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Help a fan out? Effects of fandom type and task type on people's behavioral intentions toward different types of fans in a collaborative effort

Anita Atwell Seate Atwell Seate
University of Maryland at College Park

Rong Ma
Butler University, rma@butler.edu

E. L. Cohen

Irina Iles
University of Maryland at College Park

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Abstract

There is mounting evidence that fans of science fiction/fantasy media texts are more likely to be socially stigmatized than sports fans, but the implications of this stigma for social interaction have not been established. To examine the roles of fandom community membership and social context in causing social perceptions of, and behavioral intentions toward, popular media culture fandom community members, we conducted a 2 (partner fandom type: science fiction/fantasy vs. sports) × 2 (task type: social task vs. technical task) between-subjects experiment. Results reveal that the science fiction/fantasy fan was perceived as less physically attractive and more task attractive compared to the sports fan. Participants' own science fiction/fantasy fandom interacted with partner fandom type in predicting social attraction, such that for those who were told they would be partnered with the science fiction/fantasy fan, there was a positive linear association between the participant's own fandom and social attraction. This finding did not hold for the sports fan condition. Social and task attraction, but not physical attraction, predicted behavioral intentions toward the fans.

Keywords: fandom communities, science fiction/fantasy fans, sports fans, BIAS map

Public policy relevance statement: The type of fandom community, and not fandom intensity, causes differences in people's social perceptions of science fiction/fantasy fans and sports fans. Science fiction/fantasy fans were more socially stigmatized compared to sports fans. People were more likely to exclude and avoid the science fiction/fantasy fan compared to the sports fan.

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different types of fans in a collaborative effort

There are myriad benefits of being a fan. Fandom participation is an agent of

socialization and identity development (Melnick & Wann, 2011; Stever, 2011), involvement in

fan communities helps people forge social bonds and cultivate a sense of belonging and social

well-being (Wann, Hackathorn, & Sherman, 2017; Wann & Weaver, 2009), fandoms may be

able to enhance individuals' self-esteem, life satisfaction, and their willingness and ability to

become civically engaged (Jenkins, 1992; Vallerand, et al., 2008), and of course, being a fan can

enhance the enjoyment and meaningfulness of leisure entertainment experiences (Tsay-Vogel &

Sanders, 2015). However, there may be social disadvantages that accompany some types of

fandom. At least one study has found evidence that different fandoms are not created equal.

Consistent with research illustrating that consumption of media texts of geek culture is

associated with a variety of negative stereotypes (e.g., Kowert & Oldmeadow, 2012), Cohen,

Atwell Seate, Anderson, and Tindage (2017) experimentally compared social impressions of

different types of fans. They found that science fiction/fantasy fans face more social

stigmatization than sports fans in terms of some, but not all, dimensions of interpersonal

attractiveness (i.e., social, physical, and task attraction). Science fiction/fantasy fans were

perceived as being less physically and socially attractive, but they were not perceived as less task

attractive (i.e., attraction based on their abilities). This is somewhat surprising considering that

science fiction/fantasy fandom is one of the most common fandoms: In a survey of Amazon

Mechanical Turk workers, Taylor (2015) found that 81% of respondents identified as a fan of

some type of TV series, movie series, comic book, or novel; a majority of these participants

reported being fans of a media text that falls within the science fiction/fantasy genre. However,

the behavioral implications of this fandom stigma have not been investigated. Because there was no evidence of science fiction/fantasy stigmatization across all the dimensions of interpersonal attractiveness, Cohen and colleagues (2017) speculated that people may be less willing to interact and cooperate with people who identify as science fiction/fantasy fans in situations where physical and social attractiveness are relevant to the task they want to accomplish, but science fiction/fantasy fans may not be stigmatized in contexts where task attractiveness is more valued.

We take an intergroup approach to understanding the social stigma associated with these fandom communities and the behavioral outcomes associated with said stigma. Intergroup approaches are rooted in the social identity perspective (e.g., Tajfel & Turner, 1986). The social identity perspective, including social identity theory and self-categorization theory, assumes that people's memberships in social groups (e.g., groups based on race or gender) are foundational in how people understand themselves and their social world, and ultimately these social identities guide their behaviors. The current study integrates insights from two prominent theoretical perspectives firmly established in the social identity perspective, the social attraction hypothesis and behavior from intergroup affect and stereotypes map (i.e., BIAS map), along with the cultural studies fandom literature to put forth a theoretical model predicting stigma and subsequent prejudice towards science fiction/fantasy fans. Specifically, we present an experiment that manipulates fandom type (science fiction/fantasy vs. sports) and social context (completing a task requiring social competence vs. a task requiring technical competence) to examine how fandom type interacts with social goals to affect people's behavioral response towards fans of popular media culture during a collaborative interaction. We also examine the moderating roles of participants' science fiction/fantasy and sports fandom in predicting social attraction. In doing

so, we seek to extend Cohen and colleagues' (2017) previous research and provide evidence that fandom community membership causes behavioral intentions towards those community members by experimentally manipulating the type of fan.

Perceived Interpersonal Attractiveness of Fans

  Social perceptions of fans. One way people make judgments about others is based on the other person's association with different types of fandoms (Cohen et al., 2017; Jenkins, 1992). Social perceptions of science fiction/fantasy fans tend to be mostly (though not completely) negative and stigmatizing (Cusack, Jack, & Kavanagh, 2003). Science fiction/fantasy fans are closely associated with geek or nerd culture, and accordingly, these fans have often been stereotyped as having attributes such as being white, male, intelligent, emotionally unstable, unattractive, immature, asexual, socially awkward, isolated, and obsessive (Andergregg, 2011; Bednarek, 2012; Cohen et al., 2017; Jenkins, 1992; Kowert, Festl, & Quandt, 2014; Kowert, Griffiths, & Oldmeadow, 2012; Kowert & Oldmeadow, 2012; Salter & Blodgett, 2017; Stanfill, 2013). Much less is understood about public perceptions of sports fans, but some limited research suggests that sports fans are perceived more positively. Compared at least to science fiction/fantasy fandom, sports fandom is associated with both social attractiveness (Cohen et al., 2017; Wann, Schinner, Keenan, 2001) and physical attractiveness (Cohen et al., 2017), although some subcultures of sports fandom are linked to hooliganism (e.g., Van Hiel, Hautman, Cornelis, & De Clercq, 2007).

  In one of the few studies that compare perceptions of science fiction/fantasy fans and sports fans in terms of three dimensions of interpersonal attraction (McCroskey & McCain, 1974), Cohen and colleagues (2017) demonstrated that it is membership in the fandom community itself, and not fandom intensity, that causes the stigmatization of science

fiction/fantasy fans. Specifically, they experimentally manipulated the type of fandom by having participants read a vignette about either a science fiction/fantasy fan or a sports fan. The two fans were described using the exact same language, other than the description of the fan communities itself (e.g., a science fiction/fantasy fan or a sports fan), thus holding the purported fan's level of fandom constant across the two conditions (see Cohen et al., 2017 for a complete description of their experimental manipulation). Their results indicate that fans of science fiction/fantasy media products are vulnerable to some social stigma, being perceived as less socially and physically attractive than the sports fan. However, in this study science fiction/fantasy fans were not perceived as being any less desirable in terms of task attractiveness, reflecting some conformity to the stereotype that science fantasy/fiction fans and the broader geek or nerd archetype are associated with unattractiveness and social ineptitude, although still considered intelligent and competent (e.g., Bednarek, 2012; Jenkins, 1992; Salter & Blodgett, 2017).

Behavioral Outcomes from Intergroup Affect and Stereotypes Map

As previously discussed, Cohen and colleagues (2017) found that compared to sports fans, science fiction/fantasy fans were only stigmatized in terms of how socially and physically attractive they were perceived to be, but they were not thought to have any less task attractiveness. The authors speculated that this could mean that—at least compared to sports fandom, being identified as a science fantasy/fiction fan could be a social handicap in some social contexts but not others. Behaviorally speaking, people may be more willing to associate or cooperate with science fiction/fantasy fans in contexts in which their competence would be perceived as an advantage, whereas people would be less willing to associate or cooperate with science fiction/fantasy fans in contexts where social and physical attractiveness are

advantageous. This research examines this possibility using the lens of the behaviors from intergroup affect and stereotypes map (BIAS Map; Cuddy, Fiske, Glick, 2007).

The BIAS map (Cuddy et al., 2007) examines two trait dimensions that are thought to underlie social perceptions: warmth (e.g., being sincere and kind) and competence (e.g., being capable). According to this model, people's perceptions of competence and warmth are derived from their appraisals regarding whether a social group's goals will either help or harm one's own social group, and whether the target social group can achieve said goals. Typically, cooperative groups are perceived as warm, whereas competitive groups are perceived as lacking warmth; high-status social groups (e.g., Whites) are seen as competent, and low status groups (e.g., homeless people) are seen as incompetent. The BIAS map theorizes that these perceptions of competence and warmth predict intergroup behaviors.

According to the BIAS map, there are two dimensions underlying intergroup behaviors: active-passive and facilitation-harm (Cuddy et al., 2007). The active-passive dimension taps into the amount of effort or intensity underlying a behavior, whereas the facilitation-harm dimension "distinguishes prosocial and helping behavior from antisocial and aggressive behavior" (Cuddy et al., 2007, p. 633). Based on these two dimensions, there are four categories of behaviors investigated by the BIAS map: passive facilitation (associating behaviors), passive harm (excluding behaviors), active facilitation (helping behaviors), and active harm (harassing behaviors). In passive facilitation (i.e., acting with), people will associate with the outgroup and its members. Cuddy and colleagues (2007) argued that one typically associates with the outgroup because it is convenient to the perceiver's own group goals. If the relationship was not mutually beneficial (i.e., it did not help the perceiver or the perceiver's ingroup), the social actor would not perform the behaviors. In passive harm (i.e., acting without), the social actor does not put in a

lot of effort into harming the target outgroup member, but instead "diminishes their social worth through excluding, ignoring, or neglecting" the outgroup member (Cuddy et al., 2007, p. 633). In active facilitation (i.e., acting for), one behaves in ways to help the target outgroup member. Finally, in active harm (i.e., acting against) one behaves in ways to hurt the target group member. Cuddy and colleagues (2007) showed that perceptions of competence and warmth are positively associated with active facilitation and passive facilitation, and negatively associated with passive harm and active harm.

Social and task attraction. In hopes of extending Cohen and colleagues' (2017) work on the effects of fandom affiliation on interpersonal attractiveness, the current study uses the same three measures of social, task, and physical attractiveness (McCroskey & McCain, 1974) that were employed in their research. Two of these perceptions—social and task attraction, have strong parallels with the dimensions of warmth and competence, permitting us to use this model to make sense of the behavioral responses toward different types of fans in light of BIAS map predictions. Specifically, the measure of social attraction is used as a proxy of the warmth dimension of the BIAS map, as both tap into the perceived friendliness and sociability of the person. The competence dimension of the BIAS is represented by the perception of task attraction, because they both refer to the partner's capability to work (Cuddy et al., 2007; Fiske, Cuddy, Glick, & Xu, 2002; McCroskey, McCroskey, & Richmond, 2006). Consistent with the BIAS map, we expect that both social attraction (i.e., perceptions of warmth) and task attraction (i.e., perceptions of competence) will be positively associated with active and passive facilitation, and negatively associated with passive harm.[1]

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[1] Because participants in the current study are asked to engage in a collaborative task, attempts at active harm (i.e., harassing, hurting the partner) are unlikely, thus we do not examine active harm as a behavioral outcome in this study.

Moderating role of participant fandom for social attraction. Cohen and colleagues'

(2017) study did not account for whether the participants who were forming impressions of

different types of fans identified as science fiction/fantasy fans or sports fans themselves.

However, there is reason to suspect that people's personal fan affiliations will affect how they

evaluate members of the same or different groups. According to the social attraction hypothesis

(Hogg & Hardie, 1991), people are more socially attracted to ingroup members (i.e., those who

share a meaningful social identity with the perceiver) compared to outgroup members (i.e., those

who do not share a meaningful social identity with the perceiver). Moreover, this effect is

enhanced for people with high levels of identification with the social group. Providing evidence

for the social attraction hypothesis, Hogg and Hardie (1991) found that an individual's

perception of group prototypicality (i.e., having characteristics associated with the social group)

of fellow group members predicted social attraction for these members, and that this relationship

was moderated by the individual's level of group identification, such that the effect was stronger

for those individuals who saw themselves as highly prototypical of the social group. We extend

these findings to understand how one's personal identification as a particular type of fan will

affect their impressions of fans like and unlike themselves. Specifically, we predict that

participants' personal fandom will moderate the effect of another's fan membership on social

attraction, such that people's science fiction/fantasy fandom predicts social attraction of a

science fiction/fantasy fan, and people's sports fandom predicts social attraction to a sports fan.

Physical attraction. Cohen and colleagues (2017) found that people perceived science

fiction/fantasy fans as less physically attractive compared to sports fans, congruent with group-

based stereotypes. BIAS map research exclusively focuses on the role of social and task

attraction in predicting intergroup behaviors, nonetheless several studies find that physical

attraction should be positively associated with active facilitation and passive facilitation, and negatively associated with passive harm. For instance, using a field experiment, research by Harrell (1978) finds that people provide more help (i.e., active facilitation) to an attractive confederate, compared to an unattractive confederate. Another study shows that people are less likely to avoid (i.e., passively harm) attractive people, compared to unattractive people (Powell & Dabbs, 1976). Finally, a more recent study demonstrates that people are more likely to associate with (i.e., passively facilitate) an attractive, compared to an unattractive, confederate (Greitemeyer & Kunz, 2013). Accordingly, in the current study, we expect perceptions of physical attractiveness to be positively associated with active and passive facilitation, and negatively associated with passive harm.

The Current Study and Hypotheses

Taken together, intergroup theory and empirical evidence suggest that fandom communities represent meaningful social categories that guide people's perceptions (Cohen et al., 2017). One of the goals of the current study is to replicate Cohen and colleagues' (2017) previous work showing science fiction/fantasy fans are more socially stigmatized compared to sports fans. Consistent with their previous findings, we propose:

H1: The science fiction/fantasy fan is perceived as less a) physically and b) socially attractive compared to the sport fan.

However, Cohen and colleagues (2017) found no significant differences in task attraction between the two fan types, leading them to propose that the social context likely dictates differences in task attraction. Specifically, they alluded that science fiction/fantasy fans may be more task attractive in tasks where competence is more highly valued (e.g., mechanical, technical or academic tasks), whereas sports fans may be more task attractive in social gatherings

because these contexts are congruent with group-based stereotypes. To test this conjecture, we experimentally manipulate the type of task that the participants believe they will be working on with the purported fan. In one condition, they are led to believe that they will be working with the fan on a technical task and in the second condition, participants are led to believe that they will be working with the fan on a social task. Based on the previous research we predict:

H2: There is a two-way interaction between partner's fandom and task type, such that task attraction is higher for the science fiction/fantasy fan when completing the technical task compared to the social task. Moreover, task attraction is higher for the sports fan when completing the social task compared to the technical task.

The social attraction hypothesis predicts that people are more socially attracted to ingroup members than to outgroup members (Hogg & Hardie, 1991). Moreover, this effect should be moderated by the participant's own level of group-based identity importance (Hogg & Hardie, 1991). In the current context, this means that participants' own level of science fiction/fantasy fandom and sports fandom also predict levels of social attraction to the two types of fans under consideration. Hence, we predict the following simple effects:

H3: There is a two-way interaction between partner's fandom type and participants' own level of a) science fiction/fantasy fandom and b) sports fandom: For those exposed to the science fiction/fantasy fan there is a positive linear relationship between their own science fiction/fantasy fandom and social attraction. For those exposed to the sports fan there is a positive linear relationship between their own sports fandom and social attraction.

Theory and empirical evidence suggest that social, task, and physical attraction predicts behavioral intentions. Specifically, BIAS map research provides evidence that social and task

attraction should be positively associated with active facilitation and passive facilitation, and

negatively associated with passive harm (e.g., Cuddy et al., 2007). Similarly, social perception

research provides evidence that physical attraction should be positively associated with active

facilitation and passive facilitation, and negatively associated with passive harm (Greitemeyer &

Kunz, 2013; Harrell, 1978; Powell & Dabbs, 1976). Based on this logic, we propose:

> H4: Social attraction is positively associated with a) active facilitation, b) passive
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> facilitation, and c) negatively associated with passive harm.
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> H5: Task attraction is positively associated with a) active facilitation, b) passive
>
> facilitation, and c) negatively associated with passive harm.
>
> H6: Physical attraction is positively associated with a) active facilitation, b) passive
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> facilitation, and c) negatively associated with passive harm.
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> Please see Figure 1 for an illustration of the hypothesized model.

Method

Participants

Undergraduate students recruited from communication classes in a metropolitan

northeastern university in the U.S. participated in the study in exchange of course credit. We

removed cases with completion time less than 10 minutes or more than 2 hours, and we removed

one person who was under 18 years old. Moreover, five cases were deleted because of

operational errors (i.e., they were not assigned a partner or a task). Five more cases were deleted

because they had missing data on all the endogenous variables in the model. The final dataset

contained 235 participants. Participants were, on average, 19.51 years old ($SD = 1.88$; 28 cases

had missing data). The sample had an even distribution of males (47.7%) and females (48.5%; 9

cases had missing data). Participants reported their racial identities as follows: African American

(14.0%), Asian or Pacific Islander (15.7%), Latino/a (7.2%), multiracial (2.1%), White (54.9%), and other (2.1%; 9 cases had missing data).

Experimental Manipulations

Task type. Participants in the social task condition read instructions informing them that they would be asked to work with their partner to help build a social media strategy for a student service on campus. They were also told that social skills and comfort with people would be important in completing this task. Participants in the technical task condition were told that they would work with their partner to build a functional and student-friendly website for an on-campus student service. They were told that technical skills and comfort with technology would be important for completing this task.

Partner fandom. Cohen and colleagues' (2017) fan descriptions were used for the partner fandom manipulation. Participants read a biographical vignette that described a 20-year-old student named Allen, of average height and weight, who enjoys playing with his dog, listening to music, and watching TV. In the sports fan condition, Allen was described as a huge fan of team sports competitions who likes reading everything about sports, decorating his room with sports souvenirs and paraphernalia, participating in games, and attending sports fan conventions. The wording was identical in the second condition; however, the word "sports" was replaced with "science and fantasy fiction."

Measures

Participant fandom. We developed two items to measure participants' science fiction/fantasy fandom: "I like science fiction/fantasy" and "I watch a lot of science fiction/fantasy" on a 9-point Likert scale ($r = .89$, $p < .01$), where 1 = strongly disagree and 9 =

strongly agree. Participant sports fandom was measured using the same items, replacing "science

fiction/fantasy" with "sports" ($r = .78$, $p < .01$).

Attraction. Fifteen items taken from McCroskey and McCain (1974) were used to

measure social attraction, task attraction, and physical attraction on a 9-point Likert scale, where

1 = strongly disagree and 9 = strongly agree.[2] We ran a principal components analysis with

oblique rotation on all 15 items. The scree plot suggested four components, so we fixed the

number of components to four and reran the analysis. For each of the first three components, we

chose the items with a loading higher than .60 and loadings on any other component no higher

than .40. We then tested the new factor structure (social attraction: 4 items; task attraction: 2

items; physical attraction: 3 items) in a confirmatory factor analysis. The model fit was not

acceptable at the beginning. The largest modification indices suggested that the first item of

social attraction was cross-loaded on the other two factors. We deleted this item and reran the

model, which obtained good fit, $\chi^2(17, N = 235) = 30.54$, RMSEA = .058, 90%CI [.022, .091],

CFI = .973, SRMR = .046 (Hu & Bentler, 1999). Three items were used to create the social

attraction scale (e.g., This person just wouldn't fit into my circle of friends; Cronbach's $\alpha = .75$),

two items formed the task attraction scale (e.g., If I wanted to get things done, I could probably

depend on this person; $r = .41$), and three items formed the physical attraction scale (e.g., I think

this person would be handsome; Cronbach's $\alpha = .83$).

Behavioral intentions. We took the measures of behavioral intentions from the BIAS

map literature (Cuddy et al., 2007; Sadler, Meagor, & Kaye, 2012). Participants indicated how

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[2] The fifteen items we took from McCroskey and McCain (1974) were validated in their original study. However, when we ran a confirmatory factor analysis, the factor structure of the original scale did not work well. Therefore, we turned to principal components analysis to examine the underlying structure.

likely they were to perform a series of behaviors toward their partner while completing the

assigned task, on a 9-point scale where 1 = not at all likely and 9 = very likely. Active facilitation

was measured using three items: helping, assisting, and protecting the partner (Cronbach's α =

.73). Passive facilitation was measured using three items: cooperating with, associating with, and

uniting with the partner (Cronbach's α = .75). Passive harm was measured using three items:

excluding, avoiding, and distancing oneself from the partner (Cronbach's α = .85). Our reliability

estimates are consistent with Cuddy et al. (2007). Table 1 shows the descriptive statistics for all

the measures.

Procedures

Participants were randomly assigned to a 2 (partner fandom type: science fiction/fantasy

vs. sports) × 2 (task type: technical vs. social) between-subjects experimental design. Participants

accessed an online survey, and they were led to believe that they would be paired with another

student to work on a task. They were randomly assigned to read a description of either the social

or the technical task, and a paragraph describing their partner as either a sports fan or a science

fiction/fantasy fan. After that, participants completed a survey containing the study's dependent

variables, covariates, and demographic information. After completing the survey, participants

were debriefed.

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Results

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We tested our hypothesized model (see Figure 1) in Mplus 7.0 (Muthén & Muthén, 1998-

2015) using measured variable path analysis. Other than specifying the paths in the proposed

model, we also added the direct paths from the exogenous variables to the behavioral outcomes

to test for indirect effects. Moreover, we used sex as a covariate by adding it as a predictor of the

intervening variable and the behavioral outcomes. Participant science fiction/fantasy fandom and

participant sports fandom were also added as covariates on physical and task attraction, apart

from being the moderators on social attraction, as suggested by Cohen and colleagues (2017).

Because there might be factors not captured by the current study that influence people's ratings

of attraction, errors of the three types of attraction were allowed to covary. For the same reason,

errors of the three behavioral intentions were also allowed to covary. The manipulated variables

were dummy coded: for partner fandom type, 0 = sports fan and 1 = science fiction/fantasy fan;

for task type, 0 = social task and 1 = technical task. The Mplus syntax can be found in the

Appendix.

We first ran the model with our original sample that had missing data. Seventeen cases

with missing data on the exogenous variables (i.e., participant science fiction/fantasy fandom and

participant sports fandom) were excluded from the sample. We then reran the model with mean

replacement. The results were similar with the first model, so we report the results from the

original sample below. The model had good fit: $\chi^2(8, N = 235) = 6.13$, $p = .63$. RMSEA = .00,

90% CI [.00, .07], CFI = 1.00, and SRMR = .01. The explained variances of all the endogenous

variables in the model were significant (see Table 2). Figure 2 shows the computational model

with significant paths.

Hypothesis Testing

Next, we examined the model results to see if our hypotheses were supported. Table 3

shows the unstandardized path coefficients that are related to our hypotheses.

H1. We hypothesized that partner fandom type predicts (a) physical and (b) social

attraction, such that the science fiction/fantasy fan is perceived to be less physically and socially

attractive than the sports fan. Results showed that the science fiction/fantasy fan was seen as less

physically attractive than the sports fan ($b = -0.68$), but in general, the two types of fans did not differ on social attraction. H1(a) was supported, but H1(b) was not.

H2. We hypothesized that partner fandom type interacts with task type to predict task attraction, such that task attraction is higher for the science fiction/fantasy fan when completing the technical task compared to the social task, and task attraction is higher for the sports fan when completing the social task compared to the technical task. We found that partner fandom type had a main effect on task attraction: The science fiction/fantasy fan was seen to have higher task attraction than the sports fan ($b = 0.58$), which was not hypothesized and not consistent with Cohen and colleagues (2017). However, neither the main effect of task type nor the interaction between partner fandom type and task type was significant. H2 was not supported.

H3. We argued that social attraction of a fan does not only depend on his or her fandom group membership (i.e., being a science fiction/fantasy fan or a sports fan), but it is also influenced by participants' own identification with that particular fandom group. Specifically, we hypothesized two simple effects: (a) for participants exposed to a science fiction/fantasy fan, participants' science fiction/fantasy fandom positively predicts social attraction of the fan; (b) for participants exposed to a sports fan, participants' sports fandom positively predicts social attraction of the fan. Results indicated that partner fandom type had a significant two-way interaction with participant science fiction/fantasy fandom ($b = 0.26$) but not with participant sports fandom in predicting social attraction. Moreover, participant sports fandom had a positive main effect on social attraction of the fan ($b = 0.16$), which was not hypothesized.

To interpret the interaction between partner fandom type and participant science fiction/fantasy fandom in predicting social attraction, we ran Model 1 using PROCESS macro (Hayes, 2013) in SPSS. Specifically, we entered participant science fiction/fantasy fandom as the

independent variable (IV), partner fandom type as the moderator, participant sports fandom, interaction between participant sports fandom and partner fandom type, and sex as the covariates, and social attraction as the dependent variable (DV). The model predicted a significant proportion of the variability in social attraction, $F(6, 211) = 3.54$, $p = .002$, $R^2 = .09$. Results showed the conditional effect of the IV on the two levels of the moderator: When the partner was a sports fan, participant's science fiction/fantasy fandom did not predict social attraction ($b = -0.06$, $p = .37$). When the partner was a science fiction/fantasy fan, participant science fiction/fantasy fandom positively predicted social attraction ($b = 0.20$, $p = .005$). Therefore, H3(a) was supported, but H3(b) was not.

H4-6. We predicted that social, task, and physical attraction is each (a) positively associated with active facilitation, (b) positively associated with passive facilitation, and (c) negatively associated with passive harm. We found that H4 was supported: Social attraction led to higher active facilitation ($b = 0.18$), higher passive facilitation ($b = 0.30$), and lower passive harm ($b = -0.43$). This was also the case for task attraction, which predicted higher active facilitation ($b = 0.28$), higher passive facilitation ($b = 0.30$), and lower passive harm ($b = -0.23$). H5 was supported. However, physical attraction was not associated with any of the behavioral intentions. H6 was not supported.

Supplemental results. Apart from testing the hypotheses, results from our model indicate additional significant results that were not hypothesized but are of interest for future research. First, as mentioned above and included in Table 3, the science fiction/fantasy fan had higher task attraction than the sports fan ($b = 0.58$). Second, also as mentioned, participant sports fandom was positively associated with social attraction of the fan ($b = 0.16$). Third, partner fandom type had a direct effect on passive harm ($b = 1.54$, $p = .03$), such that the science

fiction/fantasy fan received higher passive harm than the sports fan, beyond the indirect effects through social, task, and physical attraction.

Fourth, the two-way interaction between partner fandom type and task type had a direct effect on active facilitation (b = -0.79, p = .03) beyond the indirect effects through the three types of attraction. To interpret this significant interaction effect, we ran Model 1 using the PROCESS macro, entering partner fandom type and task type as the IV and the moderator respectively, active facilitation as the DV, and all the other variables in the model (excluding passive facilitation and passive harm) and sex as covariates. Consistent with the path analysis results, the model predicted a significant proportion of the variability in active facilitation, $F(11, 205)$ = 5.60, $p < .001$, R^2 = .23. Results showed that, although the effect of partner fandom type on active facilitation was significantly different in the social task versus the technical task (i.e., the interaction term was significant), such effect did not differ from 0 in either task (i.e., the conditional effect of IV on the DV was non-significant on either level of the moderator). Then, we switched the place of the IV and the moderator. Results were similar: The conditional effect of task type on active facilitation was not significant when it was either a sports fan or a science fiction/fantasy fan.

Effects of participant sex. Participant sex was included in the model as a covariate. Although not hypothesized and not central to our study, we also found several effects of sex. Participant sex had an effect on task attraction (b = 0.48, p = .01) and physical attraction (b = 0.79, $p < .001$): Female participants found the male partner to be more task attractive and physically attractive compared to male participants. Female participants reported higher levels of passive facilitation compared to male participants, b = 0.43, p = .03.

Discussion

Previous research suggests that popular media culture fandom communities are important social identities, guiding both fans and non-fans' social perceptions (Cohen et al., 2017; Fiske, 1992; Kowert, et al., 2012; Sanderson, 2013). However, there is a gap in the literature linking these social perceptions to people's behavioral intentions toward members of these fandom communities. Taking an intergroup approach, the current study experimentally manipulated both the type of popular media culture fandom and the social context, examining how these concepts influenced behavioral intentions toward fans in a collaborative effort. By doing so, we extend the findings from Cohen and colleagues' (2017) by showing that the social stigma associated with some popular media culture fandom communities has implications for how those fans are treated by others.

One of the goals of the current study is to reproduce Cohen and colleagues' previous work showing that science fiction/fantasy fans are more socially stigmatized compared to sports fans. Overall, our results complement Cohen and colleagues' (2017) work. We found that the science fiction/fantasy fan was perceived as less physically attractive compared to the sports fan. This finding is also congruent with research documenting stereotypes of people who consume media texts related to geek culture (Kowert et al., 2012; Kowert & Oldmeadow, 2012). Consistent with Cohen and colleagues' (2017) a priori theorizing, but contrary to their empirical results, we found the science fiction/fantasy fan was perceived as *more* task attractive than the sports fan. This effect was not moderated by social context. This is encouraging because it indicates that although science fiction/fantasy fans are stigmatized as being less physically attractive, they may be nonetheless appreciated for their competence. On the other hand, these findings do suggest that the stereotype of the science fiction/fantasy fan, an extension of the geek archetype, as being physically undesirable albeit intelligent, still persists (e.g., Salter & Blodgett,

2017). Yet, science fiction/fantasy fans were not seen as being entirely different from sports fans. We did not find that the science fiction/fantasy fan was perceived as less socially attractive compared to the sports fan. However, consistent with the social attraction hypothesis, we found that partner fandom type did work with one's own fandom identity to predict social attraction.

Rooted in the social identity perspective, the social attraction hypothesis states that people will be more socially attracted to ingroup members, compared to outgroup members, and that this relationship is moderated by one's own social identity importance, such that the social attraction hypothesis is enhanced for those with high levels of social identity importance (Hogg & Hardie, 1991). Consistent with this perspective, we found that participants' own science fiction/fantasy fandom interacted with partner fandom type in predicting social attraction. Specifically, there was a positive linear relationship between one's own science fiction/fantasy fandom and their social attraction to science fiction/fantasy fan. However, this relationship did not hold for sports fans. Put differently, one's sports fandom did not predict social attraction to the sports fan. Although inconsistent with our hypothesis, in retrospect, the finding makes sense. Previous research suggests that the science fiction/fantasy fans are more socially stigmatized compared to sports fans (Cohen et al., 2017). When groups are socially stigmatized, their social identities tend to be more salient (e.g., noticeable, pronounced) to them (Doane, 1997). However, when social groups are not stigmatized by others, members of those groups are not required to be conscious of their group membership, because it is interwoven into the fabric of the larger culture (Doane, 1997). Applying this logic to the current context, for sports fans, their social identity may not be as salient when presented with a fellow ingroup member, because there is not stigma or shame associated with their fandom identity. Put differently, it is unclear if people's social identities were salient for those assigned to work with the sports fan. We did not measure

social identity salience, so this explanation is conjecture—one that should be tested in future research.

Our results indicate that these stigmatizing social perceptions have behavioral implications toward members of sports and science fiction/fantasy fandom communities. Consistent with our hypotheses and the BIAS map (Cuddy et al., 2007), social and task attraction were positively associated with active facilitation (e.g., helping), passive facilitation (e.g., associating), and negatively associated with passive harm (e.g., excluding). The implications of these findings are mixed for science fiction/fantasy fans. On the one hand, science fiction/fantasy fans are more task attractive, which bodes well for them when task attraction is important (e.g., work relationships). On the other hand, social attraction towards this group was only predicted by the participants' own science fiction/fantasy fandom, indicating that nonfans may limit their social interaction in contexts where task attraction is not important. Intergroup theorizing would predict additional negative implications for the science fiction/fantasy fans' mental, emotional, and physical health. First, stereotype threat research would suggest that group members internalize these negative social perceptions. When they are in contexts where they believe that others are using those negative social perceptions to judge their performance, people experience high levels of anxiety and impaired task performance (e.g., Steele & Aronson, 1995). Applying this logic to the current study, if science fiction/fantasy fans internalize these negative social perceptions and were in contexts that made those perceptions meaningful, these fans would experience anxiety and perform poorly. Second, BIAS map predicts that groups perceived as highly competent and lacking warmth are more likely to be perceived as underserving of their social position, which can lead to active harming behaviors (e.g., attacking, hurting). We did not

test this BIAS map hypothesis, because we used a collaborative effort, but it is a promising

avenue for future research.

Providing evidence that the social stigma associated with the science fiction/fantasy

fandom leads to prejudice, we found that partner fandom type had a direct effect on passive harm

behaviors. Passive harming behaviors seek to diminish a person's self-worth by excluding or

distancing one's self from the target (Cuddy et al., 2007). Specifically, we found that people

were more willing to socially exclude the science fiction/fantasy fan, compared to the sports fan.

This provides causal evidence that participating in science fiction/fantasy fandom communities

can lead to fewer social opportunities for these fans. However, given that we did not hypothesize

this a priori, we must underscore that this needs to be replicated by future research.

One of the goals of the current study was to examine the role of social context in

predicting social perceptions. This goal was based on Cohen and colleagues' (2017) empirical

results suggesting that there was not a significant difference between science fiction/fantasy fans

and sports fan in terms of task attraction. However, we found the main effect for partner fandom

type, such that task attraction was higher for the science fiction/fantasy fan than for the sports

fan. Interestingly, and not hypothesized, we found that social context seemed to matter in

predicting behavioral intentions toward the sports fan. However, follow-up PROCESS analyses

were unable to confirm the significant differences based on social context for the two types of

fans under consideration here. Future research would be well served by continuing to examine

the role of social context in understanding social perception of fans.

Physical attraction was not associated with any of the behavioral intentions we examined.

These findings run counter to the social perception literature which indicates that people are

more likely to help and associate with attractive, compared to unattractive people (Greitemeyer

& Kunz, 2013; Harrell, 1978) and that people are less likely to avoid (i.e., passively harm) attractive people, compared to unattractive people (Powell & Dabbs, 1976). Perhaps these differences could be attributed to a methodological difference between our study and the studies in the social perception literature. In the social perception literature, the stimuli presented to participants are typically an attractive or unattractive person that is physically seen by participants during the course of the study, even if it is just a photograph. To illustrate, in Harrell's (1978) study, he experimentally manipulated physical attractiveness by having the female confederate either comb her hair, wear clean and neat clothes, and wear makeup (i.e., attractive condition), or having the same female confederate not comb her hair, wear dirty and wrinkled clothes, and wear no makeup (i.e., unattractive condition). In our study, we only provided participants with the vignette, with no visual information, and the participants inferred the level of physical attraction. It would be interesting to see if our findings hold even when visual information is provided to participants.

Limitations

Of course, our study has limitations that must be acknowledged. First, although our sample had diversity in terms of some demographic characteristics (e.g., race), we relied on a U.S. college student convenience sample, so our findings likely may not generalize to other age groups, individuals with different socioeconomic backgrounds, or other nationalities or cultures. On one hand, this is a definite limitation. Harrington and Bielby (2010) have suggested, for instance, that people's orientation towards different fandoms changes over the life course, but our study is ill equipped to explain how individuals in different life stages regard people with different objects of fandom. This topic, impressions of fandom across the life course, is ripe for future research.

Despite this limitation, our study's focus on the perspectives of emerging adults provides

valuable insights in its own right. It is notable, for instance, that the stereotypes of sport and

science fiction/fantasy fandom were observed in a young adult sample. It has only been within

the past few decades that fandoms have become more mainstream—more socially normative

(Gray, Sandvoss, & Harrington, 2007). Evidence suggests that most adults probably consider

themselves to be fannish about some type of media (Taylor, 2015). Young adults likely have

little to no recollection of when intense fan behaviors were performed mostly by fringe groups

and cult followings. To them, intense expressions of dedication to media texts or teams should

seem relatively normal. And yet, the emerging adults in this study still show evidence holding

stereotypes of different types of fans, despite their coming of age during a time when fandoms

are more common. This provides evidence that even if fandom is mainstream, fans themselves

are still subject to judgement based on the object of their fandoms.

Furthermore, the young adults represented by our sample are likely to be uniquely

affected by these judgments. Emerging adults are in the process of developing a unique adult

identity (Erikson, 1982), and fandom can play a pivotal role in the formation of these identities

by giving them an opportunity to explore their needs and preferences (e.g., McInroy & Shelley,

advance online publication). But the findings of this study hint at another way that fandom could

shape emerging adult identities. Because young adults appear to associate different types of

fandoms with different types of social advantages or task proficiencies, it stands to reason that

young people might self-stereotype based on the object of their fandom. During a time when

emerging adults are making crucial decisions that influence their life trajectory, their fandoms

may shape beliefs about their own abilities and aptitudes for better or worse. Though conjecture,

this interpretation is consistent with the stereotype threat perspective (e.g., Steele & Aronson,

1995). While this study only examined how the object of fandom affected emerging adults'

perceptions of others, it may be worth investigating how fans' self-perceptions factor into their

self-concepts and shape their ambitions.

Our study has several other methodological limitations. First, given that our study

employed an experimental vignette method, it greatly reduces the ecological validity by

providing limited social cues (e.g., no visual information) for interacting with a member of the

fan communities under consideration here. Of course, given that the goal of the current study is

to examine the causal role of partner fandom type and social context in predicting social

perceptions, as well as behavioral intentions toward a member of the fan community, this is also

an important strength of our study. However, it would be beneficial for future research to

examine this topic using other methods. Second, our measures of fandom were problematic.

Given the intergroup approach advanced in the current study, our measure of fandom did not

have an indicator that mapped clearly to the cognitive underpinnings of this approach (e.g.,

Turner, 1985). Future research should replicate our work with a measure of fandom containing

cognitive indicators. Third, we did not look at actual behaviors, only behavioral intentions.

Future research would be well served by examining how individuals complete the tasks assigned

with their partners. This would allow researchers to look at two classifications of behaviors: a)

those explicitly related to task performance and b) the communicative behaviors the participants

engage in to complete the task. Finally, our study does not tease out any nuances for specific fan

communities (e.g., LARPers vs. Dungeon and Dragon players; football fans vs. basketball fans).

Although the literature indicates that social perceptions of science fiction/fantasy fans may be a

"recycled prototype" of the larger geek culture, research does suggest slight differences between

various types of fandom communities (Kowert & Oldmeadow, 2012, p. 1). Similarly, research

seems to indicate that there could be different social perceptions for various sport fan groups. Specifically, football (i.e., American soccer) fans have been linked to hooliganism (Van Hiel et al., 2007) whereas other sports fan communities have not. Examining whether there are differences between these subcultures would be an important contribution to the literature.

Conclusions

The current study provides causal evidence that the type of fandom community, and not fandom intensity, causes differences in social perceptions between science fiction/fantasy fans and sports fans. Congruent with group-based stereotypes, the science fiction/fantasy fan was perceived as more task attractive, but as less physically attractive compared to the sports fan (Kowert & Oldmeadow, 2012). Social attraction was determined by both partner fandom type and the participants' science fiction/fantasy fandom, but this finding did not hold in the sports fan condition. From an intergroup perspective, this suggests that science fiction/fantasy fandom constitutes a less socially acceptable type of fandom, as nondominant groups are more likely to have to think and be conscious of their stigmatized social identities. These social perceptions translated to behavioral intentions. Consistent with the intergroup perspective taken in this paper, both task and social attraction were associated more active and passive facilitation and less passive harm. Even though science fiction/fantasy fans were perceived as more task attractive, people were more willing to exclude and demean the science fiction/fantasy fan, compared to the sports fan. These findings provide additional evidence that there is a double standard in terms of socially acceptable types of fandom community participation. We hope that our results will give rise to a continued scholarly conversation about the positive and negative (intergroup) implications of participation in various fandom communities.

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Table 1

Descriptives of Variables

Variable	*M*	*SD*	*N*
Participant Science Fiction/Fantasy Fandom	4.90	2.51	222
Participant Sports Fandom	6.09	2.39	221
Social Attraction	6.01	1.76	235
Task Attraction	5.53	1.39	235
Physical Attraction	4.01	1.62	235
Active Facilitation	5.98	1.48	234
Passive Facilitation	6.19	1.57	234
Passive Harm	2.88	1.70	234

Note. The score of task attraction was calculated by averaging scores on the two items (if there was no missing data) or using the score on one item (if there was missing data on one item). The score on each of the other variables was calculated by averaging the scores on the items if there were responses on at least two items.

Table 2

Proportion of Explained Variance of the Endogenous Variables in the Model

Variable	R^2
Social Attraction	.09*
Task Attraction	.08*
Physical Attraction	.14**
Active Facilitation	.23***
Passive Facilitation	.30***
Passive Harm	.27***

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

Table 3

Unstandardized Path Coefficients Related to Hypotheses

Path	Unstandardized Path Coefficient
H1	
(a) Partner Fandom Type → Physical Attraction	-0.68**
(b) Partner Fandom Type → Social Attraction	-1.00
H2	
Partner Fandom Type → Task Attraction	0.58*
Task Type → Task Attraction	0.34
Partner Fandom Type*Task Type → Task Attraction	-0.36
H3	
Participant Science Fiction/Fantasy Fandom → Social Attraction	-0.06
Participant Sports Fandom → Social Attraction	0.16*
(a) Partner Fandom Type*Participant Science Fiction/Fantasy Fandom → Social Attraction	0.26**
(b) Partner Fandom Type*Participant Sports Fandom → Social Attraction	-0.08
H4	
(a) Social Attraction → Active Facilitation	0.18**
(b) Social Attraction → Passive Facilitation	0.30***
(c) Social Attraction → Passive Harm	-0.43***
H5	
(a) Task Attraction → Active Facilitation	0.28***
(b) Task Attraction → Passive Facilitation	0.30***
(c) Task Attraction → Passive Harm	-0.23**
H6	
(a) Physical Attraction → Active Facilitation	0.09
(b) Physical Attraction → Passive Facilitation	0.05
(c) Physical Attraction → Passive Harm	0.004

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. Path coefficients with no asterisk are not significant at

$p < .05$. For hypotheses that predict an interaction effect, path coefficients of main effects are
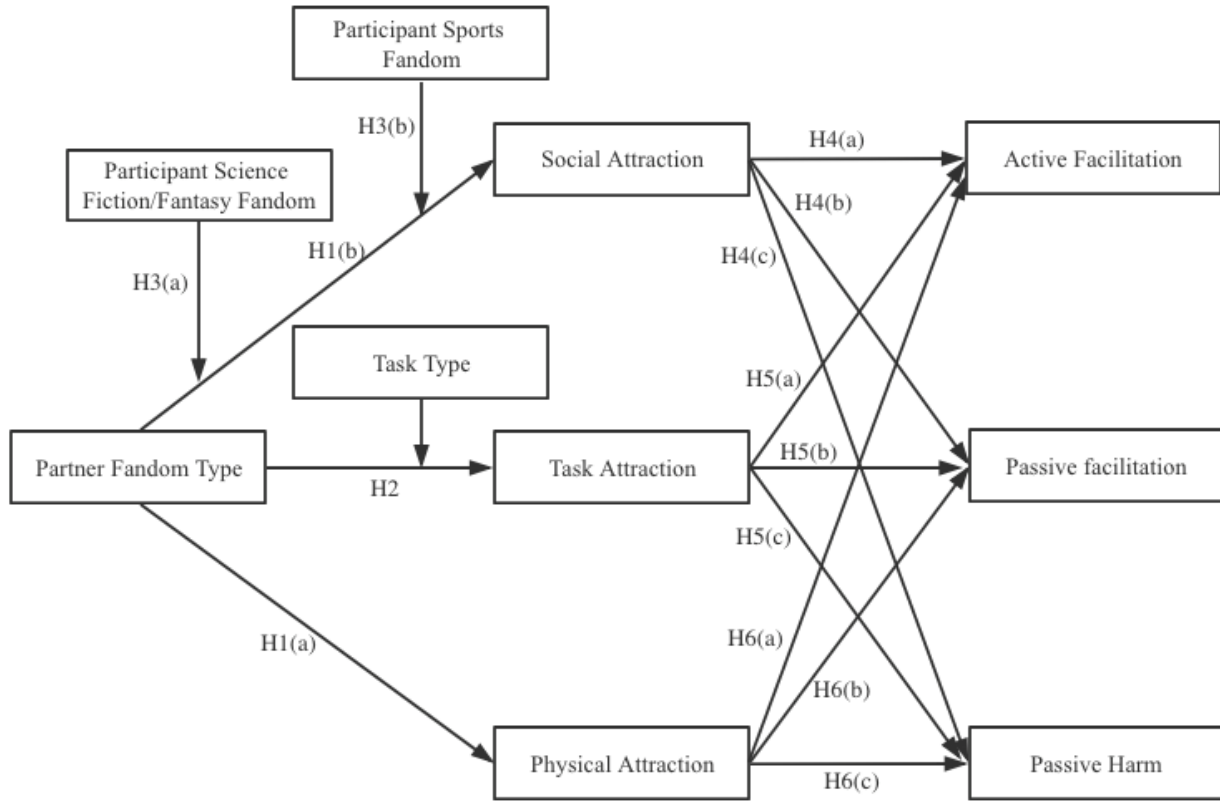
also included.

Figure 1. The hypothesized model. Partner fandom, participant fandom, and task type work in tandem to predict behavioral intentions through influencing social, task, and physical attraction.
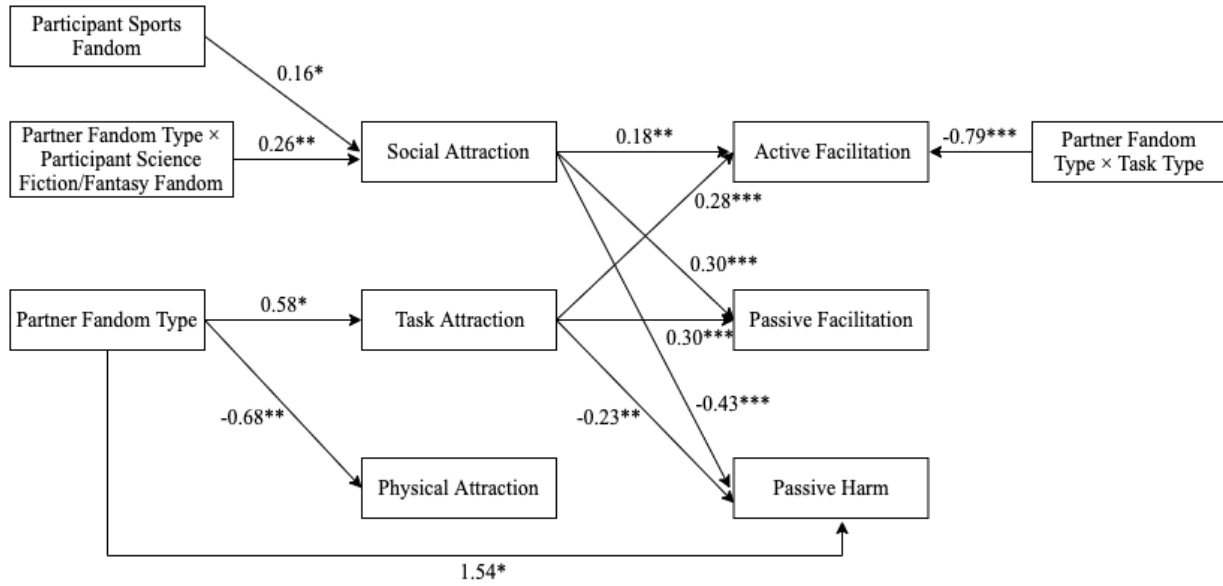
Figure 2. Model results with unstandardized coefficients and significance levels. Paths that were

not significant at the .05 level were excluded.

* *p* < .05, ** *p* < .01, *** *p* < .001.

Appendix

Mplus Syntax of Model Testing

Mplus Variable	Variable Label
taskmani	task type (0 = social task, 1 = technical task)
biomani	partner fandom (0 = sports fan, 1 = scifi fan)
sex	1 = male, 2 = female
soattr	social attraction
taattr	task attraction
fanspo	participant sports fandom
fansci	participant scifi fandom
acfa	active facilitation
pafa	passive facilitation
paha	passive harm
biospo	partner fandom * participant sports fandom
biosci	partner fandom * participant scifi fandom
biota	partner fandom * task type

```
DATA:
     FILE IS mplus.csv;

VARIABLE:
      NAMES ARE taskmani biomani sex soattr phyattr taattr fanspo fansci
    acfa pafa acha paha LNacha fanspoMR sexMR fansciMR acfaMR pafaMR pahaMR;

     USEVARIABLES = taskmani biomani soattr phyattr taattr fanspo fansci
     acfa pafa paha sex biospo biosci biota;

     MISSING ALL (-99);

DEFINE:
     biospo = biomani*fanspo;
     biosci = biomani*fansci;
     biota = biomani*taskmani;

MODEL:
     soattr ON biomani fanspo fansci biospo biosci sex;
     taattr ON biomani taskmani biota fanspo fansci sex;
     phyattr ON biomani fanspo fansci sex;

!Covariates have been added

     acfa ON soattr taattr phyattr biomani fanspo fansci biospo biosci sex
taskmani biota;
     pafa ON soattr taattr phyattr biomani fanspo fansci biospo biosci sex
taskmani biota;
     paha ON soattr taattr phyattr biomani fanspo fansci biospo biosci sex
taskmani biota;

!Direct paths in mediation have been added
```

```
        soattr WITH taattr;
        soattr WITH phyattr;
        phyattr WITH taattr;

OUTPUT:
        sampstat standardized modindices(3.8);
```