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Does the Face Reveal Athletic Flair?

Positions in Team Sports and Facial Attractiveness

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Abstract

Athleticism is sexually attractive, indicating that it may serve as a sign of heritable fitness. We hypothesized that just as some sports may more honestly signal fitness than other sports, some positions within team sports may more honestly signal fitness than other positions because success in such positions depends more strongly on traits associated with heritable fitness (e.g., agility, spontaneity, creativity). We conducted two studies in which women rated facial photographs of male soccer players and ice hockey players, and we found that the faces of goalkeepers/goalies and strikers/forwards were rated to be more attractive than the faces of their team mates. These results suggest that even minor differences in heritable fitness may have profound implications, and they generate a number of questions for additional research.

Keywords: athleticism; facial attractiveness; ice hockey; sexual selection; soccer; team sport positions

1. Introduction

Athletic ability is sexually attractive. From the muddy football fields of high schools to the grassy tennis courts of Wimbledon, contestants of sporting events are often the objects of much adoration. Why is this? One possibility is that athleticism signals one's ability to obtain fitness-enhancing resources. Another possibility is that athleticism advertises fitness itself. It has been argued that athleticism is a sexually selected trait that signals gene quality and that sports are systems designed to advertise this quality (Miller, 2000). Consistent with this idea is evidence that traits such as explosive strength and neuromuscular coordination—which contribute importantly to athletic ability—are highly heritable (Calvo et al., 2002; Missitzi, Geladas, & Klissouras, 2004; Peeters et al., 2005). Evidence also indicates that testosterone levels are highly heritable (Harris, Vernon, & Boomsma, 1998; Hoekstra, Bartels, & Boomsma, 2006) and that second-to-fourth digit ratio (a correlate of prenatal testosterone levels) predicts athletic attainment among men (Manning & Taylor, 2001).

Not all sports are equal, however—they vary in prestige. Some sports (e.g., soccer) are perennially and universally popular, whereas other sports (e.g., lawn bowling) struggle just to be perceived as a sport. It has been argued that the more prestigious sports are those that more honestly signal traits (e.g., strength, endurance, agility and intelligence) that are associated with heritable fitness (Miller, 2000). Although little research has directly compared athletes of different sports, one study found that professional soccer players have lower second-to-fourth digit ratios than controls (Manning & Taylor, 2001). If indeed there is a link between prestige of a sport and the degree to which it advertises fitness, such a link may also exist within a single sport. As indicated by differing player salaries, among team sports with division of labor, not all positions are equal—they vary in prestige. We thus speculated that among such sports, certain positions may more honestly signal fitness than other positions.

In the present research, we investigated the possibility that players of certain positions in team sports express more strongly heritable traits associated with heritable fitness. We examined professional soccer players and professional ice hockey players. Soccer and ice hockey, although popular in very different parts of the world, share many similarities. In both sports, the aim of the game is to place an object inside a net, which is defended by a goalkeeper/goalie as well as defending players. There are also players (strikers/forwards) who specialize in scoring goals. Roughly, soccer positions can be divided into four categories: goalkeepers, defenders, midfielders, and strikers. With the exception of midfielders, similar positions are found in ice hockey: goalies, defensemen, and forwards (the latter can be further divided into wingers and centers).

All positions in both sports undoubtedly demand a great deal of athleticism and training. As most coaches and fans will admit, however, the positions demand different physical and psychological dispositions. Consider goalkeepers/goalies. For them, a single mistake can result in the concession of a goal. Thus, in order to make saves, they need to be especially agile, quick, and willing to risk injury. The demands differ for strikers/forwards. Their primary task is to overcome the defenses and score goals, and a single mistake (failing to score a goal) is generally less costly. However, in order to achieve their objective, they need to be especially spontaneous and creative, and they require more explosive (but coordinated) strength. Defenders/defensemen—whose primary task is to serve as a physical barrier between opponents and their own goal—require a high level of endurance, but perhaps less agility and spontaneity. Evidence does indicate that the physical demands differ for different soccer positions (Mohr, Krustrup, & Bangsbo, 2003). Based on these considerations, we hypothesized that the positions of goalkeepers/goalies and strikers/forwards depend more strongly on traits associated with heritable fitness, relative to defenders/defensemen.

If this hypothesis is valid, then goalkeepers/goalies and strikers/forwards should display other traits that are known to be correlated with fitness. By assessing the extent to which traits are correlated with fluctuating asymmetry and the extent to which women's preferences for those traits vary across the menstrual cycle (see Gangestad & Simpson 2000), researchers have identified several phenotypic indicators of genetic fitness. These include facial attractiveness, olfactory attractiveness, facial masculinity, height, and dancing ability, with many of the indicators being limited to males (Brown et al., 2005; Gangestad & Thornhill, 1998, 2003; Gangestad, Thornhill, & Yeo, 1994; Pawlowski & Jasienska, 2005; Penton-Voak et al., 1999). In the studies reported below, we tested the hypothesis that goalkeepers/goalies and strikers/forwards possess faces that are perceived to be more attractive than those of defenders/defensemen. (We made no specific hypothesis about soccer midfielders.) To test this hypothesis, we conducted studies in which women made facial attractiveness judgments of male soccer players and male ice hockey players.

2. Study 1: Soccer Players

2.1. Methods

2.1.1. Targets. All soccer players whose photos served as stimuli were from the Netherlands and played in the premier Dutch soccer league. For each of the four positions (goalkeepers, defenders, midfielders, and strikers), facial photos of 20 randomly selected players were obtained from Web sites on the Internet. Players that may be too easily recognized due to frequent appearance on the media were excluded. The photos were standardized in size and depicted only the faces.

2.1.2. Raters. Seventy-three female students at the University of Groningen participated in exchange for €5. Participants completed the study sessions in separate rooms and provided responses on computers. Within study sessions involving several questionnaires and tasks, participants were presented with the photos of the soccer players' faces.

Participants rated each of the 80 faces on a 10-point scale, with endpoints labeled 1 (*very unattractive*) and 10 (*very attractive*). Afterwards, participants were asked how many (if any) of the players they recognized during the study session.

2.2. Results

For each of the 73 participants, four attractiveness scores were calculated representing the mean attractiveness ratings allotted to the 20 strikers (Mean ± SD = 4.52 ± 1.12), 20 goalkeepers (4.48 ± 1.23), 20 midfielders (4.13 ± 1.25), and 20 defenders (4.07 ± 1.27). Because the data were not normally distributed, a non-parametric Friedman test was conducted to test the differences among the four means. The results revealed that the four mean attractiveness ratings differed significantly from each other, $\chi^2_{(3, N = 73)} = 77.31$, $p <$ .001. Pairwise comparisons (with Bonferroni adjustment for multiple comparisons) showed that attractiveness ratings of strikers and goalkeepers did not differ from each other ($p = 1$), both of which were significantly higher than those of midfielders and defenders (all ps < .001); the ratings of midfielders and defenders did not differ from each other ($p = 1$).

Although we had tried to eliminate any systematic bias by excluding highly recognizable players, there remained the possibility that players of certain positions were more recognizable (due to more media attention, for instance), which may have translated into more favorable judgments of attractiveness. To eliminate this potential confound, participants who indicated that they recognized one or more players were removed (there were 40 such participants), and the Friedman test and pairwise comparisons were repeated with the 33 remaining participants. The results showed that the four mean ratings differed from each other, $\chi^2_{(3, N = 33)} = 25.13$, $p < .001$, and that the ratings of strikers and goalkeepers were higher than those of midfielders and defenders (all ps < .037). In other words, the inferential results remained identical: the faces of strikers and goalkeepers were judged to be more attractive than the faces of midfielders and defenders.

3. Study 2: Ice Hockey Players

3.1. Method

3.1.1. Targets. All ice hockey players whose photos served as stimuli played in the National Hockey League (NHL) in North America. Players were randomly selected from a list, and the photos were obtained from the Internet. Because the forward position comprises centers and wingers (who may also differ from each other), we obtained photos of 20 centers and 20 wingers; we also obtained photos of 20 goalies and 20 defensemen. All photos depicted only the faces.

3.1.2. Raters. Fifty-six female students at the University of Groningen participated voluntarily by responding to an e-mail message requesting them to rate the attractiveness of male faces. Participants rated each of the 80 faces on a 10-point scale, with endpoints labeled 1 (*very unattractive*) and 10 (*very attractive*). Given the sample (Dutch students who hardly ever watch NHL games), there was little possibility that any of the players would be highly recognizable.

3.2. Results

For each of the 56 participants, three attractiveness scores were calculated representing the means of attractiveness ratings given to the 20 goalies (Mean ± SD = 4.94 ± .97), 40 forwards (4.64 ± 1.03), and 20 defensemen (4.16 ± 1.06). The data were not normally distributed, and the results of the non-parametric Friedman test revealed that the three mean attractiveness ratings differed significantly from each other, $\chi^2_{(2, N = 56)} = 90.52$, $p < .001$. Pairwise comparisons (with Bonferroni adjustment) showed that the attractiveness ratings of goalies were significantly higher than those of forwards, which were significantly higher than those of defensemen (all ps < .001). (Additional analysis revealed that the ratings of centers and wingers did not differ from each other.)

4. Discussion

Results from two studies showed that professional athletes of certain positions have more attractive faces than their team mates. The hypothesized pattern was observed among both soccer players and ice hockey players. In Study 1, soccer goalkeepers and strikers were rated to be more facially attractive than defenders (as well as midfielders). In Study 2, ice hockey goalies were rated to be most facially attractive, followed by forwards, and then by defensemen. This pattern of results is consistent with the hypothesis that, because of differing physical and psychological demands, the positions of goalkeepers/goalies and strikers/forwards depend more strongly on traits associated with heritable fitness. This finding is remarkable given that all of the players rated in these studies are professional athletes who are likely to be at the upper end of the population distribution along all kinds of variables pertaining to athletic ability. Thus, the finding suggests that even minor differences in traits associated with fitness may have far-reaching implications such as determining positions in professional sports.

It remains unclear how the traits associated with heritable fitness may influence the determination of player positions. It is possible that attractiveness itself serves as a heuristic cue when players are sorted into different positions earlier in their careers, and more attractive boys may be chosen for the more prestigious positions. Of course, such a strategy would only be sustained if attractiveness is correlated with traits that actually facilitate performance in those positions.

The present finding opens up a number of avenues for future research. What exactly are the key fitness-related physical and psychological traits that some players express to a greater degree? Are goalkeepers/goalies and strikers/forwards more symmetrical than their team mates? Do they have lower second-to-fourth digit ratios? Do they emit more sexually attractive odors, especially when the women smelling them are in the fertile phase of the

menstrual cycle? And would these effects be found in other team sports with division of

labor? Perhaps there is a grain of truth to the stereotype of the handsome quarterback.

Acknowledgements

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