I'm Game On and Off the Court: Mitigating Stereotype Threat in Student Athletes

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Abstract

Steele and Aronson (1995) initially developed the concept of stereotype threat as an alternative explanation for racial and gender minorities' poor academic performance. Today, however, their work serves as a pioneer study on stereotype threat in demographic groups in many domains. Although student athletes are stigmatized because of an activity in which they participate rather than an innate trait, the effects they experience parallel those endured by the demographic groups that predominate stereotype threat literature. Student athletes experience stereotype threat in a cognitive domain, just as African Americans in the academic domain, women in the quantitative domain, and Asians in the verbal domain. However, research in the area of intervention techniques to alleviate stereotype threat in student athletes has thus far been limited. Studies on stereotype threat in student athletes suggest that intervention techniques used to mitigate more traditional cases of stereotype threat would succeed in this population as well. Adapting the intervention techniques known to work in these groups thus appears to be a viable solution to stereotype threat in student athletes.

Introduction

Stereotypes are meant to help humans categorize others more efficiently. However, since such categorization is often misguided, victims of this phenomenon experience stereotype threat. They want to avoid personal identification with the negative characteristics of their group (Steele, 1997). Student athletes, who are often positively stereotyped as the most popular figures on college campuses, are negative stereotyped by their peers in the academic domain and thus experience stereotype threat (Harrison et al., 2009; Yopyk & Prentice, 2005). Because the application of stereotype threat to the student athlete population occurred recently, starting in the early 2000s compared to its application to demographic minorities since the 1990s. Thus, little information exists regarding how to reduce stereotype threat in this group. Stereotype threat seems to affect student athletes much like it affects other previously researched groups. Therefore, adapting the methods used to reduce stereotype threat in these groups should successfully mitigate the negative effects of stereotype threat experienced by student athletes.

What is Stereotype Threat?

The term "stereotype threat" refers to the social-psychological predicament first proposed and described by Steele and Aronson (1995). A stereotype is a widely believed yet often misleading notion of a particular type of person that categorizes groups of people based upon visible differences. When one risks confirming that a negative stereotype about one's group applies to oneself, the stereotype can become threatening (Steele & Aronson, 1995). Individuals experience stereotype threat when they fear validating the negative stereotype and having it define how others perceive them (Steele, 1997).

People only experience stereotype threat under certain conditions (Steele & Aronson, 1995). First, stigmatized individuals only experience stereotype threat when engaged in activities in a domain in which they are negatively stereotyped. For example, women are often negatively stereotyped in mathematics, but they will only experience this stereotype threat when engaged in a task in the mathematics domain. Additionally, individuals experience stereotype threat when the negative stereotype becomes relevant to their self-definition. They want to avoid inadvertently characterizing themselves or having others characterize them according to this negative stereotype. Finally, for the negative stereotype to threaten an individual's sense of self, he or she must identify psychologically with the domain in question because his or her self-concept hinges on performance in the domain. The individual's ability to maintain a positive self-concept depends on the situation in which he or she is placed so the negative stereotype is self-threatening.

As mentioned in the second condition listed above, stereotype threat can also cause disidentification with the threatening domain, which can negatively affect performance. Stigmatized individuals may redefine their self-concept so that the stereotype-threatening domain no longer serves a basis for self-evaluation or personal identity. However, this method of escaping the threat simultaneously decreases interest and motivation in the domain, resulting in worsened achievement.

Mechanisms of Stereotype Threat

Steele's 1997 paper, one of the earliest accounts of stereotype threat, proposed stereotype threat as a "different diagnosis" for the achievement gaps experienced by minorities (p. 624). This explanation refuted previous assumptions that minority students achieve less due to dispositional qualities. The stressful situation characteristic of stereotype threat manifests itself physiologically as an anxiety response. Schmader, Johns, and Forbes' (2008) Integrated Process Model of Stereotype Threat Effects on Performance summarizes the major mechanisms that work in tandem to create the debilitating effects of stereotype threat. According to this model, the elements of stereotype threat that impair performance are threefold. First, stereotype threat induces a physiological stress response in the stigmatized individual that interrupts the processing of the prefrontal cortex. This disrupts the coordination of actions with goals. Additionally, the propensity to scrutinize performance while engaging in an action siphons attention away from the task at hand. Finally, stigmatized individuals under threat tend to stifle their negative thoughts and anxious emotions. They suppress these negative feelings and deny their experience of threat in the hopes of avoiding its negative effects.

Through their interactions with one another, these processes strain the executive resource utilized to succeed on cognitive and social tasks that require controlled processing – working memory capacity. People use working memory to retain and access information in the short-term and to suppress task-irrelevant information. Therefore, stereotype threat diminishes one's ability to regulate attention during tasks that require the coordination of information processing and the inhibition of irrelevant thoughts, feelings, and behaviors. Steele argues that minorities face achievement barriers because of the pressure to rebuff the negative stereotypes. This process consumes the cognitive resources they need to operate at their highest level. Poor performance then reinforces the negative stereotypes, which creates a vicious cycle of underperformance among minorities. In an earlier study, Schmader and Johns (2003) found that priming negative stereotypes regarding both gender and race reduced working memory capacity in stigmatized individuals. Stereotype threat decreased women's math performance by diminishing their working memory capacity through the combination of a physiological stress response, monitoring processes, and suppression processes. Without optimal working memory capacities, threatened individuals are distracted by performance elements that draw attention away from accomplishing the task and cannot perform in a short-term, context-dependent situation.

Identity Salience and Competing Identities

Studies on the relative salience, or accessibility, of competing identities in the same context illustrate stereotype threat's domain-specific nature. An individual harbors two competing identities when he or she simultaneously belongs to one group negatively stereotyped in a particular domain and another group positively stereotyped in that same domain. Researchers classically study this phenomenon in Asian women. While Asians are culturally stereotyped to have good math capabilities, women are culturally stereotyped to have poor quantitative skills.

Shih et al. (1999) found that priming Asian women's ethnic identity helped them achieve better results on a math test than the control group (54% of questions attempted correct vs. 49% correct), but priming Asian women's gender identity caused them to perform worse than the control group on the test (43% of questions attempted correct vs. 49% correct). In this case, solely altering elements of the situation rendered drastic effects on the stereotyped group's performance since both groups were tested in the same mathematical context. Making the identity

associated with a negative stereotype salient hampers the individual's performance in the domain, while making the identity associated with a positive stereotype salient helps the individual succeed in the domain (Shih, Pittinsky, & Ambady, 1999). The salient identity ultimately affects performance. These findings reinforce that stereotype threat both decreases performance and depends upon the situation.

In a counterpart study, Shih, Pittinsky, and Trahan (2006) explored the performance effects of activating different social identities in this same group but in a different context – the verbal domain. While women are culturally stereotyped to have good verbal capabilities, Asians are culturally stereotyped to have poor verbal skills. Shih et al.'s (2006) examination of this domain supported their previous findings, as their results mirrored those of the previous study. Priming Asian women's gender identity helped them achieve better results on a verbal reasoning test than the control group, but priming Asian women's ethnic identity caused them to perform worse than the control group on the test. Hence, the identities made salient in pressure-filled situations can greatly affect individuals' performance on identity-relevant tasks.

Student Athletes

Steele and Aronson (1995) emphasized that any group can experience stereotype threat in a domain in which it is negatively stereotyped, regardless of the characteristic that defines this stigmatized status. This pertains to student athletes because the student and athlete identities compete; students are expected to have academic prowess, whereas athletes are expected to lack academic ability. In 2005, Yopyk and Prentice demonstrated the parallels between Asian females and student athletes empirically. When primed with their athlete identity, male student athletes exhibited lower self-regard, the emotional dimension of self-esteem. This priming, in turn, made them perform worse on a difficult math test (Fleming & Courtney, 1984). In contrast, priming their student identity elicited the opposite effect. The ability of these competing identities to elicit different effects on academic performance mirrors the phenomenon found in previous studies of Asian women (Shih et al., 1999; Shih et al., 2006). Such similarity provides a logical bridge between stereotype threat research and its application to student athletes in the academic domain.

However, studies of stereotype threat in student athletes have yielded seemingly inconsistent results. Yopyk and Prentice (2005) reported that in addition to exhibiting lower self-regard, male student athletes primed for their athletic identity withdrew effort by attempting fewer items on the test. This suggests that they disidentified with the academic domain to cope with stereotype threat. Harrison et al. (2009), on the other hand, found that priming the athletic identity improved male athletes' performance in the academic domain. The researchers propose many possible reasons for these different findings, including differential academic investment between selective liberal arts universities and large public schools, differential identification with the "dumb jock" stereotype based upon whether the sport has a professional league, and stereotype reactance processes (Harrison et al., 2009).

Ultimately, the seemingly conflicting data demonstrate not only that stereotype threat in student athletes requires further research, but also that making the athletic identity salient can elicit both negative and positive effects. Since student athletes' dual identity can yield positive academic results, a potential way to mitigate stereotype threat in student athletes is to build upon the positive effects of identification with their athlete identity in order to retrain the "dumb jock" stereotype. This insight emphasizes the necessity of developing intervention techniques to mitigate stereotype threat in the student athlete population. Eliminating the threat could maximize the potential positive effects of the athlete stereotype. Successful intervention techniques to assuage

stereotype threat fall into three categories: reframing the threatening task, retraining the negative stereotype, and reaffirming the self. These techniques can be applied to student athletes in order to alleviate the stereotype threat in this population as well.

Mitigating the Stereotype Threat Experienced By Student Athletes

Reframing the Threat

The stereotypes that plague Asian women elicited opposite effects on their academic performance in the mathematics and verbal domains based on the identity made salient in the domain. This pairing of studies illustrates the pervasiveness of stereotype threat, as it affects performance in multiple domains. The coupling also illustrates how identities are situationally, rather than globally, detrimental. One could thus mitigate the negative effects of stereotype threat by changing how stigmatized groups perceive the domain in which they are negatively stereotyped.

The depletion of cognitive resources that accompanies the physiological stress response contributes to the performance decrements of stereotype threat. Reframing the task so it does not elicit this response would remove stereotype threat from the situation. Alter et al. (2010) found that reframing a task usually perceived as a threat so it was instead perceived as a challenge successfully mitigated the detrimental effects of stereotype threat in the academic setting. Since people feel they lack the resources to accomplish tasks perceived as threats, they experience the performance-impairing physiological stress response. However, when they are perceived as a challenge, these tasks no longer activate this physiological stress response because people feel they have the resources to accomplish them. In Alter et al.'s (2010) study, the reframing strategy alleviated the threat of negative racial stereotypes in black schoolchildren and the threat of marginalization in Princeton undergraduates from poorly represented high schools. When black schoolchildren's race was made salient by having them report their race before taking a math test, they performed significantly better when prompted to reframe this stereotype-threatening situation as a challenge (67.71% correct vs. 37.71% correct) (F(1, 45) = 4.80, p < .04). Similarly, when reminded that they graduated from high schools poorly represented at the Princeton University before taking a math test, undergraduates performed significantly better when they reframed this stereotype threatening situation as a challenge (90.99% correct vs. 72.21% correct)($F\Delta(1, 115)$ = 11.74, p < .001.) These results illustrate that in both stereotyped groups, those in the "threat" condition thought a math test had a diagnostic purpose and experienced stereotype threat, while those in the "challenge" condition thought the test had an educational purpose and did not experience stereotype threat. Differential task framing can thus influence self-evaluation of ability and, ultimately, performance in a stereotyped domain.

By reframing threatening academic tasks as challenging, educators can mitigate the negative effects of stereotype threat experienced by student athletes. It might seem impractical to apply this intervention technique in the real world because a classroom examination by definition aims at testing ability. However, reframing is less about the task itself and more about the individual's perception of the task. Student athletes could benefit from task reframing even if only some threatening elements of the task were removed. Alter et al. (2010) accomplished threat reframing by altering the instructions they gave to test takers. Similarly, educators could use test

instructions to remind students that the examination tests the knowledge they have successfully gleaned from the class, not their overall ability in the subject. Framing the examination as an evaluation of learning and asserting instructor confidence in the student's ability to succeed can at least decrease the threatening nature of the test.

Nevertheless, the possibility of poor performance remains threatening even after altering how this threat is perceived. Given that reframing works by changing the individual's perception of the task, illustrating that poor academic performance does not merit student athletes' extreme anxiety could help them succeed in the classroom. For example, conditioning student athletes to emphasize the benefits of learning rather than the need for academic excellence would diminish their fear of validating the "dumb jock" stereotype. This would thereby inhibit the performance-impairing stress response. Thus, reframing the threatening task as a challenge may not eliminate stereotype threat completely, but it can certainly help stigmatized individuals to perform at a higher level.

Retraining Negative Stereotypes

When the negative stereotypes associated with a domain are challenged and retrained, individuals gain the sense of competency and the cognitive capacity they need to overcome stereotype threat (Forbes & Schmader, 2010). However, retraining negative attitudes does not yield the same effect. Forbes and Schmader (2010) found that training women to have positive attitudes toward math motivated them to work on math. Yet, this attitude change did not improve women's working memory capacity. On the other hand, retraining women's stereotypes so they associated their gender with high math capabilities increased working memory capacity and resulted in better math performance. Forbes and Schmader's findings indicate that although retraining student athlete's negative attitudes toward academics would encourage these students to persist in their academic endeavors, it would not eliminate the negative effects of stereotype threat. Therefore, retraining of the "dumb jock" stereotype itself must occur to prevent the working memory impairment associated with stereotype threat. Training student athletes to associate their athletic identity with academic excellence can enhance their cognitive capacity in the academic domain (Peterson & Barrett, 1987).

Optimally, retraining the negative cognitive association between participation in athletics and the academic domain could trigger stereotype lift. Stereotype lift occurs when partaking in a domain in which one's group is positively stereotyped improves one's performance by increasing working memory capacity. Peterson and Barrett's (1987) investigation of the relationship between explanatory style and academic performance supports the viability of this type of intervention. Explanatory style is a personality characteristic that influences whether a person reacts with determination or submission in the face of adversity. Peterson and Barrett found that university students who explained bad academic events using internal, stable, and global causes received lower grades than those who explained such events using external, unstable, specific causes. In other words, those who exhibited a negative explanatory style performed worse in the classroom than those who exhibited a positive explanatory style. Although explanatory style is a personality characteristic – and thus is an innate, immutable factor to some degree – the elements of a positive explanatory style can be encouraged in everyone. If student athletes attribute their previous poor academic performance to transient circumstances of a particular situation, they will have a more positive explanatory style. This positive explanatory style should maintain their academic motivation and help them perform better in the classroom, which would allow them to associate their athleticism with academic excellence. Hence, even small changes to how a student athletes interprets academic frustrations can help to attenuate the negative effects of stereotype

threat through retraining the negative dumb jock stereotype.

Reaffirming the Self

In order to experience stereotype threat, one must feel uncomfortable with the association between oneself and the negatively stereotyped characteristics of one's group. Therefore, to cope with stereotype threat, individuals may disidentify with the presumed negative aspects of their group while continuing to identify with those aspects that do not have negative valence (Pronin et al., 2004). Deemphasizing the negatively stereotyped aspects of a group can be implemented as an intervention technique. In the case of women in the math domain, for example, stereotype-threatening situations make women's poor quantitative abilities salient. On the other hand, highlighting the achievements of women as a group improved individual females performance on mathematical examinations (McIntyre et al, 2003). These positive achievements were more salient than the negative stereotype because task-related anxiety contributes greatly to the negative effects of stereotype threat. Hence, reassuring women that their group could succeed despite their individual performance on the task lessened the pressure and threat they felt. Given McIntyre et al.'s finding, making both team achievements and individual player achievements salient can mitigate stereotype threat in student athletes.

Along similar lines, training student athletes to engage in self-affirmation techniques prior to academictesting could mitigate the stereotype threat they experience. In their review of the self-affirmation literature, McQueen and Klein (2006) observed that individuals who reflected on their positive attributes either preceding or following an identity threat experienced less distress. This effect generalized to a vast range of threatening situations. Similarly, Harrison et al. (2009) postulated that self-affirmation processes may mediate the transformation of the "dumb jock" stereotype into a positive stereotype in males. Male college athletes performed better on the more difficult test items of an analogies test when their athletic identity was primed, whereas female college athletes performed worse after this manipulation. In accordance with this difference, male student athletes seem to derive more pride from their participation in athletics than do females (Harrison & Lawrence, 2004). Males' athletic identity may thus cause them to focus on a positive image of themselves. By affirming the integrity of the self, their athletic identity may protect them from the threat of the "dumb jock" stereotype (Harrison et al., 2009). All student athletes could benefit from focusing on the positive aspects of their dual-identity, like their ability to manage the demands of their academic and athletic roles. This could induce a more positive frame of mind for academic testing – implicitly framing the test as a challenge, a way for student athletes to prove their worth in the academic setting through capitalizing on this unique time management skill. Therefore, self-affirmation could limit the physiological stress response and mitigate stereotype threat (Harrison et al., 2009).

Such self-affirmation processes seem to be particularly lacking in the female student athlete population, partially because they are more engaged in academics than are male student athletes (Harrison et al., 2009). Thus, confirming the "dumb jock" stereotype is more threatening to them than it is to male student athletes (Harrison et al., 2009). To mitigate this fear, it seems essential that coaches encourage women to reflect on the positive aspects of the link between their student identity and especially their female athlete identity. Their participation in athletics not only gives them a constructive break from their schoolwork but also realizes their foremothers' dreams of gender equality in the athletic, as well as the academic, domain.

Conclusion and Suggestions for Future Research

The case of student athletes' experience with stereotype threat highlights two often overlooked aspects of this psychological phenomenon. First, stereotype threat is a problem relevant to all negatively stereotyped groups, not just racial and gender minorities. The negative performance effects experienced by "non-traditional" groups, like student-athletes, mirror those experienced by the demographic groups typically associated with stereotype threat. As such, more research into the effects of stereotype threat on "non-traditional" groups in the academic domain should be performed. Since stereotypes and their impact on performance extend beyond the classroom, further research into the implications of stereotype threat in non-academic settings should be performed. With regard to student athletes specifically, researchers should test whether priming the student identity in the athletic setting causes performance decrements in the athletic realm. Stone (2002) determined that some white athletes experience stereotype threat due to the conception that whites are not as athletic as African Americans. To cope with this threat, these individuals erected barriers to their success so they could attribute their failure to these barriers rather than their abilities. If making the student identity salient in the athletic domain leads to performance decrements, the dual-identity nature of student athletes suggests that the strategies proposed to help athletes succeed in the classroom could be modified to help students succeed on the field as well.

Although negative stereotypes have the potential to severely harm performance, there is hope for mitigating the detrimental effects of stereotype threat using simple, low cost interventions. As the interventions proposed in this paper illustrate, by addressing the three main aspects of stereotype threat (i.e. the task, the stereotype, and the individual), stereotype threat can be reduced in the student-athlete population. However, as the assertions made in this paper are based on theory and comparison rather than on experimental manipulation, empirical research into these interventions still needs to be performed. Researchers must investigate the relative efficacy of the aforementioned interventions, determining which technique consistently mitigates stereotype threat in student athletes.

Mirroring the experimental procedure used by Forbes and Schmader (2010), repeatedly exposing student athletes to the counter-stereotypic association can retrain their "dumb jock" stereotype. The experimenters can recruit student athletes whose self-reports indicate that they experience stereotype threat in the academic setting. The sample should be demographically uniform to ensure that the stereotype threat manipulation mitigates the effects of the student athlete stereotype only and not a separate racial or gender stereotype. Additionally, the participants should attend the same university to ensure that they experience the same level of academic pressure and the same culture with regard to stereotyping of athletes. Participants would perform a modified version of the personalized Implicit Association Test (pIAT). Through the use of this instrument, those in the stereotype retraining condition would see the category labels "athletes are good at" and "school" together in the one corner of the computer screen and the labels "students are good at" and "sports" in the other. Those in the stereotype reinforcement condition would see the opposite pairings. Participants would then classify academic/athletic words into these school/sports domains. Those in the retraining condition would thus categorize school-related words along with activities society perceives athletes to be good at, and this exposure should retrain their stereotype such that they perform better on a threatening test administered 24 hours later (Forbes & Schmader, 2010). This intervention technique's effectiveness has only been shown in the short-term, so if it works in the student athlete population further experiments should examine the durability of this effect and the influence of multiple retraining sessions.

Only by testing these interventions both in the lab and in the field will researchers be able

to determine whether each is successful in student-athletes. Moreover, empirical testing can determine the conditions under which each technique will have the greatest impact. Nonetheless, the fact that these possibilities appear to be feasible options, given the efficacy of these interventions in demographic minorities, offers a much brighter future for student athletes in the academic domain.

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