European Journal of Psychology of Education
2009, Vol. XXIV, nº 2, 207-218

So young and already victims of stereotype threat: Socio-economic status and performance of 6 to 9 years old children on Raven's progressive matrices

Michel Désert
Marie Préaux
Robin Jund
Université de Clermont-Ferrand, France

The aim of this study was to verify whether children from low socio-economic status (SES) are victims of stereotype threat. Children in first grade (6 to 7 years old) and third grade (8 to 9 years old) performed Raven's progressive matrices, an intellectual ability test commonly used by psychologists. The test was presented either with the (evaluative) instructions recommended by Raven et al. (1998) or with non evaluative instructions. Children's SES and beliefs concerning differences of abilities at school as a function of SES were also assessed. The results indicated that, as early as first grade, participants believed that children from high SES are better at school than children from low SES. Furthermore, low SES participants' performance on the Raven's matrices was lower in the evaluative condition than in the non evaluative condition. The experimental instructions did not affect high SES participants' performance. The discussion explores implications of these results in the use of standardized tests to assess the intellectual abilities of low SES children.

After Steele and Aronson (1995), numerous studies have shown that the intellectual performances of African Americans and women can be altered by negative stereotypes of which they are the target. This phenomenon, known as stereotype threat, has been little studied among individuals of low socio-economic status (SES) although they are also the target of negative reputations in the intellectual domain. This silence is primarily due to American psychologists. According to Lott (2002; see also Ostrove & Cole, 2003), this is representative of the lack of attention given to social and economic inequalities in American society in general, and in scientific studies in particular. Although French social psychologists

The authors wish to thank Magali Ginet for her helpful comments on a previous draft of this article.

have been more productive than their American colleagues on this subject (e.g., Croizet & Claire, 1998; Régner, Huguet, & Monteil, 2002), they also tend to leave the study of social classes to sociologists. This deficit is particularly blatant in the scholastic area. Psychologists and educators have, however, known for a long time that children from socially disadvantaged classes systematically have lower grades than children of higher classes, and this beginning in elementary school. Therefore, the first aim of this paper is to determine if the intellectual performance of elementary school children of low SES can be impaired by stereotype threat.

This study also has a developmental aim. The quasi-totality of the publications in this field of research is based on adolescents or adults. Today we still know very little regarding the age at which individuals are susceptible to be threatened by negative stereotypes, and regarding the evolution of this phenomenon in function of the age and the grade level of the individuals. Hence, we have compared two groups of children of different ages, children in the first grade (CP in France) and the third grade (CE2 in France).

Finally, for the sake of ecological validity, the experiment was carried out in a school setting by using an intelligence test and (evaluative) instructions frequently used by professionals of evaluation.

Scholastic success, socio-economic origin and stereotype threat

The link between the socio-economic level of individuals and their scholastic or professional success has been shown long ago (Neisser et al., 1996; White, 1982). However, there is still strong disagreement amongst researchers about what explanation is more appropriate (for a recent example, see Hunt & Carlson, 2007; Sternberg & Grigorenko, 2007): a cultural reproduction which leads each new generation coming from disadvantaged social classes to lose interest in scholastic and academic success (see, for example, Bourdieu & Passeron, 1964); a genetic limitation in the intellectual abilities of the working classes (Herrnstein & Murray, 1994); or even the existence of situational pressure which leads to a decrease in the intellectual performance of these individuals (Croizet & Claire, 1998; Croizet, Désert, Dutrevis, & Leyens, 2001, 2003). According to the last theory, stereotype threat (Steele, 1997; Steele & Aronson, 1995), i.e., the risk of confirming a negative stereotype about one's social group, might generate additional evaluative pressure. This situational pressure can be sufficient to interfere in the normal cognitive functioning of the individual and to impair his/her performance. Steele and Aronson have offered a very convincing demonstration of their hypothesis by showing that slight modifications in the instructions given to African American and White American students when doing an intellectual task were sufficient to lead to important variations in their performances. When the test was presented as a measure of their verbal intelligence, the African American students were less successful than the Whites. In this evaluative context, the often-reported lower performance by African Americans as compared to Whites was then reproduced, and their reputation of being intellectually inferior was confirmed. However, when the same test was presented as a simple laboratory study with the aim of understanding the psychological mechanisms involved in problem solving, no difference in performance was observed between the two groups. Conforming to the authors' hypothesis, the fact of presenting the test as not being evaluative of intelligence removed any risk that a poor performance would be interpreted as a sign of intellectual inferiority. Consequently, the negative stereotype regarding African American participants was no longer applicable in the situation. They carried out the tasks in the same conditions as the White, and with an equivalent performance.

In comparison to earlier studies, the originality of Steele and Aronson's hypothesis (1995) lies in its strictly situational approach. In fact, social iniquity linked to social identity and to associated negative stereotypes of some of the participants was hidden behind a situation of a banal examination which is apparently impartial since each one receives the same instructions. Moreover, this constitutes an important difference in comparison to earlier

works such as those by Katz (1964) which suggested the existence of chronic inferiority anxiety in African American students. The situational dimension of stereotype threat has been particularly demonstrated in studies which have shown that it also concerns the so-called "dominant groups", who have little likelihood to feel chronically inferior, as is the case of White American males in particular (e.g., Aronson, Lustina, Keough, Brown, & Steele, 1999; Stone, 2002) or White European males (e.g., Leyens, Désert, Croizet, & Darcis, 2000).

In a little more than ten years, the theory of stereotype threat has created an abundant literature. However, to our knowledge, only three studies (Croizet & Claire, 1998; Harrison, Stevens, Monty, & Coakley, 2006; Spencer & Castano, 2007) focused on the reputations of intellectual inferiority which targets individuals of low SES, and none of them were done on children. This relative disinterest on the part of researchers is even more surprising since the existence of stereotypes regarding the intellectual inferiority of individuals from disadvantaged social classes has been well demonstrated (e.g., Berjot & Drozda-Senkowska, 2007, exp. 1; Cozarelli, Wilkinson, & Tagler, 2001). These stereotypes are known and shared enough to be used even by those who are victims of them (Régner et al., 2002). Hence, all of the conditions necessary for the effects of stereotype threat to appear are united, at least among adults. Consequently, we believe that it is particularly important to develop our knowledge of stereotype threat among economically disadvantaged social classes, particularly among young students.

Threat and stereotype acquisition

As soon as an individual is conscious to be the target of a negative and broadly-held negative group stereotype, his/her performance on a relevant test may be impaired (Désert, Croizet, & Leyens, 2002; Steele, Spencer, & Aronson, 2002). Moreover, according to Brown and Pinel (2003), knowing that one is the target of a negative reputation is an important moderator of the effects of stereotype threat. Consequently, if children of low SES are conscious as early as elementary school of their negative reputation regarding their intellectual abilities, they would already be susceptible to be victims of stereotype threat at that age.

Several studies suggest that children are conscious of stereotypes of which they are the target very early, in any case those which concern their ethnic origin. It is commonly admitted that ethnic stereotypes are already well-known by the age of 4 to 6 (Aboud, 1988; McKown & Weinstein, 2003). The data concerning gender stereotypes are more ambiguous. It has been established that these are known to adolescents (e.g., Guimond & Roussel, 2001). However, if some studies suggest that they are already shared by very young children (e.g., Wigfield et al., 1997), others show that representations of gender skills among children under 10 are different from those of adults (Martinot & Désert, 2007). Finally, stereotypes related to SES are known and used by junior high school students (Régner et al., 2002) but data are lacking concerning younger children. Children's beliefs concerning the intellectual skills of students of low and high SES will then be evaluated in this study. Based on data related to the ethnic group, one may expect the stereotypes linked to SES to be shared by children as early as the first grade. An alternative hypothesis may be derived from studies dealing with gender stereotypes (Martinot & Désert, 2007; Wigfield et al., 1997): a stronger belief in the inequality of abilities in function of the SES among third graders as compared to first graders.

In summary, our aim in this study is to verify if stereotype threat can be generalized to children from disadvantaged socio-economic environments, as early as the first grade and the third grade. In addition, their beliefs regarding stereotypes linked to social status will be assessed.

Overview

An experimental study was carried out among children in the first and third grades in different elementary schools. The participants began by taking Raven's progressive matrices (Raven, Raven, & Court, 1998) before answering a short questionnaire. Raven's matrices were

used because it is an intelligence test frequently employed by psychologists for diagnostic purposes. Furthermore, this test has a reputation for reliability (Jensen, 1998) and is considered by numerous experts as one of the most valid measures of cognitive aptitudes and reasoning (e.g., Carpenter, Just, & Snell, 1990; Humphreys, 1984). The demonstration of an eventual sensitivity of this test to the instructions for presenting it would then be particularly striking. In order to increase the ecological validity of the study, the test was administered to the students in their regular classrooms. In addition, in the evaluative condition of intelligence, the standard administration instructions recommended in the manual of Raven's matrices and regularly used by evaluators were given. Particular attention was granted to the non evaluative condition in order to avoid any suggestion that the test would be used to assess or evaluate participants' intellectual abilities. Indeed, in line with Brown and Day (2006), we believe that several studies that found no evidence of stereotype threat in an applied setting (e.g., Mayer & Hanges, 2003; Sackett, Hardison, & Cullen, 2004) lacked a truly non evaluative condition. As a consequence, in these studies, the negatively reputed groups underperformed the so-called dominant groups in all the experimental conditions.

In short, if the intellectual performance of children from disadvantaged socio-economic environments is affected by stereotype threat, this should be expressed by a lower performance on the Raven's matrices, for these children only, when the test is presented with the standard evaluative instructions than when it is administered with non evaluative instructions. Moreover, the developmental aspect of this study consists in verifying if this effect is already present in first grade, or if it appears later in third grade.

Method

Participants

One hundred fifty-three children from 8 different elementary schools (located around Clermont-Ferrand, France) participated in this study. The mean age of the participants was 7.82 (*SD*=.40). Seventy-eight students were enrolled in the first grade (*M*=6.83 years old, *SD*=.40) and 75 in the third grade (*M*=8.82 years old, *SD*=.39). The children volunteered to participate after authorization was given by their parents and by the school authorities.

Procedure

Data were collected within a 2 (grade level: first or third) x 2 (socio-economic level: high or low) x 2 (test instructions: evaluative or non evaluative of intelligence) between-groups design.

The teacher introduced the experimenter in each class as a school psychologist in training. Each class was randomly divided into two. Half of the students in each class were given the evaluative instructions and the other half the non evaluative instructions. Half of the students left the classroom while the other half stayed to carry out the task. Then the two groups were reversed. The order of presentation of the instructions was counter balanced from one class to the other.

The instructions given in the evaluative condition of intellectual abilities were consistent with those recommended in the manual of the Raven's matrix test: "We are going to do a series of exercises together in order to evaluate the domains you succeed in and those where you fail, to know your strengths and your weaknesses. Do your best so that we can know your strengths and your weaknesses". Participants in the non evaluative condition of intelligence were told: "We are going to do a series of games together because we created new games, and we want to know if they are well adapted to children of your age. Do your best so that we can know if the games are suitable for children of your age". In this second condition, the test was clearly presented as not evaluative of children's abilities. We intended thereby to reduce as

much as possible the relevance of negative stereotypes about the intelligence of individuals of low SES.

The test was then administered following the standard protocol recommended by Raven et al. (1998). When all of the children had finished their exercise booklet, they answered the post-questionnaire. Finally, participants were fully debriefed about the true aim of the study.

Participants' date of birth and parents' occupations were obtained directly from the teacher. The children were included to either the low or the high socio-economic status condition following the classification proposed by INSEE (Institut National de la Statistique et des Etudes Economiques or the Census Bureau). When the "main provider" of the family (i.e., the parent that had the higher SES) was unemployed, a blue collar worker, an unskilled laborer, or an administrative worker, the participant was assigned to the low SES condition. The participants that were included in the high SES condition were children of a manager, the head of a farm, a white collar worker, a director, a college or university professor.

Material

The Raven's matrices (standard version) consist of 60 design problems, grouped in five series of increasing difficulty. Each problem involves several pictures representing a logical sequence. The last picture in the series has a missing piece. Eight pictures are proposed as a solution. The respondent's task is to select the picture that best complete the pattern. After doing an example with the group, each participant worked individually.

The post-questionnaire included three items, to be answered on five-point scales ranging from "very poorly" to "very well". The first item concerned the participant's self-evaluation of their scholastic level in general, "In general, how do you do in school?". Two items measured the participant's beliefs regarding the average scholastic level of children of low and high SES: "How do the children whose parents don't have much money do in school?" and "How do the children whose parents have a lot of money do in school?".

Results

The data were submitted to 2 (grade level: first or third) x 2 (SES: high or low) x 2 (test instructions: evaluative or non evaluative of intelligence) between groups analyses of variance (ANOVAs)[1,2].

Performance on Raven's matrices

The main effect of the participant's grade level was significant, $F(1,145)=155.61$, $p<.0001$, the performance of the third graders was much higher ($M=38.7$, $SD=5.08$) than that of the first graders ($M=24.9$, $SD=8.18$). This result is not surprising since Raven's matrices serve mainly to evaluate the progression of logical reasoning abilities. The main effect of SES was marginally significant, $F(1,145)=3.60$, $p=.06$. Low SES participants ($M=30.6$, $SD=9.95$) tended to perform worse than high SES participants ($M=33.0$, $SD=9.36$). This result could be seen as validating the stereotype of the intellectual inferiority of children of low SES compared to those of high SES. However, this main effect was qualified by a significant SES by test instructions interaction, $F(1,145)=5.51$, $p<.02$. As expected, low SES participants performed significantly worse in the evaluative condition than in the non evaluative condition of intelligence ($M=28.5$ and 33.0, $SD=9.52$ and 10.00, respectively; $t(145)=2.17$, $p<.03$, Cohen's $d=0.46$), while the performance of the high SES participants did not differ significantly as a function of the test instructions ($M=34.6$ and 31.5, $SD=9.10$ and 9.51 respectively for the evaluative and non evaluative conditions of intelligence; $t(145)=1.32$, p $p<.19$, Cohen's $d=0.32$). These results show that among young children from disadvantaged social classes, the

mere fact of presenting a standardized test as a measure of intelligence can lead to a decrease in their performance as compared to a situation in which the evaluative aspects are removed.

Another aim of this study was to verify if the performance impairment due to stereotype threat would be stronger among the third graders than among the younger children in the first grade. This hypothesis was not supported since the three-way interaction between grade level, SES of the participants, and test instructions did not reach significance ($F<1$).

No other main effect nor interaction reached significance (all ps>.10).

Stereotype endorsement

The answers to the two items that measured stereotype endorsement were submitted to a 2 (grade level of the participant: first or third) x 2 (SES of the participant: high or low) x 2 (test instructions: evaluative or non evaluative of intelligence) x 2 (SES of the target on which the evaluation was based: high or low) repeated measures ANOVA, with the last factor as within-subjects factor. The analysis yielded a significant main effect of the SES of the target, $F(1,132)=29.60$, $p<.0001$. The participants considered that students from higher social classes ($M=4.04$, $SD=1.22$) do better in school than children from lower social classes ($M=3.04$, $SD=1.32$). In other words, the participants in our study shared the stereotype regarding differences in scholastic abilities as a function of the students' SES.

Moreover, a marginally significant three-way interaction between the SES of the target, the SES of the participants and the test instructions was observed, $F(1,132)=2.79$, $p<.10$ (see Table 1). In the non evaluative condition, low SES participants shared the negative stereotype of which they are the target less than the children from the advantaged social class, $t(132)=1.91$, $p<.06$. However, in the evaluative condition, the endorsement of the stereotype by the low SES participants did not differ significantly from that of the high SES participants anymore, $t<1$. In other words, it seems that the low SES students endorsed the negative stereotype concerning their social group more when they were aware that their intellectual abilities were being evaluated than when they thought that the test was not evaluative. Whatever the test instructions, the students of high social status did always evaluate their group as superior to the dominated group.

Table 1

Means (standard deviations) of the participants' evaluations of the scholastic level of children from low and high SES as a function of their own SES and the test instructions

	Socio-economic status of the participants			
	Low		High	
	Evaluative instructions	Non evaluative instructions	Evaluative instructions	Non evaluative instructions
Targets of low SES	2.96 (1.38)	3.42 (1.32)	2.81 (1.28)	2.97 (1.27)
Targets of high SES	4.16 (1.22)	3.82 (1.21)	3.87 (1.38)	4.30 (.99)

Self-evaluations

A main effect of grade level was observed, $F(1,145)=5.01$, $p<.03$. The first graders gave higher ratings of their own scholastic level ($M=4.10$, $SD=1.10$) than did the third graders ($M=3.81$, $SD=.82$). This decrease in the self-evaluation as a function of the children's age is frequently reported in the literature (e.g., Martinot & Désert, 2007). The analysis yielded no other main effect nor significant interaction.

Discussion

The results of this study make at least three contributions. First, they provide the first evidence that young children from a disadvantaged social class can be victims of stereotype threat. It is important to note that these results were observed on a standardized test considered as highly reliable. When the test was presented with its standard evaluative instructions, low SES children underperformed on the Raven's matrices compared to the score they obtained in the non evaluative condition. These results are consistent with those of McKown and Weinstein (2003) who have observed the effects of stereotype threat among American children of African or Latino origin, and those of Ambady, Shih, Kim, and Pittinsky (2001) who have shown this phenomenon among American girls in mathematics.

In addition to generalizing stereotype threat to children of low socio-economic status, this research dealt with a second concern, of a developmental nature. The lack of data collected about low SES children makes it difficult to determine the minimal age at which they can be the target of stereotype threat, nor if its negative impact on performance increases in function of the children's age. Our results partly answer this question. They show that, as early as the first grade, the performance of children of low SES is much lower in an evaluative situation compared to a non evaluative situation. Besides, no significant interaction with the children's grade level was observed.

Finally, the novelty of this study lies also in the test instructions that were used. In the evaluative condition, which we expected to be threatening for children of low SES, we simply administered the instructions recommended in the published manual for the test (Raven et al., 1998), and used by psychologists. We had assumed that the mere fact of telling the children that the aim of the task was to identify their strengths and their weaknesses in several domains would be sufficient to raise additional evaluative pressure among participants of low SES but not among those of high SES. Hence, particular attention was given to formulating the instructions used in the non evaluative condition. The task was presented as a new game which required evaluation regarding its suitability in function of the children's age. The goal here was to allow the participants to attribute any difficulties with problems to an external cause; "this game is not suitable for first/third graders", rather than to their own abilities. We thereby hoped to make the stereotype of intellectual inferiority of low SES students irrelevant to the situation. As a consequence, we expected a performance gap in favor of the students of high SES in the evaluative condition, but not in the non evaluative condition. This is exactly what we observed.

These results also have important implications in terms of application. First, they show that contrary to what has been commonly admitted (e.g., Jensen, 1998), Raven's matrices are not completely free from cultural bias. Indeed, the differences observed in participants' performance as a function of their SES can hardly be attributed to a real intellectual inferiority of the more disadvantaged, since slight modifications in the instructions make it possible to significantly reduce this difference. Hence, it is particularly important that the professionals who use this sort of test be informed of the existence of this phenomenon and be trained to administer non threatening instructions.

Regarding stereotype endorsement, as early as the first grade children were convinced of the superiority of the scholastic abilities of high SES students as compared to low SES students, and this no matter what their own social origin! As has been observed for ethnic stereotypes (Aboud, 1988; McKown & Weinstein, 2003), it seems that the intellectual stigma of individuals of disadvantaged social groups is largely known by 6 year old children. However, unexpectedly, the students of low SES endorsed the stereotype unfavorable to their group more when they knew that they were being evaluated than when they believed that they were not being evaluated. This result looks surprising but some recent works, which we were not aware of when carrying out this study, make it possible to propose an interesting interpretation in terms of self-esteem protection. Burkley and Blanton (2008) gave women a (bogus) failure feedback in a mathematics test. Then, half of them were given the opportunity to endorse the stereotype of women's inferiority in the domain of mathematics as compared to men. The other participants did not receive the possibility to endorse this stereotype. The

participants' self-esteem was then measured. Surprisingly, the women who received the opportunity to endorse the negative stereotype concerning their social group reported higher self-esteem than the other participants. According to the authors, these women "sacrificed" their social group in order to protect their self-esteem. By applying this reasoning to our data, we could then hypothesize that the low SES children in our study used the measure of the stereotype related to their group as a means of protecting their self-esteem. Unfortunately, it is not possible to directly test this post-hoc hypothesis since we did not collect data related to the participants' self-esteem. It would be interesting to test this hypothesis more directly in future research.

Limitations

A first limitation of this study is that the participants were classified into only two groups: high or low SES. In a further study, it would be worthwhile to include the middle-class as a third SES condition. This would need a much larger sample size than that which we obtained but we think that it would have the advantage to increase the statistical power of the study. Indeed, the difference of performance between high and low SES in the evaluative condition should be enlarged. Besides, such a study would allow to verify if children of medium SES exhibit some performance deficit when their intellectual abilities become at stake (i.e., the hypothesis of a linear trend from low SES participants to those of high SES) or if this phenomenon is limited to disadvantaged social classes.

A second limitation concerns the non evaluative instructions that were used in the study. As mentioned above, several authors have reported an absence of stereotype threat effect in applied settings (e.g., Sackett et al., 2004). We believe that the non diagnostic instructions used in several of these studies were still too evaluative to be really less threatening than the diagnostic condition (see Brown & Day, 2006 for similar reasoning). Furthermore, we believe that taking a standardized test administered by a psychologist in the classroom can easily be interpreted by the children as an evaluative situation. The risk is then that the children of low SES experience stereotype threat (i.e., that they would perform poorly compared to high SES students) in the two experimental conditions. In order to avoid such problems in the present study, particular care was given to the wording of the non evaluative instructions. First, we avoided priming participants with any suggestion that we were interested in SES differences. Second, we were very careful to eliminate any suggestion that the test would be used to assess or evaluate participants' intellectual abilities. In a future replication of this study, it would be worthwhile to add a third test instruction condition to the experimental design, in order to answer a theoretical question raised by the results. By presenting Raven's matrices as a new game under evaluation, the non evaluative instructions gave the children the possibility to attribute any difficulties in problem solving to an external factor (i.e., that the task was not adapted to their age category) rather than an internal factor (i.e., their intellectual abilities). Earlier research (Ben-Zeev, Fein, & Inzlicht, 2005) has shown that participants who can attribute their arousal in a situation of performance to an external source are no longer victims of the effect of stereotype threat. Therefore, it would be interesting to verify if the non evaluative instructions in our study did really reduce stereotype threat, or if it directed low SES students to misattribute the arousal triggered by stereotype threat to an external factor (like in the Ben-Zeev et al., studies), or even a combination of these two factors. The addition of a third experimental condition in which the test would still be presented as a game but without mentioning the role of the children's age would help to answer this question.

Further studies

In order to generalize the results that we have obtained, future studies could use another psychometric test such as Wechsler's intelligence scales for children. These scales are reputed for measuring different abilities (verbal, logical...). It would be worthwhile to verify if all of the components of intelligence of low SES children are impaired by stereotype threat, or if this effect is limited to general cognitive ability (measured by Raven's matrices).

Finally, to increase its ecological validity, it would be useful to replicate this study in an individual testing situation. Indeed, while collective testing are done through national evaluations, children in France are more often evaluated individually by a psychologist.

Conclusion

A great deal of credit is still given today by the public and, in part, the scientific world, to standardized intelligence tests. These are frequently considered as very reliable tools for evaluating intellectual abilities. In addition, some tests, such as Raven's progressive matrices, are reputed to be "culture-free". Few studies have actually aimed at evaluating the stability of these tests in different evaluative contexts. Data, however, do exist which question the legitimacy of this type of measure among adults (e.g., Brown & Day, 2006). The study that we have carried out in a scholastic context, has led to the same reservations concerning the use of Raven's matrices among first and third grade children. Indeed, we have observed a lower performance among children of low SES when the test was presented with standard evaluative instructions than when it was presented with non evaluative instructions, while high SES students' performance remained unchanged. This bias is particularly worrying since psychometric tests are frequently used for diagnostic purposes and to help making decisions concerning scholastic orientation. It seems to us that informing the users of these tests should be a priority.

Notes

1 Thirteen participants (7 participants of high SES and 6 of low SES) did not answer the items of the post-questionnaire dealing with stereotype endorsement. Therefore, the degrees of freedom for error reported for this variable differ from those of the measure of performance.

2 Since the data were collected in several different schools, additional analyses were conducted with entering this variable as an additional between-subject factor. No main effect nor significant interaction of this variable with the others emerged. Therefore this variable will not be mentioned further in the results section.

References

Aboud, F.E. (1988). *Children and prejudice.* Oxford: Basil Blackwell.

Ambady, N., Shih, M., Kim, A., & Pittinsky, T.L. (2001). Stereotype susceptibility in children: Effects of identity activation on quantitative performance. *Psychological Science, 12*, 385-390.

Aronson, J., Lustina, M., Keough, K., Brown, J.L., & Steele, C.M. (1999). When white men can't do math: Necessary and sufficient factors in stereotype threat. *Journal of Experimental Social Psychology, 35*, 29-46.

Ben-Zeev, T., Fein, S., & Inzlicht, M. (2005). Arousal and stereotype threat. *Journal of Experimental Social Psychology, 41*, 174-181.

Berjot, S., & Drozda-Senkowska, E. (2007). How students from different socio-economic status perceive themselves? Study of the SES stereotype content. *European Review of Applied Psychology, 57*, 119-132.

Bourdieu, P., & Passeron, J.C. (1964). *Les héritiers* [The heirs]. Paris: Editions de Minuit.

Brown, R.P., & Day, E.A. (2006). The difference isn't Black and White: Stereotype threat and the race gap on Raven's Advanced Progressives Matrices. *Journal of Applied Psychology, 91*, 979-985.

Brown, R.P., & Pinel, E.C. (2003). Stigma on my mind: Individual differences in the experience of stereotype threat. *Journal of Experimental Social Psychology, 79*, 736-747.

Burkley, M., & Blanton, H. (2008). Endorsing a negative in-group stereotype as a self-protective strategy: Sacrificing the group to save the self. *Journal of Experimental Social Psychology, 44*, 37-49.

Carpenter, P.A., Just, M.A., & Snell, P. (1990). What one intelligence test measures: A theoretical account of the processing in the Raven Progressive Matrices test. *Psychological Review, 97*, 404-431.

Cozarelli, C., Wilkinson, A.V., & Tagler, M.J. (2001). Attitudes toward the poor and attributions for poverty. *Journal of Social Issues, 57*, 207-227.

Croizet, J.-C., & Claire, T. (1998). Extending the concept of stereotype threat to social class: The intellectual underperformance of students from low socioeconomic backgrounds. *Personality and Social Psychology Bulletin, 24*, 588-594.

Croizet, J.C., Désert, M., Dutrevis, M., & Leyens, J.-Ph. (2001). Stereotype threat, social class, gender and academic under-achievement: When our reputation catches up to us and takes over. *Social Psychology of Education, 4,* 295-310.

Croizet, J.C., Désert, M., Dutrevis, M., & Leyens, J.-Ph. (2003). L'impact des réputations d'infériorité sur les performances intellectuelles [The impact of reputations of inferiority on intellectual performance]. *Revue Internationale de Psychologie Sociale, 16,* 97-124.

Désert, M., Croizet, J.-C., & Leyens, J.-Ph. (2002). La menace du stéréotype: Une interaction entre situation et identité [Stereotype threat: An interaction between situation and identity]. *L'Année Psychologique, 102,* 555-576.

Guimond, S., & Roussel, L. (2001). Bragging about one's school grades: Gender stereotyping and students' perception of their abilities in science, mathematics and language. *Social Psychology of Education, 4,* 275-293.

Harrison, L.A., Stevens, C.M., Monty, A.N., & Coakley, C.A. (2006). The consequences of stereotype threat on the academic performance of White and non-White lower income college students. *Social Psychology of Education, 9,* 341-357.

Herrnstein, R.J., & Murray, C. (1994). *The Bell Curve: Intelligence and class structure in American life.* New York: Free Press.

Humphreys, L.G. (1984). General intelligence. In C.R. Reynolds & R.T. Brown (Eds.), *Perspectives on bias in mental testing* (pp. 221-247). New York: Plenum Press.

Hunt, E., & Carlson, J. (2007). Considerations relating to the study of group differences in intelligence. *Perspectives on Psychological Science, 2*, 194-213.

Jensen, A.R. (1998). *The g factor: The science of mental ability.* Westport CT: Praeger.

Katz, I. (1964). Review of evidence relating to effects of desegregation on the intellectual performance of Negroes. *American-Psychologist, 19*, 381-399.

Leyens, J.-Ph., Désert, M., Croizet, J.C., & Darcis, C. (2000). Stereotype threat: Are lower status and history of stigmatization preconditions of stereotype threat. *Personality and Social Psychology Bulletin, 26,* 1189-1199.

Lott, B. (2002). Cognitive and behavioral distancing from the poor. *American Psychologist, 57*, 100-110.

Martinot, D., & Désert, M. (2007). Awareness of a gender stereotype, personal beliefs and self-perceptions regarding math ability: When boys do not surpass girls. *Social Psychology of Education, 10*, 455-471.

Mayer D.M., & Hanges, P.J. (2003). Understanding the stereotype threat effect with "culture free" tests: An examination of its mediator and measurement. *Human Performance, 16*, 207-230.

McKown, C., & Weinstein, R.S. (2003). The development and consequences of stereotype consciousness in middle childhood. *Child Development, 74*, 498-515.

Neisser, U., Boodoo, G., Bouchard, T.J., Boykin, W.A., Brody, N., Ceci, S. J., Halpern, D.F., Loehlin, J.C., Perloff, R., Sternberg, R.J., & Urbina, S. (1996). Intelligence: Knows and unknows. *American Psychologist, 51*, 77-101.

Ostrove, J.M., & Cole, E.R. (2003). Privileging class: Toward a critical psychology of social class in the context of education. *Journal of Social Issues, 59*, 677-692.

Raven, J.C., Raven, J., & Court, J.H. (1998). *A manual for Raven's progressive matrices and vocabulary scales.* London: H. K. Lewis.

Régner, I., Huguet, P., & Monteil, J.-M. (2002). Effects of socioeconomic status information on cognitive ability inferences: When low-SES students make use of a self-threatening stereotype. *Social Psychology of Education, 5*, 253-269.

Sackett, P.R., Hardison, C.M., & Cullen, M.J. (2004). On interpreting stereotype threat as accounting for African American – White differences on cognitive tests. *American Psychologist, 59*, 7-13.

Spencer, B., & Castano, E. (2007). Social class is dead. Long live social class! Stereotype threat among low socioeconomic status individuals. *Social Justice Research, 20*, 418-432.

Steele, C.M. (1997). A threat in the air: How stereotypes shape intellectual identity and performance. *American Psychologist, 52,* 613-629.

Steele, C.M., & Aronson, J. (1995). Stereotype threat and the intellectual test performance of African Americans. *Journal of Personality and Social Psychology, 69*, 797-811.

Steele, C.M., Spencer, S.J., & Aronson, J. (2002). Contending with group image: The psychology of stereotype and social identity threat. In M. Zanna (Ed.), *Advances in experimental social psychology* (vol. 34, pp. 379-440). New York: Academic Press.

Sternberg, R.J., & Grigorenko, E.L. (2007). The difficulty of escaping preconceptions in writing an article about the difficulty of escaping preconceptions: Commentary on Hunt and Carlson (2007). *Perspectives on Psychological Science, 2*, 221-223.

Stone, J. (2002). Battling the doubt by avoiding practice: The effects of stereotype threat on self-handicapping in white athletes. *Personality and Social Psychology Bulletin, 28*, 1667-1678.

White, K.R. (1982). The relation between socioeconomic status and academic achievement. *Psychological Bulletin, 91*, 461-481.

Wigfield, A., Eccles, J.S., Yoon, K.S., Harold, R.D., Abreton, A., Freedman-Doan, K., et al. (1997). Change in children's competence beliefs and subjective task values across the elementary school years: A three-year study. *Journal of Educational Psychology, 89*, 451-469.

Cette étude a pour but de vérifier si des enfants issus de milieux défavorisés sont susceptibles d'être victimes de la menace du stéréotype dès l'école primaire. La performance d'élèves de CP (âgés de 6 à 7 ans) et de CE2 (âgés de 8 à 9 ans) à un test d'intelligence fréquemment utilisé par les psychologues, les matrices de Raven, a été mesurée. Le test a été présenté soit avec les consignes évaluatives standard préconisées par les concepteurs du test, soit avec des consignes non évaluatives. Le niveau socio-économique des enfants était évalué ainsi que leur croyance en l'existence d'une différence d'aptitudes scolaires en fonction du niveau socio-économique. Les résultats montrent que, dès le CP, les élèves croient en la supériorité scolaire des enfants favorisés par rapport aux enfants défavorisés. De plus, la performance de ces derniers aux matrices de Raven était plus faible en condition évaluative qu'en condition non-évaluative. La performance des élèves de haut statut socio-économique n'était pas modifiée par le type de consignes utilisées. Les implications de ces résultats pour l'évaluation et l'orientation d'enfants de bas statut socio-économique à l'aide de tests standardisés supposés insensibles aux effets de culture seront discutées.

Key words: Scholastic performance, Socio-economic status, Stereotype threat.

Received: March 2008

Revision received: January 2009

Michel Désert. LAPSCO, UMR 6024 CNRS, Blaise Pascal University, 34 avenue Carnot, 63000 Clermont-Ferrand, France. E-mail: Michel.Desert@univ-bpclermont.fr; Web site: www.psy.univ-bpclermont.fr/lapsco/

Current theme of research:

Stereotypes. Discrimination. Stereotype threat.

Most relevant publications in the field of Psychology of Education:

Désert, M., Croizet, J.-C., & Leyens, J.-Ph, (2002). La menace du stéréotype: Une interaction entre situation et identité. *L'Année Psychologique, 102*, 555-576.

Leyens, J.-Ph., Désert, M., Croizet, J.C., & Darcis, C. (2000). Stereotype threat: Are lower status and history of stigmatization preconditions of stereotype threat. *Personality and Social Psychology Bulletin, 26*, 1189-1199.

Martinot, D., & Désert, M. (2007). Awareness of a gender stereotype, personal beliefs and self-perceptions regarding math ability: When boys do not surpass girls. *Social Psychology of Education, 10*, 455-471.

Robin Jund. LAPSCO, UMR 6024 CNRS, Blaise Pascal University, 34 avenue Carnot, 63000 Clermont-Ferrand, France. E-mail: Robin.Jund@etudiant.univ-bpclermont.fr; Web site: www.psy.univ-bpclermont.fr/lapsco/

Current theme of research:

Stereotype threat. Social inequities.

Marie Préaux. LAPSCO, UMR 6024 CNRS, Blaise Pascal University, 34 avenue Carnot, 63000 Clermont-Ferrand, France. E-mail: Marie.Preaux@etudiant.univ-bpclermont.fr; Web site: www.psy.univ-bpclermont.fr/lapsco/

Current theme of research:

Gender stereotypes. Stereotype threat.