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Using Sport Media Contact to Promote Gender Equality:

Counter-Stereotypical Gender Perceptions and 2019 *FIFA Women's World Cup*

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Using Sport Media Exposure to Promote Gender Equality: Counter-stereotypical Gender Perceptions and 2019 *FIFA Women's World Cup*

Abstract

By relying on literature on counter-stereotypes and media contact, we investigated whether media exposure is associated with counter-stereotypical gender perceptions. Focusing on the 2019 *FIFA Women's World Cup*, we recruited samples (N = 2,228) from eight competing countries (China, France, Germany, Italy, Scotland, Spain, England, USA) across three continents. We hypothesized that media exposure to the competition's counter-stereotypical female exemplars would be associated with increased counter-stereotypical perceptions of women. Results revealed that media exposure was associated with greater communion and agency attributed to women. In turn, communion and agency were associated (negatively and positively, respectively) with attribution of stereotypically male *abilities* (abilities to engage in stereotypically male academic disciplines and jobs) to women compared to men. No effects emerged for perceptions of stereotypically female characteristics. Gender moderated these effects, with associations being stronger among male than among female respondents. Theoretical and practical implications of findings are discussed.

Keywords: media exposure, counter-stereotypes, media contact, gender equality, gender attitudes, agency and communion, sport.

Using Sport Media Exposure to Promote Gender Equality: Counter-stereotypical Gender Perceptions and 2019 *FIFA Women's World Cup*

The gender gap refers to the unequal outcomes achieved by women and men in the labor market, as well as women's restricted access to rights and assets worldwide. Unfortunately, differences between women and men remain substantial. For example, despite improvements in recent decades, wide gaps remain in the employment domain related to salaries, access, and selective attrition (partly due to the disproportionate burden of household and caring responsibilities that women bear; World Economic Forum, 2020). Similarly, the progress of women in the fields of science, technology, engineering, and mathematics (STEM) in recent years reduced—yet did not erase—the existing gender gap (Charlesworth & Banaji, 2019). Stereotypical perceptions of women in traditional gender roles may partly explain the gender gap (Conway et al., 1996; Fiske et al., 2002). It is therefore important to identify effective strategies that can foster counter-stereotypical gender perceptions. In this study, we focus as the outcome variable on gender perceptions directly related to women's ability to engage in counter-stereotypical academic disciplines and jobs, two major areas of gender disparities.

Given the media's powerful role in directing social judgment (Mastro, 2009), and specifically gender perceptions (Matthews, 2007), we focused this study on media exposure to counter-stereotypical exemplars. To conceptualize media effects, we focus on two prominent complementary prejudice-reduction approaches. The first relates to counter-stereotypes. Literature has shown that being exposed to counter-stereotypes reduces reliance on stereotypes by inhibiting a heuristic mode of thinking (Chaiken & Trope, 1999; Crisp & Turner, 2011). Further, we draw on the media contact literature, which describes

an indirect (not face-to-face) form of contact suited to reach a large audience. Media contact reduces prejudice, but research has overlooked its effects on gender attitudes (Banas et al., 2020). In addition, the literature has focused mainly on contact via news or fictional portrayals, neglecting the global appeal of popular sport media events (for an exception, see Carew et al., 2019).

In this research, we aim to examine the positive power of sports (specifically football/soccer) to erase group differences and promote social equality. Specifically, we focus on the 2019 *FIFA Women's World Cup*, a popular sport event followed by an estimated audience of over 1 billion viewers (FIFA, 2019), wherein women partake in a sport typically considered masculine. We gathered data from eight participating countries to see whether media exposure was associated with counter-stereotypical gender perceptions (specifically, perceptions of whether women can perform activities and jobs stereotypically perceived as masculine). We examined communion and agency stereotypes as potential underlying processes, and gender as a potential moderator.

Improving Intergroup Relations with Counter-stereotypes

Mass media are an important source of information about social groups (Mutz & Goldman, 2010). Therefore, stereotypical representation of groups provided in the media are likely to affect group perceptions by encouraging stereotype use (Bandura, 2002). The detrimental role of stereotypical exposure is reinforced by the fact that, when forming social judgments, individuals by default tend to rely on stereotyped information (Bodenhausen et al., 1999). Given these premises, it is not surprising that exposure to gender stereotypes in the media influences gender perceptions and gender-stereotyped behavior (Bussey & Bandura, 1999; Hust & Brown, 2008). For example, identification with

gender stereotypical Disney princesses is associated with a preference for female-stereotyped toys (Coyne et al., 2016).

However, exposure to counter-stereotypes can inhibit a heuristic mode of social information processing and instead promote a more individuated thinking mode (Chaiken & Trope, 1999; Fiske & Neuberg, 1990). Exposure to counter-stereotypes lowers the use of stereotypical traits in the formation of target impression, leading to a greater tendency to use emerging attributes to describe the target (Hutter & Crisp, 2005). Blair et al. (2001) found, across five studies, that male and female participants engaging in counter-stereotypical (vs. stereotypical, neutral, none) mental imagery revealed weaker (implicit) gender stereotypes (see also Dasgupta & Asgari, 2004). Prati et al. (2015, Study 1) asked male and female participants to think about gender-counter-stereotypic categories (e.g., male mechanic/female nurse). Compared to a condition where participants had to think about gender stereotypic categories, engaging in counter-stereotypic thinking reduced the expression of stereotyped emotions (envy toward males, pity toward females).

Counter-stereotypes also improve attitudes when they come from the media. Simon and Hoyt (2012) showed in two studies that exposure to media images depicting women in non-traditional (vs. traditional) gender roles led female participants to display stronger non-traditional gender role beliefs (Study 1) and greater leadership aspirations (Study 2). Geis et al. (1984) showed that exposure to achievement aspirations were greater for both males and females in a condition where they were exposed to commercials depicting women in non-traditional (vs. traditional) gender roles (but see Yoder et al., 2008).

The evidence presented above shows that exposure to counter-stereotypes can improve intergroup relations. However, women are usually depicted in traditional gender

roles in the media (Reichert, 2008; Rounder et al., 2003). We conducted a study to investigate whether exposure to a popular media sport event where females occupy a non-traditional gender role is associated with greater attribution of stereotypically male (vs. female) abilities to women. A further approach that can serve to provide a theoretical frame for our study, and which intersects with an approach based on counter-stereotypes, is represented by media contact.

Media Contact

Intergroup contact represents one of the most powerful strategies identified by social psychologists for improving intergroup relations (Pettigrew & Tropp, 2006). Generally, research has focused on *direct* intergroup contact, based on face-to-face intergroup interactions. However, contact can also be indirect, that is not face-to-face. Psychologists have identified different indirect contact forms (Vezzali & Stathi, 2021; White et al., 2021), including (and salient for our study) media contact: exposure to a social outgroup via the media.

Media contact can increase prejudice when portrayals of social groups are negative (Mastro, 2009), as is often the case with women (Sensales et al., 2016). On the other hand, media contact with positive portrayals of social groups can improve outgroup attitudes – an idea at the core of the parasocial contact hypothesis (Schiappa et al., 2005). This hypothesis proposes that exposure to social groups via positive media representations can foster the development of more positive outgroup attitudes, by encouraging an intimacy with the media characters like that found in direct contact (Rubin & McHugh, 1987). Parasocial contact and media contact are often used interchangeably by researchers to indicate exposure to social groups via the media. This idea is consistent with social cognitive

theory: media provide models of outgroup behavior and intergroup interaction from which viewers learn and develop more generalized expectancies concerning the outgroup via symbolic modeling. Such knowledge can model future behavior and contribute to changes in outgroup attitudes (Bandura, 2004).

Media contact is effective in making outgroup attitudes more positive (Graf & Sczesny, 2019; Joyce & Harwood, 2014; Lissitsa & Kushnirovich, 2020; Tukachinsky et al., 2015). For example, Visintin et al. (2017, Study 2) demonstrated that contact with positive portrayals of immigrants via TV news, newspapers, films, and TV series was associated with improved outgroup attitudes via increased outgroup trust and empathy. Banas et al.'s (2020) recent meta-analysis showed that positive media contact is associated with reduced prejudice (r = -.23). An important limitation of this line of research is that it has overlooked the effect of media contact on gender attitudes. None of the 79 studies reported in the meta-analysis by Banas et al. (2020) examined attitudes toward women, with most studies being concerned with attitudes toward ethnic, religious, or sexual minority groups.

Studies on media contact via television mostly examine news, dramatized shows/movies, and documentaries. A relevant exception is provided by Carew et al. (2019), who conducted a two-wave longitudinal study, providing initial evidence that media sport events can reduce prejudice toward stigmatized groups. Changes in pre-post media contact with individuals with disability in the 2012 Paralympic games were associated with a greater increase in contact quality over time. This effect was mediated by changes in ingroup norms regarding the competence of people with disabilities (perceptions that ingroup members attributed competence to people with disabilities). The authors did not

find mediation effects for ingroup norms regarding the warmth of people with disabilities. Unlike most studies on media contact which focus on either the high-status or (less often) the low-status group, Carew et al. considered individuals both with and without disabilities.

Our study extended Carew et al.'s (2019) work in four ways: a) examining a stereotypical male sport (Chalabaev et al., 2013); b) considering gender rather than disability; c) examining associations of media exposure with personal beliefs regarding communion and agency attributed to the low-status group (Carew et al., 2019, focused on ingroup norms regarding the warmth of people with disabilities, that is perceptions about what their ingroup thought about persons with disabilities; in this study we directly ask about participants' perceptions of the outgroup); d) adopting an outcome measure directly related to the gender gap (perceptions of men's and women's abilities in relation to academic disciplines and occupations). While Carew et al. (2019) focused on the importance of social integration (therefore, they considered contact as an outcome), our interest lies in reducing the gender gap, and hence understanding changes in stereotypical perceptions of abilities in relation to work is of primary importance.

Communion and Agency as Underlying Processes

Stereotypes provide information about outgroups that guide behavior and shape intergroup interactions (Crandall et al., 2002). Stereotypes are also used to justify social actions (Tajfel, 1981) and legitimize intergroup inequalities (Glick & Fiske, 2001; Jost et al., 2004). Gender stereotypes can be interpreted using the distinction between agency and communion in implicit personality theory (e.g., Rosenberg et al., 1968). According to this approach, male and female stereotypes are seen as complementary, with each gender possessing characteristics/qualities that the other lacks: females are generally perceived to

be high in communion (e.g., warm, relation-oriented), while men are characterized by agentic traits (e.g., competent, achievement-oriented). This complementarity means that stereotypes are likely to be accepted by both groups, since possessing agentic (men) and communion traits (women) "compensates" for the respective lack of communion/agency (e.g., Kay & Jost, 2003). This perpetuates gender-based societal power differentials, as power is associated with agentic traits (men), thus consigning women to low-status (non-agentic) roles (Conway et al., 1996; Geis et al., 1984). This is consistent with social role theory (Eagly, 1987), which associates women with communion qualities relevant to domestic roles, and men with agentic qualities and high-status jobs.

Ambivalent sexism theory provides theoretical and empirical development of the complementary stereotypes by distinguishing two main types of sexism (Glick & Fiske, 1996). Benevolent sexism relates to perceptions that women, being high in communion and warmth, are useful when they occupy gender-conventional roles and should be employed in relevant low-status positions (Glick et al., 2000). This sexism is directed toward women who conform to the stereotypes. In contrast, non-adherence to traditional gender roles leads to hostile sexism, associated with perceptions that women aim to achieve social status and dominate men by following a feminist ideology (Glick et al., 2000). The apparently contradictory types of sexism are associated with benevolence toward females conforming to traditional gender roles and hostility toward female professionals (Glick et al., 1997).

Benevolent sexism has deleterious consequences for women in organizations (Koch et al., 2015), influencing their career decisions (Abele, 2003) and leadership positions (Eagly & Karau, 2002), and reinforcing broader societal gender gaps. For example, Jost and Kay (2005) found that exposing participants to gender stereotypes or benevolent sexism

increased support for unequal male/female relations, in terms of lower attribution of agentic traits (and higher attribution of communion traits) to women.

Counter-stereotypes are associated with changes in stereotypes (Hutter & Crisp, 2005). Intergroup contact causes changes in outgroup stereotypes, and shifts in outgroup stereotypes mediate the effects of contact (for a meta-analysis, see Pettigrew & Tropp, 2008). Thus, contact is especially effective when it is counter-stereotypical. Indeed, Zingora et al. (2020) conducted a longitudinal study with Czech majority participants, investigating the effect of stereotypical, counter-stereotypical positive or negative contact with two different minorities (Roma and Vietnamese people). Contact was more strongly associated with attitude change when it was counter-stereotypical, that is when its valence (positive or negative) contrasted with the prevailing outgroup stereotype (negative for the Roma, positive for the Vietnamese). A possible explanation is that individuals tend to focus their attention on diagnostic cues (Fiske, 1980); counter-stereotypical behavior is more likely to attract attention, be informative, and be processed using greater cognitive resources (Dijksterhuis & van Knippenberg, 1995).

The Present Research

Our study aimed to examine media exposure to counter-stereotypical exemplars as an antecedent of more counter-stereotypical gender perceptions, as well as to understand the mediators of this association. We use cross-sectional rather than experimental data as we investigate the effects of a real media event that occurred over a period of several weeks. Using an experimental methodology would have implied exposing participants to short videos in an experimental setting. Such a choice would not have allowed to capture the extensive and prolonged exposure to the event, which was amongst our aims.

To operationalize media exposure, we focused on the 2019 *FIFA Women's World Cup* as a popular sport event. Our target group is therefore represented by female professional football players. Numerous international charters and conventions have indicated the importance of sport participation as a human right and its value in promoting gender equality (Beutler, 2008; e.g., UNESCO's (1978) *International Charter of Physical Education and Sport*; United Nations' (1981) *Convention on the Elimination of All Forms of Discrimination against Women;* United Nations (2001)).

Unfortunately, the domain of sports is still perceived as masculine. Clément-Guillotine et al. (2011) found that sports were more associated with masculinity than femininity, and education was associated more with femininity than masculinity. Results emerged from both explicit and implicit attitude measures, with no significant differences between male and female participants. The perceived masculinity of sport is also true when considering football specifically (Chalabaey et al., 2013), although the growing involvement of women is slowly changing perceptions of football as an exclusively masculine domain (Clément-Guillotin et al., 2011; Pfister, 2015).

Positive media role models can change representations of the outgroup (Bandura, 2009). We argue that women players in the World Cup may have acted as role models. Specifically, they acted counter-stereotypically, by showing that women *can* play football. Media exposure may therefore have enhanced agentic perceptions of women in general and as football players in particular (e.g., Conway et al., 1996).

In order to assess stereotypical and counter-stereotypical gender perceptions, our outcome measure involved perceptions of men's and women's abilities related to academic disciplines and jobs. There is a large literature that identifies male academic disciplines

(e.g., computer science) and jobs (e.g., management) as characterized more strongly by traits of agency than communion (Beyer et al., 2003). Likewise, there is consistent evidence of gender discrimination in occupational (e.g., Heilman & Eagly, 2008) and academic domains, where women are underrepresented in stereotypically masculine STEM fields (Steele et al., 2002). Literature generally focused on outcome measures like attitudes (Leicht et al., 2014; Taschler & West, 2017), career or leadership aspirations (Geis et al., 1984; Simon & Hoyt, 2012). However, there also are examples of measures based on perceptions of fit to specific domains. For instance, Hively and El-Alayli (2014) examined perceptions of gender differences in different sports as a result of stereotype threat. Given our aims, we investigated perceptions of female abilities in relation to two major aspects driving the gender gap (reflecting discrimination in the academic and occupational domain). By using a comparative measure of the extent to which men and women are seen as suited to traditionally masculine and feminine academic disciplines and jobs, our gender perception measure is relevant to the issue of the gender gap in employment across those domains.

In line with the literature reported above, we predict that media exposure will be associated with increased perceptions of women's agency and, in turn, more counter-stereotypical gender perceptions (perceptions that women compared to men can engage in masculine jobs and academic disciplines). In contrast, we do not expect associations between media exposure and stereotypical gender perceptions (that is, perceptions that women compared to men can engage in feminine jobs and academic disciplines). We do not make specific predictions concerning the effect of media exposure on perceptions of

communion. In addition, in absence of previous research, we test the moderating role of gender with exploratory purposes.

Method

Participants

We administered a survey to convenience samples from eight countries which participated in the 2019 *FIFA Women's World Cup*. The administration procedure varied across countries. In Spain and the USA, an online questionnaire was administered to university students. In France, Germany, and Italy respondents were recruited via social media platforms such as Facebook and Twitter. In China, in addition to online questionnaires administered to university students, the online questionnaire was also administered via a survey website. In Scotland, we distributed questionnaires via links on social networks and with paper questionnaires distributed in public places. In England, participants were recruited via an online participant platform (Prolific Academic). Data were collected between a few weeks after the competition to no later than six months after it. Recruitment difficulties led to a low sample size in France and Spain.

Among the 2,279 respondents who completed at least some sections of the questionnaire, 16 did not indicate that they identified as male or female. Given our (exploratory) interest in male-female differences, only respondents who self-identified as male or as female were included for analysis. We also excluded respondents who fully skipped key measures. Final sample characteristics are reported in Table 1.

Measures[1]

Media exposure was assessed with 5 items. The first three questions were "How interested were you in the FIFA Women's World Cup?", "How much do you know about

the FIFA Women's World Cup?" and "How much exposure did you have to coverage of the FIFA Women's World Cup (e.g., watching TV footage, reading newspapers)?", with response options from 1 (*not at all*) to 7 (*a great deal*). The last two questions were "How many games of the FIFA Women's World Cup did you watch in their entirety?" and "How many games of your national team in the FIFA Women's World Cup did you watch in their entirety?", with response options from 1 (*none*) to 7 (*all*). A preliminary PCA suggested a monofactorial structure of the exposure to 2019 FWC measure across countries. Reliability was excellent across countries (αs > .91).

Agency and communion were assessed with a battery of 10 traits taken from Jost and Kay (2005). Respondents reported how much they perceived each trait as applying to women in general, with a response scale ranging from 1 (*not at all*) to 7 (*a great deal*). Preliminary PCAs suggested that *assertive* did not load uniquely on the agency dimension and was excluded from further analysis. Communion was thus assessed by five items (caring, honest, warm, moral, happy) and agency by four (competent, intelligent, ambitious, responsible).[2] Reliabilities were good across countries (αs > .84).

Gender perceptions were assessed with 38 items (19 for men and 19 for women) gauging respondents' perceptions that men and women can study stereotypically male or female academic disciplines (e.g., male: engineering, mathematics; female: psychology, education) and do stereotypically male or female jobs (e.g., male: manager, airplane pilot; female: nurse, teacher).[3] For each item and target group, responses were provided on a 1 (*strongly disagree*) to 7 (*strongly agree*) scale. The full measure is provided in the Appendix. Four composite scores were created to reflect women's (and men's) abilities to

perform stereotypical (and counter-stereotypical) roles. Reliabilities of the four composite scores were good across countries (αs > .75).

Results

Confirmatory Factor Analysis

After exclusion of respondents who skipped one or more full measure in the questionnaire, missing data on single items were very low (less than 0.4% for single items) and were imputed with the EM algorithm. We tested the empirical distinction between constructs by applying confirmatory factor analysis in Mplus. We used the subset-item-parcel approach—for each latent variable we created subsets of items which were used as observed variables (Little et al., 2002). For media exposure, communion, and agency we created two parcels, while for perception of gender stereotypical and counter-stereotypical abilities we created three parcels. We thus tested a model with 7 latent variables and 18 observed variables. The model showed a good fit, $\chi^2(114) = 1992.43$, $p < .001$, CFI = .97, SRMR = .02. All factor loadings were higher than .92 (*p*s < .001). While correlations between some of the latent variables were high, all correlations were lower than |1| (95% confidence interval), supporting the empirical distinction between constructs.

We also tested a series of alternative models. In alternative model A, all agency and communion parcels loaded onto a single factor. In alternative model B, all perceptions of women's abilities loaded onto a single factor, while in alternative model C all perceptions of men's abilities loaded onto a single factor. Finally, in alternative model D all the perceptions related to stereotypically male abilities (i.e., men's gender stereotypical abilities and women's counter-stereotypical abilities) loaded onto one factor, while in alternative model E all the perceptions related to stereotypically female abilities (i.e.,

women's gender stereotypical abilities and men's counter-stereotypical abilities) loaded onto another factor. All alternative models had worse fit than the hypothesized model, as shown by significant chi-squared differences and increased AIC and BIC. Therefore, CFAs supported the empirical distinction between the seven constructs.

Preliminary Analyses

Table 2 reports means, standard deviations, and correlations between variables. Bivariate correlations demonstrate small positive associations between media exposure and perceptions of women's communion and agency, and higher attribution of counter-stereotypical abilities to both men and women. Communion and agency perceptions were moderately positively associated with all dimensions of women's and men's abilities.

Main Analyses

Given that respondents rated the same sets of stereotypical and counter-stereotypical abilities for both men and women, and because of the high correlations between constructs suggesting shared variance (Table 2), we calculated two indexes of perceived ability by gender. For the first index, we subtracted perceptions of men's stereotypical abilities from perceptions of women's counter-stereotypical abilities. Higher scores on this index represent higher perceptions that women (relative to men) have stereotypically male abilities. We labeled this variable *counter-stereotypical gender perceptions* (M = -0.23, SD = 0.76). For the second index, we subtracted perceptions of men's counter-stereotypical abilities from perceptions of women's stereotypical abilities. Higher scores on this index indicate perceptions that women (relative to men) have stereotypically female abilities. We labeled this variable *stereotypical gender perceptions* (M = 0.20, SD = 0.66).

To test hypotheses, we ran moderated mediation regression analyses using the PROCESS macro in SPSS. PROCESS allows testing individual-level hypotheses when controlling for non-normality of data and for the clustered-structure of the data (i.e., the fact that respondents came from 8 countries) by creating dummy variables which represent countries (Hayes, 2012). In the moderated mediation analysis (Model 8 in PROCESS), media exposure was the predictor (centered), communion and agency were the mediators, gender (-1 = female, +1 = male) was the moderator, and stereotypical and counter-stereotypical gender perceptions were the dependent variables. Given the heterogeneous sample, all regression analyses controlled for age and country of data collection.[4]

First, we tested whether (centered) media exposure and gender (-1 = female, +1 = male) interacted in predicting perceptions of communion and agency toward women. Media exposure was associated with higher perceptions of women's communion and agency, and women perceived women to be higher on both measures than men (see first two columns in Table 3). Respondent gender moderated the media exposure associations with communion and agency: they were stronger among men (for communion, $B = 0.17$, $SE = 0.03$, $p < .001$; for agency, $B = 0.18$, $SE = 0.03$, $p < .001$) than women (for communion, $B = 0.04$, $SE = 0.02$, $p = .013$; for agency, $B = 0.06$, $SE = 0.02$, $p = .001$; see Figures 1 and 2 for simple slopes).

In the model predicting counter-stereotypical gender perceptions of women (see third column in Table 3 and Figure 3), we found that media exposure and agency were positively associated with counter-stereotypical gender perceptions, while communion was negatively associated with those perceptions. The direct effect of media exposure was not moderated by gender. Indirect effects via agency and communion emerged. Bootstrap

indirect effects with 5,000 resamples of media exposure via agency were positive, and stronger among male (B = 0.009, SE(boot) = 0.005, 95% CI [0.0006, 0.0211]) than female respondents (B = 0.003, SE(boot) = 0.002, 95% CI [0.0003, 0.0089]). Bootstrap indirect effects with 5,000 resamples of media exposure via communion were negative, and stronger among males (B = −0.013, SE(boot) = 0.005, 95% CI [−0.0247, −0.0042]) than females (B = −0.003, SE(boot) = 0.002, 95% CI [−0.0086, −0.0008]).

In the moderated mediation model predicting *stereotypical* gender attitudes (see fourth column of Table 3), media exposure, communion and agency were not associated with stereotypical gender perceptions, and no indirect effects emerged.[5]

Discussion

We tested the association of media exposure to counter-stereotypical exemplars (female professional football players) in the 2019 *FIFA Women's World Cup* with stereotypical and counter-stereotypical gender perceptions, via mediators of agency and communion perceptions, among participants from eight countries represented in the competition. We conceptualized media exposure using counter-stereotypes and intergroup contact as two complementary prejudice-reduction approaches. Results supported our hypotheses, showing that exposure to counter-stereotypical exemplars was associated with increased agency attributed to females, which in turn was associated with greater counter-stereotypical perceptions of women, and specifically with a lower perceived differential in masculine abilities attributed to women versus men. Predictably, this finding was driven by greater perceptions of women's counter-stereotypical abilities (cf. Footnote 5). In this Discussion we address four main points: theoretical novelty; gender differences and social categorization; policy implications; limitations.

Theoretical novelty

Brandt (2011) provided longitudinal evidence with representative samples from 57 countries that sexism, assessed by participants' disagreement with women occupying some traditionally masculine roles such as political leaders and business executives, predicted higher gender inequality. Froehlich et al. (2020) demonstrated that stereotypically-male jobs are typically associated with agency, pointing out the key role of agency in changing stereotypical gender perceptions. Our results show that a popular media event like the Women's World Cup counteracts such effects, by being associated with perceptions that women are agentic and thus that they have abilities which are stereotypically attributed to men. The finding is noteworthy, especially considering that male and female stereotypical and counter-stereotypical abilities were based on a wide range of stereotypical male and female academic disciplines and jobs. Our media exposure effects generalized to perceptions of men's and women's abilities in general – female footballers were not subtyped as a specific group characterized by high agency and communion. These results demonstrate the effectiveness of media exposure for changing perceptions of larger social categories.

These findings are in line with literature on the effectiveness of exposure to counter-stereotypical exemplars. We showed that such media exposure not only is associated with constructs like gender stereotypes (Blair et al., 2001), stereotyped emotions (Prati et al., 2015), or beliefs and attitudes or aspirations (Simon & Hoyt, 2012). It is also associated with enhanced perceptions of women's ability to engage in counter-stereotypical occupations, which is at the core of the gender gap. Adding novelty, we also showed that these effects are mediated by greater perceived women agency.

Our findings support the complementarity of counter-stereotyping and mediated contact approaches, and extend the literature in several directions. First, we showed positive effects of media contact for a novel target group: women. Second, and in contrast with most intergroup research, we considered both low- and high-status group members (women *and* men). Third, departing from existing research, we examined the impact of a popular sport event (but see Carew et al., 2019). Given the global audience of such an event (estimated by FIFA at 1 billion viewers), our data suggest effects on ameliorating gender stereotypes that, while statistically small, are also potentially massive.

We also found mediation effects by communion: media exposure was indirectly associated with *lower* perceptions that women (vs. men) can engage in counter-stereotypical jobs and academic disciplines via increased communion. Although the sport event *per se* was concerned with female role models showing their skills on the pitch, media coverage likely extended beyond the games, to include shows, interviews, and commercials, centered on female football players. Media characterize female athletes with stereotypical traits associated with femininity, focusing for instance more on their emotions and family role (e.g., as parents) compared to male athletes (Coche, 2016). In other words, even when presented with counter-stereotypical exemplars, media tend to characterize them in stereotypical terms. If media coverage of the 2019 *Women's World Cup* highlighted communion in addition to agentic traits, positive effects on both variables are unsurprising, although their subsequent antagonistic effects on stereotypical perceptions are unfortunate. Even as the portrayals enhance perceptions of agency and increase women's perceived potential, an emphasis on communal aspects of the athletes' lives might be undermining those same outcomes. These effects are consistent with ambivalent sexism theory (Glick &

Fiske, 1996) and with research on the inconsistency between communion traits and stereotypical male roles (Conway et al., 2006; Fiske et al., 2002; Glick et al., 2000). Future studies should assess media coverage of these events, focusing on agentic and communal aspects of commentary, interviews, and the like across an array of platforms.

Gender differences and social categorization

Our exploratory tests of moderation by participant gender revealed that the effects were stronger among males than among females. This finding is consistent with the broader contact literature, which shows that contact effects are typically stronger among more prejudiced people (Hodson et al., 2017) and among high-status group members (Tropp & Pettigrew, 2005). While more counter-stereotypical gender perceptions among men is a desirable outcome, it is notable that this simply represents them "catching up" to perceptions among women. For those with little viewing of the World Cup, women attributed greater agency and communion to other women; when event viewing was high this difference between men and women was no longer significant (see Figures 1 and 2).

Notably, female football players may well have been perceived as a (gender) ingroup by our female respondents. As such, the traditional "intergroup contact" approach is not necessarily applicable to that group. Our integration of counter-stereotyping and contact approaches suggests the value, however, in considering the effects of counter-stereotypical exemplars for ingroup as well as outgroup members. Such considerations dovetail well with perspectives concerning multiple categorization (Crisp & Meleady, 2012) or dual identities (Gaertner & Dovidio, 2000). The women in our study might have seen the women football players as simultaneously ingroups (on gender) but outgroups (in terms of their athletic and professional identities), and such simultaneous categorization can

make dichotomous ingroup-outgroup categorizations less meaningful for social evaluation (Crisp & Hewstone, 2007; Prati et al., 2021). Likewise, given the salience of national identities in this international tournament, there is the possibility that all participants viewed their own nation's players primarily as ingroup (same nationality), and hence our effects might stem partly from this intersection. Future research should include an assessment of the *multiple* categories one identifies with and shares with the target group. This will make it possible to examine different patterns of multiple categorization, and how they relate with media exposure to counter-stereotypical exemplars that might be *both* ingroup and outgroup members.

Media exposure to sporting events can, of course, also increase prejudice. Kim and Na (2020) examined Koreans' attitudes toward a negatively stereotyped minority (Southeast Asians) as a function of the Olympic Games. Intergroup conflict during the games, associated with competition between nations, was displaced onto a low-status group. The contrast with our positive findings can be explained by the choice of target outgroup. International sporting events are typically zero-sum games (just one team wins); salient national identities during these events may therefore lead to increased hostility toward other national (or national-ethnic) groups. In contrast, gender identities transcend and intersect with specific national or ethnic groups. Media exposure might exacerbate conflict between groups when those groups are competing, but ameliorate such conflict when group memberships transcend individual teams. The same interpretation would apply to the salutary effects of observing the Paralympics on perceptions of people with disabilities (Carew et al., 2019). In light of these considerations, future studies could prime group memberships that either coincide with, or transcend, groups portrayed in sporting

competitions. We might anticipate, for example, different effects from sporting events pitting ethnically homogenous teams against one another (e.g., an all-Asian team against an all-Black team), relative to events pitting multi-ethnic teams against one another.

Policy implications

From an applied perspective, women's football does not play a key role in public media discourse, which is still largely focused on male players (Coche, 2016; Pfister, 2015). But given media's role in shaping attitudes and stereotypes (Mutz & Goldman, 2010), specific events depicting women's sports can potentially influence gender attitudes and stereotypes. Future studies might investigate whether exposure to events depicting women as agentic in sport can reduce the negative effects of exposure to negative stereotypes related to women sport participation. As an example, Hermann and Vollmeyer (2016) provided evidence of stereotype threat—women football players exposed to stereotypes that women are not good at football performed worse in a football task. Harris et al. (2015) showed that undergraduate female sport management students were worried about the difficulties they would face in their career in stereotypically masculine sport domains because of gender stereotypes. More coverage of women's sport, and more focus on the skill and endurance of female athletes, might chip away at these negative effects.

We believe these findings have implication for social policy. At the most general level, they show that media are powerful means of influence not only in reinforcing existing stereotypes, but also in inhibiting them, to the point of changing perceptions critical to gender gaps in pay and achievement. Policies can therefore be devoted to discouraging stereotypical media portrayals that contribute to stratification of society. The present findings can also contribute to social policies within sport associations. Football

remains a predominantly male domain. But promoting relevant events and supporting projects aimed at fostering gender equality in sport (e.g., PROGRES (2021), supported by UEFA) represents a step forward. Sport associations can provide greater visibility to events involving counter-stereotypical exemplars from marginalized categories: this would widen their audience and potentially increase social inclusion and participation in sport. Importantly, such events should avoid stereotypical representations of the target group (e.g., female football players presented as amazing mothers), but should focus on the ability and agency of such positive exemplars in the whole coverage package (e.g., player profiles, commercials, etc.). Such inclusive policies would represent important social and political advancements for sport associations, showing how sport can contribute to solving persistent social problems and to fighting discrimination and injustice.

Limitations

We acknowledge some limitations of this research. Our data are correlational; therefore, we cannot establish the direction of causality. It is possible that more gender-equality oriented individuals watched the World Cup more. We believe however this is unlikely. Viewing of the Women's World Cup (perhaps especially for men) will be primarily driven by interest in football, and it is unlikely that positive gender beliefs would contribute substantially over and above the sport-specific effect. However, we would advocate for experimental (e.g., Joyce & Harwood, 2014) and longitudinal (e.g., Carew et al., 2019) methodologies to help confirm our findings. A longitudinal approach (that we did not use because of the logistics of organizing such data collection in eight countries) could have provided stronger insights into the causal relation between variables. We were also unable to pursue multi-level cross-national comparisons due to the number of countries

examined, small samples in some nations, and the different data collection procedures across those countries. Such analyses would be valuable in future research given substantial differences in gender norms across cultures.

Coda

When media portrayals of social groups are predominantly negative, they can shape attitudes accordingly (Brown Givens & Monahan, 2005; Harwood, 2010). Such media exposure has negative effects for the targeted social groups. Similarly, media reinforcing stereotypes (even apparently positive stereotypes) can have similarly deleterious consequences. Portrayals of women characterized by communion rather than agency fuel subtle and socially acceptable forms of prejudice, which increase the gender gap. The present study shows that media events with women demonstrating agentic capabilities can counteract these effects and potentially improve the role of women in the larger society.

Footnotes

1. The questionnaire also included other measures.
2. The results pattern is identical when running the main analyses with the 5-item composite score of agency.
3. A pre-test was conducted to confirm the stereotypical nature of the activities proposed. Specifically, 70 Italian participants (40 female, M_{age} = 27.34, *SD* = 7.95) rated each sport/job/field of study on a single item, ranging from 1 = *typically male* to 7 = *typically female*, with 4 = *neither male nor female*. Male activity ratings were significantly lower than the midpoint (ts(69) ≥ 3.92, ps < .001; for "studying science", the difference was marginal, $t(69) = 1.72$, $p = .09$); for female activities all scores were significantly higher than the midpoint, ts(69) ≥ 4.21, ps < .001.
4. We also ran regression analysis without the mediators. Media exposure was positively associated with counter-stereotypical gender perceptions, and this effect was not moderated by gender. Media exposure was not significantly associated with stereotypical gender perceptions.
5. We ran the same moderated mediation analysis, with perceptions of gender stereotypical and gender counter-stereotypical abilities attributed to men and to women, controlling for the same abilities attributed to women and to men, respectively. While the indexes used in the main analyses are parsimonious measures which assess perceptions of women's abilities controlling for the same set of abilities attributed to men, these indexes do not tell us whether predictors were associated also with perceptions of men's abilities. The moderated mediation model predicting *women's counter-stereotypical abilities* fully replicated the main pattern of results found for pro-

women discrepancy in stereotypical masculine abilities. In the moderated mediation model predicting *women's stereotypical abilities*, positive indirect effects of media exposure via agency (stronger for male than for female respondents) emerged. Turning to men's abilities, neither media exposure nor agency or communion predicted *men's counter-stereotypical abilities*. Concerning *men's stereotypical abilities*, positive indirect effects (stronger for male than for female respondents) via communion emerged.

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Data availability statement

The dataset is available at the following link:

https://osf.io/uvwy4/?view_only=8fb328fe659a41a48afb247db55e7b39

Conflict of interest disclosure

The authors declare no conflict of interest.

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Table 1

Number of respondents, gender ratio, and mean age by country

Country	*N*	*% Female*	M_{age} *(SD)*
China	932	64.3	28.74 (11.41)
England	217	74.2	31.84 (10.83)
France	57	71.8	28.00 (11.11)
Germany	206	61.2	23.16 (6.27)
Italy	302	84.1	26.20 (9.33)
Scotland	166	64.5	37.45 (14.50)
Spain	50	76.0	23.08 (6.09)
USA	298	59.1	19.97 (1.96)
TOTAL	2,228	67.4	27.51 (11.04)

Table 2

Means, standard deviations, and correlations between variables

	M (*SD*)	1	2	3	4	5	6
1. Media exposure	2.50 (1.64)	-					
2. Communion	4.96 (1.14)	.09***	-				
3. Agency	5.25 (1.21)	.11***	.78***	-			
4. Women's stereotypical abilities	6.48 (1.07)	.03	.20***	.31***	-		
5. Women's counter-stereotypical abilities	6.23 (1.25)	.08***	.15***	.29***	.85***	-	
6. Men's stereotypical abilities	6.46 (1.09)	.04	.20***	.30***	.91***	.80***	-
7. Men's counter-stereotypical abilities	6.29 (1.22)	.06*	.16***	.28***	.84***	.88***	.89***

*$p < .05$. **$p < .01$. ***$p < .001$.

Table 3

Regression analysis predicting agency and communion toward women, counter-stereotypical gender perceptions, and stereotypical gender perceptions

	Agency	Communion	Counter-stereotypical gender perceptions	Stereotypical gender perceptions
Intercept	5.42 (0.10)***	4.65 (0.09)***	0.13 (0.10)	-0.01 (0.08)
Media exposure	0.12 (0.02)***	0.11 (0.02)***	0.03 (0.01)**	-0.01 (0.01)
Gender	-0.15 (0.03)***	-0.09 (0.02)***	-0.08 (0.02)***	0.03 (0.01)*
Media exposure × gender	0.06 (0.02)***	0.06 (0.02)***	0.02 (0.01)	-0.01 (0.01)
Agency			0.05 (0.02)*	-0.01 (0.02)
Communion			-0.08 (0.02)**	0.02 (0.02)
F	17.59***	15.64***	12.90***	10.15***
df	11, 2216	11, 2216	13, 2214	13, 2214

Note. Unstandardized regression coefficients and standard errors are reported. For gender, female respondents were coded -1 and male respondents were coded +1. Control variables: age; dummy coded variables representing the eight countries respondents came from.

$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Figure 1

Communion as a function of participants' gender and media exposure

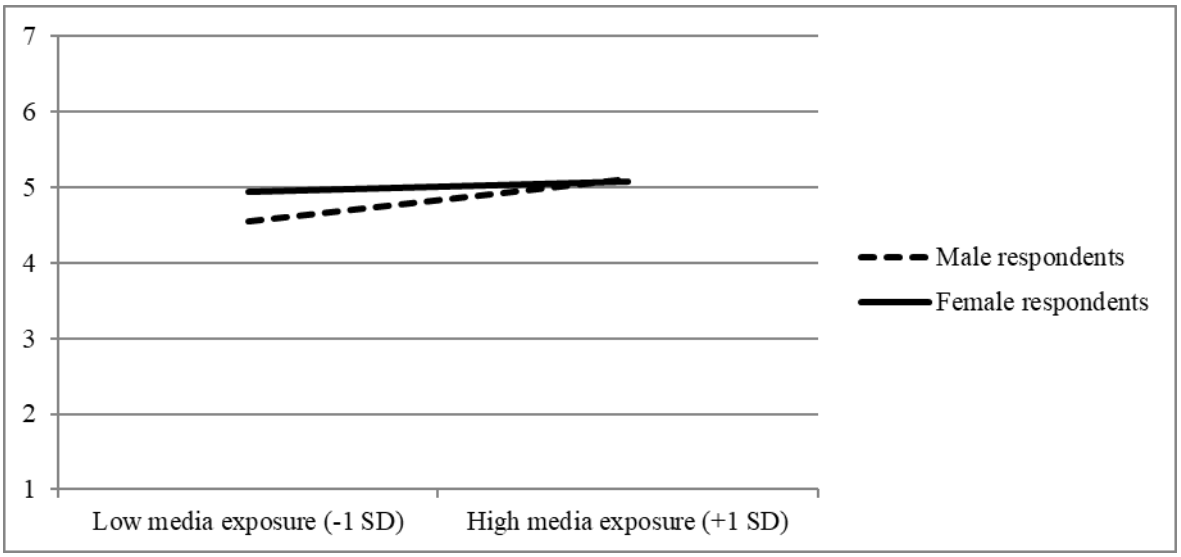


Figure 2

Agency as a function of participants' gender and media contact

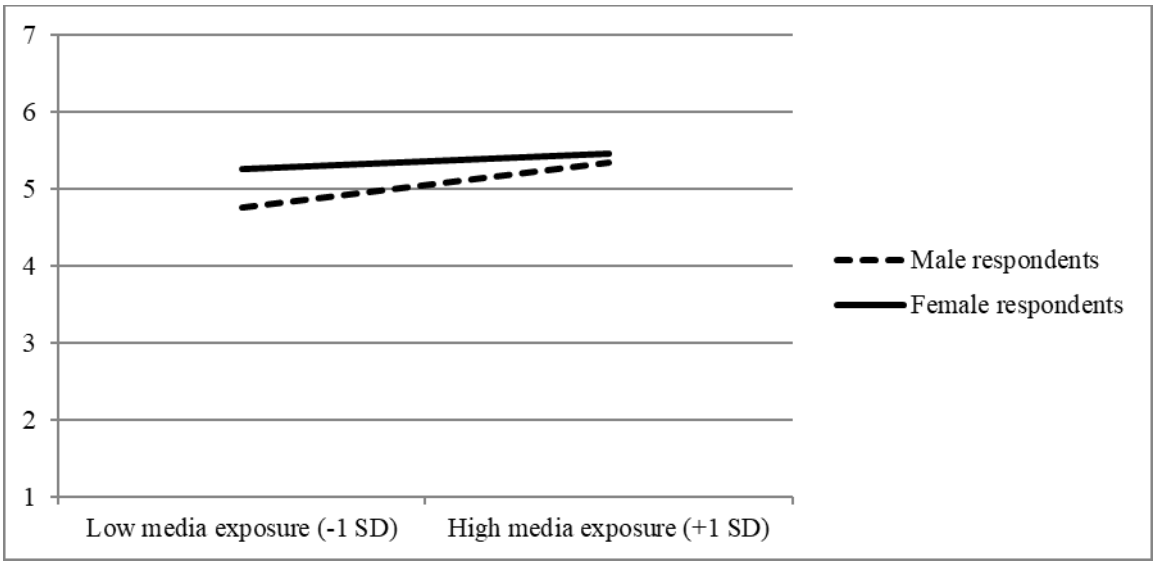
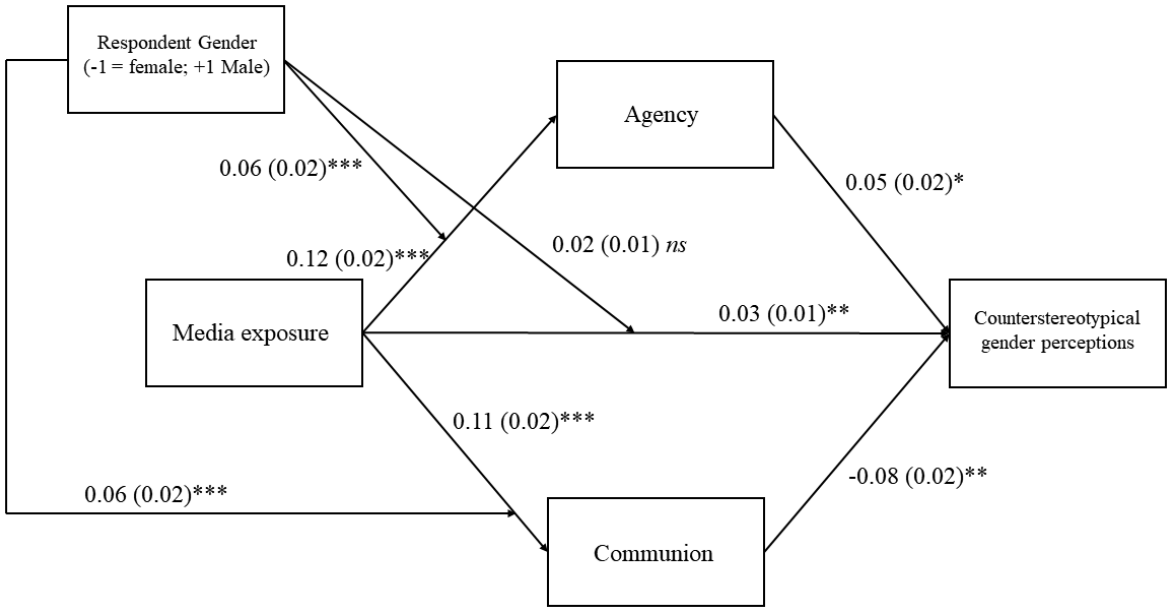


Figure 3

Moderated mediation model predicting counter-stereotypical gender perceptions



Appendix

Gender perceptions measure

To what extent do you disagree or agree with the following statements

1 = STRONGLY DISAGREE; 7 = STRONGLY AGREE

Women [Men] can…

Study engineering.
Study mathematics.
Study science (e.g., physics, chemistry…).
Study technology.
Study psychology.
Study educational science.
Study literature.
Study languages.

Be good managers.
Be good politicians.
Be good mechanics.
Be good airplane pilots.
Be good teachers.
Be good nurses.
Be good domestic workers.
Be good surgeons.
Serve in military Special Forces.
Be good construction workers.
Be astronauts.