

## **Gender bias personality perception in stereotypically gendered sport**

Smith, Jenna; McCarthy, Paul

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**Abstract**

Gender bias is a significant issue within sport and exercise; this bias can have prominent influences on performance and developmental issues. The extent of literature surrounding bias is vast. However, the cause of bias is rarely explored. The present study aimed to investigate the effect personality has on gender bias within sports; this considers the influence of personality on gender bias and the potential rationale for bias. Sixty-eight (34 male and 34 female) participants completed a Big five personality inventory and read two of four sports vignettes (ballet and football), either male vignettes or female vignettes; they then completed a further two big five inventory questionnaires

23 regarding the personality of the athlete in the vignette. The results found that individual personality  
24 traits influence the level of bias towards gender in sports. Further, they suggest that the gender of the  
25 athlete influences our perception of athletes' personalities and the stereotypical gender of the sport  
26 they participated in.

27 **Keywords:** Athlete, personality, gender, gender-bias.

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38 ***Gender bias personality perception in stereotypically gendered sport***

39 **1.1 Introduction**

40 The sport and exercise environment is a growing area. These developments happen at  
41 different inclinations within different sports, the gender differences and expectations within these  
42 sports can cause the intake of gender bias (Cote et al. 2007; Houlihan & White, 2003); *Gender bias* is  
43 defined as the inclination or prejudice towards a specific gender (Rothchild, 2007). Within the study,  
44 gender bias was considered via personality attributes associated with the big-5 inventory (McCrae &

45 Costa, 2013); *personality* is defined as a combination of characteristics that form an individual's  
46 distinctive character (Buss, 1989).

47         The problem illustrated to build a rationale is gender bias in a sport; this comes from the idea  
48 of stereotypes that depict sport as "gender-neutral", "masculine", and "feminine" (Koivula, 2001).  
49 Gender bias can take multiple forms in a sporting environment; the most dominant aspect of bias is  
50 pay inequality. Sports pay is influenced by an athlete's funding, governance, and success; however,  
51 some argue that the regulatory bodies do not justify this inequality. 88% of females playing in the  
52 Women's football Super League earn less than £18,000 a year, whereas the average male player earns  
53 approximately £50,000 a week, though these gaps are being questioned and resolutions imminent,  
54 with the women's world cup winners prize doubling to £3.2 million, this is still ten times less than the  
55 males' prize money which is around £30 million (Archer & Prange, 2019). This is regularly argued  
56 because pay equates from revenue, and male teams influence revenue more, however during the  
57 women's 2019 world cup, the final broke viewing history with 1.12 billion viewers. In contrast, the  
58 men's world cup final in 2018 only reached 517 million viewers.

59         Many advocates for equal pay can be found within the sport; one regularly battling congress  
60 and the football association is Megan Rapinoe (USA women's national soccer team). Rapinoe  
61 regularly battles alongside teammates for equal pay, saying, "When it comes to sport, there has been  
62 such a lack of investment for such a long time, so any direct comparison to the men's sport, to men's  
63 league is unfair". Supporting that the underfunding leads to issues with performance because of  
64 facility, equipment and opportunity, so direct comparisons are biased (Blau & Khan, 2000). Further  
65 supported when she is quoted saying, "Until we have equal investment and over-investment really  
66 because we've been so undeserved for so long, we are not going to have any meaningful conversation  
67 about compensation and revenues and TV viewership". This is supported by quotes from female  
68 athletes such as Serena Williams, "Together we will change the story, but we are going to have to  
69 fight for every penny". This builds background for the study because investigating issues in gender  
70 bias brings further light to the issue. Flake et al. (2013) considered the top 100 tennis players at the  
71 end of the 2009 season. Within the 2009 season, males were paid more, but during the player's

72 careers, their male counterparts were paid more; this was not through just net pay but the prize pay-  
73 out for large tournaments. The information gathered about bias amongst pay helps build background  
74 as it can help tackle bias and bridge significant gaps.

75 A further form of bias within sports is media coverage and facilities. Some argue that male  
76 sports performers get better facilities and higher media coverage (Kian & Hardin, 2009). Female  
77 athletes are less represented in media than male athletes, though it is further elicited that female  
78 athlete media attention draws away from sports and focuses on physical appearance, femininity, and  
79 sexuality (Cooky et al. 2013). Schedler and Wagstaff (2018) suggested that if the media broadcasted  
80 female sports more, attitudes towards female athletes would improve, and bias would be lessor.  
81 Further, Trolan (2013) suggested that though female participation has developed, the media largely  
82 publishes objectifying principles of female athletes. Thistlethwaite (2014) suggested that Olympic  
83 athlete Rebecca Adlington had gained substantial amounts of weight after retirement, focusing on  
84 weight gain instead of Olympic success and commonwealth success. Higgs et al. (2003) examined the  
85 1996 Olympics and regulated coverage time and quality. They prevailed that the female sports got  
86 less coverage and non-performance related comments. Overall, the items discussed link to the  
87 background of the study as they help depict why it is important to consider gender bias in sport, as  
88 building a strong working paradigm allows for conversation around women's sports to be more tactile.

89 The last item that helps build background is stereotyping within sexuality when performing in  
90 'female' and 'male' dominant sports. Harris (2005) offered an insight into the experience of female  
91 football players in the south of England. The study specifically considered the image of female  
92 football through the perspective of women themselves; it was concluded that heterosexual women  
93 struggle to explain and make sense of their participation in a traditionally male sport; this was made  
94 more difficult because of the perceived association with lesbianism. This study suggests that not only  
95 do males perceive female footballers to be homosexual, but they perceive others in their profession to  
96 be the same. Polasek and Roper (2011) considered male ballet dancers as this defined as a feminine  
97 activity, and they looked to access the experiences of these dancers. They concluded that the gay

98 stereotype was given to them, even if they were heterosexual and found that homophobia was strife  
99 amongst the dance community.

100           Lenskyj (1990) explored the idea of gender and sexuality issues within sport and physical  
101 activity and showed various forms of homophobia, abuse, and sexual harassment were experienced by  
102 female athletes, which caused barriers to their performance and participation. Though this study  
103 deepens the background for the research conducted, it does not depict influences on this bias and why  
104 it is prevalent. Therefore, the study helps depict the influence of bias and if this is connected to  
105 personality type, which would then display if personality is linked to bias. This is a significant gap  
106 within the research as though many studies look to understand what bias entails, minimal display the  
107 causes of bias (Lovse et al. 2020; Roper, 2002); the study produced looks to bridge this gap by  
108 considering the influence our personalities have on the way we depict others and if this influences the  
109 bias we display.

110           The study considers gender as male and female, this is due to the quantity of perceived gender  
111 (Richards et al. 2016). Sport participation is split into female and male sport with mixed gender sport  
112 participation accessible, therefore the study considered the gender of the sport participated in, as  
113 opposed to the individuals identified gender. Further research should help identify work with  
114 individuals identifying as non-binary and alter genders falling outside of the male and female  
115 category, however due to the purpose of this study this was not applicable as individuals will play in  
116 one or other gender dominant sport.

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118           The study addresses controversial aspects within sports and goes beyond surface-level bias,  
119 considering where bias comes from, personality perception and if this is influenced by personality.  
120 The study explored the link between personality perception and gender bias and did so using non-bias  
121 measures towards both genders equally. The study aims to consider if personality type affects gender,  
122 with a secondary aim to see if gender in specific sports affects bias level. The study hypothesis was:

123           H1: Does gender influence personality type perception.

124 H2: Is gender bias present across stereotypically gendered sports.

### 125 **1.1.1 Method:**

#### 126 **Participants**

127 Sixty-eight adults completed the study; thirty-four completed the male questionnaires, and  
128 thirty-four completed the female questionnaires. Participants did not record their direct age however  
129 they did choose from age boundaries 16-20 (N=5), 20-30 (N=32), 30-40 (N=16), 40-50 (N=9), 50-60  
130 (N=5) and 60+ (N=1). They further depicted their gender, males (N=34) and females (N=34).  
131 Participation relied on volunteers, and individuals were not prompted to answer questions because of  
132 the confidentiality of the true research question and study title.

#### 133 **Equipment and measures**

134 Multiple items were used to construct the study; the software used for questionnaire  
135 completion was REDcap. Upon following the REDcap link, a consent form came up, asking for a  
136 digital signature, then two demographic questions, gender (1. female, 2. Male), and an age range  
137 selection (16-20, 20-30, 30-40, 40-50 and 60+). Once completed, participants completed a big five  
138 inventory questionnaire, which is a 44-item questionnaire, with answers falling across a 5-point Likert  
139 scale (1. Disagree strongly, 2. Disagree a little, 3. Neither agree nor disagree 4. Agree a little, 5.  
140 Strongly agree). The big 5 inventory has 16 reverse answer questions (2, 6, 8, 9, 12, 18, 21, 23, 24, 27,  
141 31, 34, 35, 37, 41 and 43).

142 Once completed, a vignette was given surrounding a male ballet dancer and a female football  
143 player. A big five inventory was redistributed this time, answers given regarded the character's  
144 personality in the vignette. This process was complete a second time, this time for a male footballer  
145 and female ballet dancer and a final questionnaire was given regarding their personality.

146 The rationale for using ballet and football is because these sports can be regularly found  
147 within the literature when discussing bias (Cress & Hart, 2009; Fisher, 2007), ballet is considered a

148 highly feminine sport (Haltom & Worthen, 2014) and football is a highly masculine sport (Chalabaey  
149 et al. 2009) there it was decided that these sports may trigger a high level of unknowing bias.

## 150 **Procedure**

151 The information for the studies, along with the links for completion, were distributed across  
152 multiple social media platforms (Facebook, Twitter, and LinkedIn) and psychology blogs (British  
153 Psychological Society member connect) using images with brief information about the study. The  
154 study was open to any individual who fit the inclusion criteria. Full details of the study were not  
155 included in the brief, and an altered title was given to prevent individuals from knowing the true study  
156 principles and conforming; participants were told the studies were considering personality in the  
157 sport, bias was not mentioned.

158 Consenting participants completed one of two links dependent on the week they participated;  
159 the links were published within a seven-day interlude. They answered demographic questions and  
160 then signed and agreed to the consent form. This took them onto questionnaire one, which was a big  
161 five inventory regarding their personality. Once complete, survey one proceeds onto a vignette about  
162 a male ballet dancer. After reading the vignette, a further big five inventory is present, this time  
163 regarding the perception of the ballet dancer's personality. Following this, a second vignette is read  
164 regarding a female footballer; a big five inventory is followed regarding the football players  
165 personality. After all, questionnaires are completed, a debrief form is shown.

166 Survey two was disseminated using the same methods but seven days following the first  
167 survey. The structure was the same; the study did not have longitudinal objectives, so the same  
168 participants were not needed. Once the consent and demographic questions had been answered, a big  
169 five inventory was completed on their personality. After completion, a vignette regarding a male  
170 footballer was given, followed by a big five inventory surrounding his personality. The secondary  
171 vignette was then given, surrounding a female ballet dancer, a final big five inventory was given  
172 around the perception of the female's personality. The sport-specific vignettes were the same story,  
173 but alterations were made to the gender.

## 174 **Data Analysis**

175 First, data collected was inputted from REDcap to SPSS using the REDcap distribution tool,  
176 data assumptions were tested using z-scored to identify outliers. Normality plots, Shapiro-Wilk  
177 statistics were conducted to assess skewness and kurtosis of the data set, following a Levene's test to  
178 assess the homogeneity of variance.

179 To assess the hypothesis, a repeated-measures ANOVA was conducted because the  
180 respondents completed two vignette questionnaires, allowing for the depiction of both the personality  
181 trait depicted for themselves and the personality depicted for the individual in the vignette. The  
182 dependent variable was the outcome of the big-5 inventory, with the vignette based on each  
183 questionnaire being the independent variable.

### 184 **1.1.2 Results**

#### 185 **Preparing data**

186 A factorial MANOVA analysis was performed to investigate if differences occurred between  
187 the rating of male and female personality traits, dependent on the stereotypically gendered sport they  
188 participate in. Five dependent variables were used: extraversion, neuroticism, agreeableness,  
189 conscientiousness, and openness, which had three levels, own score, male score, and female scores.  
190 The independent variables were the gender of the individuals in the vignette and the gender of the  
191 sports participated in, both had two levels, male and female.

192 Normality distribution was checked using stem and leaf diagrams and visual analysis; all data  
193 were approximately normally distributed. No missing data was located, and no outliers were removed.  
194 Further screening allowed for assessment of skewness and kurtosis; from this, it can be suggested that  
195 all data was appropriately skewed and kurtotic.

196 A Further box test of equality of covariance was displayed, this has a significance of 0.000,  
197 which is less than 0.001. This suggests that assumptions have been violated, however, because the  
198 sample is over 30, a MANOVA is robust against violations of homogeneity of variance matrices

199 assumption. An examination was further conducted on the univariate homogeneity test by considering  
200 Levene's test, this showed that all but one variable was not significant ( $N=>0.05$ ), indicating that the  
201 univariate homogeneity assumption is partially met.

## 202 **Main analysis**

203 The chosen analysis for the data set was a factorial MANOVA; this is due to having multiple  
204 variables within the data set. The multivariate test was analysed using Pillai's Trace because  
205 assumptions were violated. Pillai's Trace depicts that there was statistical significance between  
206 extraversion and neuroticism compared to the independent variable when compared to gender, as  
207 there were some significant results this allowed for investigation in relation to each dependent  
208 variable, using between-subjects effects.

209 The between-subjects effects suggested multiple significance variables ( $N=>0.05$ ). There was  
210 statistical significance between the participants extraversion and neuroticism between genders  $F(1)$   
211  $=4.497, p= 0.036$  ; partial eta squared= 0.034. Further, participants own agreeableness level on  
212 agreeableness between genders  $F(1) =8.460, p= 0.004$ ; partial eta squared= 0.062. The vignettes were  
213 compared using the mean scores from the questionnaires to assess for differentiation between the  
214 male and female genders.

## 215 **Neuroticism**

216 On the trait neuroticism, female ballet dancers scored the highest ( $M=26.56$ ) across all sports  
217 and genders. The male football player scored the lowest ( $M=23.18$ ). However, both female athletes  
218 scored higher than their male counterparts, with the female ballet dancer scoring 26.56 and the male  
219 ballet dancer scoring 24.85.

## 220 **Openness**

221 Female ballet dancers scored the highest ( $M=37.15$ ) on the trait openness, with male ballet  
222 dancers scoring the lowest ( $M=34.21$ ). Further, male football players scored higher ( $M=35.79$ ) than  
223 female football players ( $M=34.97$ ).

224 **Conscientiousness**

225 Female ballet dancers scored the highest (M=38.12), with female footballers scoring the  
226 lower (M=30.21). Male ballet dancers scored higher (M=35.68) than male football players  
227 (M=31.06).

228 **Extraversion**

229 Male ballet dancers scored the lowest (M=26.82), with male football players scoring the  
230 highest (M=33.94). Female footballers scored higher (M=30.91) than female ballet dancers (M-  
231 29.44).

232 **Agreeableness**

233 Male ballet dancers scored the highest (M=30.41) on the trait agreeableness, while female  
234 football players scored the lowest (M=27.20). Further, male footballers scored higher (M=28.71) than  
235 female ballet dancers (M=27.35).

236 **1.1.3 Discussion**

237 The study investigated the effects of personality perception on gender bias within male and  
238 female athletes, using stereotypical male and female sports; this was done using a vignette to produce  
239 a story on athletes practice, with participants completing big five personality questionnaires around  
240 this. Two hypotheses were explored:

241 H1: Does gender influence personality type perception.

242 H2: Is gender bias present across stereotypically gendered sports.

243 From this, it can be suggested that the results supported both hypotheses, participants'  
244 personality traits influenced the way they perceive other's personalities, and further individuals scored  
245 both males and females within the same vignette differently, suggesting bias is present across  
246 gendered sports. The first finding suggested that individuals who had high levels of extraversion  
247 (outgoing, warm, and adventurous) depicted higher levels of neuroticism (anxious, unhappy, and

248 negative) across those in the vignette. This could be suggested because those with high-level  
249 extraversion are considered highly opinionated, therefore depicting an individual to be unhappy,  
250 which was portrayed throughout the vignette, would suggest openness within their opinion (Averett &  
251 McManis, 1977). However, it can be suggested that the rationale for extraverts to rate individuals with  
252 negative traits is because they are often considered highly negative and judgmental (Hendy &  
253 Biderman, 2019). Daderman and Ragnestal-Impola (2019) suggested that workplace bullies often  
254 scored high on levels of extraversion and low on levels of agreeableness, further suggesting low levels  
255 of honesty and humility. This is further supported by Oh et al. (2011), who suggested that high levels  
256 of extraversion lead to high levels of dishonesty and deviance, which would support that extraverted  
257 individuals with high levels of extraversion would rate others negatively.

258         The secondary finding amongst own rated personality was that those with high levels of  
259 agreeableness (trusting, helpful and empathic) highlight those in the vignette to have high levels of  
260 agreeableness. This can be said because agreeableness means they are highly empathic, and within the  
261 vignette, the individual suffers from a sporting issue with no resolution, so they can sympathise and  
262 understand the individual. Furnham and Cheng (2015) conducted a longitudinal study on personality  
263 and early indication; it was concluded that females typically had higher levels of agreeableness,  
264 individuals with high agreeableness were often more intelligent and had a higher social class. This  
265 would help depict how individuals could depict agreeableness within the vignette as they have higher  
266 perceived intelligence, underpinning the story and understanding the emotion.

267         The first trait depicted was neuroticism; high levels of neuroticism means the individual is  
268 anxious, unhappy, and prone to negative emotions (Gunthert et al. 1999), whereas low levels mean the  
269 individual is calm, even-tempered, and secure (Krabbendam et al. 2002).

270         The results depicted that the female ballet player had the highest level of neuroticism, with  
271 the female football players closely followed. This depicts an association between neuroticism and  
272 gender. Neuroticism is often associated with high strung emotion and self-consciousness; Brebner  
273 (2003) suggests that females are better at articulating emotion than males; this could mean that

274 females were highly associated with high levels of neuroticism because of the idea of females having  
275 high emotional levels than males.

276           The male ballet dancer scored higher on neuroticism than the male footballer; it can be  
277 suggested this is because of the stereotypes that are often associated with males participating in a  
278 stereotypically 'female' based sport (Knight & Giuliano, 2001). It is suggested that males in feminine  
279 sports are often feminine and have softer, less aggressive traits. Polasek and Roper (2011) suggested  
280 that male ballet dancers are often stereotyped as homosexual and feminine, which would support why  
281 they were categorised higher than male footballers as they are perceived as more feminine. This is  
282 supported by Haltom and Worthen (2014), who suggested that male ballet dancers are highly  
283 stigmatised with feminine traits and have higher levels of emotionality. Further, it can be suggested  
284 that male footballers scored the lowest on neuroticism because it is associated with being non-  
285 emotional, which can be seen within a male stereotype that masculine males often struggle to digest  
286 emotion (Horrocks, 1994). Montes (2013) suggested that males were less likely to discuss emotion  
287 because of the constructs of masculinity affected by culture and family; this supports that males in a  
288 stereotypical male environment would score low levels of neuroticism's as they are less prone to high  
289 emotion.

290           The secondary trait considered was openness; high levels of openness are associated with a  
291 variety of interests, independence, and curiousness (Silvia et al. 2009), whereas low openness is  
292 associated with practicality, routine, and convention (Piedmont et al. 2012).

293           The highest score for openness was female ballet players followed by male footballers; this  
294 depicts that the two stereotypical performers had the highest levels of depicted openness. This could  
295 be because they follow traditional norms and values (McCrae, 1987), which would show their  
296 independence and lack of coherence. The lowest score for openness was male ballet, which could be  
297 suggested due to vigorous ballet routine and independence (Burton, 1978). However, this is  
298 contradicted by female ballet performers scoring the highest, and thus the logical explanation for  
299 variance within the scores is a bias towards males in female dominant sport.

300           The third trait considered was conscientiousness; high levels of conscientiousness are  
301 associated with being hardworking, dependable, and organised (Robertson et al. 2000), whereas low  
302 conscientiousness is associated with being impulsive, careless, and unorganised (Cheramic &  
303 Simmering, 2010).

304           The highest scorer in conscientiousness was the female ballet dancer, followed by the male  
305 ballet dancer. A suggestion as to why the ballet dancers scored higher than the football players is  
306 because they work in routine, which seems to be higher organised than in a football environment  
307 (Low et al. 2020). Baselga (2015) looked at ballet dancers' pre-performance routines; it was  
308 highlighted that ballet dancers have high and strenuous routines that need to be followed pre-  
309 performance, including costume design, shoe fitting, and stretching. This would fall in line with the  
310 findings that ballet dancers have high levels of conscientiousness because they are structured and  
311 organised.

312           The female football player scored the lowest in conscientiousness, suggesting that the  
313 participants felt she was unorganised, lazy, and negligent. This can be suggested to present bias as it  
314 would suggest that the male footballer has higher levels of the organisation and is hardworking. The  
315 aspect of laziness can come from the idea that female sport is easier. This is often represented as  
316 individuals believe that females perform at lower levels with greater equipment advantages such as  
317 smaller goals and lighter weighted items (Husak et al. 1986). Hively and El-Alayli (2014) considered  
318 the effects of stereotypes on performance. It was concluded that female athletes were aware of the  
319 stereotypes placed on them, and due to these stereotypes, they performed less successfully than males.  
320 This study would suggest that stereotypes and bias influence sports performance, which would  
321 support that bias towards women influences them negatively, which is in working with the findings  
322 surrounding conscientiousness.

323           The fourth trait was extraversion; high-level extraversion means that the individual is  
324 outgoing, warm, and adventurous, whereas low-level extraverts are quiet, reserved and withdrawn.

325           The highest score in this was the male footballer, followed by the female footballer. Campbell  
326 et al. (2003) conducted research testing the relationship between extraversion, gender, and leadership.  
327 It was concluded that males have high levels of extraversion and found that males were more likely to  
328 become leaders than females. This supports the study findings as it suggests that males were depicted  
329 as highly extroverted and had higher levels of extraversion than female athletes.

330           The male ballet performer scored the lowest level of extraversion, highlighting quietness,  
331 reservation, and passive. These are traits often associated with females (Downing & Roush, 1985);  
332 therefore, it can be suggested that the sport participated in took effect on this assumption. Kimble and  
333 Mustgrove (1988) conducted a study considering differences within an argument between males and  
334 females; they concluded that males were more assertive, louder, and displayed visual dominance  
335 during the conversation. This would argue that a male ballet player would be reserved and quiet as  
336 often males are stereotyped as louder and more aggressive, which argues the low levels of  
337 extraversion.

338           Agreeableness is the final trait discussed; high-level agreeableness is associated with  
339 helpfulness trusting, and empathic (Bresin & Robinson, 2015), and low level agreeable is associated  
340 with critical, uncooperative, and suspicious (Kong et al. 2015).

341           Within the trait agreeableness, the male ballet performer scored the highest, with the male  
342 football scoring second highest; this suggested that the participant felt that male performers are more  
343 trusting, good-natured, and lenient. This could be derived from the stereotype that males worry less  
344 and can be easier to persuade, which would link to the lenient attributes of the trait. Further, the  
345 stereotype that males are less worried than females leads to better nature and higher trust due to less  
346 neglect (Fagan, 2001). Wadden et al. (1991) conducted a study on male and female worry across  
347 adolescents; it was concluded that across the 15 items scale, females worried more about looks,  
348 figure, weight, popularity, and relationship, whereas boys worried more about money and romantic  
349 relationships. It was concluded that females presented more significant levels of worry than males;

350 this links to the idea that males are more laid back and trusting and have minimal stressors to pre-  
351 occupy them.

352 The female football scored the lowest on agreeableness, meaning that the participants felt she  
353 was critical, ruthless, and irritable. This can come from the stereotype that females are often more  
354 sensitive than males and allow emotions to get the better of them. Barrett et al. (1998) considered that  
355 the two sexes have higher levels of emotion. This was done through emotion tests over one week; it  
356 was concluded that females regularly experienced higher levels of emotion than males and were  
357 deemed the more emotional sex. This links to the representation of females scoring lower levels of  
358 agreeableness. It suggests they have high irritability and uncooperative experiences and are more  
359 critical, which links to highly strong emotional experiences.

360 Overall, it can be suggested that gender bias is suggested across all traits; the most prominent  
361 male over female bias can be seen within conscientiousness and agreeableness as the males' scores  
362 were much higher than the females. Further, female against male bias comes from the neuroticism  
363 trait, which favoured females over males; overall, it can be said that bias is present in both males and  
364 females, and the sport to which they perform has a significant influence on this. Although the study  
365 showed success, this does not solve the issues surrounding bias. A way to evolve this study would be  
366 to provide interviews with individuals who perform in stereotyped sports and gain insight into how  
367 they feel perceived compared to their actual personality type. This will allow for comparisons  
368 between studies to how we define someone and what they portray. A further suggestion for future  
369 research would be to broaden the sports participated in to see if bias is presented in personality  
370 perception to alternate sports, considering the level of these performers; individuals at high levels in  
371 comparison to basic participation level would help to suggest the level apparent bias is at which will  
372 help combat it in the future.

373 The current study used the big five inventory as a measure; overall, I got near 200  
374 participants. However, from this initial 200, only 68 participants completed questionnaires in full. The  
375 big five inventory is a 44-item questionnaire, and its completion is tedious and repetitive, and some of

376 the wording is of high complexity. I believe this prohibited full participation and further influenced  
377 individuals understanding of what was being asked. In the future, a shorter personality questionnaire,  
378 such as the ten-item personality inventory (TIPI) (Ehrhart et al. 2009). Using a shorter scale would  
379 have allowed more participation and potentially higher quality results due to higher engagement  
380 (Yardley et al. 2016).

381 A further limitation was the analysis design used due to the mass of data and the hypothesis  
382 needed to be met from the analysis. There had to be a breach of the assumption of independence  
383 within the participant personality items to conduct the analysis, though this is a limitation as it does  
384 not follow standard procedure. It is often used throughout analysis work (Cheshire et al. 2007). A  
385 final limitation depicted through participation was that this study suggests that sexuality is formed of  
386 males and females, which may have caused issues in gender identity with some participants and could  
387 have led others to non-participation. When conducting the study, the variety of gender was accounted  
388 for. However, because of this spectrum being large (Monro, 2005), the measure would have become  
389 too difficult for individual analysis. Although it was not possible to have the study consider every  
390 gender (EG: non-binary, agender, pangender), this would have strengthened findings and removed  
391 confounding factors and encouraged participation.

392

393

#### 394 **1.1.4 Conclusion**

395 Overall, it was concluded that personality type impacted how we perceive others; specifically,  
396 extraverted individuals who perceived people to have higher neuroticism levels, and individuals with  
397 higher levels of agreeableness further depicted agreeableness within others. Further concluding that  
398 female ballet dancers had the highest levels of openness, conscientiousness and neuroticism and male  
399 football players had the highest levels of extraversion, and male ballet performers had the highest  
400 levels of agreeableness. The varying levels of high and low attaining traits depicted that gender is a  
401 significant issue within perception and sport type, and this causes discrepancies in perception.

402           The current study adds to the evidence surrounding personality perception and differences  
403 amongst genders, further contributing to the body of literature surrounding gender bias in sport; this is  
404 done through its specific personality measures and thoroughly conducted vignettes. However, further  
405 research is required before full practical guidance can be given to individuals in a sporting  
406 environment to help combat bias and bridge gaps between male and female gendered sports.

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