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Deflecting Stereotype Threat Through Downward Comparison: When Comparison with Immigrants Boosts the Performance of Stigmatized Native Students

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Abstract Two experiments examined the effect of comparison with immigrants on the intellectual performance of stigmatized native students (i.e., women and students from low socioeconomic backgrounds). It was predicted that such a comparison may boost the test performance of both groups of students rather than comparison with their counterparts who are not stigmatized. In line with this hypothesis, we found that female European students (Study 1) performed better on a math test when they were led to compare with a female immigrant rather than with another female European student. Study 2 replicated this finding in regard to the performance of native students with low socioeconomic status on a general intelligence test. Results are discussed in terms of stereotype susceptibility predicaments and their implications for native-immigrant performance gaps.

Keywords Immigrants · Stigmatized native students · Performance boost

Social psychologists have become increasingly interested in the subtle ways cultural stereotypes, the shared beliefs about the characteristics of a social group (Ashmore & Del Boca, 1981; Judd & Park, 1993), can influence the intellectual test performances. For the most part, research has shown that the activation of a negative stereotype about one's group (e.g. "Black persons have low intellectual ability") can induce stigmatized group members (i.e., Black persons) to perform poorly on intellectual tests (*stereotype threat* effect; Steele & Aronson, 1995). This phenomenon, theorized

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as a performance decrease due to the fear to confirm a negative stereotype associated with one's group, has also been demonstrated about the intellectual performance of numerous other social groups, such as women on mathematics (Brown & Josephs, 1999; Spencer, Steele, & Quinn, 1999), the intellectual performance of Latino-Americans (Gonzales, Blanton, &Williams, 2002) and students with low socioeconomic backgrounds (Croizet & Claire, 1998), and so on (for reviews, see Steele, Spencer, & Aronson, 2002; Wheeler & Petty, 2001).

Furthermore, some previous studies have found that the activation of a stereotype can produce a decrease as well as an increase in intellectual test performances of target individuals. For instance, Levy (1996) showed that priming negative in-group stereotyped characteristics among elderly participants (e.g., senile) produced deficits in their memory abilities. However, priming positive characteristics (e.g., experienced) among the same participants produced an enhancement of their memory abilities (see also Desrichard & Kopetz, 2005). The fact that the subtle activation of self-relevant stereotypes can produce both a decrease and an increase in intellectual test performances has particularly been documented in studies by Ambady and her colleagues (Ambady, Shih, Kim, & Pittinsky, 2001; Shih, Ambady, Richeson, Fujita, & Gray, 2002; Shih, Pittinsky, & Ambady, 1999). Most prominent of their findings are those showing that when Asian women are made aware of their gender, their math performance declines (in line with the stereotype of females as worse in math than men), while when they are made aware of their ethnicity, their performance improves (in line with the stereotype of Asians as better in math than Whites and Africans), compared with a control group. This *stereotype susceptibility* (for recent extensions, see Wraga, Helt, Jacobs, & Sullivan, 2006; Wraga, Ducan, Jacobs, Helt, & Church, 2006) has also been illustrated among young children. It has been found that when Asian girls are made aware of their gender (by coloring a picture of a girl with a doll), their math performance declines, but when they are made aware of their ethnicity (by coloring a picture of Asian children eating with chopsticks), their math performance improves (Ambady et al. 2001).

Building on these previous efforts, it has recently been proposed that individuals exposed to negative stereotypes about another group can also show a reliable increase in their own intellectual performance (*stereotype lift*; Walton & Cohen, 2003). According to these authors, stereotype lift occurs when majority group members (e.g., men, White persons) perform a test in a testing situation which is stereotypic to minority group members (e.g., women, Black persons). In line with this new avenue of research (see also Chalabaev, Stone, Sarrazin, & Croizet, 2008; Mendoza-Denton, Kahn, & Chan, 2008; Marx & Stapel, 2006), the effect of the stereotype according to which immigrant students have lower intellectual abilities than their European native counterparts on the performance of this latter group was examined in a series of studies. In a study carried out in a regular classroom, it was found that high-stereotyped French high-school students performed better on an intellectual test when the test was framed as examining "group differences between children from African and European parents in intellectual performances" than when they were told the test was to examine "individual differences in intellectual performances" (Chatard, Selimbegovic, Konan, & Mugny, 2008). In another study run in a laboratory context, it was found that Swiss native university students with a

right-wing political orientation performed better in an IQ test when the test was presented as examining performance differences between Swiss and immigrant students than when the same test was presented as assessing individual differences in academic performances (Chatard, Selimbegovic, & Konan, 2008).

This article extends these prior findings with a particular focus on European traditionally stereotyped groups (i.e., women and students with low socioeconomic background allegedly bad in mathematics and in general intellectual tasks, respectively). In two studies, we examined the effects of downward comparison with immigrant targets on the intellectual performance of both categories of students. Because individuals belong to multiple social groups (e.g., gender, occupation, age, ethnicity), what can be learned from the findings and challenges discussed above is the fact that the consequences of the activation of one's social status on one's own intellectual performance is dependent on the group with whom one is led to compare with. First, if the group is supposed to be more capable than one's own (upward comparison), the consequence of the comparison will be negative and one's performance may decrease. Thus, previous stereotype threat studies have shown that the performance of low-status group members declines when upward comparison with high-status members is subtlety made salient, whereas they perform as well as these latter individuals when such upward comparison is removed (for a review, see Steele et al., 2002). Second, if the comparison group target is supposed to be less capable than one's own (downward comparison), then the issue of the comparison may be positive and one's own performance may increase, as being found in both previous stereotype lift and stereotype susceptibility studies.

We then assume that the stereotype threat effect stigmatized targets suffer from in an academic domain could be deflected by the activation of a downward social comparison. In other words, the introduction of a downward comparison may switch stigmatized targets from the fear to confirm the negative reputation associated with their in-group, and subsequently help them reveal more their potentials in the domain under evaluation. However, because stereotype threat chronically affects stigmatized individuals, even when the stereotype is not made salient, they may less reveal their potentials in the stereotyped domain when such a downward comparison is not made salient. In line of research derived from Social Identity Theory (Tajfel & Turner, 1986), it seems that "individuals, whose membership in some low-status group is accompanied by membership in at least one high-status group" may use their membership in the high-status group as a compensatory process which leads to a positive social identity (Roccas, 2003, p. 353). In contrast, such a compensatory process does not come to mind of individuals who are members of only high-status groups because both groups contribute in the same way to a positive social identity.

The two studies reported in this article then examine the effect of downward comparison with immigrants on the intellectual performance of stigmatized native students. In light of the aforementioned literature, we have anticipated that such a comparison may result in a performance boost of stigmatized native students (i.e., women, native students with low socioeconomic status). That is, in Study 1 we have hypothesized that female European students would perform better in a mathematics test when they are led to compare themselves to female immigrant rather than to other female European students. In a similar vein, in Study 2 we have hypothesized

that downward comparison with immigrant students may boost the performance of native European students with low socioeconomic status (SES) rather than upward comparison with their native counterparts with high SES. Finally, because men (Study 1) and native students from high SES (Study 2) benefit from only positive stereotypes—either in regard to their gender or their native status—we have hypothesized that the presence of a downward comparison may not serve to release their potentials. As a result, no variation was expected in their performance.

Study 1

Method

Participants and Design

Eighty-seven White European students at the University of Geneva voluntarily accepted to participate in this study. The sample consisted of 40 men and 47 women (Mean age = 20.08, $SD = 1.71$). There were 54 Swiss native participants and 34 non-Swiss participants. This variable had no effect whatever the measures considered, so we will not discuss it further. Participants were randomly assigned to one of the four experimental conditions based on a 2 (sex of participants: female vs. male) × 2 (comparison target: African vs. European) between-subjects factorial design. The experiments were run in groups of two or three same-sex participants. In order to avoid suspicion and to reinforce the credibility of the cover story, participants were tested by a Black experimenter (the first author).

Design and Procedure

After the participants signed the experimental consent form, they were asked to complete a math task presented as the validation of a test of logical abilities that can be used in different cultures. They began by completing some demographic information (nationality, sex, and age) at the top of the first page. On the same page, a training task was used to familiarize participants with the test. This test was based on a very popular TV game. It consisted on 5 items, each representing 6 small numbers (e.g., 75–7–100–6–2–9) and 1 large number in bold character (e.g., 781). The participants' task was to compute the large number by applying basic mathematical operations (addition, subtraction, multiplication, and division) on the small numbers without using the same small number twice. In addition, the time was limited to 6 min. This task was relatively easy. A pre-test carried out on another sample of 30 male and female students revealed that, independently of their gender, about half of them successfully completed this task in less than 6 min. Using the coding scheme of the original game, participants' responses were coded such that, for each item, the more they approached the large number, the higher the score they obtained. In this way, they could score from 0 to 8 points for each item. If participants found the large number, they obtained 8 points per item. If they missed the large number by 1 (2, 3, 4, 5, or 6, respectively), they obtained 7 (6, 5, 4, 3, or 2,

respectively) points per item. If they missed the large number by 8 or 9, they obtained 1 point per item. Finally, if they missed the large number by 10 and more, they obtained no point. We summed up the number of points obtained by the participants on the 5 items as the index of their performance ($M = 34.85$; $SD = 6.03$).

Self-Competence in Mathematics

After the training task, participants were asked to answer four questions designed to assess their performance apprehension on the task, and more generally, their perceived competence in mathematics. The items were "Do you think you performed well on this training task?", "Do you think you are competent on this kind of tasks?", "In general, do you think you are competent in mathematical reasoning?", and "knowing that the subsequent task is similar to this one, do you think you can perform well on it?" Participants indicated their responses using a seven-Likert scale anchored by 1 (completely disagree) and 7 (completely agree). Responses on these items were used to assess self-competence in mathematics (alpha = .91).

Social Comparison Induction

The training task was used to induce social comparison with another supposed student. It was explained to the participants that seeing the strategies applied by other students could potentially help them to realize the main test. They were then presented the solutions that had been proposed by the "another participant", ostensibly randomly selected from a pile of previous participants' training task response sheets. This allowed assigning participants to one of the two experimental conditions. In one condition, participants saw the training test of a student with immigrant African background. In the other condition, the so-called student had European backgrounds. Except for ethnic origin, other demographic characteristics of the target (gender and age) were matched to those of the participant. Thus, all participants were exposed to a same-sex and a same-age target.

Math Test

After consulting the other participant's training task sheet, participants were asked to perform the main ten-item task, similar to the training task, but with more difficult items (for a similar procedure, see Spencer et al., 1999). They were given 10 min to complete the test. Like in the training task, the more the participants' responses approached the large number, the higher the score they obtained, they could score from 0 to 8 points for each item. The points obtained on the ten items were summed up to compute a performance score, which could thus vary from 0 to 80 ($M = 27.05$, $SD = 15.95$, min = 1, max = 65).

Finally, participants were asked to rate on a 7-point Likert scale if the target of comparison was African (1 = completely disagree, 7 = completely agree). After completing this item, they were thanked and fully debriefed. Because the

experimenter was an African native, participants did not report any suspicion whatsoever about the true purpose of the study.

Results

The manipulation check confirmed the efficacy of the ethnicity of the other participant manipulation. Although participants were not explicitly asked to look at the nationality of the target of comparison, they indicated more that the target of comparison was African when he/she was African ($M = 6.90$, $SD = .48$) than they did when he/she was European ($M = 1.36$, $SD = 1.32$), ($F(1; 82) = 637.50$, $p < .001$).

Training Task Performance

The number of correct answers was submitted to a 2 (sex: male vs. female) × 2 (comparison target: European vs. African) ANOVA. In this analysis, there was no effect of the social comparison target, no effect of the sex of participants, and no interaction, all Fs < 1. The lack of significant effects of the social comparison induction on this task confirmed the random distribution of the two experimental conditions.

Self-Competence in Mathematics

An analysis of variance was used to predict participants' responses on this measure from the social comparison condition and the sex of participants. This analysis revealed only a significant effect of the sex of the participants, $F(1, 83) = 7.64$, $p < .01$, $\eta^2 = .084$. Although males did not perform better than females on the training task, they reported being more self-confident than females in their competence in maths ($M = 4.89$; $SD = 1.15$; $M = 4.11$; $SD = 1.38$, respectively).

Main Task Performance

A 2 (sex: women vs. men) × 2 (comparison target: European vs. African) ANOVA was run on participants' performance. In this analysis, women ($M = 26.02$; $SD = 15.13$) performed as well as men ($M = 28.25$; $SD = 17.00$), $F(1, 83) = .30$, *ns*. Similarly, the main performance of participants in the African-comparison ($M = 30.06$; $SD = 15.60$) did not differ from those in the European-comparison condition ($M = 24.20$; $SD = 15.94$), $F(1, 83) = .2.50$, *ns*. However, congruent with our prediction, the interaction between the two variables reached significance, $F(1, 83) = 4.14$, $p < .05$, $\eta^2 = .046$. As predicted, the interaction indicated that women performed better when they were led to compare to African-immigrant ($M = 32.50$; $SD = 14.43$) than to native European targets ($M = 20.32$; $SD = 13.58$), $t(83) = -2.97$, $p < .01$, while the performance of men in the African-comparison ($M = 27.45$; $SD = 16.75$) did not significantly differ from their performance in the European-comparison condition ($M = 29.05$; $SD = 17.63$), $t(83) = 1.04$, *ns*. Furthermore, mean comparisons revealed women

tended to perform worse than men in the European-comparison condition, $t(83) = 1.82$, $p < .07$, but this difference disappeared in the African-comparison condition, $t(83) = 1.04$, *ns*. Similar results emerged when we conducted an ANCOVA within sex using means that were adjusted for the performance of participants on the training task as a covariate and when we used participants' self-competence in mathematics as covariate or coding their responses on the main task such that 1 = correct answer and 0 = incorrect answer did not modify the findings.

Discussion

We hypothesized that downward comparison with immigrant students (i.e., a low-status group on the basis of ethnic social category rather than sex) would improve the performance of European native students with low- (women) but not high- (men) status. Study 1 provided support for this prediction: relative to comparison with a European target, social comparison with an African-immigrant improved women's but not men's math performance.

Although the present findings are consistent with our expectation, they could raise two major questions. On the one hand, without a control condition one could consider that it was women exposed to other European students who displayed a performance decrease (in line with stereotype threat findings) rather than those exposed to African students showing an increase in their math performance. If plausible, such an interpretation is less convincing. Indeed, it has been demonstrated that showing a female model of achievement to women (Marx & Roman, 2002) or putting them in a same-sex context (Inzlicht & Ben-Zeev, 2000) protected their academic performance against stereotype threat effects. In the present study, the only difference between conditions was the origin of the comparison target, either African or European. Accordingly, it seems that the results reported in Study 1 could not be interpreted as a performance decline rather than a performance boost of female European students in the African-comparison relative to the European-comparison condition. The present finding is also supported by Lount and Phillips (2007) studies showing that female students performed better in a math test when paired with an out-group member than with an in-group member. To quote the authors: "having one's performance compared with an out-group member should elicit social competition, which then in turn should encourage individuals to work even harder than when performance is compared with an in-group member" (p. 216).

On the other hand, one could wonder whether a stereotype does actually exist that Africans are poor in math. Even if African students are not specifically stereotyped to be poor at math, prominent research has shown that common stereotypes that Africans have lower intellectual abilities than Europeans are not restricted to the U.S. context (Hernstein & Murray, 1994; Steele & Aronson, 1995), but tend to be widely shared (Levine & Campbell, 1972). Providing further support for the present findings was the research of Danso and Esses (2001) showing in two studies that White Canadians performed better in a math test when tested by a Black experimenter than by a White experimenter, even if there is no direct evidence showing that students with African backgrounds are believed to be poor in math in the Canadian cultural context.

From our viewpoint, what remains unclear is whether the findings observed in this first study could be generalized to other stigmatized native students. The second experiment was designed to answer this question. The attention was focused on students with low socioeconomic status (SES) stigmatized as less intelligent than students with high SES (Croizet & Claire, 1998; Spencer & Castano, 2007). In addition, we included a control condition.

Study 2

Previous stereotype threat research has shown that low-SES students often performed worse than high-SES students, especially when their negative reputation on intellectual tests was made salient (Croizet & Claire, 1998; Harrison, Stevens, Monty, & Coakley, 2006). As a matter of fact, it has also been shown that they displayed less confidence in their intellectual ability under such conditions, as compared to when no reference was made to their socioeconomic background (Spencer & Castano, 2007). In line with stereotype susceptibility work, we predicted that downward comparison with immigrant students may boost the performance of native European students with low SES compared with upward comparison with their native counterparts with high SES, the performance of the control group being in-between. In contrast, we did not expect any shift in the performance of high-SES native students with regard to the experimental conditions, because of the positive nature of stereotypes linked to their group memberships (with regards to both their socioeconomic status and ethnic memberships).

Method

Participants

115 psychology undergraduate students at the University of Geneva voluntarily participated in this experiment. Participants were collectively tested at their first social psychology class. They were randomly assigned to one of the three experimental conditions. The data of 14 participants were excluded because of their immigrant backgrounds. The sample consists of 101 Swiss-native students (14 men and 87 women, mean age = 22.20 years, $SD = 3.84$).

Procedure and Materials

On the first page of the booklet, participants were asked to provide demographic information (age, sex, own nationality, father's and mother's nationalities). Next, participants were asked to respond to two questions reflecting their perception of their own ("How would you describe your personal socioeconomic situation?") and their family's socioeconomic situation ("How would you describe the socioeconomic situation of your family?"). Participants answered on a 7-point Likert-type scales, anchored 1 = very poor, and 7 = very rich. We averaged the responses on

these items to create an index of participants' SES, $r(100) = .64$, $p < .001$ ($M = 4.42$, $SD = 1.09$).

Social Comparison Manipulation

Social comparison was manipulated via the test presentation. In the *immigrant-comparison* condition, participants were informed that the test aimed to examine "whether there are differences in intellectual performances between students with immigrant backgrounds and Swiss-native students". In the *SES-comparison* condition, participants were told that the aim of the test was to examine "whether there are differences in intellectual performances between Swiss students with low and high socioeconomic backgrounds". Finally, participants in the *control* condition were informed that the aim of the test was to investigate the cognitive processes underlying complex problem resolutions. These statements were modeled after prior research (Chatard et al. 2008b; see also Spencer et al., 1999).

Cognitive Ability Test

The test consisted of 10 Raven's Advanced Progressive Matrices (Raven, Raven, & Court, 1998). Each matrix was composed of 8 figures, with an empty place for the 9th one, obviously missing. Participants' task was to identify the missing figure (i.e., the one that best fits the whole 9-figure pattern) among 8 proposed solutions. Items of Raven's IQ test are increasingly difficult, requiring greater cognitive capacity to find the correct answer. Participants were given 8 min to perform the test. Their responses were coded such that 0 = incorrect answer, and 1 = correct answer (min = 1, max = 10). The score on the test was indicated by the sum of the items answered correctly ($M = 5.30$, $SD = 2.07$).

After the completion of the test, participants were fully debriefed and thanked for their participation.

Results

In line with previous findings, we expected an interaction between participants' socioeconomic status and the comparison condition. Specifically, we hypothesized that low-SES participants would perform better in the immigrant than in the SES comparison condition, the control condition being intermediate. In contrast, high-SES participants' scores would be equal across conditions. These hypotheses were tested using two sets of orthogonal contrasts (Wout, Danso, Jackson, & Spencer, 2007). Experimental conditions were decomposed in two orthogonal contrasts (see Cohen, Cohen, West, & Aiken, 2003). The main contrast (C1) compared the immigrant-comparison condition (coded 1) to the SES-comparison condition (coded −1), the control condition being coded 0. The residual contrast (C2) opposed the control (coded 2) to the average of the immigrant and the SES comparison conditions (both coded −1). Performance was regressed on participants' SES (continuous variable, centered), the two contrasts, the C1 × SES product term, and the C2 × SES product term.

Contrary to our expectations, a regression analysis run on participants' performance revealed no main or interactive effects, all $ps > .10$. This absence of effects might be due to the fact that some items were easier than others. Indeed, past research has suggested that difficult tasks are more susceptible to be affected by stereotypes than easy ones (e.g., Blascovich, Spencer, Quinn, & Steele, 2001; Keller, 2007; Neuville & Croizet, 2007; O'Brien & Crandall, 2003; Spencer et al., 1999). In the Raven's Progressive matrices test (Raven et al. 1998), difficulties are on the increase. Accordingly, participants' performance was separated into two sets. The first set summed participants' scores on the first five items ($M = 3.56$, $SD = 1.20$) and the scores of the last five items form the second part ($M = 1.73$, $SD = 1.38$). The two parts of the test were positively correlated, $r(101) = .30$, $p < .01$. A regression analysis was run to predict the significance of performance difference (performance on the second part of the test minus performance on the first part) from the experimental condition, SES centered, and the interactive terms of these variables. In this analysis, the experimental condition and participants' SES did not significantly predict their intellectual performance (all $ps > .10$). However, as expected, the interaction terms reached significance (for main contrast, $B = -.41$, $SE = .18$, $t(95) = -2.20$, $p < .05$; for residual contrast, $B = .18$, $SE = .09$, $t(95) = 1.95$, $p < .06$, $R^2 = 0.09$). These findings indicate that participants' performance as a function of experimental manipulations differed on the first part and second parts of the test. Thus, we run separated regression analyses on these two parts of the test.

Performance on the First Part of the Test

A regression analysis was run on performance on the first part of the test. It revealed no main or interactive effects, all $ps > .10$, consistent with the idea that stereotypes may have no significant impact on performance when the task is easy.

Performance on the Second Part of the Test

We first regressed performance on the first part of the test on this score ($B = .34$, $SE = .11$, $t(99) = 3.05$, $p < .01$) and saved unstandardized residuals (R^2 of the model = .17; $F(6; 94) = 3.15$; $p < .01$). Next, a linear regression was run predicting performance from participants' SES (continuous variable, centered), the two contrasts, the C1 x SES product term, and the C2 × SES product term. In this analysis, the main effects of the two contrasts (C1 and C2) were not significant, ($B = .11$, $SE = .16$, $t(95) = .68$, *ns*, and $B = .03$, $SE = .09$, $t(95) = .34$, *ns*, respectively). Furthermore, participants' SES did not predict their performance, $B = .03$, $SE = .12$, $t(95) = .26$, *ns*. However, consistent with our predictions, the interaction between the contrast comparing the immigrant-comparison condition to the SES-comparison condition (C1) and participants' SES was significant, $B = -.37$, $SE = .16$, $t(95) = -2.31$, $p < .05$ (see Fig. 1). This analysis revealed that low-SES participants (computed at −1 SD) performed better in the immigrant-comparison than in the SES-comparison condition, $B = .51$, $SE = .23$, $t(95) = 2.18$, $p < .05$. In contrast, the performance of high-SES participants

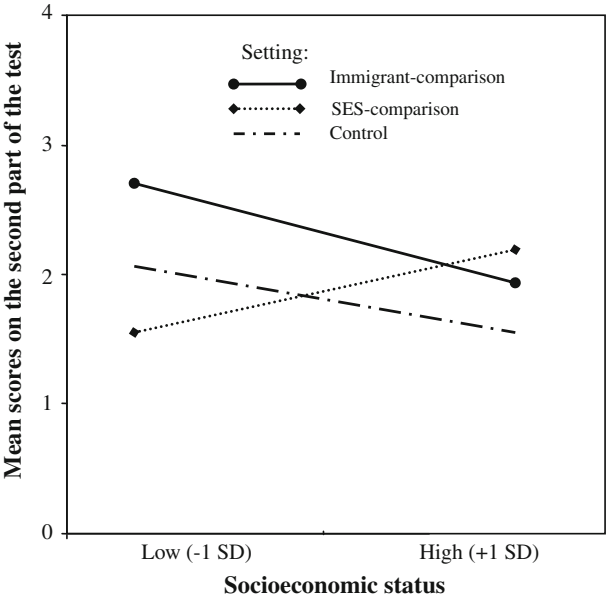

Fig. 1 Mean performance on the second part of the test as a function of participants' SES (1 SD below and 1 SD above the mean) and experimental condition (Study 2)

(computed at +1 SD) was equal across conditions, $B = -.29$, $SE = .24$, $t(95) = -1.24$, *ns*.

Finally, the C2 × SES interaction was not significant, $B = .13$, $SE = .08$, $t(95) = 1.64$, *ns*, indicating that control conditions fall in-between the two experimental conditions.

Discussion

As in Study 1, we hypothesized that the presence of immigrant students, and the downward comparison it involves, would improve the performance of native students who endure negative in-group stereotypes. In line with our predictions, the results of Study 2 confirmed that the increased performance observed among women can be replicated with another native stereotyped group (i.e., students with a low socioeconomic background).

General Discussion

In the present research, we examined the effects of downward comparison with immigrant students on the performance of stigmatized native students (women in mathematics and low-SES in intellectual tasks). It was hypothesized that the performance of these students would profit from such a comparison. The findings of

the two studies reported in the present article were generally consistent with this hypothesis.

Study 1 showed that female European students performed better in comparison with a female African-immigrant than in comparison with a female European target. In contrast, European male students did not exhibit such a performance boost, presumably because both Europeans and males were positively stereotyped compared to Africans and females. An analogous pattern emerged with regards to socioeconomic status (Study 2). Indeed, it was found that low-SES students performed better in comparison with immigrant students than in comparison with high-SES students. Similarly to males in Study 1, the performance of high-SES students did not significantly differ between conditions. Taken together, the findings of the two studies provide converging evidence that downward comparisons with immigrant students are beneficial rather than detrimental for the performance of native students who suffer from negative stereotypes.

From a theoretical viewpoint, the findings reported in this article are consistent with stereotype susceptibility predicaments (Ambady et al. 2001; Shih et al. 1999). Indeed, individuals who suffer from a negative in-group stereotype tend to perform better when they are put in a context that makes salient their relative advantage over out-group members. At first glance, one might argue that the present findings are more consistent with stereotype lift than stereotype susceptibility effects. According to Walton and Cohen (2003), stereotype lift is a performance boost that occurs when a negative out-group stereotype is salient in the testing situation. In both studies reported in this article, however, we found performance shifts only among participants whose membership in a low-status group was accompanied by membership in a high-status group, but not amongst individuals who were members of only high-status groups. In Study 1, only women's math performance was affected by the activation of downward comparison. Again, in Study 2, only the performance of European students with low SES shifted as a function of stereotypes that were made salient. Contrary to the stereotype lift predictions, we did not find a performance boost among participants who were members of only high-status groups such as European male students in the math domain or high-SES European students in intellectual tests. We thus believe that stereotype susceptibility rather than susceptibility lift predicaments are more effective to account for the present results.

The two studies reported in this article complete our previous research aforementioned (Chatard et al. 2008a, b) suggesting that European native students may profit from comparison with immigrant students. Furthermore, as suggested by an anonymous reviewer, one implication of the findings is that the effects of stereotypes are relative (e.g., women are worse in math than men; students with low socioeconomic status are worse in intellectual tasks than their counterparts with high socioeconomic status) rather than absolute (women are bad in math; students with low socioeconomic status are bad in intellectual tasks). In regards to the present findings, we are not able to provide any causal mechanism that may come into play in the emergence of the stereotype boost effect (see also Walton & Cohen, 2003). In the same way, previous research on stereotype susceptibility is silent in this regards even if some authors suggest, however, that "positive

stereotypes affect performance through processes entirely different from the processes associated with negative stereotypes" (Shih, Pittinsky, & Trahan, 2006, p. 3). Further studies are thus required to explore this issue. Another interesting avenue of research could be how to reconcile the findings from stereotype susceptibility and stereotype lift research. Indeed, whereas stereotype susceptibility research focused on the effects of negative and positive in-group stereotypes and stereotype lift research on the effects of negative out-group stereotypes, it seems that the two paradigms lead to similar predictions, i.e., performance boosts. Further research should examine the shared potential mechanisms behind the two phenomenons as well as those specific to one each.

From a practical viewpoint, this research may contribute to the ongoing debate about the supposed negative impact of immigrants' presence on native European students' academic performance in most European countries (Thalhammer, Zucha, Enzenhofer, Salfinger, & Orgis, 2001). As the present findings suggest, European students may actually perform better when they engage in social comparison with immigrant students. This article also suggests that the academic achievement gap between native and immigrant students may also stem in part from the tendency of native students, especially those who are traditionally stereotyped, to perform better when they engage in social comparisons with immigrant students. Future research should further examine how cultural diversity at school and intergroup social comparisons may impact intellectual performance. This seems to be an important avenue for future research endeavor, especially in European countries where some politicians argue that the presence of immigrant students in educational institutions should be firmly constrained. As the present studies suggested, European native students enduring negative in-group stereotypes might benefit from comparison with immigrant students. In other words, neither these groups nor those who are only positively stereotyped appear to suffer from comparison with immigrant students.

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