

1 Running head: STEREOTYPES IN BASKETBALL

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“White men can’t jump.” But can they throw? Social perception in European basketball.

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This is the peer reviewed version of the following article: Furley, P. and Dicks, M. (2014), “White

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Abstract

In the present article, we investigate the influence of socio-cultural stereotypes on the impression formation of basketball players and coaches. In Experiment 1 (N=32), participants were shown a picture of a black or white basketball player prior to observation of a point-light video of a player executing a basketball free-throw. The participant was informed that the player depicted in the picture was executing the free-throw. Results indicated that ethnicity of the target player significantly influenced participant evaluations, demonstrating specific stereotypes about black and white basketball players when evaluating performance. In Experiment 2 (N=30), results derived from the Implicit Association Test indicated that black players are implicitly associated with athletic player attributes. The results are in line with social schema theory and demonstrate that—similar to findings that have been reported in the United States—a sub-population of German basketball players and coaches hold specific stereotypes about the abilities of black and white basketball athletes. These stereotypes bias impression formation when coaches and players make assessments of basketball performance.

168 words

Keywords: Sport, Stereotype, Person Perception, Point-light, Implicit Association Test, Social Cognition

43 **“White Men Can’t Jump”. But Can They Throw? Social Perception in European**
 44 **Basketball**

45 The occurrence and nature of stereotypical comments in sports have been discussed in depth (e.g.
 46 Buffington, & Fraley, 2011). In the 1970s and 1980s, it was not uncommon for people in the
 47 sports media to attribute black athletic superiority to a form of Social Darwinism, arguing that
 48 the hardships of slavery led to an increase in the number of people who possessed especially
 49 adaptive physical abilities (e.g. Kane, 1971). Indeed, recent high-profile cases of racism in
 50 European football including on-field abuse from fellow players and off-field abuse from fans
 51 have highlighted that racism still remains a significant problem in the sport domain (e.g.
 52 <http://www.bbc.co.uk/sport/0/football/19636473>; retrieved on 07.012.2012). Although such
 53 incidents of abuse can be considered as overt racism, it has been suggested that within the sports
 54 media, there have been many more subtle ways at insinuating the same point. One such example
 55 is that black athletes are credited for their “natural athleticism” whereas white athletes are
 56 believed to compensate for their lack of “natural athleticism” with “discipline” and “knowledge
 57 of the game” (Stone, Perry, & Darley, 1997; Buffington & Fraley, 2011). To date, these
 58 stereotypical beliefs about athletic performance have almost exclusively been identified within
 59 the United States (US), while very little empirical work has examined athletic stereotypes in
 60 European countries. As stereotypes are believed to differ across cultures and countries (e.g.
 61 Aronson, Wilson, & Akert, 2005), the present research attempts to address this shortcoming in
 62 the literature by investigating socio-cultural stereotypes in the sport of basketball in Germany.

63 **Stereotypes in Sports**

64 A stereotype or social schema has been described as a mental shortcut, which people use
 65 to “fill in the blanks” when the given information about another person is scarce (Fiske &

66 Taylor, 1991). In general, a stereotype can be described as an overgeneralization towards a
67 member of a social group in which identical characteristics are attributed to all members of that
68 group regardless of individual variation amongst the group members (Allport, 1954). One of the
69 most prevalently documented stereotypes in North American sports is the “black brawn versus
70 white brains” distinction, which is well documented in private face-to-face conversations (May,
71 2000; Myers 2005) and media reports (e.g. Azzarito & Harrison, 2008; Buffington & Fraley,
72 2011).

73 In disciplines as diverse as linguistics, psychology, sociology, and anthropology,
74 language in sport commentaries has proven to play a decisive role in the transmission of sport
75 specific stereotypes (Maas & Arcuri, 1996; Semin & Fiedler, 1988). For example, Desmarais and
76 Bruce (2010) demonstrated that sport commentators draw on existing national stereotypes in
77 order to direct the attention of the audience towards restricted interpretations of the action on the
78 field. Commentators tended to reduce teams or players to a few essential characteristics and
79 make sense of athletes’ actions on the field through the “interpreting filter” of stereotypes. For
80 such reasons, Buffington and Fraley (2011) have argued that most Americans are aware of
81 stereotypical beliefs concerning black and white athletes. This statement is well supported by
82 social psychological research in the US (Stone et al., 1997; Stone, Lynch, Sjomeling, & Darley,
83 1999).

84 North American basketball has been one of the most influential sports in fostering the
85 stereotype of black natural athletic ability. During the past 25 years, 75 - 80% of North American
86 Basketball Association (NBA) players have been black (Gladwell, 1997), which is a far greater
87 proportion than one would expect given that the proportion across the entire US population is
88 approximately 13 % (Aronson et al., 2005). In order to understand the implications of such

89 statistics on the impression formation process, Stone and colleagues (1997) assessed the
90 stereotypical claim of the popular Ron Shelton film that “White men can’t jump”. In this study,
91 the authors demonstrated that university college students rated a basketball player on a radio
92 broadcast as possessing more athletic ability and having played a better game when they were
93 led to believe that the radio commentator was talking about a black athlete compared to a white
94 athlete. This striking finding suggests that the American college students’ judgments of an
95 identical athletic performance were influenced by socio-cultural stereotypes.

96 Recent research has further highlighted the influence of stereotypes on sporting
97 performance, suggesting that merely introducing a negative stereotype about a social group can
98 potentially result in performance decrements of members of that group; a finding that has been
99 labeled stereotype threat (Steele & Aronson, 1995). Various studies—all of which were
100 conducted in the US—have found evidence for this assumption in the sports of basketball (Stone
101 et al., 1997) and golf (Beilock, Jellison, Rydell, McConnell, & Carr, 2006; Stone et al., 1999).
102 The underlying mechanisms of stereotype threat are considered to be caused by either reducing
103 available working memory capacity due to worry about the negative stereotype (Schmader &
104 Johns, 2003), by directing attention to the step-by-step control of well-learned sensory-motor
105 skills (Beilock et al., 2006), or by decreasing effort on the respective performance due to the
106 negative stereotype (Stone, 2002). In contrast, a different line of research suggests that
107 stereotypes may also positively impact performance in both academic (e.g., Mendoza-Denton,
108 Kahn, & Chan, 2008; Shih, Ambady, Richeson, Fujita, & Gray, 2002) and sport situations (e.g.
109 Krendl, Gainsburg, & Ambady, 2012). If existing stereotypes within a society have the potential
110 to affect performance, an important research step is to investigate the existence of specific

111 stereotypes in different societies as it is highly plausible that they may differ across cultures and
112 countries (e.g. Aronson, et al. 2005).

113 **The Present Research**

114 Given the well-documented influence of sport stereotypes within the US, it is somewhat
115 surprising that research on stereotypical beliefs about athletic performance has received minimal
116 attention in different countries. As it is important to document potential stereotypes in different
117 domains to avoid discrimination, we investigated socio-cultural stereotypes among both athletes
118 and coaches in Germany. In line with the earlier work of Stone et al. (1997), we studied
119 basketball, which is currently the third most popular team sport in Germany based on television
120 coverage and number of spectators. Comparison of the percentages of black and white athletes in
121 the highest German basketball league reveals that 42.8% of the players in Germany during the
122 2011/2012 season were black compared to 75% of black athletes in the NBA. There are therefore
123 more white players compared to black players in the highest German League. Furthermore, by
124 far the most successful and prominent German basketball player, Dirk Nowitzki—German
125 athlete of the year 2011—is white and therefore such status may mediate stereotypical beliefs
126 concerning basketball players in Germany (footnote). These statistics aside, it remains unclear
127 whether stereotypical beliefs about basketball performance in Germany are comparable to those
128 in the US.

129 In Experiment 1, participants had to rate a basketball player following the presentation of
130 a picture of a black or white player prior to observation of a point-light video of a basketball
131 free-throw. We deliberately studied the basketball free-throw as black and white basketball
132 players have identical free-throw percentages in Germany (black players 69% vs. white players
133 69 % during the 2011/12 season). In Experiment 2, we used the implicit association test (IAT:

134 Greenwald, McGhee, & Schwartz, 1998) to assess if sport-specific stereotypes are activated
135 automatically in an implicit manner.

136 **Experiment 1: “White Men Can’t Jump”. But Can They Throw?**

137 If German athletes and coaches hold similar stereotypes about basketball performance as
138 demonstrated in the US (e.g. Stone et al., 1997), then one would expect that the same basketball
139 point-light video will be judged differently depending on whether the observers are informed that
140 the basketball free-throw is performed by a black or white athlete. According to Stone et al.
141 (1999), both archival and empirical evidence indicates that people hold highly specific
142 stereotypes about what lies at the heart of judgments on black and white athletic performance.
143 One important distinction that has been made in previous research in US basketball is that black
144 athletes possess a greater natural athletic ability (Stone et al., 1997; 1999). We test this claim of
145 stereotypical judgments with a set of ratings that assess a target’s natural (athletic) ability: how
146 athletic is the target, how high can the target jump, how tall is the target; and how talented is the
147 target? The second claim concerning stereotypical judgments that we test in Experiment 1 is also
148 derived from previous findings in US basketball (Stone et al. 1997; Stone et al. 1999). White
149 athletes have been said to compensate for their (stereotyped) “lack” of natural physical ability
150 through intelligence, team-work, and diligence. In this respect, we will ask participants to rate
151 how disciplined the target player is, how intelligent the target player acts during the game (court
152 smarts: how well the player can “read” the game), and whether the target player is a good team-
153 player.

154 Previous research (Devine & Baker, 1991; Sailes, 1996) in the US has reported evidence
155 for a set of further stereotypical beliefs concerning black athletes. Specifically, black athletes are
156 considered to be more competitive, to have greater difficulty controlling their temper, and to be

157 more ostentatious. Hence, we additionally asked the participants how competitive they thought
158 the target was, how hectic they perceived the target player to perform, whether the target had a
159 high temperament, and how ostentatious they considered the target to be. Finally, research
160 indicates that stereotypical beliefs about black and white athletes influence ratings of an athlete's
161 performance (Stone et al., 1997). Therefore, we questioned participants on the perceived
162 precision of the observed free-throw and the technical skill exhibited in the performance.

163 In summary, in Experiment 1, we tested whether the judgment of a basketball free-throw
164 by people socialized in Germany - in which there is no known difference between the respective
165 races - is guided by stereotypical beliefs as previously reported in research studies conducted in
166 the US. If this is the case, the same basketball performance should be judged differently
167 depending on whether the observers are led to believe that the basketball free-throw is performed
168 by a black athlete or a white athlete.

169 **Method**

170 **Participants.** A total of 32 participants were recruited for Experiment 1. The sample
171 consisted of three subgroups: 23 players (13 male and 10 female; *M* age = 24 years) who had
172 been playing basketball for an average of 12.5 years at an amateur to semi-professional level and
173 9 male basketball coaches (mean age 28 years) who were all in possession of at least the third
174 highest coaching license in Germany. All participants were Caucasian. Neither age, nor years of
175 experience significantly moderated the pattern of results. Informed consent was obtained from
176 every participant before commencing the experiment. The study was carried out in full
177 accordance with the Helsinki Declaration of 1975.

178 **Materials and stimuli.** The skin color of the perceived target player was manipulated by
179 presenting color photographs of American college basketball players to assure that none of the

202 drawing of the basketball hoop on the video, which gave the impression that the point-light
 203 character was throwing at the basket.

204 **Measures.** After viewing each video, participants were asked to rate the target player on
 205 several 11 point digital semantic differential scales. In order to give their ratings, participants had
 206 to move a mouse cursor from the middle of a scale towards either pole of the scale and log their
 207 rating by clicking the left mouse button. The software (E-prime professional 2.0; Psychological
 208 software tools, 2007) transformed the ratings into a value (with 3 decimals) between 0 reflecting
 209 the left pole of the scale and 1 reflecting the right pole of the scale.

210 The items assessing natural athletic ability (Stone et al. 1997; Stone et al. 1999) were: (a)
 211 athletic (*athletisch*) – not athletic (*nicht athletisch*); (b) high jump height (*viel Sprungkraft*) – low
 212 jump height (*wenig Sprungkraft*); (c) tall (*groß*) – small (*klein*); (d) talented (*talentiert*)– not
 213 talented (*nicht talentiert*). The items assessing a compensatory set of beliefs (Stone et al. 1997;
 214 Stone et al. 1999) for white athletes were: (e) disciplined (*diszipliniert*)– not disciplined
 215 (*undiszipliniert*); (f) high court smarts (*viel Spielintelligenz*) – low court smarts (*keine*
 216 *Spielintelligenz*); (g) team player (*Teamspieler*) – no team player (*kein Teamspieler*). The items
 217 assessing the additional stereotypes in the literature (Devine & Baker, 1991; Sailes, 1996) were:
 218 (h) competitive (*konkurrenzfähig*) – not competitive (*nicht konkurrenzfähig*); (i) hectic (*hektisch*)
 219 – not hectic (*nicht hektisch*); (j) high temper (*temperamentvoll*) – low temper (*nicht*
 220 *temperamentvoll*); (k) ostentatious (*sehr prahlend/protzend*) – not ostentatious (*nicht*
 221 *prahlend/protzend*). The items assessing the free-throw performance were: high shot precision –
 222 low shot precision; high shot quality – low shot quality.

223 **Procedure.** Participants were informed that the purpose of the experiment was to judge
 224 the skill levels of basketball players based on information that was included in a photo of the

291 At the end of Experiment 1, we included a final question asking whether the participants
292 thought that the skin color of the picture had influenced their ratings. Of the 31 participants
293 tested, only 5 answered “no” to this question, while the remaining 26 had the impression that the
294 skin color had influenced their ratings. Although problematic from a statistical perspective due to
295 large differences in group sizes, we ran an additional series of ANOVAs with repeated measures
296 on the within subject independent variable ethnicity (black vs. white) and the between subject
297 independent variable “influenced by skin color” (yes vs. no) on the individual dependent
298 measures. Neither interactions nor any main effects for influenced by skin color reached
299 significance. Nevertheless, this can be considered a limitation of Experiment 1, as we are not
300 able to rule out the possibility that participants inferred the purpose of the study and gave their
301 ratings according to the expectations of the experimenter (see Rosenthal, 1976 for a review).

302 Following this limitation, we attempted to assess implicit stereotypes of basketball
303 players of different ethnicities using the implicit association test (IAT, Greenwald et al., 1998).
304 This methodology enables us to measure stereotype activation in a visible manner which has
305 been described as a challenge confronting schema accounts of social cognition (Quinn &
306 Macrae, 2005). Furthermore, the IAT addresses a limitation of Experiment 1, which concerns the
307 dependency of different ratings, given one after the other, for one and the same presentation.
308 That is, one may argue that the results do not provide sufficient evidence for the assumption that
309 the perception of an athlete’s ethnicity triggers a certain athlete stereotype and may instead
310 demonstrate a person’s need to comply with experimenters’ expectations or avoid *cognitive*
311 *dissonance* (Festinger, 1957), a topic we return to in the general discussion.

312 **Experiment 2: Implicit Association Test (IAT)**

313 The results of Experiment 1 suggest that certain stereotypes exist across German
314 basketball players and coaches concerning black and white basketball players. In order to
315 directly test whether the pattern of results found in Experiment 1 can be explained within the
316 schema/category driven theory of impression formation (Fiske & Taylor, 1991), we utilized the
317 IAT (Greenwald et al., 1998). In Experiment 2, we aimed to measure the implicit association
318 between black and white athletes and attributes associated with athletic and non-athletic athletes.

319 The IAT rests on the premise that it should be easier to make the same response (a key
320 press) to concepts that are strongly associated to one another compared to concepts that are only
321 weakly, or not associated (Greenwald et al., 1998). The simple idea of the IAT is that concepts
322 that are associated by some feature should be easier to put together than concepts that are not
323 associated and has therefore recently been shown to be a useful tool for assessing constructs such
324 as implicit stereotypes or person schemas (Rudman & Ashmore, 2007). Moreover, and of
325 relevance to the sport domain, the IAT has been successfully adapted to measure implicit
326 components of an exerciser's self-schema (Banting, Dimmock, & Lay, 2009), while also
327 demonstrating that certain nonverbal behaviors are associated with positive and negative athlete
328 stereotypes (Furley, Dicks, & Memmert, 2012). Following this initial research in the field of
329 sport, we aimed to further the application of the IAT by testing whether ethnicity triggers
330 particular athlete schemas.

331 **Method**

332 **Participants.** Male basketball players ($n = 30$; $M = 26.4$; $SD = 4.1$), who had been
333 playing for an average of 7 years at an amateur level in Germany took part in the study. Neither
334 age, nor expertise related differences were evident within the group. All participants were

358 detail of the IAT procedure) and is illustrated in Figure 6. The IAT consisted of five blocks of
359 trials with the first experimental block (block 3) combining the stimuli from the concept category
360 with the attribute category, whilst the second experimental block (block 5) reversed this
361 combination (cf. Figure 6, 5th column). Blocks 1, 2, and 4 were practice blocks for participants to
362 learn the associations between the different stimuli and the respective keys. Depending on the
363 experimental condition, the first experimental block was either congruent concerning our
364 hypothesis (i.e., black player images paired with athletic player attributes; and white player
365 images paired with non-athletic player attributes) and the second experimental trial incongruent
366 (i.e., white player images paired with athletic player attributes; and black player images paired
367 with non-athletic player attributes), whereas in the other experimental condition we switched this
368 order to exclude potential order effects. In addition, the order of blocks 2 and 4 were changed
369 according to the experimental condition to match the attribute categorization of the subsequent
370 experimental blocks 3 and 5. If the target categories of player ethnicity are differentially
371 associated with the attribute dimension (athletic vs. non-athletic) as hypothesized, then
372 participants will respond faster to the congruent block in comparison with the incongruent block.

373 **Data analysis.** We conducted a mixed design ANOVA on the reaction times of
374 participants with repeated measures on the within subject factor congruency (*congruent*: black
375 player and athletic player attributes and white player and non-athletic attributes vs. *incongruent*:
376 black player and non-athletic player attributes; white player and athletic player attributes) and the
377 between subject factor sequence order (*congruent* before *incongruent* vs. *incongruent* before
378 *congruent*). Furthermore, we ran an additional ANOVA on reaction times with repeated
379 measures on the within subject factors congruency (*congruent* vs. *incongruent*) and stimulus
380 material (player image vs. player attributes). A series of follow up dependent t-tests were run to

381 examine the origin of significant effects. Furthermore, based on the procedure of Banting and
382 colleagues (2009), we computed a modification of the individual difference measure D
383 (Greenwald, Nosek, and Banaji, 2003) on the five-block version of the IAT to assess individual
384 differences in automatic associations between player ethnicity and skin color. First, the algorithm
385 eliminated all trials with RTs above 10,000 ms and under 300 ms. Second, the algorithm was
386 modified so that the difference between the incongruent and congruent block was divided by the
387 inclusive standard deviation (Banting et al., 2009). The resulting number from this equation
388 represented an individual's implicit association between skin color and athleticism.

389 **Results and Discussion**

390 Figure 7 displays the mean latencies between the congruent block of the IAT ($M =$
391 787.19 ; $SD = 207.76$) and the incongruent block ($M = 1021.03$; $SD = 331.64$). A mixed design
392 ANOVA on the reaction times of participants with repeated measures on the within subject
393 factor congruency (*congruent vs. incongruent*) and the between subject factor sequence order
394 (*congruent before incongruent vs. incongruent before congruent*) only revealed a significant
395 main effect for congruency ($F(1, 28) = 15.062$, $p = .001$, $\eta^2_p = .350$). Both the main effect for
396 sequence order ($p = .230$, $\eta^2_p = .051$) and the interaction between congruency and sequence order
397 ($p = .422$, $\eta^2_p = .023$) failed to reach significance.

398 An additional ANOVA on reaction times with repeated measures on the within subject
399 factors congruency (*congruent vs. incongruent*) and stimulus material (*player image vs. player*
400 *attributes*) revealed a main effect for congruency ($F(1, 29) = 15.238$, $p = .001$, $\eta^2_p = .344$,)
401 indicating that the IAT effect was evident for both player attributes (*congruent*: $M = 905.02$; SD
402 $= 250.11$ vs. *incongruent*: ($M = 1139.97$; $SD = 379.30$) and player images (*congruent*: $M =$
403 669.02 ; $SD = 196.81$ vs. *incongruent*: $M = 902.92$; $SD = 368.69$). Furthermore, the ANOVA

427 characteristics of athletes are automatically associated with certain athlete schemas (Greenlees,
428 2007). Thus, the result from Experiment 2 is supportive of social schema theory (Fiske & Taylor,
429 1991) as player ethnicity is automatically associated with further information, which is linked to
430 certain athlete schemas.

431 Further to demonstrating an average implicit association between black skin color and
432 athleticism in German participants, we examined individual differences in this association using
433 the *D* statistics (cf. Figure 8). The individual difference analysis using the *D* statistics appeared
434 to confirm the latency analysis by revealing a high correlation between the response latencies of
435 the incongruent and congruent block and the *D* measure ($r = .814, p = .000$). Together, the
436 majority of participants showed medium to strong implicit associations between black skin color
437 and athleticism, whereas only participant 5 and 29 demonstrated a strong association between
438 white skin color and athleticism (cf. Figure 8).

439 **General Discussion**

440 The goal of the present study was to examine the existence and influence of socio-
441 cultural stereotypes in European basketball. The results suggest that a sub-population of German
442 basketball players and coaches hold specific stereotypes about the abilities and skills of black
443 and white athletes. In support of the previous findings of Stone et al (1997), the stereotypical
444 beliefs of German basketball players and coaches were fairly differentiated, as black players
445 were not rated more positively on all of the assessed characteristics. White players were
446 considered to be more disciplined and more likely to be team players. The similarity of the
447 present results with previous findings within the US (Stone et al., 1997) might be partially
448 attributable to the media attention of the NBA in the German media, which may have lead to the
449 transfer of stereotypes from one culture to another (Maas & Arcuri, 1996; Semin & Fiedler,

450 1988). In addition to cross-culturally validating the findings of Stone et al. (1997), the results in
451 Experiment 1 also extend previous research in the following ways: (i) the measurement of
452 responses to point-light sport performances instead of radio broadcaster's commentary; (ii) the
453 use of multiple pictures of basketball players allowed verification that ethnicity influenced the
454 results rather than individual characteristics of the photo; and (iii) measurement of a wider range
455 of stereotypical beliefs adapted from the literature published after the original Stone and
456 colleagues study. Thus, in sum, the results from Experiment 1 are supportive of the notion that
457 activated schemas influence later judgments and interpretations (Azzarito & Harrison, 2008;
458 Buffington & Fraley, 2011, Desmarais and Bruce, 2010).

459 A further important extension to previous findings was Experiment 2, where we focused
460 on the stereotype of black natural athletic ability and directly tested if this sport-specific
461 stereotype is activated automatically in an implicit manner. Results indicated that a triggered
462 stereotype and associated knowledge leads to the easier (faster) categorization of black player
463 images with athletic attributes. To our knowledge, Experiment 2 was the first study to
464 demonstrate implicit stereotype activation in the basketball context.

465 In addition to the findings of Stone et al. (1997), our results indicated that stereotypical
466 beliefs did not only center on athletic ability, but also generalized towards the observed free-
467 throw shooting performance. This finding is perhaps surprising as research indicates that
468 accurate person perception judgments are predicated on the information specified by the
469 movement kinematics of the observed actor (Runeson & Frykholm, 1983). Therefore, one may
470 expect that the point-light video should offer a far more informative basis during impression
471 formation. Nevertheless, the identical free-throw performance was rated differently when
472 observers believed that either a black athlete or a white athlete was performing the action.

473 How might this finding be explained? A recurrent theme within social psychological
474 theorizing has followed the suggestion that humans seek to avoid cognitive dissonance when
475 forming impressions of others (e.g. Festinger, 1957). Therefore, the motivation for cognitive
476 consistency might have led participants to rate the quality of the basketball free-throw favorably
477 after rating the athlete positively on all the preceding items except discipline, team-player, and
478 court smarts which are arguably not related to free-throw performance. In line with such
479 suggestions, Kahneman (2011) recently proposed that observers may infer the likely behavior of
480 another person on the basis of general traits. One such example discussed by Kahneman is the
481 halo effect (e.g. Nisbett & Wilson, 1977). “If we think a baseball pitcher is handsome and
482 athletic, for example, we are likely to rate him better at throwing the ball, too” (Kahneman, 2011,
483 p.199). Kahneman interpreted this generalization effect with reference to his WYSIATI (“What
484 you see is all there is”) rule. Rather than drawing upon or seeking further information before
485 forming an impression of another person, Kahneman proposed that “You build the best possible
486 story from the information available to you, and if it is a good story, you believe it. [...] Our
487 comforting conviction that the world makes sense rests on a secure foundation: our almost
488 unlimited ability to ignore our ignorance” (Kahneman, 2011, p. 201). Following this line of
489 argument, it would appear that the participants in Experiment 1 formed an impression on the
490 basis of the earlier viewed picture, with minimal attention paid toward the information contained
491 within the point-light video. Therefore, rather than utilizing the later, more reliable information,
492 participants made “ignorant” judgments on the basis of the earlier presented photograph.

493 Further to the previous work of Stone and colleagues (1997), an interesting finding that
494 emerged from the present study is that basketball coaches appear to hold similar stereotypes
495 concerning performance as players. It is highly feasible that stereotypes bias the decisions of

496 coaches pertaining to team selection and talent identification. For example, a research topic of
497 particular interest would be to ascertain whether starting team selections and player substitutions
498 are biased by socio-cultural stereotypes. In sports, it would be further noteworthy to examine the
499 influence of stereotypes on the decisions of referees. While, we did not include referees in
500 Experiment 1, it is plausible that officials may also hold specific stereotypes which bias their
501 decision making process. If referees hold the similar stereotypical belief of coaches and players
502 concerning athlete temper (cf. Figure 4), one might expect more fouls to be called against a black
503 player in comparison with a white player. Although, person categorization and stereotypical
504 thinking are considered by some to be useful and adaptive as it helps the perceiver to achieve
505 coherence in a highly complex environment (Freeman & Ambady, 2011), the above examples
506 highlight the negative consequences of stereotypical thinking in sports. However, if stereotypes
507 are prominent in the decisions of officials and coaches, there is now promising evidence
508 demonstrating that it is possible to bring automatic stereotyping under control (Stewart & Payne,
509 2008).

510 Although the present results may be interpreted as support to schema accounts of person
511 perception, Freeman and Ambady (2011) have argued that neither solely schema/category-driven
512 nor solely information-driven impression formation perspectives are sufficient in explaining
513 person perception in everyday contexts. Instead, they propose that person perception has to be
514 regarded as a constant interaction between high-level categories, stereotypes and low-level
515 processing of facial and bodily information. Complementary to this viewpoint, Baumeister and
516 colleagues (Baumeister, Vohs, & Funder, 2007) recently stressed the importance of investigating
517 the behavioral consequences of laboratory-based social psychology experiments. That is,
518 psychologists should consider whether confined experimental paradigms that utilize

519 questionnaire and button press measures adequately capture the behaviors that many experiments
520 are aiming to understand. Recent research in the domain of impression formation in sport has
521 attempted to draw a link between findings from controlled laboratory-based experiments toward
522 behavior within actual sport settings in order to gain a more complete understanding on the role
523 that activated schemas have on impression formation and sport performance (Furley, Dicks,
524 Stendtke, & Memmert, 2012). In this respect, one interesting line of research on stereotype threat
525 has highlighted the influence of the awareness of negative stereotypes about one's own social
526 group on one's own performance (Steele & Aronson, 1995). Presently, little is known about the
527 behavioral and performance influences of stereotype activation of opponents or team-members in
528 sports. We believe that future research should therefore follow the call of Baumeister and
529 colleagues (2007) in order to advance current understanding of behavioral and performance
530 consequences of stereotypes in sports.

531 **Perspective**

532 In conclusion, this study adds to the slowly growing literature on person perception in
533 sport by demonstrating the existence and use of social stereotypes of German basketball players
534 and coaches in a within-subject design when judging a point-light video of a basketball free-
535 throw. In Experiment 2 we provided first evidence that racial stereotyping among a subgroup of
536 basketball players occurred unintentionally and automatically. Thus, in line with social schema
537 theory (Fiske & Taylor, 1991), athletes and coaches appear to be influenced by social stereotypes
538 in their judgments and impressions, which can be regarded as a specific case of the more general
539 finding that people often seek to confirm their expectations (e.g. Aronson et al., 2005).
540 Kahneman (2011) explains this effect with reference to his WYSIATI ("What you see is all there
541 is") rule by arguing that people in general build the best possible story based on the information

542 available to them—no matter how limited this information may be. These results suggest that
543 strategies should be implemented to avoid sport coaches or athletes being biased by stereotypes
544 in their judgments and consequent behavior.

References

- 1
- 2 Allport, G. W. (1954). *The nature of prejudice*. Reading, MA: Addison-Wesley.
- 3 Aronson, E., Wilson, T. D., & Akert, R. M. (2005). *Social Psychology* (5th edition). Upper
4 Saddle River: Pearson Education International.
- 5 Azzarito, L., & Harrison, L. (2008). ‘White men can’t jump’: Race, gender and natural
6 athleticism. *International Review for the Sociology of Sport*, 43, 347–364.
- 7 Banting, L. K., Dimmock, J. A., & Lay, B. S. (2009). The role of implicit and explicit
8 components of exerciser self-schema in the prediction of exercise behaviour. *Psychology
9 of Sport & Exercise*, 10, 80–86.
- 10 Baumeister, R. F., Vohs, K. D., & Funder, D. C. (2007). Psychology as the science of self-
11 reports and finger movements. *Perspectives on Psychological Science*, 2, 396–403.
- 12 Beilock, S. L., Jellison, W. A., Rydell, R. J., McConnell, A. R., & Carr, T. H. (2006). On the
13 causal mechanisms of stereotype threat: Can skills that don’t rely heavily on working
14 memory still be threatened? *Personality and Social Psychology Bulletin*, 32, 1059–1071.
- 15 Buffington, D., & Fraley, T. (2011). Racetalk and sport: The color consciousness of
16 contemporary discourse on basketball. *Sociological Inquiry*, 81, 333–352.
- 17 Devine, P. G., & Baker, S. M. (1991). Measurement of racial stereotype subtyping. *Personality
18 and Social Psychological Bulletin*, 17, 44–50.
- 19 Desmarais, F., & Bruce, T. (2010). The power of stereotypes: Anchoring images through
20 language in live sports broadcasts. *Journal of Language and Social Psychology*, 29, 338–
21 362.
- 22 Ferree, M., M., & Hall, E. J. (1990). Visual images of American society: Gender and race in
23 introductory sociology textbooks. *Gender & Society*, 4, 500-533.

- 1 Festinger, L. (1957). *A theory of cognitive dissonance*. Stanford, CA: Stanford University Press.
- 2 Fiske, S. T., & Taylor, S. E. (1991). *Social cognition*. Reading, MA: Addison-Wesley.
- 3 Freeman, J. B., & Ambady, N. (2011). A dynamic interactive theory of person construal.
4 *Psychological Review, 118*, 247–279.
- 5 Furley, P., Dicks, M., & Memmert, D. (2012). Nonverbal behavior in soccer: The influence of
6 dominant and submissive body language on the impression formation and outcome
7 expectation of soccer players. *Journal of Sport and Exercise Psychology, 34*, 61–82.
- 8 Furley, P., Dicks, M., Stendtko, F., & Memmert, D. (2012). "Get it out the way. The wait's
9 killing me." Hastening and hiding during soccer penalty kicks. *Psychology of Sport &*
10 *Exercise, 13*, 454–465.
- 11 Gladwell, M. (1997, May 19). *The sports taboo*. *New Yorker*, 50–55.
- 12 Greenlees, I. A. (2007). *Person perception in sport*. In S. Jowett & D. Lavallee (Eds.), *Social*
13 *psychology of sport* (pp. 195–208). Champaign, IL: Human Kinetics.
- 14 Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual
15 differences in implicit cognition: The implicit association test. *Journal of Personality and*
16 *Social Psychology, 74*, 1464–1480.
- 17 Greenwald, A.G., Nosek, B. A., & Banaji, M. R. (2003). Understanding and using the IAT: an
18 improved scoring algorithm. *Journal of Personality and Social Psychology, 85*, 197–216.
- 19 Johansson, G. (1973). Visual perception of biological motion and a model for its analysis.
20 *Perception & Psychophysics, 14*, 195–204.
- 21 Kahneman, D. (2011). *Thinking fast and slow*. London, UK: Penguin books.
- 22 Kane, M. (1971, January 18). An assessment of "Black is best." *Sports Illustrated, 34*, 72–83.

- 1 Krendl, A., Gainsburg, I., & Ambady, N. (2012). The effects of stereotypes and observer
2 pressure on athletic performance. *Journal of Sport and Exercise Psychology, 34*, 3–15.
- 3 Maas, A., & Arcuri, L. (1996). Language and stereotyping. In C. N. Macrae, C. Stangor, & M.
4 Hewstone (Eds.), *Stereotypes and stereotyping* (pp. 193-226). New York, NY: Guilford.
- 5 May, R. (2000). “Race talk and local collective memory among African American men in a
6 neighborhood tavern.” *Qualitative Sociology, 23*, 201–214.
- 7 Mendoza-Denton, R., Kahn, K., & Chan, W. (2008). Can fixed views of ability boost
8 performance in the context of favorable stereotypes? *Journal of Experimental Social
9 Psychology, 44*, 1187–1193.
- 10 Myers, K. (2005). *Racetalk: Racism hiding in plain sight*. Boulder, CO: Rowman & Littlefield.
- 11 Nisbett, R. E., & Wilson, T. D. (1977). "The halo effect: Evidence for unconscious alteration of
12 judgments". *Journal of Personality and Social Psychology, 35*, 250-256.
- 13 Psychology Software Tools. (2007). E-Prime (Version 2.0 professional) [Computer software].
14 Pittsburgh, PA: Author.
- 15 Quinn, K. A., & Macrae, C. N. (2005). Categorizing others: The dynamics of person construal.
16 *Journal of Personality and Social Psychology, 88*, 467–479.
- 17 Rudman, L. A., & Ashmore, R. D. (2007). Discrimination and the implicit association test.
18 *Group Processes & Intergroup Relations, 10*, 359–372.
- 19 Rosenthal, R. (1976). *Experimenter Effects in Behavioral Research*. New York: Irvington.
- 20 Runeson, S., & Frykholm, G. (1983). Kinematic specification of dynamics as an informational
21 basis for person-and-action perception: expectation, gender recognition, and deceptive
22 information. *Journal of Experimental Psychology. General, 112*, 585–615.

- 1 Sailes, G. A. (1996). An investigation of campus stereotypes: The myth of Black athletic
2 superiority and the dumb jock stereotype. In R. E. Lapchick (Ed.), *Sport in society: Equal*
3 *opportunity or business as usual?* (pp. 193–202). Thousand Oaks, CA: Sage.
- 4 Schmader, T., & Johns, M. (2003). Converging evidence that stereotype threat reduces working
5 memory capacity. *Journal of Personality and Social Psychology*, 85, 440–452.
- 6 Semin, G. R., & Fiedler, K. (1988). The cognitive functions of linguistic categories in describing
7 persons: Social cognitions and language. *Journal of Personality and Social Psychology*,
8 54, 558–568.
- 9 Shih, M., Ambady, N., Richeson, J.A., Fujita, K., & Gray, H. M. (2002). Stereotype performance
10 boosts: The impact of self-relevance and the manner of stereotype activation. *Journal of*
11 *Personality and Social Psychology*, 83, 638–647.
- 12 Steele, C. M., & Aronson, J. (1995). Stereotype threat and the intellectual test performance of
13 African Americans. *Journal of Personality and Social Psychology*, 69, 797–811.
- 14 Stewart, B. D., & Payne, B. K. (2008). Bringing automatic stereotyping under control:
15 Implementation intentions as efficient means of thought control. *Personality and Social*
16 *Psychology Bulletin*, 34, 1332–1345.
- 17 Stone, J. (2002). Battling doubt by avoiding practice: The effects of stereotype threat on self-
18 handicapping in white athletes. *Personality and Social Psychology Bulletin*, 28, 1667–
19 1678.
- 20 Stone, J., Lynch, C. I., Sjomeling, M., & Darley, J. M. (1999). Stereotype threat effects on black
21 and white athletic performance. *Journal of Personality and Social Psychology*, 77, 1213–
22 1227.

1 Stone, J., Perry, Z. W., & Darley, J. M. (1997). "White men can't jump": Evidence for the
2 perceptual confirmation of racial stereotypes following a basketball game. *Basic and*
3 *Applied Social Psychology, 19*, 291–306.

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Footnote

Moreover, as only ~2% of the German population is black, the proportion of black basketball players in the German League is much larger than one would expect. The proportion of black to white players is reversed if one only assesses the “starting five” in which 55% of players in the German league are black. Moreover, eight out of ten players in the top-scorers are black.

1 **Table Caption**

2 Table 1:

3 Univariate Analysis for the main effect skin color on the dependant variables.

| Item | <i>df (model, error)</i> | <i>F</i> | η^2 | <i>p</i> |
|--|--------------------------|----------|----------|----------|
| Natural ability | | | | |
| Athletic ability | 1, 29 | 48.711 | 0.627 | .000 |
| Jump height | 1, 29 | 46.525 | 0.616 | .000 |
| Size | 1, 29 | 7.480 | 0.205 | .011 |
| Talent | 1, 29 | 31.074 | 0.517 | .000 |
| Compensation for lack of ability | | | | |
| Discipline | 1, 29 | 11.015 | 0.275 | .002 |
| Court smarts | 1, 29 | 2.630 | 0.083 | .116 |
| Team player | 1, 29 | 6.346 | 0.180 | .018 |
| Additional socio-cultural stereotypes | | | | |
| Competitiveness | 1, 29 | 19.793 | 0.406 | .000 |
| Hectic | 1, 29 | .982 | 0.033 | .330 |
| Temper | 1, 29 | 17.404 | 0.375 | .000 |
| Ostentatious | 1, 29 | 22.982 | 0.442 | .000 |
| Performance characteristics | | | | |
| Shot precision | 1, 29 | 4.403 | 0.132 | .045 |
| Shot quality | 1, 29 | 2.340 | 0.075 | .137 |

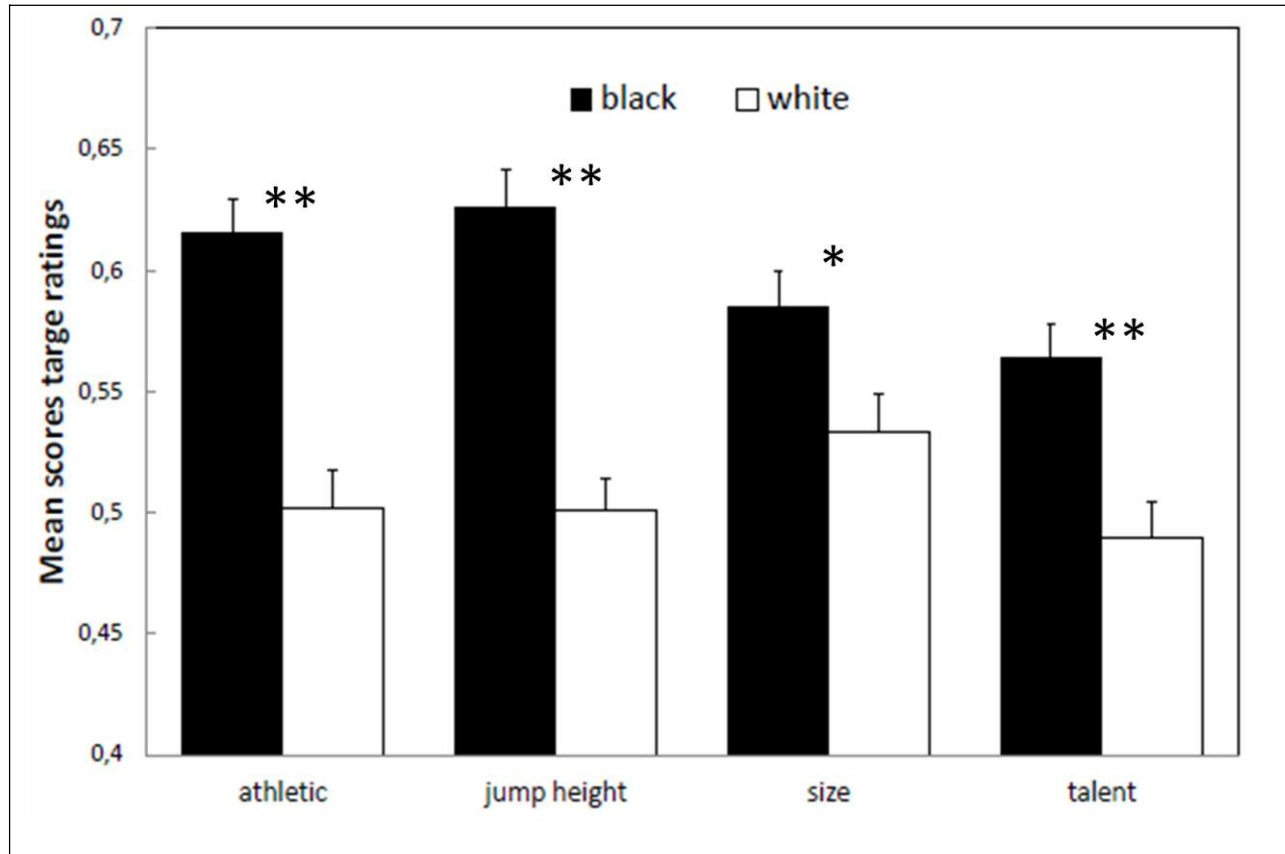
1 **Figure Caption**



2 *Figure 1.* Single frames of an exemplary point-light stimuli used in the study.

3

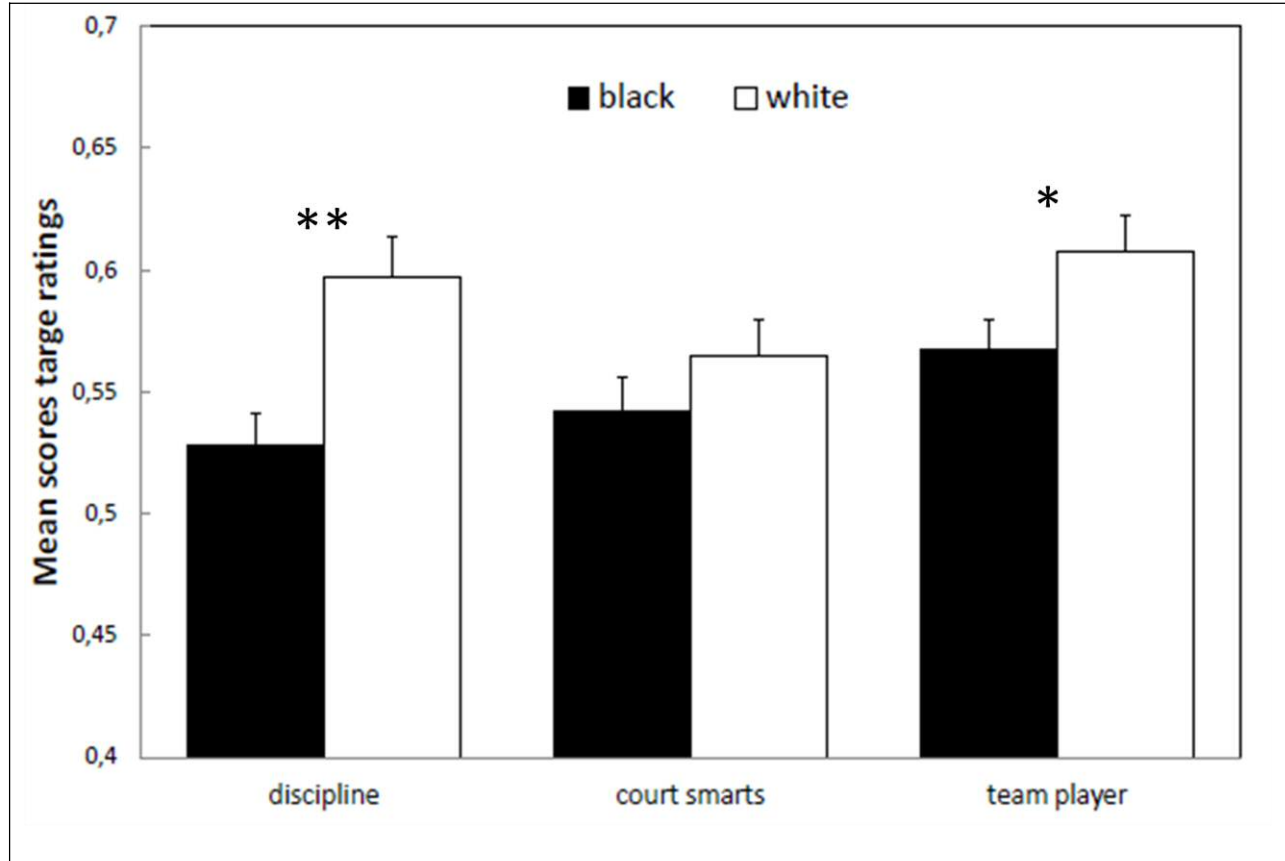
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2 *Figure 2.* Mean scores of the natural (athletic) ability item ratings of the target player as a
3 function of skin color. Error bars represent standard errors. * $p < .05$. ** $p < .01$.

4

1



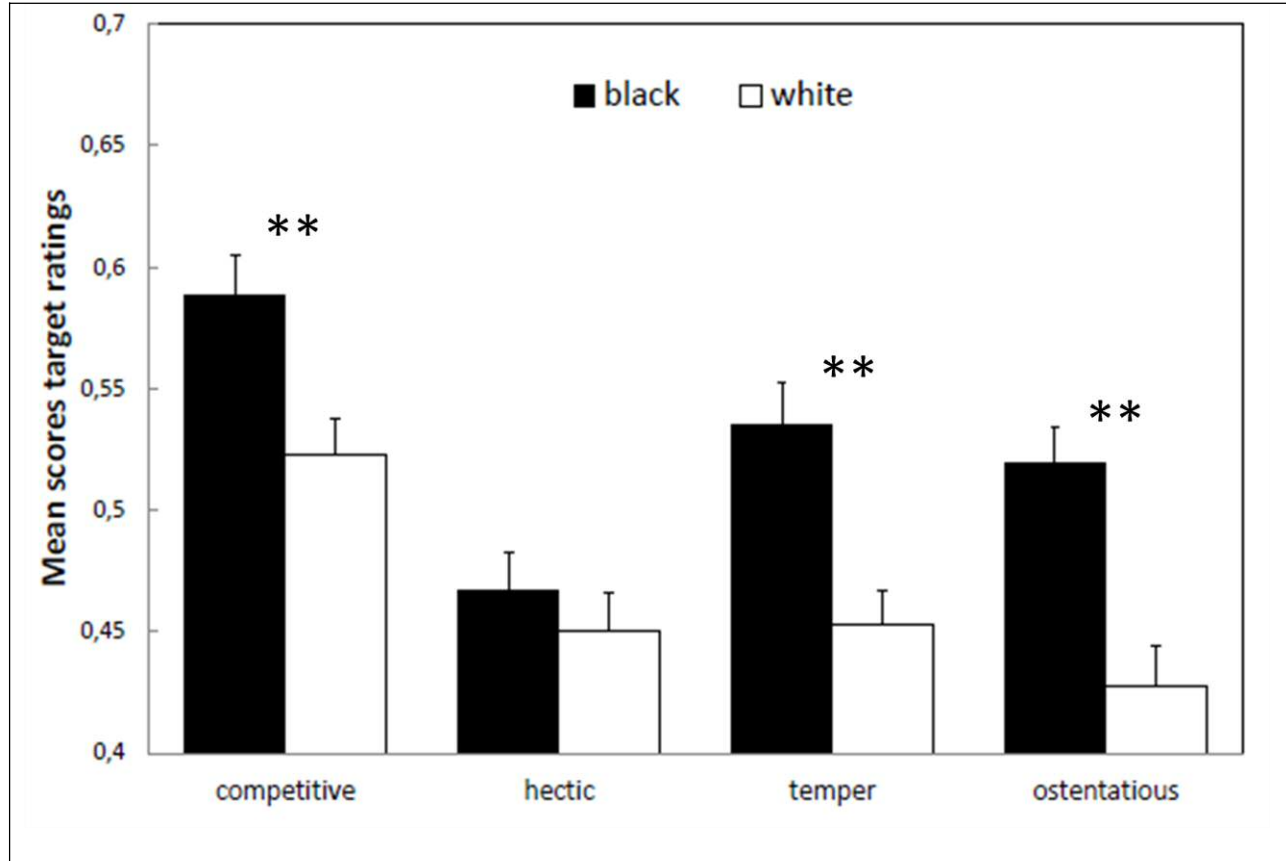
2 *Figure 3.* Mean scores of the compensation items as a function of skin color. Error bars represent
 3 standard errors. * $p < .05$. ** $p < .01$.

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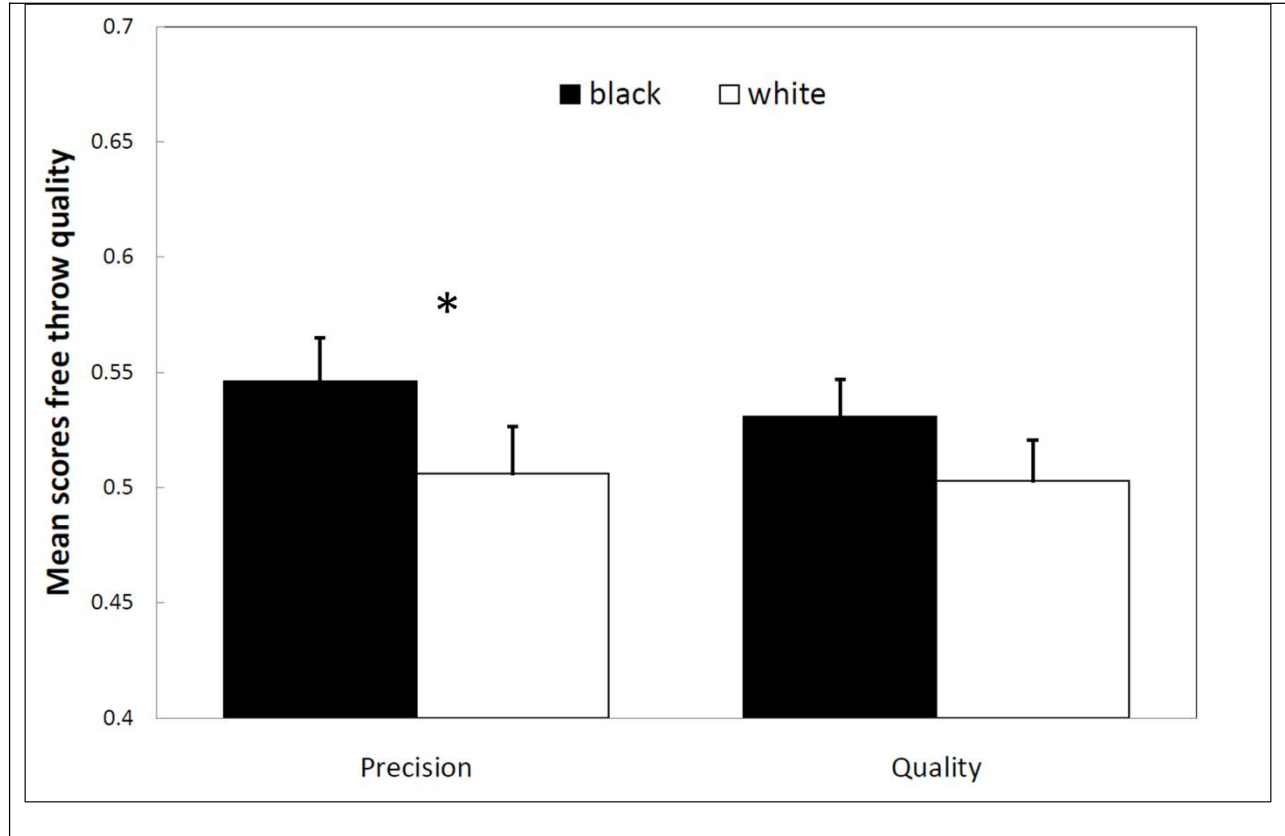
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2 *Figure 4.* Mean scores of the additional athlete stereotype items derived from Sailes (1996) and
3 Devine and Baker (1991) as a function of skin color. Error bars represent standard errors. *p
4 <.05. **p <.01.

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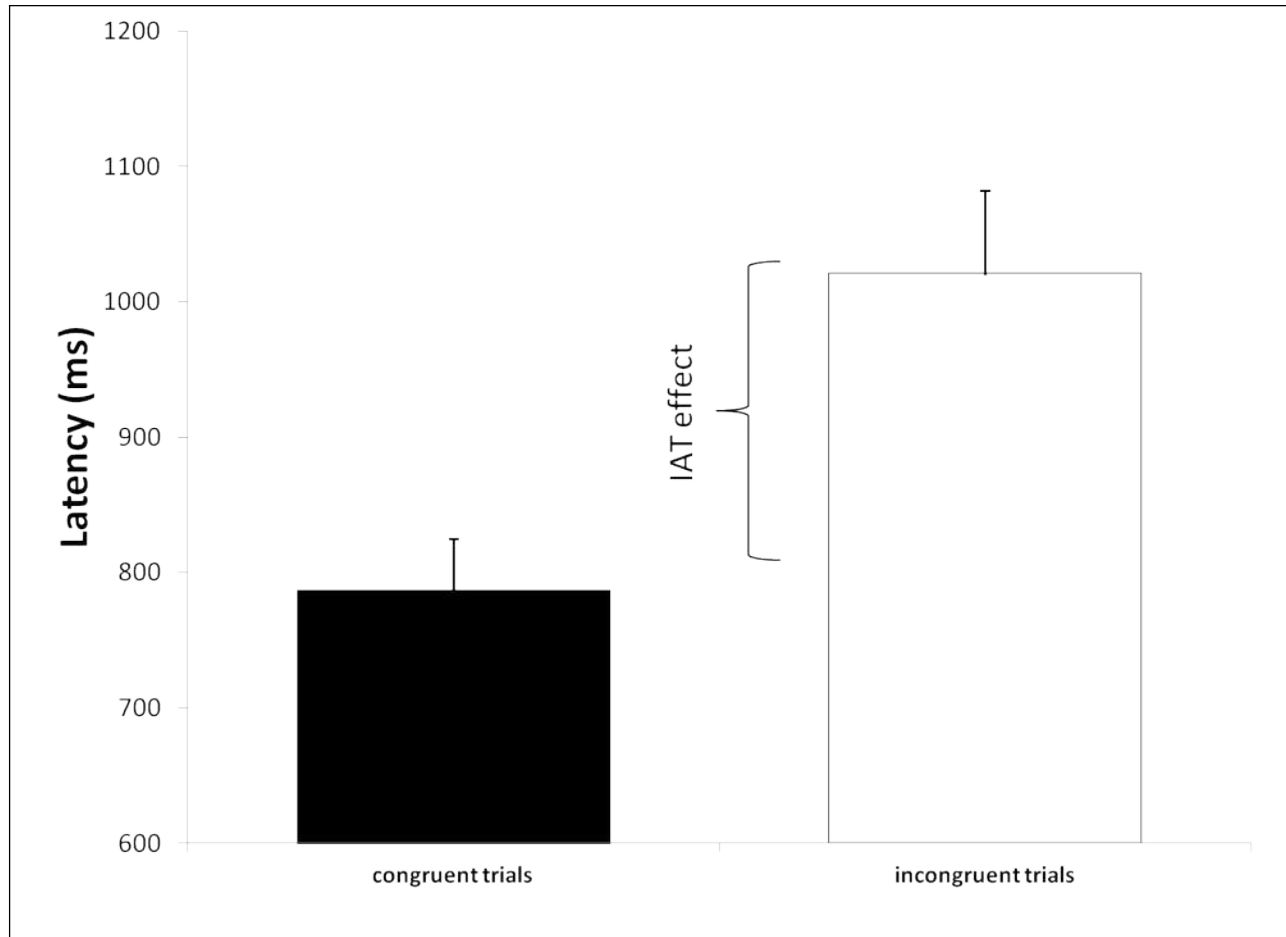
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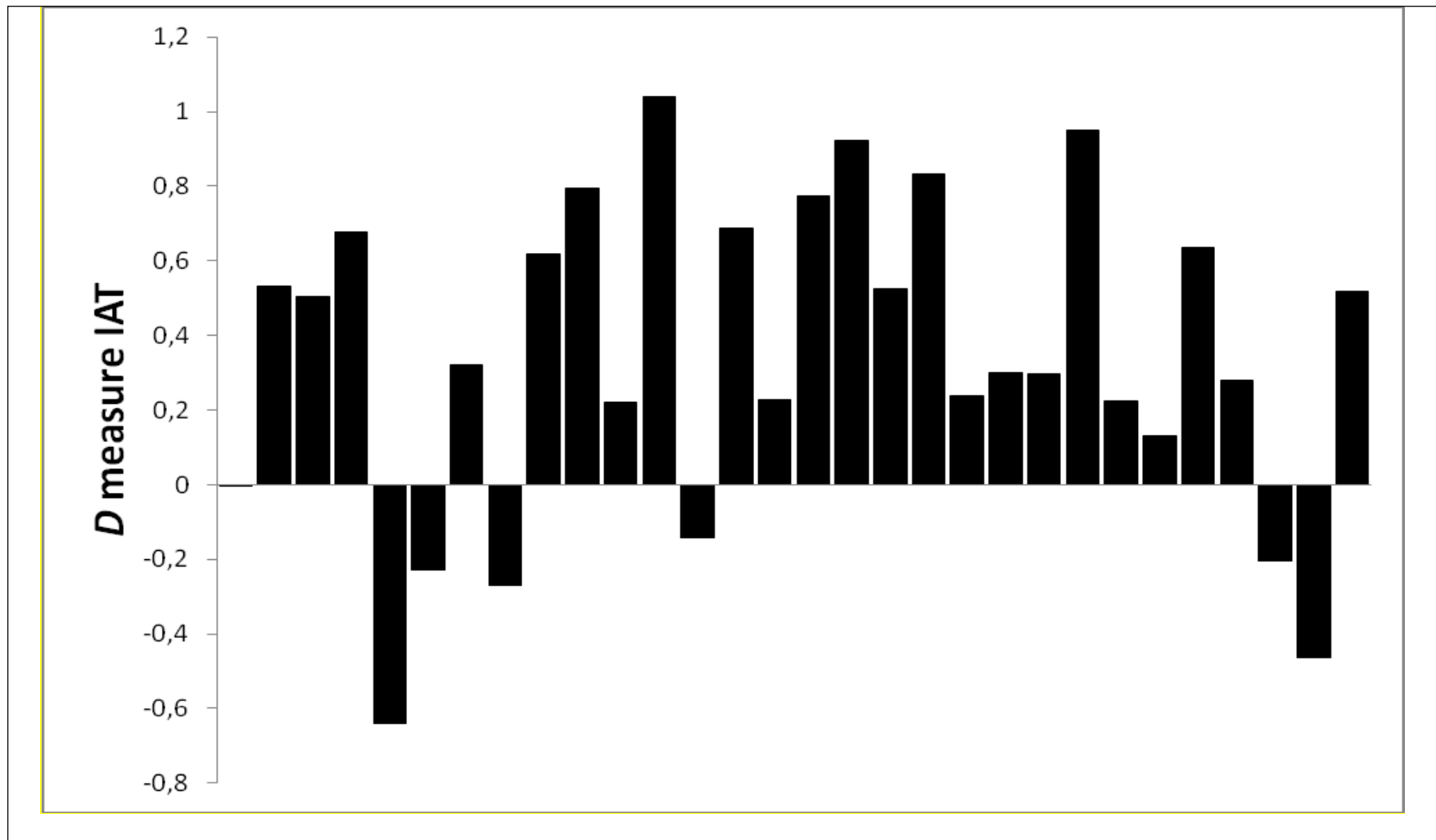
2 *Figure 5.* Mean scores of the shot precision and shot quality scores of the target player ratings as
3 a function of skin color. Error bars represent standard errors. * $p < .05$. ** $p < .01$

| Sequence | 1 | | 2 | | 3 | | 4 | | 5 | |
|--------------------------|---|---|---|--|---|---|--|--|---|--|
| Task description | Initial target-concept Discrimination | | Associated attribute discrimination | | Initial combined task | | Reversed target-concept Discrimination | | Reversed combined task | |
| Task instructions | Black player Press“q” | White player Press“p” | Athletic player Press“q” | Unathletic player Press“p” | Black player or athletic player Press“q” | White player or unathletic player Press“p” | White player Press“q” | Black player Press“p” | White player or athletic player Press“q” | Black player or unathletic player Press“p” |
| Sample stimuli |   |   | <ul style="list-style-type: none"> •Quick •Strong •Muscular •Explosive •Bounce •Assertive | <ul style="list-style-type: none"> •Slow •Lanky •Slender •Prone to injury •lethargic •bony | <ul style="list-style-type: none"> •Quick •muscular   | <ul style="list-style-type: none"> •Slow •Slender   |   |   | <ul style="list-style-type: none"> •Strong •Bounce   | <ul style="list-style-type: none"> •lethargic •slow   |

1 *Figure 6.* Schematic description and illustration of the implicit association test (IAT with the sequence order congruent before
 2 incongruent) used in Experiment 2.



1 *Figure 7.* Mean latency results from sequence 3 and 5 of Experiment 2. Error bars represent
2 standard errors.



- 1 *Figure 8.* Individual difference scores of the participants in Experiment 2 using the *D* measure. High positive values represent strong
- 2 automatic associations between black skin color and athleticism.

1
2

Acknowledgements

3 Special thanks go to Christina Bottenberg, Bente Wegner and Wolfgang Walther for helping
4 with the data collection and programming in this study. The contributions from the second author
5 were made while he was supported by a grant (number 446-10-128) from the NWO ‘Netherlands
6 Organisation for Scientific Research’.