

On the Context Sensitivity of the Sexual Attribution Bias: A Replication and Extension to Situations of Failure

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Abstract: According to the “Sexual Attribution Bias” (SAB), young adults attribute successful outcomes of same-aged, same-sex attractive stimulus persons in a more derogative way than the success of less attractive persons, whereas this pattern reverses for the opposite sex. Based on assumptions derived from theories of social comparison, one could argue that the success of the stimulus person (which had been present in all previous SAB research) might be a necessary precondition for the emergence of the SAB. By contrast, we hypothesized that – given the evolutionary grounding of the glorifying and devaluing tendencies towards other persons – the bias will also emerge in scenarios of failure of the stimulus person. Two studies using the same stimulus persons and the same scenario tested this assumption: Study 1 replicated the SAB response pattern within a success version of the scenario and Study 2 confirmed the bias when using a failure version of the same scenario. A comparison of the effect sizes of the two studies indicated that the success of the stimulus person increased the response pattern’s strength, but was not mandatory for its formation. Thus, the SAB reveals to be sensitive to, but not coercively dependent on context variables, thereby underpinning the assumption of an evolutionarily grounding of the bias.

Key Words: Attribution, bias, evolutionary psychology, sex differences.

INTRODUCTION

Social cognitive research has repeatedly documented that human judgment and rational decision making is prone to failure in a variety of ways [see e.g., 1-5]. In accordance to this, studies of achievement attributions conducted by Försterling, Preikschas, and Agthe [6] yielded a replicable effect which demonstrated that successes of attractive persons of the opposite sex are attributed in a more glorifying fashion (i.e., more to ability and less to luck) than the same outcomes of unattractive individuals of the opposite sex, whereas positive outcomes of attractive same-sex individuals are attributed in a more devaluating way (less to ability and more to luck) than unattractive same-sex individual’s successes. Försterling, Preikschas, and Agthe [6] labeled this phenomenon *Sexual Attribution Bias (SAB)*, consisting of a derogation component regarding attractive same-sex individuals (representing the category of potential competitors), and a glorification component towards attractive opposite-sex individuals (representing the category of desirable mates).

Since cognitive evaluation is a determinant of interpersonal attraction [7], it was speculated that the glorifying tendencies shown towards attractive opposite-sex persons might reflect positive illusions regarding potential mates, which in turn might support and foster intentions towards the persistent pursuit of evolutionary rewarding partnerships [cf. 8-11]. On the other hand, considerations that attractive mem-

bers of one’s own sex could harm one’s sense of self-worth and perceived level of desirability [e.g., 12] suggest that making devaluating attributions for especially good-looking same-sex individuals (representing potential rivals) might serve intrasexual competition by protecting self-esteem and maintaining faith in one’s own ability and worthiness [e.g., 13]. Consequently, the SAB should facilitate competitive behavior with good-looking same-sex individuals as well as bonding behavior with attractive opposite-sex individuals.

Since biases generally are not unchangeable in their form and appearance, it is of interest for the subsequent studies to investigate whether the contextual variables of target outcome (success vs. failure) might have a moderating influence on the emergence of the attractiveness-gender bias. Based on evolutionary assumptions, we hypothesize that the success of the stimulus person (SP) should not be a necessary requirement for the appearance of the bias, but might foster its impact. This assumption that the SAB might be reduced in case of SP’s failure (instead of SP’s success) is deduced from considerations that the attractive same-sex stimulus person might only be perceived as threat in case of target’s success and give rise to devaluating tendencies linked to intrasexual rivalry, whereas envy (involving hostility and dislike) aimed at an advantaged person might be appeased when the SP experienced misfortune [cf. 14], since social comparison should be less threatening than in case of SP’s success in addition to their physical superiority [cf. 15, 16]. On the other hand, glorifying tendencies towards attractive opposite-sex individuals might appear to be confined to situations of achievement, since attractive, but unsuccessful members of the opposite sex might not appear as desirable.

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Examining whether the SAB so far exclusively documented in success scenarios extends to failure situations addresses an important research question since the bias as described by Försterling, Preikschas, and Agthe [6] is postulated to be based on evolutionary motives (i.e., intrasexual rivalry and mate-search) which would still be present in a setting where the SP experienced failure. Hence, in order to substantiate the assumed evolutionary grounding of the bias, the SAB should not be completely extinguishable when changing the scenario.

To test the hypothesis that the SAB might be diminished but not eliminated by this contextual change (i.e., the SP experiences failure instead of success), we performed two studies. In Study 1 we tried to replicate the SAB in a success scenario. Study 2 used the same stimulus material (i.e., pictures of SPs) in an otherwise identical failure scenario. Effect sizes between the two studies were compared.

STUDY 1

Study 1 tried to replicate the response pattern of the SAB as reported by Försterling, Preikschas, and Agthe [6] to further corroborate the robustness of this recently described bias and to obtain a reference value of the corresponding effect size. We hypothesized that participants should explain an attractive same-sex individual's outcome in a more derogative fashion than an unattractive stimulus person's (SP's) success. The reverse response pattern was expected with regard to opposite-sex targets: An attractive opposite-sex individual's result should be attributed in a more glorifying manner than that of an unattractive opposite-sex SP.

METHOD

Experimental Design, Material, and Procedure

The experiment was based on a 2 (Sex of Participant) x 2 (Sex of Stimulus Person) x 2 (Attractive vs. Unattractive Stimulus Person) design with independent measures. The scenario of the questionnaire was held congruent with the one used in Försterling, Preikschas, and Agthe's [6] study. It consisted of two pages. Participants were asked to indicate their age and sex, and requested to answer some questions with regard to a male or female SP who was described in the text and whose photo was presented on the questionnaire. The text introduced the SP as having received her/his MBA from a Bavarian university with a final grade of 1.7 (B+). Participants were informed that the stimulus person had gathered experience in the insurance business during graduate school and that this was a reason why she/he had been offered a job in an insurance company in Munich directly following graduation. Moreover, she/he was offered the position in the management already after only one year on the job. To manipulate the SP's sex and attractiveness, a picture of an attractive or a picture of a less attractive male or female SP were used, respectively. The pictorial stimulus material was held identical to that of Försterling, Preikschas, and Agthe (Study 1A) [6]; the attractiveness of these four SPs used was based on researcher agreement. The female character was introduced as Anna S. and the male one was called Michael S.

Dependent Variables

Regarding attributions, the same dependent attribution variables were used as in the study of Försterling, Preikschas, and Agthe [6]: To assess how responsible participants perceived various causes for the early success of the SP, they were asked to answer on two scales ranging from 1 (hardly important) to 10 (very important) to attribute the success of the SP to (a) luck and (b) ability. As manipulation checks, they rated how attractive they perceived the SP to be.

Participants

Overall, 20 male and 20 female students were individually approached on the campus of the University of Munich and asked to fill out the questionnaire. Participants' mean age was 23.7 years ($SD = 3.1$) for woman and 25.2 years ($SD = 4.3$) for men (age differences were not statistically significant).

RESULTS

Manipulation Checks

A 2 (Respondent's Sex) x 2 (SP's Sex) x 2 (Attractiveness of SP: high vs. low) ANOVA with independent measures on all factors on the attractiveness ratings yielded the intended significant main effect for attractiveness, $F(1, 32) = 35.90, p < .001, \eta^2 = .50$. Participants rated the attractive SPs to be substantially more attractive ($M = 7.8, SD = 1.6$) than the unattractive ones ($M = 4.2, SD = 2.0$). No further significant main or interaction effects were obtained.

Attributions

Analogue to Försterling, Preikschas, and Agthe [6], we computed an ability minus luck indicator representing the extent to which the SP's positive outcome was attributed to internal causes. The only significant effect for this indicator was the predicted triple Sex of Participant x Sex of SP x Attractiveness of SP interaction, $F(1, 32) = 29.64, p < .001, \eta^2 = .45$ (see Fig. 1).

Separate ANOVAs for the sexes revealed that male participants attributed success of a male SP less to internal causes when he was attractive ($M = -1.6, SD = 3.9$) than when he was unattractive ($M = 4.8, SD = 1.5$), $t(8) = 3.42, p < .01$. However, they traced the female SP's success to internal reasons more when she was attractive ($M = 3.6, SD = 2.3$) than when she was unattractive ($M = -1.8, SD = 1.6$), $t(8) = -4.27, p < .01, F(1, 16) = 27.30, p < .001, \eta^2 = .62$. Female participants explained the success of attractive male SPs by internal reasons more ($M = 4.0, SD = 2.8$) than the successful outcome of unattractive male SPs ($M = 0.4, SD = 2.9$), $t(8) = 1.96, p = .086, ns$, whereas they attributed the success of attractive female SPs to internal causes less ($M = -1.8, SD = 3.3$) than the success of unattractive female SPs ($M = 2.4, SD = 3.4$), $t(8) = -1.99, p = .081, ns, F(1, 16) = 7.74, p < .05, \eta^2 = .30$.¹

¹Analogue results to those of the composite score (i.e., the ability minus luck indicator) were also obtained for the dependent variables ability and luck, respectively, which cannot be reported here due to space limitations. Most importantly, there was a significant triple interaction for the independent variables ability ($F[1, 32] = 17.36, p < .001$,

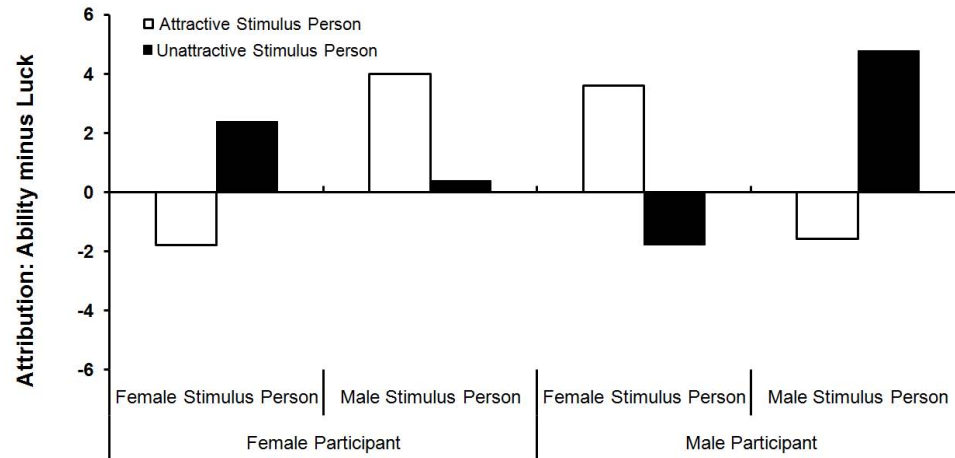


Fig. (1). Attributions of a successful outcome to internal causes (i.e., ability minus luck) as a function of participants' gender and stimulus persons' attractiveness and gender.

DISCUSSION

Analyses from Study 1 displayed that the response pattern predicted from the SAB could be replicated regarding attributions: While same-sex rivals were more likely to be derogated, desired opposite-sex individuals were glorified. The important issue which remains to be addressed is whether the SAB pattern would persist when situational variables would be changed. Therefore, Study 2 was conducted using a low-threat social comparison scenario to investigate whether the SAB which was already shown regarding success attributions would generalize with regard to failure attributions.

STUDY 2

The second study's aim was to replicate the existence of the SAB regarding attributions in a changed scenario: While the storylines used in Study 1 pictured the success of the SP, Study 2 applied a failure scenario. Hereby, we wanted to test whether the SAB persists, possibly to a diminished extent due to a more favorable social comparison for the participants. The existence of the SAB in the context of a SP's failure would indicate that the SAB is not limited to the comparison with successful targets.

METHOD

Experimental Design, Material, and Procedure

Analogue to Study 1, Study 2 was based on a 2 (Sex of Participants) x 2 (Sex of Stimulus Person) x 2 (Attractiveness of the SP: high vs. low) design with independent measures.

The experimental material was identical with the material used in Study 1 (depicting the same attractive and unattractive male and female stimulus persons who were in their early twenties) with the only exception that the SP expe-

rienced failure instead of success with regard to the job in the cover story: While he or she was promoted in Study 1, his or her contract was not extended in Study 2. Hence, this fictive scenario was analogous to the one of Study 1, only differing in the unsuccessful ending for the SP.

Dependent Variables

Accordingly, the opposite of Study 1's dependent variables were used for assessment: Participants were requested to explain the negative outcome of the SP by making attributions to (a) lack of ability and (b) bad luck on a scale ranging from 1 (hardly important) to 10 (very important), respectively.

Participants

Overall, 20 males and 20 females were individually recruited on the campus of the university. Participants' mean age was 23.6 ($SD = 2.0$) years for females and 26.1 ($SD = 5.5$) years for males (age differences were not statistically significant).

RESULTS

Manipulation Checks

A 2 (Participant's Sex) x 2 (SP's Sex) x 2 (Attractiveness of SP: high vs. low) ANOVA with independent measures on all factors on the attractiveness ratings yielded the expected significant main effect for attractiveness, $F(1, 32) = 21.18$, $p < .001$, $\eta^2 = .37$. Participants rated stimulus persons designated to be better-looking as more attractive ($M = 7.4$, $SD = 2.0$) than the unattractive ones ($M = 4.4$, $SD = 2.0$). No further significant main or interaction effects were obtained.

Attributions

Analogue to Study 1, an indicator (representing the extent to which the failure of the SP was attributed to internal causes) was computed by calculating the difference of attributions to lack of ability minus attributions to bad luck. Analyses yielded the predicted Sex of Participant x Sex of SP x Attractiveness of SP triple interaction, $F(1, 32) = 8.93$,

$\eta^2 = .31$) and luck ($F(1, 32) = 20.58$, $p < .001$, $\eta^2 = .31$). The attributions to luck present themselves as the mirror image of findings for the ability attributions.

$p < .01$, $\eta^2 = .17$ (Fig. 2). Separate analyses for the sexes showed that males attribute failure of the attractive male SP ($M = 3.2$, $SD = 4.1$) more to internal causes than the negative outcome of the unattractive male SP ($M = -2.0$, $SD = 4.0$), $t(8) = -2.03$, $p = .076$, *ns*, while they explained an attractive female SP's failure ($M = -2.6$, $SD = 2.5$) slightly more by external reasons than in case of an unattractive female ($M = 0.4$, $SD = 4.3$), $t(8) = ns$, $F(1, 16) = 5.82$, $p < .05$, $\eta^2 = .25$. This pattern reversed for female participants who ascribed the unsuccessful outcome of an attractive male SP ($M = -5.6$, $SD = 1.9$) somewhat less to internal causes than the failure of an unattractive male SP ($M = -3.0$, $SD = 4.2$), $t(8) = ns$, whereas they attributed the negative outcome of an attractive female ($M = -1.6$, $SD = 2.1$) a little more to internal reasons than that of an unattractive female SP ($M = -3.6$, $SD = 2.9$), $t(8) = ns$, $F(1, 16) = 3.12$, $p = .096$, *ns*. Consequently, the hypothesis that the SAB would persist in a scenario picturing the failure of the SP could be confirmed: When comparing the effect sizes of the three-way interaction of Study 1 and 2 obtained by the same factorial design and sample size, it became evident that (assuming equal reliabilities of the analogue items) the effect was reduced by more than 50% of its former size within the context of SP's failure ($\eta^2 = .45$ in the success scenario [attributions to ability minus luck] vs. $\eta^2 = .17$ in the failure scenario [attributions to lack of ability minus bad luck]).

The only other significant effect regarding the indicator (i.e., lack of ability minus bad luck) was a significant main effect which displayed that male participants ($M = -0.3$, $SD = 4.2$) held targets much more responsible for failure than female participants ($M = -3.5$, $SD = 3.1$), $F(1, 32) = 8.93$, $p < .01$, $\eta^2 = .16$.

Taking a closer look at the separate attributions for the failure of the SP, the significant triple Sex of Participant x Sex of SP x Attractiveness of SP interaction in consistency with the response pattern of the SAB was only found with regard to the variable bad luck, $F(1, 32) = 12.88$, $p < .001$, $\eta^2 = .19$. Men attributed a negative outcome of an attractive male SP ($M = 2.2$, $SD = 1.8$) significantly less to bad luck than the occupational failure of an unattractive male SP

($M = 7.0$, $SD = 2.1$), $t(8) = 3.87$, $p < .01$, while they ascribed the negative outcome of an attractive woman ($M = 7.6$, $SD = 2.1$) more to bad luck than the failure of an unattractive female SP ($M = 4.6$, $SD = 3.1$), $t(8) = ns$, $F(1, 16) = 13.95$, $p < .01$, $\eta^2 = .43$. This pattern (partially) reversed for female participants who attributed SP's failure more to bad luck in case of an attractive male ($M = 8.6$, $SD = 1.1$) than when the SP was an unattractive man ($M = 6.8$, $SD = 2.9$), $t(8) = ns$. However, contrary to expectations derived from the SAB, women attributed the negative outcome of beautiful same-sex targets ($M = 7.8$, $SD = 1.3$) slightly more to bad luck than the failure of unattractive females ($M = 7.6$, $SD = 1.1$), $t(8) = ns$, $F(1, 16) = ns$.

Furthermore, there was a significant two-way interaction between the sex and the attractiveness of the SP, $F(1, 32) = 5.60$, $p < .05$, $\eta^2 = .08$. Occupational failure was attributed less to bad luck in case of an attractive male SP ($M = 5.4$, $SD = 3.7$) than when he was unattractive ($M = 6.9$, $SD = 2.4$), while attractive females' ($M = 7.7$, $SD = 1.6$) unsuccessful outcome was attributed more to bad luck than that of unattractive women ($M = 6.1$, $SD = 2.7$). Additionally, a significant main effect yielded that female participants ($M = 7.7$, $SD = 1.8$) attributed SP's failure more to bad luck than male respondents ($M = 5.4$, $SD = 3.1$), $F(1, 32) = 12.88$, $p < .001$, $\eta^2 = .19$.

Regarding attributions to lack of ability, no significant effects were obtained.

DISCUSSION

To conclude, the hypothesis that the SAB would persist, though diminish in a scenario of the SP experiencing failure could be confirmed: Significant effects according to the SAB could only still be found regarding attributions to bad luck as well as for the cumulative score of the "lack of ability minus bad luck"-indicator. Regarding attributions to lack of ability, the response pattern predicted from the SAB (which had been replicated in the success scenario in Study 1) disappeared. Thus, the suggestion was supported that a threat posed to individuals by the physical attractiveness of a potential rival might be mitigated when a superiority of the

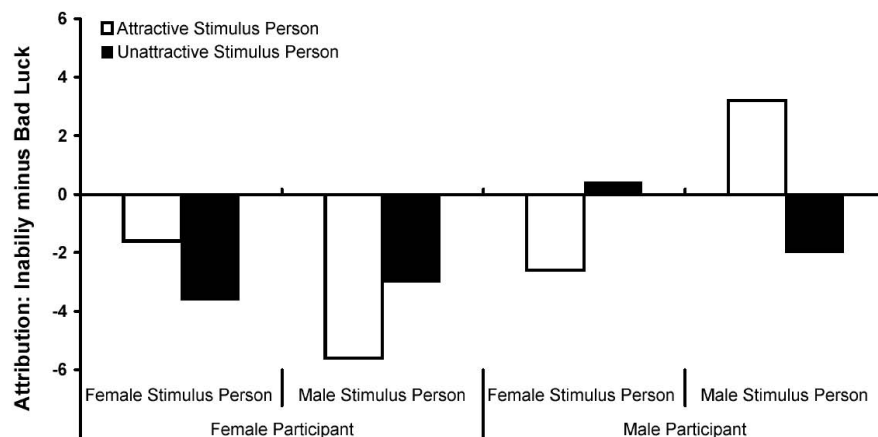


Fig. (2). Attributions of an unsuccessful outcome to internal causes (i.e., lack of ability minus bad luck) as a function of participants' gender and stimulus persons' attractiveness and gender.

comparison person could possibly be compensated in terms of another dimension (i.e., when the SP had been unsuccessful). In accordance with our hypothesis, it might hence be assumed that the SAB extends to failure scenarios, but nevertheless is sensitive to contextual variables concerning social comparison. This may not only be true for the intrasexual competition (i.e., derogation) component of the SAB, but also for the glorification component: The result that the bias was mitigated in the failure scenario might imply that unsuccessful opposite-sex individuals (even though their physical attractiveness is not diminished) perhaps are no longer as interesting for the respondents as those who had been successful.

GENERAL DISCUSSION

Our studies aimed at complementing previous research concerning the Sexual Attribution Bias (SAB). According to this bias documented by Försterling, Preikschas, and Agthe [6] young adults often attribute the success of same-aged, same-sex attractive stimulus persons in a more derogative way than the success of less attractive same-sex persons, whereas this pattern reverses for the opposite sex.

The open question addressed in this article was whether the bias would persist when contextual variables were changed (i.e., scenario of SP's success *vs.* SP's failure). Based on theories of social comparison one could argue that the emergence of the bias depends on successful SPs. Therefore, we used failure attributions instead of success attributions within a failure scenario in Study 2, which regarding other methodological aspects was identical with Study 1 (which was a replication of previous SAB research).

Our results indicated that the emergence of the bias does not depend on successful SPs as we detected an analogous response pattern within the failure scenario as well. Comparing the effect sizes of the parallelized studies indicated that the bias emerged with less than 50% of its strength within success scenarios. Considering that the SAB even persisted with regard to failure attributions, we deduce that threatening social comparison (like success of the comparison other) is no necessary prerequisite for the appearance of the SAB. However, SPs' success seems to increase the strength of the effect. Hence, additional aspects might contribute to an explanation for the phenomenon, such as considerations derived from evolutionary psychology emphasizing the potential threat of higher physical attractiveness of a same-sex rival which was identical in the success and in the failure scenario.

Hence, the SAB response pattern appears to be consistent with the assumption that biases in social information processing might be linked to fundamental adaptive motivations [17], which was also accentuated by error management theory [18]. Moreover, the notion of error management theory that human mind is designed for fitness maximization, is congruent with the existence of a response pattern in accordance to the SAB rather than with a general attractiveness effect in conformity with the "What is beautiful is good" stereotype, as it seems to be adaptive for individuals who feel threatened by an attractive same-sex person as a potential rival to change the way they interpret information in a fashion that allows them to protect and to maintain self-esteem by restoring a more favorable image of themselves

(even in cases of failure of this SP). Thereby a persistent pursuit of mating attempts might be fostered. Moreover, the biased processing in form of glorification with regard to desirable opposite-sex individuals is supposed to contribute towards evolutionary rewarding partnerships as well.

Furthermore, the finding of the SAB is congruent with considerations from Neuberg, Kenrick, Maner, and Schaller [19] that self-protection and mating goals may influence cognitions about individuals who differ in gender, physical attractiveness, and ethnicity. They presumed that individuals who are concerned about self-protection and mating should be biased towards perceiving others to be potential threats or mates, respectively. Given the central roles of survival and sexual reproduction in evolutionary processes, these motives (as well as associated affective responses) which may be activated without explicit conscious awareness [e.g., 20, 21] might actually direct attention and lead to social-cognitive consequences that may facilitate potentially adaptive behavioral responses in all kinds of interpersonal situations.

Of course, it seems plausible that – in addition to situational aspects – further characteristics, such as raters' own physical attractiveness, age, or ethnic background, should have a substantial impact on their cognitive, affective and behavioral responses to others as well, since the extent to which other people are perceived as opportunities or threats is not only shaped by aspects of the target or context, but also by features of the perceiver.

Nonetheless, the phenomenon of the SAB might have important consequences for everyday life. For instance, the bias might be relevant to areas such as job interviews [cf. 22-24], the award of scholarships or the assessment of employees, as well as to any other kind of situation where it is someone's responsibility to evaluate another person. It seems reasonable to assume that in all these evaluative contexts this bias might influence selection decisions. Since the impact of this bias might be regarded as small, it seems important to note that its consequences are not restricted to a single judgment situation: It is probable that, for instance, an attractive female will be repeatedly evaluated in educational and occupational contexts and, thus, will perhaps be confronted with derogating tendencies of same-sex individuals again and again resulting in overall profound negative consequences of this bias with respect to her career.

Aside from such specific educational and occupational selection contexts, the response pattern according to the SAB might have a profound impact on such important and general issues like cooperation or friendships [cf. 25]. It seems reasonable to assume that our everyday social activity might be continuously influenced by this generally more skeptical tendency towards attractive same-sex and unattractive opposite-sex individuals. In the long run, this bias might shape our social networks to a large extent. Given the comparative character of this bias, one should be aware that an unattractive person might evaluate an attractive opposite-sex person more positively than the latter would probably judge the former. Thus, this biased way of responding might in the long run implicitly foster social tension, since it presumably leads individuals to incongruent judgments of each other.

What practical recommendations can be given based on our research? Because many people might not be aware of

the possible existence of this bias, and people generally tend to believe that their own judgments are not susceptible to prejudice and favoritism [26], it appears to be important to inform them of the existing potential of this bias. Thus, cognizance of the processes that produce biases may counter some of their dysfunctional effects [cf. 27].

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