% exclusion rate). For example, if participants said the target’s sexual orientation was “heterosexual” while assigned to view the same-sex photo, they were excluded. Participants were White (76%), Asian/Asian American (8%), Black/African American (7%), Native Hawaiian/Pacific Islander (4%), or identified with another racial/ethnicity category (4%). Age ranged from 17 to 29 years ($M = 18.94, SD = 1.26$), and the sample was politically slightly left of center ($M = 3.40, SD = 1.61$; $0 =$ extremely liberal, $7 =$ extremely conservative).

**Materials and Procedure**

We created six Facebook profiles. Two profiles were designed as filler stimuli; each participant reviewed two filler profiles and one experimental profile. Four versions of the experimental profile displayed a picture of either a White different-gender or same-gender couple with or without a rainbow filter. The couples in the profile photos were holding hands. Rainbow filters were applied using a free online website (https://rainbowfilter.io/). In addition to displaying a profile picture, the profile included an “About” section with generic information (e.g., “lives in Chandler, Arizona”) held constant across conditions. The experimental profiles were pre-tested with 55 undergraduate participants, and we found no differences between the profile images in terms of the target’s friendliness ($p = .61$), attractiveness ($p = .36$), and likeability ($p = .11$). See the online supplementary material to review the profile materials.

Participants completed an online survey advertised as investigating short-term memory of online information. We randomly assigned them to view one of four possible experimental Facebook profile conditions, as well as the two filler profiles. After viewing a total of three profiles, we informed participants that our software randomly selected one profile for a short-term memory test, and all participants were then presented with an experimental profile to review one more time before answering questions about the profile. Participants were asked short-term memory questions (e.g., “Where does the person live?”) and attention check questions (e.g., “What was the person’s gender?”) to maintain the cover story. Participants then evaluated the profile by responding to measures of reactance, willingness to interact with the target, and perceived activism. Next, we informed the participants that they entered the second part of the study, which is about general thoughts and attitudes toward different societal groups. They reviewed a list of 28 different groups (e.g., Latinx Americans, iPhone users, LGBTQ people) and were told they would be randomly assigned to respond about one of the groups, which can help to reduce suspicion about the study’s exclusive focus on LGBTQ issues. We told participants they were “randomly assigned” to respond about their views of LGBTQ people. They completed the remaining measures (sexual prejudice, perceived closeness to LGBTQ people, and ally behavior). At the end of the study, participants guessed the study’s purpose, and no one connected the profile portion of the study with our reported purpose for including the dependent variables about LGBTQ people.
Random assignment—in this study and consecutive studies—successfully dispersed individual difference variables (e.g., race, age) across conditions.

**Measures**

**State reactance.** We measured psychological reactance on an 11-item scale (Dillard & Shen, 2005) by adapting the original wording to reflect “the profile” instead of “the message.” We assessed three dimensions of state reactance: Freedom Threat (4 items; e.g., “The profile tried to manipulate me”; \( \alpha = .90 \)), Cognition (3 items; e.g., “I like what I saw on the profile”; \( \alpha = .82 \)), and Affect (4 items; e.g., “anger,” “irritation”; \( \alpha = .96 \)). In addition, four filler emotion items were included that were not part of data analysis. Psychological reactance involves having an unpleasant reaction to material that one deems as threatening or limiting to one’s sense of freedom, and greater reactance predicts negative evaluations of persuasive messages (e.g., Dillard & Shen, 2005; Hopp, 2015; Koch & Zerback, 2013; Rains & Turner, 2007). Participants indicated their agreement with items on a 5-point scale (1 = strongly disagree, 5 = strongly agree).

**Perceived activism of target.** We measured perceptions of the target’s activism with a 5-item original scale (e.g., “This person seems to care about social justice issues” and “This person seems devoted to activism”; \( \alpha = .80 \)). Participants indicated their agreement with these statements on a 5-point scale (1 = strongly disagree, 5 = strongly agree), and we computed an average score. Greater scores reflected greater perceptions of the target as an activist.

**Willingness to interact with the target.** The degree to which participants were willing to interact with the target was measured with a 5-item original scale (e.g., “I would feel comfortable getting to know this person” and “I would enjoy having a conversation with this person”; \( \alpha = .82 \); 1 = strongly disagree, 5 = strongly agree). Two items were reverse-scored, and we averaged participants’ responses to the scale items; greater scores indicated more willingness to interact with the target.

**Attitudes toward LGBTQ people.** We measured sexual prejudice through the LGB-Knowledge and Attitudes Scale for Heterosexuals (LGB-KASH; Worthington et al., 2005). This measure is positively related to other measures of sexual prejudice (e.g., Attitudes Toward Lesbians and Gay Men Scale, Attitudes Regarding Bisexuality Scale; Herek, 1984; Mohr & Rochlen, 1999; Worthington et al., 2005). The LGB-KASH in this survey included four attitude dimensions: Hate (6 items; e.g., “I sometimes think about being violent toward LGB people”; current \( \alpha = .76 \); original \( \alpha = .78 \)), Knowledge (5 items; e.g., “I am familiar with the work of the National Gay and Lesbian Task Force”; current \( \alpha = .87 \); original \( \alpha = .80 \)), Civil Rights (5 items; e.g., “It is important to teach children positive attitudes toward LGB people”; current \( \alpha = .77 \); original \( \alpha = .88 \)), and Internalized Affirmativeness (5 items; e.g., “I have close friends who are LGB”; current \( \alpha = .76 \); original \( \alpha = .74 \)). Participants responded on a 7-point scale (1 = very uncharacteristic of me and my views, 7 = very characteristic of me and my views). The original LGB-KASH also included 5 items that comprise a Religious Conflict subscale; however, we did not include this subscale because the wording was confusing and not applicable to people who do not subscribe to a religion (e.g., “I keep my religious views to myself in order to accept LGB people”). We averaged responses in each subscale. Greater scores indicated greater support for the attitude (e.g., higher Civil Rights scores reflected greater support of rights for LGB people).

**Perceived closeness to outgroup.** Participants’ beliefs about how close they feel to LGBTQ people was measured through an adapted version of the 1-item Self/Other Inclusion Scale (Aron et al., 1992). The Self/Other Inclusion Scale has been found to correlate with other measures of interpersonal inclusion (e.g., Relationship Closeness Inventory; Berscheid et al., 1989). This single-item measure presented a picture of seven Venn-like diagrams to represent different degrees of overlap between two circles, ranging from circles that are far apart in distance (1) to circles that are completely overlapping (7). Participants selected one of seven images. In the original wording of this item, participants rated the strength of the relationship between the “SELF” and “OTHER.” In the current research, we provided participants with the following instructions: “Please choose the circles that best describe your relationship to the LGB community. YOU = SELF and LGB COMMUNITY = OTHER.” Greater numbers indicated greater perceived closeness between the self and the LGB community.

**LGBTQ ally behavior.** We assessed willingness to donate money to an LGBTQ-related cause using a hypothetical charity donation scenario. Participants were instructed: “Imagine you had $100 in funds to distribute among the following charity organizations that are popular in 2017. Please indicate how much money you would give to each organization to spend the $100 funds. You may choose to give all your money to one source or divide your money to different charities of your choosing. Your total should add to $100.” Participants were presented with six charity organizations with brief descriptions of each charity, one of which was LGBTQ-related (i.e., “Human Rights Campaign—working to end discrimination against LGBTQ people”).

**Results and Discussion**

We performed a series of two-way between-subjects ANOVAs on all dependent variables, and we applied a Bonferroni adjustment for multiple comparisons. The online supplementary material includes correlation tables, tables of means and descriptive information, descriptive information by
participant gender, and a sensitivity analysis of effects by participant gender.

**State Reactance**

We analyzed the reactance dimensions (freedom threat, cognitive, affective) separately. There was no significant effect of filter use on participants’ freedom threat ($p = .051$). There was no main effect of target sexual orientation and no significant interaction of target sexual orientation and filter use on threatened freedom ($p$-values > .52). There was a significant main effect of target sexual orientation on participants’ cognitive reactance: Participants who saw the heterosexual woman reported more positive thoughts toward the profile ($M = 3.66, SE = .06$) compared to participants who saw the queer woman ($M = 3.47, SE = .06$), $F(1, 194) = 5.25, p = .02, \eta^2_p = .03, 95\% \text{CI [0.03, 0.35]}. There was no main effect of filter use and no significant interaction of target sexual orientation and filter use on cognitive reactance ($p$-values > .29). There were no significant main effects or interactions on affective reactance ($p$-values > .13).

**Perceptions of the Target**

**Perceived activism.** There was a significant effect of target sexual orientation, such that participants perceived queer targets as greater activists ($M = 3.58, SE = .05$) than heterosexual targets ($M = 3.29, SE = .06$), $F(1, 194) = 12.80, p < .001, \eta^2_p = .06, 95\% \text{CI [0.13, 0.44]}. There was also a significant effect of profile filter use, such that targets who used a filter were perceived as greater activists ($M = 3.67, SE = .06$) compared to targets who did not use a filter ($M = 3.20, SE = .05$), $F(1, 194) = 35.07, p < .001, \eta^2_p = .15, 95\% \text{CI [0.32, 0.63]}. There was no significant interaction of target sexual orientation and profile filter use ($p = .86$).

**Willingness to interact with the target.** The main effects of target sexual orientation and filter use, as well as the interactions of the two, were non-significant ($p$-values > .21).

**Sexual Prejudice**

**Attitudes toward LGBTQ people.** We conducted analyses on each of the subscales (Hate, Civil Rights, Internalized Affirmativeness, and Knowledge) separately. Generally, participants across conditions expressed low sexual prejudice. There was a significant effect of target sexual orientation on Hate: Participants who saw the queer woman reported lower hate ($M = 1.54, SE = .09$) compared to participants who saw the heterosexual woman ($M = 1.83, SE = .10$), $F(1, 194) = 4.55, p = .03, \eta^2_p = .02, 95\% \text{CI [0.02, 0.57]}. The effect of filter use and interaction of target sexual orientation and filter use on Hate were non-significant ($p$-values > .15). There was a non-significant effect of target sexual orientation on participants’ attitudes toward Civil Rights ($p = .09$). The effect of filter use and interaction of target sexual orientation and filter use were non-significant Civil Rights ($p$-values > .14), Internalized Affirmativeness ($p$-values > .22), and Knowledge ($p$-values > .40).

**Perceived closeness to outgroup.** There were no significant main effects or interaction between target sexual orientation and filter use ($p$-values > .20).

**LGBTQ ally behavior.** There were no significant main effects or interactions of target sexual orientation and filter use on participants’ pro-LGBTQ monetary donation ($p$-values > .11).

**Results Summary**

The rainbow filter had some influence on people’s perceptions of the target, but it played a minimal role in shaping attitudes and behaviors. Participants exposed to the rainbow filters perceived the users as being greater activists. However, exposure to filters did not change participants’ own prejudicial attitudes, feelings of closeness to LGBTQ people, or behavioral intentions of allyship (i.e., charity donations). Participants who saw queer women’s profiles—regardless of their use of profile filters—perceived them to be greater activists than heterosexual woman, and participants reported less hate when exposed to queer targets. However, queer targets caused greater cognitive reactance (i.e., less positive thoughts toward the profile) than heterosexual targets. One possible explanation for reactance among this young sample may be rooted in changing trends of support. In 2019, the Gay and Lesbian Alliance Against Defamation’s (GLAAD) annual Accelerating Acceptance Index found support for LGBTQ people dropped among the 18- to 34-year-old demographic. Although this new pattern is a surprising trend and in need of additional scrutiny, it provides an initial framework for theorizing why college-aged participants reported more cognitive reactance to images of queer targets than heterosexual targets. Perhaps the effect on cognitive reactance disappears with a slightly older sample given estimations of LGBTQ acceptance by age cohorts (GLAAD, 2019).

**Study 2**

In Study 2, we aimed to replicate and extend the results of Study 1 by examining a non-college sample for greater generalizability. We revised aspects of the cover story and measures to mitigate social desirability bias from participants in this study. For example, the LGB-KASH Scale explicitly addressed prejudicial attitudes in Study 1, and it is possible these statements, written nearly 15 years ago, no longer reflect negative attitudes directed toward LGBTQ people. For example, “I think marriage should be legal for same-sex couples” may be a confusing item for people in the U.S. since the Supreme Court ruling in 2015. In Study 2, we added items that may better reflect contemporary attitudes toward and support for LGBTQ people (e.g., “modern rights”).
Method

As in Study 1, we conducted a 2 (target sexual orientation: queer or heterosexual) × 2 (profile filter use: filter or no filter) between-subjects experiment with heterosexual participants.

Participants

Based on an a priori power analysis in G*Power (Faul et al., 2009), 334 participants were recruited from Amazon’s Mechanical Turk (MTurk) to aim for a final sample of 210 participants for a medium effect size with 95% power. We paid participants $1.80 for a 12-minute study (i.e., at the rate of $0.15/minute; $9.00/hour), and the study was restricted to adults who live in the U.S. The final sample consisted of 186 participants (48% women; 44% exclusion rate). Although this exclusion rate appears high, exclusion for failed manipulation or attention checks with MTurk samples are common in order to secure quality data from a large sample (e.g., Goodman et al., 2013). We excluded participants who did not identify as heterosexual, incorrectly identified the target’s sexual orientation (i.e., heterosexual/queer), and failed an attention check (i.e., identifying target gender). The final sample included heterosexual participants: White (77%), Black/African American (8%), Asian/Asian American (8%), Native Hawaiian/Pacific Islander (6%), or identified with another racial/ethnicity category (1%). Ages ranged from 21 to 64 (M = 35.25, SD = 10.47), and participants’ political orientation on a 9-point scale (1 = extremely liberal, 9 = extremely conservative) averaged 3.72 (SD = 2.26).

Materials and Procedure

We used the materials from Study 1, and we elaborated on our cover story to reduce participants’ likelihood of responding in socially desirable ways toward LGBTQ people. Upon entering the “second part” of the study, participants were told they would be randomly assigned to express their feelings on a “feeling thermometer” for 10 social groups and then the computer will randomly generate five groups to focus on for completing the Self/Other inclusion measure. Although participants answered 10 questions about their feelings toward various social groups and five questions about their perceived closeness to social groups, we only analyzed the LGBTQ-relevant questions. Toward the end of the survey, participants were told that the researchers were collecting data for an unrelated project regarding attitudes toward sexuality, and they responded to a modified charity donation measure in addition to the sexual prejudice measures (the order of these measures were counterbalanced). We made the aforementioned changes to lessen the study’s explicit focus on LGBTQ people.

Measures

We used the same measures from Study 1 to assess state reactance (Freedom Threat, α = .83; Cognition, α = .89; and Affect, α = .91), perceived activism (α = .88), and perceived closeness to outgroup.

Feeling thermometer. Participants used a 101-point sliding scale to record their feelings about LGBTQ people, as well as nine other social groups (e.g., iPhone users, people above the age of 65). They were given scale anchors (0 = cold and not favorable, 100 = warm and favorable) and instructions for interpreting the scale:

Ratings between 50 and 100 mean that you feel favorable and warm about the group. Ratings between 0 and 50 mean that you do not feel favorable or warm about the group. You would rate your feelings at the 50 mark if you do not feel particularly warm or cold about the group.

We adapted the format and instructions from feeling thermometers used in American National Election Studies, which use the same format and instructions but vary the target groups to evaluate (see Zavala-Rojas, 2014, for an overview). Greater scores on this single-item measure indicated warmer and more favorable feelings about LGBTQ people.

Attitudes toward LGBTQ people. We included the Hate (α = .72) and Internalized Affirmativeness (α = .79) subscales from LGB-KASH (Study 1). Due to concerns about survey length and relevance to our analyses, we excluded the Knowledge subscale and Civil Rights subscale from the analysis due to concerns that the items no longer reflect modern-day rights issues.

Modern rights. We included a new measure of support for LGBTQ rights. Participants’ support for modern rights was measured with an 11-item scale combining two items from the Support for Lesbian and Gay Human Rights Scale (e.g., “All university modules in fields such as psychology, education, history, English literature, and health studies should explicitly include lesbian and gay male perspectives;” Ellis et al., 2002; αs range from .87 to .97; Morrison et al., 2005), four items from Brown and Henriquez’s (2011) Support for Gay and Lesbian Civil Rights Scale (e.g., “A potential employee’s homosexuality should never be an issue in hiring decisions”; original α = .92), and five original items (e.g., “Society should advocate for more LGBTQ representation in popular media”). This version of a Modern Rights Scale allowed us to assess beliefs that are still relevant to contemporary debates about LGBTQ rights (e.g., adoption and workplace discrimination, religious freedom, political representation), given previous scales have become outdated quickly in light of societal progress for rights. Participants indicated their agreement with the items on a 7-point scale (1 = strongly disagree, 7 = strongly agree). We averaged the
Results and Discussion

We followed the analysis plan of Study 1. We also tested mediational models to explore the extent to which reactance plays a role in how filter use influences sexual prejudice.

State Reactance

We found a significant effect of filter use on participants’ freedom threat: Participants who viewed the rainbow filter reported greater threatened freedom (M = 1.14, SE = .04) compared to those who did not view the filter (M = 1.01, SE = .04), F(1, 182) = 4.56, p = .03, n_p^2 = .02, 95% CI [0.01, 0.25]. The effect of target sexual orientation and the interaction of target sexual orientation and filter use on freedom threat were non-significant (p-values > .78), and no significant effects or interactions on cognitive (p-values > .23) or affective (p-values > .17) reactance emerged.

Perceptions of the Target

Perceived activism. We replicated the results of Study 1. There was a significant effect of target sexual orientation on perceived activism: Participants perceived queer women as greater activists (M = 3.52, SE = .07) than heterosexual women (M = 3.22, SE = .07), F(1, 182) = 9.77, p < .01, n_p^2 = .05, 95% CI [0.11, 0.49]. There was also a significant effect of filter use on perceived activism, such that participants perceived filter users as being greater activists (M = 3.74, SE = .07) compared to non-users (M = 3.01, SE = .07), F(1, 182) = 57.95, p < .001, n_p^2 = .24, 95% CI [0.52, 0.92]. There was no significant interaction of target sexual orientation and filter use on perceived activism (p = .65).

Sexual Prejudice

Feeling thermometer. There were no significant main effects or interaction of target sexual orientation and profile filter use on favorable feelings toward LGBTQ people (p-values > .16).

Attitudes toward LGBTQ people. There was a significant interaction between target sexual orientation and filter use on Internalized Affirmativeness, F(1, 182) = 6.08, p = .015, n_p^2 = .03. Simple effects tests revealed, within the filter condition, participants reported greater internalized affirmativeness when seeing a queer target (M = 4.01, SE = .23) than a heterosexual target (M = 3.21, SE = .26), F(1, 182) = 5.47, p = .02, n_p^2 = .03, 95% CI [0.13, 1.48]. There were no significant main effects of target sexual orientation (p = .36) or filter use (p = .81) on Internalized Affirmativeness.

There was a significant interaction between target sexual orientation and filter use on Hate, F(1, 182) = 4.13, p = .044, n_p^2 = .02. However, the simple effects tests did not reveal a significant difference at p < .05; therefore, we do not interpret this finding further. There were no significant main effects of target sexual orientation (p = .69) or filter use (p = .91) on Hate. Generally, participants across conditions expressed low levels of sexual prejudice.

Modern rights. There was an interaction between target sexual orientation and filter use on participants’ support for LGBTQ rights, F(1, 179) = 3.97, p = .048, n_p^2 = .02; however, the simple effects tests did not reveal a significant difference. There were no significant main effects of target sexual orientation (p = .53) or filter use (p = .75) on modern rights. Participants across conditions expressed relatively high support for modern rights of LGBTQ people.

Perceived closeness to outgroup. There was a significant interaction between target sexual orientation and filter use on participants’ perceived closeness with LGBTQ people, F(1, 182) = 6.28, p = .013, n_p^2 = .03. Simple effects tests indicated that, within the filter condition, participants reported greater intergroup closeness when seeing the queer target (M = 2.82, SE = .22) than the heterosexual target (M = 1.95, SE = .25), F(1, 182) = 7.08, p = .009, n_p^2 = .04, 95% CI [0.23, 1.52]. There were no significant effects of target sexual orientation (p = .18) or filter use (p = .72) on perceived closeness.

LGBTQ ally behavior. There were no significant main effects or interactions of target sexual orientation and filter use on participants’ pro-LGBTQ monetary donation (p-values > .21).
Exploratory Mediation Analyses: Sexual Prejudice Outcomes

Given filter use did not significantly predict cognitive and affective reactance, we did not test cognitive and affective reactance as mediators. We conducted mediational analyses to explore the indirect effect of filter use on sexual prejudice outcomes (i.e., hate, internalized affirmativeness, modern rights) through participants’ freedom threat reactance. We used bootstrapped mediation analysis with PROCESS (Hayes, 2017; Model 4) to examine the indirect effect of profile filter use on hate, internalized affirmativeness, and support for modern rights through freedom threat. We used the PROCESS macro and re-sampled 5,000 times for bootstrapping estimates, and the distribution of the effects was used to obtain 95% confidence intervals for the size of the indirect effect of freedom threat. We interpreted significance of indirect effects based on whether or not obtained confidence intervals excluded 0. The indirect effect of profile filter use (0 = no filter; 1 = filter) through freedom threat was significant on hate, internalized affirmativeness, and support for modern rights, with unstandardized beta coefficients reported. *p < .05, **p < .001.

Results Summary

In Study 2, we replicated several findings from Study 1: Participants perceived queer women and filter users to be greater activists compared to heterosexual women and filter non-users, respectively. We also found that participants exposed to rainbow filters experienced some reactance (i.e., threatened freedom). In secondary analyses, we discovered that reactance significantly explained participants’ sexual prejudice, such that exposure to filter use contributed to greater feelings of freedom threat, which in turn were associated with more prejudicial outcomes (e.g., more hate and less support for rights). New findings emerged in this study with a slightly older sample; namely, exposure to a queer target using a filter contributed to greater internalized affirmativeness (e.g., “I would attend a demonstration to promote LGB civil rights”) and greater closeness to LGBTQ people than the heterosexual target with a filter. Such findings emerged in this study with MTurk participants perhaps because non-student adults may not feel as pressured by their environment to be nonprejudiced; therefore, they may be less vulnerable to social desirability and more susceptible to the influence of prosocial activist gestures. Students in university settings (Study 1) likely have greater exposure to equality initiatives and sexual and gender diversity than non-students. As a result, it is possible that online activist behaviors, such as pro-LGBTQ pictivism, are not as noteworthy or influential to students’ personal viewpoints.

Study 3

In Study 3, we extended our examination of filter use to LGBTQ viewers. Whereas Studies 1 and 2 examined how heterosexual people are influenced by women’s rainbow filter use in social media, in Study 3, we investigated LGBTQ perceivers and their psychological outcomes (e.g., online belonging, societal cohesion/belonging).

We predicted a main effect of target sexual orientation, such that participants who viewed queer women online would report greater online and societal belonging as a result of having visible ingroup representation. Consistent with previous studies, we also expected queer women to be rated as greater activists than heterosexual women.

We predicted a main effect of profile filter use, such that exposure to filter users would cause greater online and
societal belonging and closeness with heterosexual people than exposure to non-users. Consistent with previous studies, we also expected filter users to be rated as greater activists than non-users.

Contrary to our results of Study 2 that the queer target with a filter was more influential, we predicted an interaction between profile filter use and target sexual orientation, such that participants exposed to a heterosexual target with a filter would report greater online and societal belonging and closeness with heterosexual people compared to those who viewed a queer target with a filter. That is, in the case of LGBTQ participants, we expected that viewing a cue of support from a dominant group member might incite greater feelings of inclusion, given a dominant group member is visibly expressing support through their use of a rainbow filter.

In previous studies, we explored psychological reactance as a mechanism of how filters influence heterosexual participants’ outcomes. In this study, we turned to perceived activism as an important mechanism because we expected that marginalized groups would evaluate the authenticity of the support via pictivism while processing the gesture. In other words, for pictivism or allyship displays to influence marginalized groups’ well-being, the users likely need to be perceived as genuinely committed to pro-LGBTQ equality. Given there is little research to draw from to develop this hypothesis about pictivism, we deemed this mediational analysis exploratory to assess how perceived activism may or may not explain any potential effects of group membership and filter use on participants’ well-being.

Method
We conducted a 2 (target sexual orientation) × 2 (profile filter use) experiment.

Participants
Based on an a priori power analysis in G*Power (Faul et al., 2009), 270 adult participants in the U.S. who identified their sexual orientation as lesbian, gay, bisexual, or queer were recruited and compensated through Qualtrics paneling services to aim for a final sample of 210 participants to detect a medium effect size with 95% power. After initial participant exclusions due to failed manipulation checks (i.e.,
correctly identifying the target’s sexual orientation), we collected data from an additional 47 participants within a 1-month time frame in order to have a relatively balanced number of participants across conditions. The decision to recruit more participants was made prior to running any analyses except for a frequency of participants per condition, and there were no statistical differences among participants collected at the two time points. The final sample consisted of 290 participants (64% female, 33% male, 2% transgender, 0.3% gender fluid) who identified as LGBTQ (33% lesbian, 31% gay, 34% bisexual, 2% queer). Of our bisexual participants, 89% identified as women. The sample was White (81%), Black/African American (7%), Hispanic or Latino (5%), Asian/Asian American (2%), American Indian or Alaska Native (2%), or identified with another racial/ethnicity category (3%). Ages ranged from 18 to 80 years ($M = 41.57, SD = 15.15$). Participants’ political orientation on a 9-point scale ($1 = \text{extremely liberal}, 9 = \text{extremely conservative}$) averaged 3.59 ($SD = 2.21$).

**Materials and Procedure**

We used the same materials from previous studies. Participants reviewed the profiles and answered questions about the target (i.e., perceived activism). However, in the “second part” of the study, we instructed participants to imagine that they encountered the assigned profile in real life while browsing their online social networks. The instructions read as follows:

In the next part of the study, we want you to think about your own online presence and social network (or what you would imagine it to look like if you had a social media account). We would like for you to imagine that you encountered this woman’s profile in real life while browsing Facebook.

After reviewing the woman’s profile again, they completed the remaining counterbalanced measures (online belonging, closeness to heterosexual people, perceived societal cohesion). Participants also responded to a measure of online safety; see the online supplemental material for more information.

**Measures**

We used the same measures from Studies 1 and 2 to assess perceived activism ($\alpha = .85$) and perceived closeness to outgroup, where participants rated their felt closeness to heterosexual people.

**Online belonging.** We measured online belonging with a 4-item scale from LaPointe and Reisetter’s (2008) Experienced Belonging Scale (e.g., “The profile gives me a sense of community online,” “The profile makes me feel comfortable with my online peers”; $\alpha = .88$). We adapted the items originally used to address belonging in online learning environments to fit the purpose of this study by referring to “the profile” to more explicitly capture the profile’s influence on participants’ feelings. Participants indicated agreement with these items on a 5-point scale ($1 = \text{strongly disagree}, 5 = \text{strongly agree}$), and we computed an average score. Greater scores reflected greater feelings of online belonging.

**Societal cohesion.** We measured feelings of societal belonging with a 6-item scale ($\alpha = .94$) from the Sense of Community subscale (e.g., “I feel a sense of belonging to society”) and Feelings of Morale subscale (e.g., “I am enthusiastic about our society”) within Bollen and Hoyle’s (1990) Perceived Cohesion Scale. Both subscales have been reliable in previous research ($\alpha = .82$ to .95; Chin et al., 1999; Hausmann et al., 2007; Moody & White, 2003). We adapted the original items from Bollen and Hoyle (1990), such that each item in the current study specifically referred to sense of cohesion with “society.” Participants responded on a 10-point scale ($1 = \text{strongly disagree}, 10 = \text{strongly agree}$), and we computed an average score. Greater scores reflected more perceived cohesion.

**Results and Discussion**

We followed the same analytical procedures as in Studies 1 and 2, and we conducted exploratory mediational analyses as a follow-up to our primary results.

**Perceived Activism**

We found a significant interaction between target sexual orientation and filter use on perceived activism, $F(1, 286) = 4.28, p = .04, \eta_p^2 = .02$. Simple effects tests indicated that participants who saw a target without the filter perceived the queer target as being more politically engaged ($M = 3.23, SE = .07$) compared to the heterosexual target ($M = 2.98, SE = .08$), $F(1, 286) = 5.33, p = .022, \eta_p^2 = .02, 95\% CI [0.04, 0.45]$; whereas the queer ($M = 3.61, SE = .07$) and heterosexual ($M = 3.67, SE = .07$) targets who used filters were perceived similarly as activists, $F(1, 286) = 0.33, p = .57, \eta_p^2 = .00, 95\% CI [0.14, 0.26]$. There was no significant effect of target sexual orientation ($p = .20$). As in Studies 1 and 2, there was a significant main effect of filter use on perceived activism: Participants perceived filter users as being greater activists ($M = 3.64, SE = .05$) than filter non-users ($M = 3.10, SE = .05$), $F(1, 286) = 53.52, p < .001, \eta_p^2 = .16, 95\% CI [0.39, 0.68]$. 

**Online Belonging**

There was a significant main effect of target sexual orientation on feelings of online belonging, such that participants who saw the queer targets reported greater online belonging ($M = 3.75, SE = .07$) compared to those who saw heterosexual targets ($M = 3.32, SE = .07$), $F(1, 285) = 20.16, p < .001, \eta_p^2 = .07, 95\% CI [0.24, 0.61]$. There was also a
significant effect of filter use on feelings of online belonging, such that participants who saw filter users reported greater online belonging ($M = 3.67, SE = .07$) compared to those who saw filter non-users ($M = 3.40, SE = .07$), $F(1, 285) = 8.11, p = .005, \eta^2_p = .03, 95\% CI [0.08, 0.46]$. The interaction between target sexual orientation and filter use was not significant ($p = .46$).

**Perceived Societal Cohesion**

There was no main effect of target sexual orientation ($p = .18$), but there was a significant main effect of filter use. Participants who saw filters reported greater societal cohesion ($M = 6.60, SE = .17$) compared to those who did not see filters ($M = 5.98, SE = .17$), $F(1, 285) = 6.79, p = .01, \eta^2_p = .02, 95\% CI [0.15, 1.10]$. The interaction between target sexual orientation and filter use was not significant ($p = .87$).

**Perceived Closeness to Outgroup**

There were no significant main effects or interaction of target sexual orientation and filter use on participants’ perceived closeness ($p$-values > .18).

**Exploratory Mediation Analyses**

We conducted exploratory moderated mediation analyses to examine the indirect effect of profile filter use on online belonging and perceived societal cohesion through perceived activism as a mediator (moderated by target sexual orientation). Using bootstrapped mediation analysis with PROCESS (Hayes, 2017; Model 7), we re-sampled 5,000 times for bootstrapping estimates, and the distribution of the effects was used to obtain 95% confidence intervals for the size of the indirect effect of perceived activism. We interpreted the significance of indirect effects based on whether the index of moderated mediation excluded 0. The index of moderated mediation of profile filter use ($0 = \text{no filter}, 1 = \text{filter}$) on online belonging through perceived activism (moderated by target sexual orientation) was significant, $b = -.17, SE = .08, 95\% CI [-.34, -.01]$. The index of moderated mediation of profile filter use on perceived societal cohesion through perceived activism (moderated by target sexual orientation) was also significant, $b = -.24, SE = .13, 95\% CI [-.55, -.03]$. As shown in Figures 4 and 5, participants’ perceptions of the target as more activist explained the relationship between the interaction of filter use and target sexual orientation on online and societal belonging. LGBTQ participants reported more online and societal belonging to the extent they perceived the target as an activist.

**Results Summary**

We found that filter users caused participants to report greater online belonging and perceived societal cohesion than non-filter users, suggesting that filter use plays a significant role in increasing LGBTQ people’s feelings of inclusion within both online and broader societal contexts. In other words, cues of support on social media transcended the online space into participants’ perceptions of a broader society. Our mediation analyses indicated these belonging outcomes were explained by participants’ perceptions of the target’s activism, such that greater perceived activism explained greater feelings of online and societal belonging.

Consistent with heterosexual participants in previous studies, LGBTQ participants perceived filter users as greater activists than non-users. Further, in the no filter condition, they perceived the queer woman as being more activist than the heterosexual woman, and across conditions, participants who saw queer women reported greater online belonging compared to those who saw heterosexual targets. To our surprise,
there were no differences across conditions in participants’ perceived closeness to heterosexual people, suggesting that social media contact with members of the dominant outgroup, even when they are endorsing pro-LGBTQ messages, does not improve LGBTQ participants’ perceptions of intergroup affiliation. It is possible that participants’ beliefs about their closeness to heterosexual people are rather stable because LGBTQ people have a great deal of interaction with heterosexual people (the majority group) in their lives; thus, their ratings of closeness may be less vulnerable to experimental manipulation.

**General Discussion**

We examined the effects of a popular modern display of LGBTQ allyship on both heterosexual and LGBTQ viewers. Do women’s common gestures on social media influence other people’s thoughts and behaviors and how such women are perceived? Previous research suggests social media activism is not slacktivism, as it is positively related to real-world prosocial behaviors (Lane & Dal Cin, 2018; Penney, 2015), but less is known about whether women’s pictivism is sufficiently persuasive to influence other people’s attitudes and behaviors. We found little support that women’s pictivist behaviors greatly change other people’s attitudes or motivate others to participate in prosocial behaviors (e.g., donations). However, in Study 3, we found women’s pictivism delivered benefits for marginalized onlookers. It enhanced LGBTQ people’s perceptions of online belonging and social cohesion. Across studies, the role of group membership mattered. Queer women, compared to heterosexual women, appeared to be more influential in strengthening heterosexual people’s pro-LGBTQ attitudes (i.e., closeness and internalized affirmativeness) and in enhancing LGBTQ people’s online belonging. Consistent across studies, profile filter use influenced heterosexual and LGBTQ viewers’ perceptions of women’s activism: Participants perceived a woman as being a greater activist if she used the rainbow profile filter than when she did not. Based on these findings, we conclude that people do not generally perceive women’s pictivism as slacktivism.

**How Does Women’s Pictivism Impact Heterosexual Viewers?**

Women’s filter use resulted in improved attitudes among heterosexual participants under certain conditions: Filter use by the queer woman was beneficial in increasing participants’ perceptions of closeness to LGBTQ people and their internalized affirmativeness. Internalized affirmativeness referred to items that conveyed participants’ willingness to display an LGBTQ pride symbol or attend a public demonstration in support of LGBTQ rights; thus, exposure to queer women’s pictivism strengthens heterosexual people’s intentions for prosocial engagement. However, filter use and target sexual orientation did not influence actual ally behavior as measured through donation behavior (Studies 1 and 2).

It is possible that another operationalization of ally behavior, such as signing a petition, could be more easily influenced. Our donation measure may have been an overly conservative test of ally behavior: Giving money carries a literal cost to individuals. For participants to behave as allies, they needed to give away hypothetical money to an LGBTQ cause instead of donating to another cause that may be of interest to them (as in Study 1) or having money for themselves (Study 2). It is possible some ally behaviors (e.g., attending rallies, petitioning, advocating for and with marginalized groups in interpersonal or online exchanges) may be influenced by repeated exposure to other people’s online activism, but based on these data, we conclude pictivist
behaviors online are unlikely to motivate others to donate. This information should be useful to those using pictivism in hopes of fundraising for a cause.

We found some evidence that heterosexual viewers felt threatened freedom after exposure to filters, which suggests filter use carries some risk in presenting a political message perceived as threatening to someone else’s belief system (Dillard & Shen, 2005). Mediation analyses indicated freedom threat was a significant mechanism to explain participants’ prejudice, internalized affirmativeness, and support for modern LGBTQ rights. Future research should consider what helps to curtail reactance when communicating pro-LGBTQ messages. The influence of reactance on the message uptake of online activism will be critical for understanding the efficacy of activist behaviors as activism continues to grow on digital platforms.

Although we presented competing possibilities for the role of the filter user’s group membership (i.e., heterosexual or queer), given previous research related to advocacy and confronting prejudice (e.g., Czopp & Monteith, 2003), the current data suggest that a queer person engaged in online activism is more persuasive than a heterosexual person. A Facebook user’s sexual orientation, made visible by a profile picture, shaped heterosexual viewers’ perceptions. Heterosexual participants perceived the queer woman as being more politically engaged than the heterosexual woman, which supports broad societal perceptions that link LGBTQ identity with political and activist issues (e.g., Ayoub, 2018; Hitlin et al., 2013), and the queer woman’s use of a filter caused participants to feel closer to the outgroup and to express greater internalized affirmativeness than a heterosexual woman’s filter. Thus, queer woman on social media can have influence on dominant groups if their identities are known and they are socially or politically active publicly, specifically through pictivism.

**How Does Women’s Pictivism Impact LGBTQ Viewers?**

Assessing LGBTQ people’s perspectives and experiences in light of online social media activism is an important area of inquiry, given marginalized groups’ perceptions of ally behavior are largely absent from allyship and activism research (cf. Cheng et al., 2019). From these data, we draw the conclusion that if a filter user’s goal is to communicate support to those targeted by the filter, the gesture appears to be working as intended. Filter use enhanced LGBTQ viewers’ perceived belonging and cohesion, and exploratory mediation analyses demonstrated these two outcomes were explained by participants’ perceptions of the filter user as being an activist. For marginalized group members, representation of other ingroup members online also caused belonging. LGBTQ participants exposed to the queer woman target reported greater online belonging compared to those who saw the heterosexual target. The current findings elucidate the significance of LGBTQ people’s visibility in online communities as their representation positively impacts other LGBTQ individuals in social media environments. However, due to the overrepresentation of some LGBTQ people in this study (e.g., bisexual women), it would be prudent to further examine who in LGBTQ communities is most impacted.

**Theoretical and Practice Implications**

The present research yields implications for advancing understanding of online social contact, performative allyship, and collective action motivations. Consistent with parasocial contact theory and e-contact (Schiappa et al., 2005; White et al., 2019), digitally mediated contact with an outgroup may similarly reduce intergroup prejudice as face-to-face interactions. The interaction of filter use and target sexual orientation on closeness and internalized affirmativeness in Study 2 provides some support for a compounded effect: For heterosexual people, having intergroup contact with queer people through their online visibility and having exposure to their online activism may be the most influential form of attitudinal change via social networks. Researchers could clarify the mechanisms and individual differences that underlie positive effects of exposure to filter use and contact with queer targets. For instance, contact with an outgroup member’s social media profile may reduce feelings of uncertainty and increase familiarity with the outgroup (Allport, 1954); yet, some heterosexual viewers could merely be motivated by a desire to appear nonprejudiced after being exposed to pro-diversity images. Thus, filter use may prompt different psychological gymnastics among different viewers; some may engage in empathetic perspective-taking, some may respond based on social desirability concerns, and some may adjust what they perceive to be the norms surrounding acceptance and support of LGBTQ people. We also encourage researchers to investigate whether the positive outcomes for heterosexual and LGBTQ viewers are enduring. Given the daily frequency in which many people turn to their social media accounts, the effect of filter use and exposure to queer people online may be short-term but recurrent.

Implications for the practice of collective action and activism are mixed. Positive online interactions with dominant outgroup members may cause LGBTQ people to overestimate the amount of support offered to them by heterosexual people, which, counterintuitively, may decrease LGBTQ people’s engagement in collective action for equal rights. This potentially false sense of support and equality is concerning, given people’s intentions of using a filter are unknown and profile filters may be a form of performative allyship, as speculated upon earlier. Because individuals create their own social networks, heterosexual people may adopt this filter because they suspect it will be received well or that their friends share similar political opinions to them (State & Adamic, 2015). In other words, this gesture may be well-intentioned but somewhat empty. According to Reimer and colleagues (2017), demobilization via positive intergroup
contact occurs through four mechanisms: disidentification (i.e., reducing minority groups’ in-group identification), perceived equality (i.e., reducing feelings of discrimination), calmness (i.e., reducing feelings of anger), or liking (i.e., increasing positive feelings toward outgroup). Reimer et al. (2017) found that although positive intergroup contact motivated heterosexual people to advocate for LGBTQ rights, only negative intergroup contact motivated LGBTQ people’s advocacy. Thus, if LGBTQ people are overly exposed to empty gestures of pictivism, they risk becoming collectively disengaged if they discount the pervasiveness of inequality. There lay the dangers of performative allyship—the illusion of positive social change obscures reality when activism is performed without sincerity.

On the other hand, pictivism may contribute to increased collective action. Social identity motivates collective action (Van Zomeren et al., 2008), and politicized social identities (i.e., identities tied to sociopolitical movements) are stronger predictors for collective action than non-politicized identities (Duncan, 2018). LGBTQ-related filters may daily remind people of how sexual orientation continues to be fraught with political and social battles. Exposure to an LGBTQ-oriented filter thus may motivate LGBTQ people to engage in collective action or rally around a specific LGBTQ cause (e.g., same-sex marriage rights). Put simply, a frequent and repeated reminder that one’s identity is a central part of their social and political action remains critical.

**Limitations and Future Directions for Research**

Across three studies, we excluded participants who incorrectly identified the target’s sexual orientation. Using couple photos to convey a same-gender and different-gender relationship may not be as clear as intended, and some participants may have guessed the target’s sexual orientation. Although we ensured our manipulation worked for the participants we retained for analysis, future researchers should consider using more explicit methods of conveying social media users’ identities (e.g., providing identity information in the study instructions or in the text of one’s profile). Survey data could be useful to elucidate how queer people disclose identities online (e.g., through pictures, status updates, cues or symbols, demographic information). Of note, we did not expect participant gender to be a meaningful factor in this research; however, we used the existing data sets to assess potential effects of gender on the results. We conducted a sensitivity analysis to compare effect sizes when using the full sample to effect sizes when using only women in the analyses (see the online supplemental material). We observed that the effect sizes were consistent and similar across analyses, with the only noticeable difference occurring in the effect of filter use on perceived activism in Study 2. This analysis suggested participant gender played a minimal role in these results, though future research could further pursue how participant gender may impact the influence of pictivism.

Another limitation involves using White women to represent our social media users; therefore, our findings only reflect responses to seeing a White woman’s profile activity. Given that perceptions of activist behaviors also depend on gender (Chang et al., 2014; Czopp & Monteith, 2003; Gervais & Hillard, 2014) and race (e.g., Czopp & Monteith, 2003; Czopp et al., 2006; Gulker et al., 2013; Schultz & Maddox, 2013), these findings may differ for other targets (e.g., White men or racial minorities who engage in pictivism). Also, the current results represent perceptions of unknown social media targets, which best reflect contexts in which strangers interact or see one another online (e.g., in large Facebook groups or browsing Facebook comments). In reality, people likely encounter filter use within their known social network; that is, they view their friends’ filters. Perceptions of online activism may be affected by viewers’ closeness or familiarity with the target (e.g., whether pictivism seems characteristic or uncharacteristic of the target). There are a number of interesting possibilities in this domain. When pictivism use is perceived to be uncharacteristic of a target, it may be perceived as being less genuine (i.e., as slacktivism) or may be perceived even more favorably because the target has positively violated expectations others have for them.

We recognize the limits of generalizability related to the type of filter used. We examined reactions to the rainbow filter, and this filter only represents one of many popular filters used in the past (e.g., the French flag, “I Voted”). The current results do not represent people’s responses to profile filters for other social causes, and future research should clarify how different social causes may result in similar or different reactions. For example, a filter expressing support for an ongoing sociopolitical issue (i.e., LGBTQ rainbow filter) may elicit different reactions than a filter used as an immediate response to tragedy (e.g., French flag filter in response to terror attacks) or in urgency (e.g., Planned Parenthood filter in response to political attacks on reproductive freedom). Likewise, different filters for the same cause may produce different reactions depending on the broader context surrounding the filter’s implementation. For example, one can show support for LGBTQ people with the general rainbow filter; however, one can also show support for LGBTQ people through a filter specific to an LGBTQ-related event (e.g., the Orlando Pulse nightclub shooting; HIV/AIDS awareness). We hope this research sparks interest among researchers to critically assess the broader social context surrounding filter use.

**Conclusion**

Women, compared to men, use social media to a greater extent to participate in activism campaigns and events (Penny, 2015; Sehl, 2018; State & Adamic, 2015); thus, the
current research entered new empirical territory to examine the effects of a widespread social behavior that is characteristic of women’s online lives. Given the pro-LGBTQ rainbow filter’s ubiquitous nature, we investigated the effects of this popular activist gesture on both heterosexual and LGBTQ perceivers to clarify its potential for positively influencing attitudes. Our findings suggest women’s filter use carries some attitudinal benefits for both dominant and marginalized viewers, although it does not appear to foster immediate pro-LGBTQ activist behavior among heterosexual viewers (potential allies). These data shed light on the utility of popular social media activism in light of skepticism surrounding online slacktivism and performative allyship. Although filter use may be a low effort form of allyship and activism, the use of a rainbow pride filter on Facebook is quite influential for improving the online and societal well-being of LGBTQ people who are exposed to people’s use of it. In recognizing the role of social media platforms as a widespread activist tool, this research helps to inform effective activism to promote cross-group solidarity and affirm marginalized identities in online spaces.

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