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**The association between transgender-related fiction and transnegativity:
Transportation and intergroup anxiety as mediators**

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Abstract

Fictional narratives can serve as an indirect contact strategy when direct contact between two groups is not feasible. This study investigated whether exposing cisgender individuals to transgender-related fiction was associated with reduced transnegativity. Two emotion-related mediators were examined in this relationship: transportation into the story (proximal to fiction exposure) and intergroup anxiety (proximal to contact theory). Cisgender participants ($N = 84$) viewed or read stories involving transgender characters or read a science article. Those who encountered transgender characters reported lower transnegativity than those who read the control story. Transportation into the story and intergroup anxiety serially mediated this relationship. The findings suggest conditions under which a fictional story can expand an audience's social world and thereby serve as a strategy for prejudice reduction.

Keywords: indirect contact, prejudice, fiction, transnegativity, intergroup anxiety

Introduction

Transgender individuals face widespread prejudice. Globally, transgender individuals are systematically excluded from employment opportunities, legal protection, and adequate health services (Greene, Benner, & Pear, 2018; Reisner et al., 2014; Shah & Radix, 2016), and face a high risk of becoming targets of hate crime (Broockman & Kall, 2016). While there is evidence that negative attitudes from cisgender individuals toward their transgender counterparts can be reduced by establishing direct contact (Flores, 2015; Hoffarth & Hodson, 2018; Tadlock et al., 2017), face-to-face encounters can be threatening or harmful for transgender individuals. Cisgender people may respond to the disclosure of transgender status with prejudice or violence, particularly toward transgender women (Levitt & Ippolito, 2014; Miller & Grollman, 2015; Wodda & Panfil, 2014). In this case, indirect contact (Brown & Paterson, 2016) can be a first step to address transnegativity.

Narratives, either fictional or non-fictional, can be used as a form of indirect contact (Paluck & Green, 2009). Researchers have characterised narratives as either *vicarious contact*, where ingroup audiences observe ingroup and outgroup characters interacting (Joyce & Harwood, 2014), or *parasocial contact*, where an ingroup audience encounters outgroup characters or media personalities (Schiappa et al., 2005; Vezzali, Stathi, & Giovannini, 2012). Fictional narratives provide a unique opportunity for individuals to mentally simulate social worlds, interactions, and selves (Mar & Oatley, 2008). Research shows that audiences who engage with fiction—in written, audio-visual, or audio format—report enhanced social cognition (Dodell-Feder & Tamir, 2018; Mumper & Gerrig, 2017), and more positive intergroup attitudes (Johnson, Jasper, Griffin, & Huffman, 2013; Vezzali, Stathi, Giovannini, Capozza, & Trifiletti, 2015).

Not all character portrayals of an outgroup can have a positive effect on audience's attitudes, however. Traditionally, media representations of transgender people have reinforced

stereotypes and misconceptions about this group, with narratives that position them as “others” to be pitied, ogled, or ridiculed (Hoskin, Earl, & Yule, in press; Miller, 2012). The literature shows that negative portrayals confine trans characters to be a source, or target, of harm or evil, as deceivers, predators, gender-transgressive killers, or victims (Miller, 2012; Ryan, 2009), or limit these characters’ storylines to their gender identity, with the focus on transitioning or facing oppression (Hoskin et al., in press). On the other hand, positive media portrayals entail showing transgender characters whose experiences are normalized in the narrative, meaning that their transgender identity is not the sole focus of these characters (Hoskin et al., in press).

Findings from correlational, quasi-experimental, and experimental studies have shown that mass media can aid in transnegativity reduction. Hoffarth and Hodson (2018), and McDermott et al. (2018) found that exposure to transgender characters via TV or film was linked to lower transnegativity, respectively, when exposure was spontaneous (reported in an online survey) or prompted by the researchers (a film shown in a lab). In a quasi-experimental study, Gillig, Rosenthal, Murphy and Folb (2018) conducted an online survey to compare the responses of TV viewers who had watched an episode of a specific show with a transgender storyline, and viewers who did not see that target episode. Findings showed that transgender-related narratives have a positive effect on cisgender audiences’ attitudes and emotions toward transgender people. On the other hand, Solomon and Kurtz-Costes (2018) found that participants who viewed positive TV portrayals of transgender women did not show changes in transnegativity levels, but those exposed to negative portrayals reported higher transnegativity. These mixed findings may be better understood by examining the mechanisms underlying the relationship between fiction exposure and attitude change.

The emotional route, rather than the cognitive one, appears to better explain the ameliorating effect of fiction on prejudice. Studies show that becoming emotionally immersed into a story, a process called Transportation, is necessary to influence individuals’ attitudes

when they engage with fiction (Bal & Veltkamp, 2013; Green & Brock, 2000; Green, Kass, Herzig, Feeney, & Sabini, 2008). While transportation includes cognitive processing, immersion in a text is predominantly based on emotionality (Green & Brock, 2000). Transportation has been found to mediate the relationship between fiction and prejudice reduction (Johnson, 2013), by increasing empathy (Bal & Veltkamp, 2013), likelihood of prosocial behaviour (Johnson, 2012), and persuasion (Quintero & Sangalang, 2016). These effects of transportation have been observed in fiction research regardless of the medium –print or film– in which the story was presented (Black & Barnes, 2015; Green et al., 2008; Mar & Oatley, 2008).

In contact research, the most reliable mediator found between contact and prejudice reduction also relates to emotion (Pettigrew & Tropp, 2008; Tausch, Hewstone, & Roy, 2009). This mediator is intergroup anxiety, defined by Stephan (2014) as a set of emotions that individuals experience when they engage, or anticipate engaging, in intergroup interaction. Although emotion is the centre of this construct, Stephan (2014) explained that intergroup anxiety comprises affective, cognitive, and physiological components. Researchers proposing the use of fiction as contact (Johnson, Jasper et al., 2013; Paluck, 2009) have asserted that fiction can reduce intergroup anxiety, functioning as a “safe haven” that allows individuals to explore intergroup encounters that they may find threatening otherwise.

Emotions thus appear to be the unifying thread for the effects of fiction and contact, separately. Johnson, Jasper et al. (2013) examined intergroup anxiety as a mediator between fiction exposure and Arab-Muslim prejudice, while Gillig et al. (2018) examined transportation as a mediator between political ideology and attitudes toward transgender people after watching transgender characters on a TV show. The present study extends the literature on fiction and prejudice in three ways, by testing the mediating effect of transportation between fiction exposure and attitudes toward transgender people. First, this study tests the conjecture

that transportation may promote an emotional response (Gillig et al., 2018) by examining a serial mediation effect of transportation and intergroup emotions (intergroup anxiety) on transnegativity; in other words, these mediators are tested not in parallel, but in sequence. Second, this study uses an experimental design, whereas most relevant research on fiction and transnegativity, except for Solomon and Kurtz-Costes (2018), have used correlational or quasi-experimental designs. Lastly, all previous studies have used televisual fiction, while this study includes written fiction. It was expected that entering a fictional world (transportation) with transgender characters would be a prerequisite for holding less negative intergroup emotions (intergroup anxiety), and therefore lower transnegativity.

The fiction pieces used in this study portray transgender women. Wodda and Panfil (2014, p. 931) showed that prejudice toward transgender women, also termed transmisogyny, entails a “backlash against femininity”. Compared to transgender men, transgender women are at a higher risk of fatal violence at the hands of cisgender people, specially cisgender men (Miller & Grollman, 2015). Transgender women are also more frequently depicted in the media than transgender men, presented as deceivers, mentally ill, or predators, inciting a “trans panic” that justifies using violence to punish them (Lee & Kwan, 2014; Miller, 2012). This study builds upon previous studies on transnegativity and media, which have used characters portraying transgender women (Gillig et al., 2018; Hoffarth & Hodson, 2018; McDermott et al. 2018; Solomon & Kurtz-Costes, 2018) while assessing attitudes regarding gender norms and roles that are common to prejudice toward transgender men and women, and non-binary people (Cramwinckel, Scheepers, & van der Toorn, 2018; Tebbe, Moradi, & Ege, 2014). These studies suggest that positive media representations of transgender women can support a public shift toward more favourable attitudes regarding this group, and transgender people in general.

This study investigated whether exposure to trans-related fiction was associated with lower transnegativity, compared to a control story. The mediating roles of transportation and

intergroup anxiety were assessed in this relationship. To this end, cisgender participants read or viewed fictional stories featuring transgender women, or read a science article about space exploration. It was expected that participants exposed to trans-related fiction would report lower transnegativity, compared to those who read a control story (Hypothesis 1). It was also expected that transportation would mediate the relationship between fiction exposure and transnegativity (Hypothesis 2); and that transportation would mediate the relationship between fiction exposure and intergroup anxiety, which in turn would be associated with transnegativity (Hypothesis 3).

Method

Participants

Participants were 84 cisgender adults (49 women) in the United Kingdom, whose ages ranged from 18 to 84 years ($M = 42$ years, $SD = 19.79$). The majority of participants self-identified as White (73.8%) and heterosexual (88.1%), and reported having an undergraduate or postgraduate education level (76.2%). Most reported not knowing a transgender person (68%).

The required sample size to achieve power of .80 ($p < .05$) in a one-way ANOVA (Hypothesis 1) was not met (see Limitations). For mediation analysis (Hypotheses 2 and 3), Hayes (2018) recommends avoiding power estimations given that direct and indirect effects are unknown a priori. Hence, a sensitivity analysis was conducted. This type of analysis is considered more informative than a post-hoc power analysis because it allows to estimate the minimum effect size that the experiment can detect with 80% power (Sorolla, 2017). The sensitivity analysis showed that the minimum effect size detected by this study was $f^2 = .34$ ($p = .05$, power = .80), which is a large effect size (Selya et al., 2012). To align with the effect size statistic used in this study, the above f^2 was converted to $d = .68$.

Design and materials

Participants were randomly allocated to one of three conditions. Two conditions included fiction stories featuring transgender women: a web-based televisual series condition (three episodes of *Her story*), and a written short story condition (two stories, *What decent people do*, *To finish the row*, Chase, 2016a, 2016b). For the latter condition, two stories were chosen because their estimated reading time matched the length of the web-series episodes. These two forms of media were used to account for effects based on format (e.g., a video might be more engaging or vivid than text). This comparison was exploratory, to test whether the medium of the story would show a differential effect (Black & Barnes, 2015; Mar & Oatley, 2008). The trans-related stories were chosen on the basis that both the characters and the creators of these stories were transgender, and the stories addressed everyday experiences of transgender women with cisgender friends and romantic partners.

The control condition was a non-fiction piece unrelated to transgender issues, an article about Mars exploration, published in a science magazine for non-specialised audiences (Carey, 2016). Transportation is more likely to occur in fiction than in non-fiction because the former encourages the audience to make more inferences than the latter (Koopman & Hakemulder, 2015; Oatley, 2016). We chose non-fiction as the control condition to ensure that any transportation effect would arise from the fictional content of the stimulus rather than from its other characteristics (e.g. attentional demand). We expected that the fiction effect on intergroup variables would in part arise from it producing greater transportation than non-fiction.

Materials for the three conditions were available online. These stories were equivalent in terms of estimated time required to finish the material, by length of video or average reading speed. Random distribution of participants across the conditions resulted in 32.1% (*n*

= 27) of the sample allocated to the Web-series condition, 34.5% ($n = 29$) to the Short story condition, and 33.3% ($n = 28$) to the Science article condition.

Measures

The measures are presented in the order in which they were administered. Unless otherwise noted, all items were completed using a 7-point response scale (1 = Completely disagree/Not at all, 7 = Completely agree/Very much).

Socio-demographic questions. This set of questions was presented before the story, asking participants about age, gender, ethnic background, political orientation, religious affiliation, level and field of education, and sexual orientation.

Transportation scale (Green & Brock, 2000). This 11-item scale measured engagement with a story ($\alpha = .81$), and has been used for both print and film narratives (Quintero & Sangalang, 2016). Example item is “While I was reading the narrative/watching the program, I could easily picture the events in it taking place”. Three items were reverse-scored.

Stimulus assessment (Djikic et al., 2009). Two questions measured the extent to which participants rated the story as artistic and interesting. Djikic et al. (2009) used these questions to ensure that any effect was attributable to the experimental manipulation (in the current study, presence of transgender characters), and not to the participant’s perception of artistic merit or interest elicited by the story. Using the interquartile range (IQR) rule to detect outliers, three data points were excluded for the “Interesting” question.

The Genderism and Transnegativity Scale (Tebbe et al., 2014). This 17-item scale assesses negative attitudes and propensity for violence toward transgender individuals with two factors: Genderism and Transnegativity Scale (GTS), and Gender-bashing. Only the GTS was used in this study ($\alpha = .94$), as Gender-bashing includes behaviours (e.g. “I have beat up

men who act like sissies”), and Billard (2018) and Walch et al. (2012) advised removing behavioural items from attitudinal scales. A higher score indicates greater transnegativity. Example item is “People are either men or women”. Using the IQR rule to detect outliers, four data points were excluded from the analysis.

Intergroup anxiety (Stephan & Stephan, 1985). This scale was based on Tausch et al.’s (2009) study, and it contained six items to assess negative emotions that may arise during intergroup encounters ($\alpha = .84$). Three items were negative emotions, and three were positive; the latter were reverse-scored so that a higher score indicates higher intergroup anxiety levels. The items on this scale were introduced with the question: “If you were to interact with a transgender person later today, how would you feel?” Example items are “Awkward” and “Comfortable”.

Transgender acquaintances. One item read: “Do you know someone who is transgender?” Response options were: “No” and “Yes”.

Procedure

Potential participants were recruited via online posts and leaflets distributed by community groups in Sheffield, United Kingdom, from January 2017 to May 2018. Those who signed up for the study came into the lab for a study on “immersion” in stories. They sat at a computer to read or view a story, and responded to the questionnaire. Participants received £5.00 in exchange for their participation, or course credit in the case of Psychology undergraduates.

Results

Stimulus assessment

Two questions helped determine whether the stories were equivalent in terms of the interest they elicited and their perceived artistic merit. The mean scores and standard deviations for these questions are displayed on Table 1. The ANOVA for this stimulus assessment resulted in no significant differences between the three conditions, for how interesting, $F(2, 78) = .02, p = .97$, and how artistic, $F(2, 78) = .82, p = .43$, the story was perceived by participants.

[Insert Table 1]

Test of hypotheses

The mean scores and standard deviations for all measures involved in the hypotheses were examined, and are shown on Table 2.

[Insert Table 2]

Hypothesis 1 stated that exposure to trans-related fiction would be associated with lower transnegativity, compared to exposure to a control story. The mean scores for transnegativity by condition are displayed in Figure 1. A one-way ANOVA showed a marginal difference between the three conditions, $F(2, 77) = 3.10, p = .051, \eta^2 = .07$. Post-hoc t-tests showed a significant difference between the short story ($M = 1.90, SD = .80$) and control condition ($M = 2.51, SD = .98$), $t(52) = -2.45, p = .017, d = .68$. No difference was found between the web-series ($M = 2.16, SD = 2.87$) and the other two conditions, separately. Therefore, results partially support Hypothesis 1.

[Insert Figure 1]

Hypothesis 2 stated that transportation would mediate the association between fiction exposure and lower transnegativity. For this hypothesis, Hayes' (2014) SPSS PROCESS Macro was used to test a mediation model (Model 4). The variables in this mediation analysis were: Type of story (Trans-fiction = 1, Control = 0) as the categorical independent variable; Transportation as the mediator; and Transnegativity as the dependent variable.

The resulting model showed that Type of story had no significant direct effect on Transnegativity, and the total direct model was not significant, $R^2 = .24$, $F(1, 79) = 1.24$, $p = .267$. However, exposure to trans-fiction was associated with higher Transportation than was exposure to the control story, $\beta = .72$, $SE = .20$, $p = .009$. Transportation was also negatively linked to Transnegativity, where higher transportation was linked to lower transnegativity, $\beta = -.45$, $SE = .13$, $p = .001$. The model for this indirect effect was significant, $R^2 = .14$, $F(2, 78) = 6.53$, $p = .002$. Results thus supported Hypothesis 2, as Transportation mediated the relationship between Type of story and Transnegativity.

Hypothesis 3 stated that Transportation would mediate the relationship between fiction exposure and intergroup anxiety, which in turn would be associated with transnegativity. For this hypothesis, Hayes' (2013) Model 6 was used, which tests the effects of two serial mediators, with 95% CIs. The same variables included in the model for Hypothesis 2 were used here, with the addition of Intergroup anxiety as a second mediator (Figure 2).

Results showed that Type of story elicited higher Transportation, $\beta = .74$, $SE = .20$, $p < .001$, that is, participants in the trans-fiction condition were more transported into the story than those in the control condition. In turn, higher Transportation was linked to lower Intergroup anxiety, $\beta = -.32$, $SE = .13$, $p = .020$, and the latter was associated with lower Transnegativity, $\beta = .40$, $SE = .08$, $p < .001$. The indirect effect of intergroup anxiety alone was not significant, $\beta = -.05$, $SE = .12$, $CI[-.31, .17]$, which might imply that transportation is

a precondition for the effect of a story on intergroup anxiety. The total effect of Type of story on Transnegativity was significant, $\beta = -.48$, $SE = .21$, $p = .026$, $R^2 = .24$, $F(1, 78) = 5.12$, $p = .026$. The indirect effect (i.e. pathway via the two mediators), was also significant, $\beta = -.09$, $SE = .05$, $CI[-.212, -.011]$.

Consequently, the results supported Hypothesis 3: Transportation and Intergroup anxiety serially mediated the relationship between Trans-related fiction and Transnegativity.

[Insert Figure 2]

Considering the high percentage of participants who reported not knowing someone who is transgender (68%), a complementary comparison between the trans-fiction and control conditions was conducted in terms of previous contact. In the subsample that reported not knowing someone who was transgender, transnegativity scores were significantly lower for participants in the trans-fiction condition, than for those in the control condition, $t(55) = -2.16$, $p = .035$, $d = .58$. Differences were not significant in transnegativity for those who reported previous contact, $t(25) = .62$, $p = .536$. These results support previous findings suggesting that ingroup members without previous contact with outgroup individuals can respond more positively to the outgroup as a whole when contact is indirect.

Discussion

Findings from this study suggest that media exposure to transgender characters can reduce transnegativity via emotional responses. First, participants exposed to trans-related fiction reported lower transnegativity, when fiction was presented in written form, compared to those exposed to a scientific article (Hypothesis 1). Second, participants' level of transportation into the story was a significant mediator in this relationship (Hypothesis 2), in

line with research that asserts transportation as a key narrative mechanism to influence attitudes (Green et al., 2008; Quintero & Sangalang, 2016). Lastly, transportation was a prerequisite for lower intergroup anxiety to occur: The more transported participants were into the story with transgender characters, the lower intergroup anxiety they reported about encountering transgender people (Hypothesis 3). These results suggest that fiction can be a distinct form of contact that requires certain qualities to encourage immersion into the story before producing an effect on intergroup emotions.

Anti-transgender prejudice was lower in participants exposed to written fiction, but not for those who viewed televisual fiction, compared to the control condition. The content of the stories may provide insight into these differences, expanding on the discussion of positive and negative media representations (Hoskin et al., in press). The web-series was deemed to be of high quality (e.g. it was nominated for the Emmy Awards in 2016). This web-series followed two transgender women in different contexts, as friends, employees, and romantic partners. In contrast, the two written short stories focused on scenes portraying a conversation, and had what Kidd and Castano (2013) refer to as unidimensional characters. While both contact and fiction literature emphasise the need for complex outgroup representations to reduce prejudice (Brauer et al., 2012; Oatley, 2016), Kidd and Castano (2013) have suggested that simpler representations in fiction –“flat” characters– may be equally effective to influence social cognition. The characters from the short stories were not complex, but the emotions they conveyed might have been (e.g. being fearful of getting hurt while simultaneously hoping to be accepted). It might be that participants who read these stories found it easier to emotionally engage with a specific situation, compared to those who viewed the more cognitively demanding web-series story.

The lack of effect in the video condition suggests implications for the use of video-based contact with transgender people, which has mostly been associated with lower

transnegativity (Gillig et al., 2018; Hoffarth & Hodson, 2018; McDermott et al., 2018). While appearance is not a marker of transgender identity (Kuper et al., 2011), one aspect of transnegativity pertains to the focus on the individual's appearance; trans people who do not meet social expectations regarding a gender-congruent appearance are more likely to suffer discrimination (Platt & Milam, 2018). Nevertheless, the awareness that one is initiating contact with outgroup members can generate negative intergroup attitudes (Solomon & Kurtz-Costes, 2018). In considering fiction as contact, and in line with previous research, results from this study suggest that written fiction may provide a "safe" standpoint to first engage with transgender characters (Johnson, Jasper et al., 2013), while brief video-based narratives may not be enough to improve attitudes toward this group (Solomon & Kurtz-Costes, 2018).

The issues stated above support the call for better and long-term media representation of transgender people. As previously mentioned, contact research shows that exposure to complex representations (i.e. negative and positive traits) of outgroup members can decrease negative attitudes toward them (Brauer et al., 2012); fiction allows to showcase such complexities (Kidd & Castano, 2016). For cisgender people, accurate media representations of transgender people can provide a deeper understanding of life experiences to counter misconceptions and stereotypes about this stigmatised group. For transgender people, seeing their group represented and their experiences positively portrayed in the media can help them realise that they belong in the world, and that their experiences are valid and shared by others like them (Hoskin et al., in press; Levitt & Ippolito, 2014).

The limitations of this study must be addressed to improve future research. The first limitation is that this study is underpowered. Although the final sample size was in line with an equivalent study on this topic (McDermott et al., 2018), fewer participants than required to achieve 80% power signed up for the study, even after extending its advertisement. This may

have been due to the on-site nature of the study, which required more commitment from potential participants, compared to online or quasi-experimental studies. A second limitation is the potential confounds in measurement, such as social desirability from those who read trans-fiction, and the manipulations of both character of the story (transgender versus no mention of gender identity) and type of narrative (fiction versus non-fiction); these confounds should be controlled for in future research.

A third limitation of this study was that the majority of participants reported sociodemographic characteristics that have been associated with lower transnegativity (Acker, 2017; Hill & Willoughby, 2005; Nagoshi et al., 2008). Furthermore, since this study was advertised as research on reading or viewing stories, it is likely that participants who volunteered were already interested in these activities (Bergen et al., 2018). One last limitation is that knowing a transgender person was not considered an intermediate variable, and it was only examined as a grouping variable. Nevertheless, those who reported not knowing a transgender person (68% of participants), compared to those who did, showed a significantly lower transnegativity scores after exposure to fiction vs. non-fiction. This result encourages future research to test the role of direct contact in the audience's relationship with transgender fictional characters.

Future studies should include samples with a higher level of baseline prejudice to make the results more representative of the general population, as well as participants who are not inclined to spontaneously engage with stories. Levels of prejudice should also be compared between heterosexual, and lesbians, gay men, and bisexuals (LGB) in fiction exposure studies, as LGB people share experiences of prejudice with transgender people, but can also hold anti-trans attitudes of their own (Garellick et al., 2017). Another consideration for future studies is that audiences may need long-term exposure to fiction to change their attitudes or perceptions of social norms (Appel & Richter, 2007; Fong et al., 2013; Paluck,

2009). The growing presence and complexity of transgender characters in the media (GLAAD Media Institute, 2019) has yet to counter the public's perception of transgender individuals as "perverts" and non-human (Miller, 2012; Ryan, 2009), and to reduce violence toward this population (British Broadcasting Corporation, 2019; Levin, 2019). To this day, this perception supports law and civil rights discourses that reinforce transgender people's social exclusion (Broockman & Kall, 2016; Levasseur, 2015). The potential for socio-cognitive enhancement after a brief encounter with fiction may be limited (Panero et al., 2016), and long-term exposure might be necessary for characters representing stigmatised groups (Solomon & Kurtz-Costes, 2018).

Nevertheless, the findings from this study align with evidence suggesting that short-term engagement with fiction can help improve intergroup attitudes (Appel & Mara, 2013; Johnson, Cushman, Borden, & McCune, 2013). This effect requires an emotional engagement with the story, which in turn is associated with changes in intergroup emotions. Hence, representation of minority groups in the media should be understood not only in terms of characters' presence but of their complexity. Narratives about and by creators from marginalized groups should be promoted on different societal levels (e.g. school, communities, mass media), as these narratives offer an opportunity for potentially meaningful indirect contact.

Current anti-transgender attitudes in Western societies are reflected and reinforced by negative media portrayals of transgender individuals (Broockman & Kalla, 2016; Lee & Kwan, 2014). However, positive portrayals can also be influential: The movie "A Fantastic Woman", about a transgender woman and starring a transgender actress, was credited with increasing public support for a gender identity bill in Chile (Londono & Bonefooy, 2018). The current study showed that exposure to fiction featuring transgender women was associated with lower transnegativity. The mechanisms for this association were rooted in (1) a proximal

factor to fiction, transportation—the story needs to be immersive enough; and (2) a proximal factor to contact, intergroup anxiety—the representation of outgroup characters may be vital to reduce the audience’s perceived threat from the outgroup. These findings encourage further research on fiction as contact: Through its offering of novel worlds and vantage points, fiction can help audiences to recognize outgroup members as regular inhabitants of the wider social world.

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Declaration of interest

The Authors declare that there is no conflict of interest.

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Table 1. Mean scores and standard deviations of stimulus assessment by condition¹

Conditions		Story was interesting		Story was artistic	
		Mean	SD	Mean	SD
Trans-fiction	Web-series	5.50	1.63	4.54	1.50
	Short story	5.59	1.42	4.28	1.57
Control	Science article	5.58	1.27	4.00	1.41

¹ Response options ranged from 1 = Not at all to 7 = Very much

Table 2. Means and standard deviations of main measures¹

Condition	Web-series			Short story			Science article		
	(Trans-fiction)			(Trans-fiction)			(Control)		
Variables	Mean	SD	N	Mean	SD	N	Mean	SD	N
Transportation	4.57	.88	26	4.83	1.01	27	3.97	.68	27
Intergroup anxiety	2.32	.92	26	2.42	1.11	27	2.74	1.13	27
Transnegativity	2.16	.87	26	1.90	.80	27	2.51	.98	27

¹ All response options ranged from 1 = Not at all to 7 = Very much.

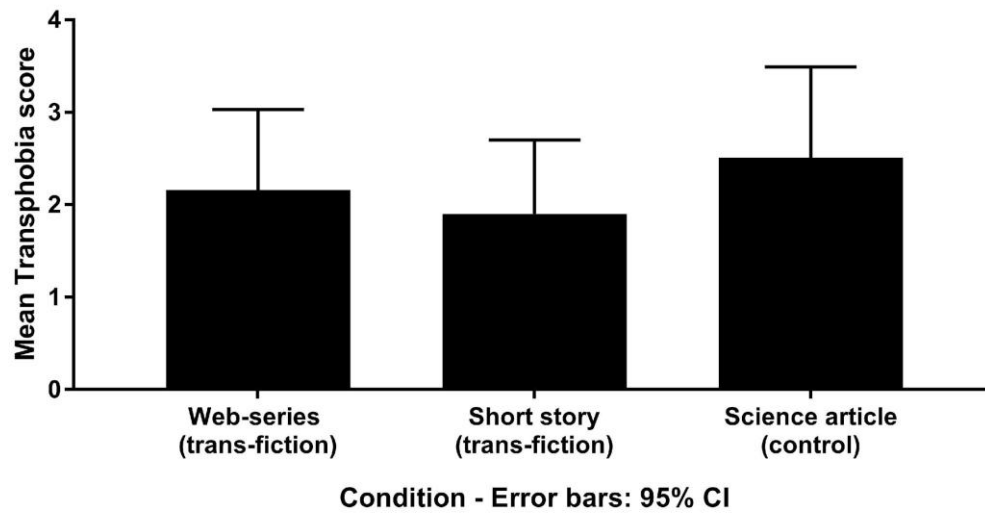


Figure 1.

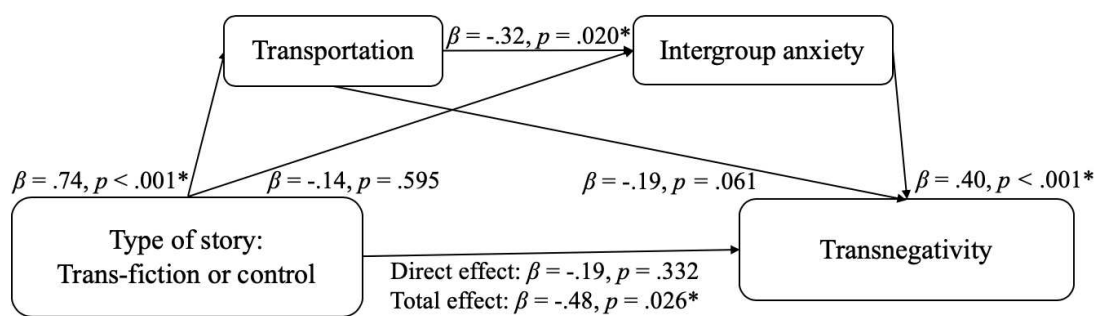


Figure 2.

List of figure captions

Figure 1. Mean transnegativity scores by condition. Error bars show a 95% CI.

Figure 2. The combined mediating role of transportation and intergroup anxiety in the association between type of story (trans-fiction or control) and transnegativity. * $p < .05$.