



HAL
open science

Effects of socioEconomic status (SES) information on cognitive ability inferences: When low-SES students make use of a self-threatening stereotype

Isabelle Regner, Pascal Huguet, Jean-Marc Monteil

► To cite this version:

Isabelle Regner, Pascal Huguet, Jean-Marc Monteil. Effects of socioEconomic status (SES) information on cognitive ability inferences: When low-SES students make use of a self-threatening stereotype. *Social Psychology of Education*, 2002, 5 (3), pp.253 - 269. 10.1023/A:1016313908667 . hal-01473484

HAL Id: hal-01473484

<https://hal.science/hal-01473484v1>

Submitted on 19 Dec 2021

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Running head: SES STEREOTYPE AND ABILITY INFERENCES

Effects of Socioeconomic Status (SES) Information on Cognitive Ability Inferences:
When Low-SES Students Make Use of a Self-Threatening Stereotype

Isabelle Régner¹, Pascal Huguet², & Jean-Marc Monteil³

¹ Université Toulouse Le Mirail, ² Université Blaise Pascal, Centre National de la
Recherche Scientifique, ³ Rectorat de l'Académie Aix-Marseille, France

We would like to thank Jean-François Bonnefon and Stacey Callahan for their helpful comments on earlier versions of this manuscript. Correspondence should be addressed to Isabelle Régner, Université Toulouse Le Mirail, Laboratoire Dynamiques Sociocognitives et Vie Politique, 5 allées Antonio-Machado, 31058 Toulouse Cedex, FRANCE, e.mail: regner@univ-tlse2.fr

Effects of Socioeconomic Status (SES) Information on Cognitive Ability Inferences:
When Low-SES Students Make Use of a Self-Threatening Stereotype.

ABSTRACT

Two studies tested whether students' Socioeconomic Status (SES) and academic achievement level moderate their use of the SES stereotype (i.e., the belief that the low-SES individuals are intellectually inferior to their high-SES counterparts). In Study 1, low versus high achievers with a low versus a high SES were given social class information (derived from a pilot study) about several targets and were then asked to infer these targets' memory ability. In Study 2, participants were given memory performance information about several targets and were then asked to infer these targets' possessions and cultural activities (i.e., SES indicators). In both studies, only the low-SES students generated stereotype-consistent inferences.

KEY WORDS: Socioeconomic Status, Stereotypes, Intellectual Performance.

Effects of Socioeconomic Status (SES) Information on Cognitive Ability Inferences:
When Low-SES Students Make Use of a Self-Threatening Stereotype.

Social class information has proved influential in social judgments situations where more individuating information on the target(s) (e.g., specific behaviors or traits) were either missing or relatively ambiguous. In Baron, Albright, and Malloy's (1995) investigation, for example, students were given social class information on a nine-year old female child (the target) and were or were not faced with information on the way the target performed on several tasks (related to memory, mathematics, abstraction, etc.). Then they were asked to rate the target's performance on those tasks. When the target performed well (answered 75% of the questions correctly) or poorly (answered 25% of the questions correctly), judgments of academic ability reflected these performances. The target's social class background had no effect. When the target performed ambiguously (answered 50% of the questions correctly), social class had a larger effect on judgments: The targets' ability was judged higher when her apparent SES was high rather than low, although the effect was not statistically reliable. The target's social class had the clearest effect on judgments of academic ability when the subjects received no stimulus information (i.e., the high-SES target was rated significantly higher in ability than the low-SES target). As noted by Baron et al. (1995), this shows that the use of stereotypes is limited to conditions in which clear stimulus information relevant to the inference task is either ambiguous or absent (see also Darley & Gross, 1983; Krueger & Rothbart, 1988; Locksley, Borgida, Brekke, & Hepburn, 1980).

The present paper focuses on the condition where the SES bias is generally maximized (i.e., when there is no individuating information on the target). Whether this bias is or is not moderated by the perceiver's SES and/or academic achievement level is

our central question. Baron et al. (1995) suggested that individuals make use of the SES stereotype regardless of their own SES. These authors indeed reported a SES bias in two studies among populations that themselves varied in social class composition:

Participants (students) came from either a middle (Study 1) or a high (Study 2) socioeconomic background. Whereas this bias was significant with the former population, however, it was only marginally significant with the latter. Likewise, the SES bias was not significant in Darley and Gross' (1983) no-individuating-performance information condition (but it was in the case of ambiguous information) with participants from Princeton University. The generalizability of the SES bias, therefore, remains unclear. Overall, it seems that the high-SES students, in contrast with their middle-class counterparts, are not likely to produce the SES bias when only social class information are available. That the SES bias approached significance in Baron et al.'s (1995) Study 2 could be due to the fact that their sample included a substantial minority of participants who were more similar to those in Study 1 (i.e., students from the middle class who seemed sensitive to this bias). This is difficult to conclude, however. In past research, participants' SES was indeed not clearly specified: It was assessed from the prestige of their university and not from more typical SES indicators, such as parental occupation and housing quality.

The generalizability of the SES bias remains unclear for another reason: The low-SES Students were ignored in past research. Do these students use the SES stereotype? At first glance, they would be especially reluctant to make use of a self-threatening stereotype which suggests that people like themselves are intellectually inferior to those from higher socioeconomic background. By definition, however, stereotypes are socially shared, and we know that this central feature *per se* can give the impression of objectivity or accuracy (Hardin & Higgins, 1996). Thus, it can be assumed that even the

low SES students can have a stereotypic perception of the link between SES and cognitive abilities.

Finally, one may also wonder whether the low- and high-SES students' academic performance history makes a difference in their use of the SES stereotype. Do the low-SES students who are high achievers make use of this stereotype? The same question applies in the case of the high-SES students who are low achievers. Although the stereotypic perception of the link between SES and cognitive abilities may be especially strong for students whose SES and academic performances are consistent with the stereotype (i.e., the low achievers with a low SES as well as the high achievers with a high SES), it may be sufficiently influential in others (i.e., those whose SES and academic performances are not consistent with the stereotype). The present studies were conducted to help clarify these different issues.

Overview of the present studies

In past research on the SES bias (Baron et al., 1995; Darley & Gross, 1983), participants in the no-individuating (performance) information condition were asked to infer the target's performance on the basis of its SES (low vs. high). A similar procedure, extended to multiple targets, was retained in Study 1. The reverse was done in Study 2, in which students were asked to infer the targets' SES on the basis of their performances. This latter procedure was conceived as an additional means to test the strength of the SES stereotype in students with a high versus low SES. As suggested earlier in this paper, these inferences were made in a minimal condition: Students in both studies did not have other information than those related either to the targets' SES (Study 1) or performances (Study 2). If students in this condition are sensitive to the SES bias, we would expect that 1) the higher the targets' SES, the higher the performance students would predict (Study 1), and 2) the higher the targets' memory

performance, the higher the SES students would predict (Study 2). Following Darley and Gross' (1983) procedure, Baron et al. (1995) depicted the target's SES through the general aspect of her neighborhood and school (i.e., appearing either wealthy or poor on a videotape). Several authors (Dittmar & Pepper, 1994; Rosenberg & Pearlin, 1978; Wiltfang & Scarbecz, 1990), however, have shown that such SES indicators are not as meaningful for children and adolescents as for adults. As noted by these authors, adolescents are more likely to pay attention to SES differences when they are depicted through material possessions and cultural activities. Several targets varying in possessions and cultural activities, therefore, were created and then tested in a preliminary study with participants who themselves varied in SES.

Preliminary study

Method

Participants. Eighty students (42 females and 38 males, aged 13 to 16) from two French middle schools volunteered to participate in a study on "social evaluation". Forty students had a high SES and the others a low SES, which was assessed on the basis of their parental occupation and housing quality as defined both by the French National Institute of Economic and Statistical Information and by the French Land Tax Collection Office. Parents of the low SES students were typically employed as manual laborers, low grade administrators, or unemployed, and housing quality for these families was rather low. Parents of the high SES students typically held positions such as manager, researcher, college professor, and housing for these families was rather comfortable.

Procedure. During school hours, a female experimenter met with students in a regular classroom. Students received six profile sheets, each corresponding to one of six (fictitious) targets of the same age as themselves who, it was said, have responded to

several questions about their possessions and cultural activities. These questions were : (1) “Do you go skiing ?”, (2) “Do you have a minitel¹ at home ?”, (3) “Do you have a calculator to do your homework ?”, (4) “Do you often go to the cinema ?”, (5) “Do you have a computer connected to the Internet in your bedroom ?”, and (6) “Do you have 500 francs (about 85 US dollars) a month for your pocket money ?”. The profile sheets (given in a different random order to each student) described the way each target answered each question (by “yes” or “no”). They were constructed such as: (i) The extremely low SES target responded “no” systematically, (ii) the very low SES target responded “yes” only to question 3, (iii) the low SES target responded “yes” only to questions 3 and 4, (iv) the high SES target responded “yes” to questions 1 through 4; (v) the very high SES target responded “yes” systematically except for questions 5, and (vi) the extremely high SES target responded “yes” to each question. The rationale underlying this material was simple: The more the targets were associated with positive answers, the more their SES could be evaluated as high.

Dependent measures. Students were asked to assess each target’s SES on a scale ranging from 1 (very low SES) to 7 (very high SES). Students were also asked to rate how much each indicator represented a high SES on a scale ranging from 1 (not at all) to 10 (very much). This additional measure was needed to know exactly how students perceived the weight of each SES indicator (this weight is indeed not necessarily the same for each indicator: e.g., Has the possession of a calculator the same SES meaning, compared with the possession of a computer ?).

Results and Discussion

Target SES ratings. These data were examined via a mixed Analysis of Variance (ANOVA), with students’ SES (Low vs. High) as a between subject factor and the six Targets (ranging from extremely low to extremely high SES) as the repeated measure.

This analysis² revealed only a main effect of Targets, $F(5, 390) = 1071.03, p < .0001$ ($\eta^2 = .93$) (see Figure 1). Polynomial contrasts indicated that the corresponding linear trend was significant, $t(80) = 57.47, p < .0001$. Multiple pairwise comparisons (Bonferroni adjusted) indicated that all targets differed significantly from each other at $p < .01$.

Figure 1 about here

Perceived weight of indicators. These data were also examined via a mixed ANOVA, with students' SES (Low vs. High) as a between subject factor and the six Indicators as the repeated measure. This analysis revealed only a main effect of Indicators, $F(5, 390) = 101.54, p < .0001$ ($\eta^2 = .57$), suggesting that students did not attribute the same weight to each indicator (see table 1). Multiple pairwise comparisons (Bonferroni adjusted) revealed significant differences ($p < .05$) between almost all indicators. Only “computer” and “pocket money” on one hand, and “Minitel” and “cinema” on the other hand were not perceived as significantly different from one another.

Table 1 about here

As expected, the more the targets were associated with positive answers, the more their SES was evaluated as high, and this was true both for the high- and for the low-SES students. Likewise, the way students perceived each SES indicator (their weight regarding SES) was consistent with their (and with our own a priori) categorization of the targets. Taken together, these preliminary findings showed that the way the six targets were constructed made sense for the students and, therefore, could be used in further studies with similar participants. For clarity, the results of these studies (Study 1 and Study 2) will be discussed in the General Discussion section.

Study 1

Method

Participants. Sixty-eight students (33 females and 35 males, aged 13 to 16) from 3 French middle schools volunteered to take part in this study without receiving any credit for their participation. They were run in large groups ranging in size from 18 to 30 persons and were equally distributed in four conditions according to their SES (low vs. high) and achievement level (low vs. high). Students' SES was determined as in the preliminary study, and their achievement level was based on their recent performances in Mathematics, Physics, French, History, and Foreign Language. Whereas the average grade was always under 8.5 for the low achievers, it was always above 13 for the high achievers on a scale ranging from 0 to 20 (excellent).

Procedure and Design. During school hours, a female experimenter met with students in a regular classroom. As in Baron et al.'s (1995, p. 310) investigation, participants were informed that the present study was designed to develop academic assessment procedures measuring highly specific academic skills, such as memory, in perspective with students' SES. They were then instructed to pay close attention to the way other students (the targets) of their age responded to several questions (see the preliminary study) because they would have to predict their memory ability. In order to receive honest answers, it was said that participants' answers would remain anonymous.

Dependent measures. After reading each profile sheet, all participants predicted targets' memory ability on a 6-point scale ranging from 1 (very low) to 6 (very high). Because students may be more reluctant to make differential ratings when judging abilities rather than social attributes (Bar-Tal, Raviv & Arad, 1989), no middle point was provided so that they were forced to favor one side of the scale. Students also rated

the confidence of their predictions on a 7-point scale ranging from 1 (not at all) to 7 (very much). They were then debriefed and thanked for their participation.

Expectations. If the SES stereotype about cognitive abilities is consensually used, then the higher the targets' SES, the higher memory ability the students would predict regardless of their own SES and achievement level. As suggested earlier, however, the use of this stereotype may also depend on whether it is consistent or inconsistent with the high and the low SES students' achievement level. On this alternative basis, it can be expected that only the students whose SES and achievement level are consistent with the stereotype (i.e., the low-SES students who are low achievers and the high-SES students who are high achievers) would make use of it in their predictions (i.e., would display the tendency described as general in the previous hypothesis).

Results and Discussion

Students' Predictions of targets' memory ability. These data were examined via a mixed ANOVA with students' SES (High vs. Low) and Achievement Level (High vs. Low) as between subject factors and the six Targets (ranging from extremely low to extremely high in SES) as the within subject factor (while using the polynomial contrast method).

The three-way interaction alone was significant, $F(5, 320) = 3.34, p < .006 (\eta^2 = .05)$ (see Table 2). This interaction came from the fact that the linear trend for Targets (i.e., the higher the targets' SES, the higher memory ability predicted) was significant only for the low-SES students who were low achievers, $t(17) = -2.1, p < .05$. The corresponding means (see first row of Table 2) increased progressively from the Extremely Low-SES Target to the High-SES Target and were quite high and

homogeneous ($M = 4.64$ in average) from the High-SES to the Extremely High-SES Targets.

Table 2 about here

Confidence data. The same analysis (mixed ANOVA) as before was used on these data. No effects were found significant. All students were fairly confident in their predictions ($M = 4.23$, $SD = 1.25$).

That the SES bias emerged only in the low-SES students who were low achievers suggests that it can be sometimes restricted to those for whom the stereotype is both consistent with their SES and performance history and relatively self-threatening. For clarity, however, the meaning of the present finding will be examined in the general discussion section. Let us now describe the next study and related findings. Do the low-SES students who are low achievers also infer more attributes (possessions and cultural activities) for the targets whose memory ability seems to be higher ?

Study 2

Method

Participants. A new sample of sixty eight students (36 females and 32 males, aged 13 to 16) from 3 different but similar (relative to Study 1) French middle schools were selected for this second study. Once more, students were run in large groups ranging in size from 20 to 30 persons and were equally distributed in four conditions according to their SES (low vs. high) and achievement level (low vs. high), which were assessed as previously.

Procedure and Design. The general instructions were exactly identical to those in Study 1. In this new study, however, the six fictitious targets varied in their memory ability. This ability, it was said, had been assessed from a memory test (on which no information were given). Targets' score on this test ranged from 70 (the lowest score) to

110 (the highest score). The six questions pertaining to targets' SES were also presented but without providing the targets' answers.

Dependent measures. Students had to predict these answers and, therefore, had to predict targets' attributes (possessions and cultural activities). Then the sum of positive answers (or attributes), as they were weighted in the preliminary study (see Table 1), were calculated for each Target. This sum resulted in a SES score for each target, which could vary from 0 (students predicted that the target answered "no" systematically) to 37.4 (the sum of all means in Table 1 when students predicted that the target answered "yes" systematically). Finally, students also rated the confidence of their predictions on a scale ranging from 1 (not at all) to 7 (very much).

Results and Discussion

Students' Predictions of Targets' attributes. These data were examined as before, via a mixed ANOVA with students' SES and Achievement Level as between subject factors and five Targets (ranging from 70 to 110) as the within subject factor (while using the polynomial contrast method). The main effect of Targets was significant, $F(4, 256) = 7.27$, $p < .001$ ($\eta^2 = .10$): The higher the targets' memory score, the more attributes students predicted. This linear trend, however, was qualified by an interaction between students' SES and Targets, $F(4, 256) = 10.24$, $p < .0001$ ($\eta^2 = .14$). This interaction came from the fact that the linear trend for Targets was significant only for the Low-SES students (regardless of their achievement level), $t(34) = -7.23$, $p < .0001$.

Table 3 about here

Confidence data. The same analysis (mixed ANOVA) as before was used. No effects were found significant. Once more, all students were fairly confident in their predictions ($M = 4.15$, $SD = 1.18$).

Once more, the low-SES students generated stereotype-consistent inferences: The higher the targets' memory score, the more possessions and cultural activities these students inferred. In contrast with Study 1, however, these inferences emerged regardless of the low-SES students' achievement level.

General Discussion

The present studies tested whether students' SES and academic achievement level moderate their use of the SES stereotype (i.e., the belief that the low-SES individuals are intellectually inferior to their high-SES counterparts). In Study 1, students were given social class information (i.e., possessions and cultural activities) about several targets and were then asked to infer these targets' memory ability. In Study 2, they were given targets' memory performance information and were then asked to infer these targets' possessions and cultural activities. In both studies, only the low-SES participants generated stereotype-consistent inferences: The higher the targets' SES, the higher memory ability inferred (Study 1), and vice versa, the higher the targets' memory performance, the more possessions and cultural activities inferred (Study 2). Results differed from Study 1 to Study 2, however: Whereas these stereotypic inferences emerged only with the low-SES students who were low achievers in Study 1, they were found regardless of the low-SES students' achievement level in Study 2.

Several points must be made. First of all, the present findings can be taken as evidence that the high-SES students do not produce the SES bias when only social class information are available (Study 1). Not only did these students not infer targets' performance from their social class attributes in Study 1, but they did not make stereotype-consistent inferences either when asked to infer these attributes from targets' performance level in Study 2. Exactly how can the lack of SES bias be explained in the high-SES students ? Because they provide concrete evidence that the SES stereotype

does not always depict reality, the high-SES students who are low achievers (as well as the low-SES students who were high achievers) may have been quite reluctant to use this stereotype. Although they themselves constituted stereotype-consistent evidence, however, the high-SES students who were high achievers did not use it either. It could be that the high-SES students made stereotype-consistent inferences (both in Study 1 and Study 2) but chose not to report them because of the apprehension that these inferences would be regarded as unjustified (see also Darley & Gross, 1983 for a similar suggestion). In line with this, Bar-Tal et al. (1989) pointed out that whereas teachers readily use stereotypical beliefs to judge students' social attributes, they may be more reluctant to do so when judging intellectual characteristics (as apparently did the low-SES students who were high achievers). In the present case, however, the high-SES students seemed to be reluctant to make all kind of stereotype-consistent judgments! An alternative explanation is that these students did not link the targets' SES and memory ability because admitting such a link would lessen the importance of their own personal abilities. Several studies (e.g., Bourdieu, 1979; Lorenzi-Cioldi, 1988; Lorenzi-Cioldi & Joye, 1988) indeed revealed that dominant or high-SES individuals perceive themselves as relatively unique and completely autonomous with regard to their SES and the possible advantages related to it. Not only do these individuals apply this perception to themselves, but they also minimize the role of SES as a causal factor regarding others' performances. This tendency may help explain why the high-SES students did not make stereotypic inferences in the present studies. This does not mean that the SES stereotype does never drive these students' judgments. The results of past research (Baron et al., 1995; Darley & Gross, 1983) indeed suggest an intervention of the SES stereotype in the high-SES students when ambiguous performance information (about targets) are made available. Once more, however, participants' SES was not clearly specified in the

previous studies. Future research, therefore, is needed to clarify this particular point. What the present data suggest is that these students, when they are selected from typical SES indicators and then faced with a situation of judgment where only social class information is available (Study 1), are not likely to make use of the SES stereotype. Likewise, inferring higher social class attributes from higher performances seems not typical of the high-SES students (as suggested by Study 2). Thus, an important message from our data concerns the generalizability of the SES bias when only social class information is available: This bias seems unlikely with the high-SES students in this condition, as also reported by Darley et Gross (1983). As suggested earlier in this paper, that the SES bias approached significance in Baron et al.'s (1995) Study 2 (where it was assumed that only high-SES students were selected) could be due to a substantial minority of middle-class students (who seemed more sensitive to the SES bias in their first study) who were incorrectly identified as high-SES students. Consistent with this, the use of typical SES indicators did allow us to exclude middle-class students from the group of the high-SES students, and the SES bias did not occur with this particular group.

Second, exactly how do the low-SES students behave when they are faced with only social class information had been neglected in past research. It seems now clear that in this condition the SES bias occurs with these students (as with those from the middle-class in past research), at least when they are low-achievers. At first glance, the use of a potentially self-threatening stereotype may seem surprising. That the low-SES students' academic performance history was consistent with the SES stereotype, however, may help explain this use. Furthermore, and in contrast with their high-SES counterparts, the low-SES individuals are especially likely to define themselves from the characteristics of their social groups or social categories (Lorenzi-Cioldi, 1988; Lorenzi-Cioldi & Joye,

1988). The low-SES students, therefore, were the most likely to admit a causal link between people's SES and cognitive abilities, as defined by the SES stereotype. The perception of this link could also correspond to a self-protective goal in the low-SES students who were low achievers. As suggested by Kelley's (1973) discounting principle, explaining people's cognitive abilities by their SES can help eliminate more individuating causes (personal abilities) for explaining one's own performances. This stereotypic link between cognitive abilities and SES seemed to be less salient in the low-SES students who were high achievers, as suggested by the lack of SES bias with these students in Study 1. In Study 2, however, both groups of students made stereotype-consistent inferences. In line with this, Croizet and Claire (1998) have shown that the SES stereotype in fact interferes with the low-SES students' intellectual performances in specific situations: These performances were inferior when the SES stereotype was made salient, compared with when it was not activated, regardless of the low-SES students' academic achievement level. Our own data can also be taken as further evidence of the strength of the SES stereotype in the low-SES students.

Third, the present studies have their own limitations. In contrast with past research on the SES bias (Baron et al., 1995; Darley & Gross, 1983), these studies neglected the presence of ambiguous individuating (performance) information. As a consequence, how would the high- and low-SES students behave when faced with such information, compared with when only social class information is available, remains unclear. On this point, however, the results of past research are unclear as well. Darley and Gross (1983) selected students who came from a high SES background (as assessed from the prestige of their university -- Princeton), and the SES bias was significant only in this ambiguous information condition (it was not when only social class information was made available -- as in the present studies). Baron et al. (1995) assumed that their students

came from either a middle (Study 1) or a high (Study 2) socioeconomic background, and the clearest SES effect on judgments of academic ability was found when only social class information was provided. No doubt: Including both conditions (social class information vs. social class plus ambiguous performance information) is certainly needed when studying the role of perceivers' own SES in the SES bias. Combined with the use of typical SES indicators (as in the present studies), this inclusion would allow clearer conclusions. Past research (i.e., Baron & al, 1995) also included relatively unambiguous performance information, and the SES bias was systematically eliminated in this condition. Can such information also eliminate the SES bias in the low-SES students (especially those who are low achievers) ? This also remains an open question both in our studies and in past research.

Finally, despite their limitations, the present results have interesting implications. One of them is related to the possible intervention of the SES stereotype in the low SES students' self-efficacy beliefs and academic achievement level. These students, especially those who are low-achievers seem to believe that students like themselves are intellectually inferior to those with higher SES. This stereotypic belief may undermine the low-SES students' level of perceived self-efficacy which, in turn, may decrease their academic performances. Schunk (1989) reported that students' belief in their efficacy for learning predicted their rate of problem solutions during instructional sessions as well as their academic skills. As revealed by regression analyses, this belief made unique contributions to increment academic attainment over and above instruction, and path analyses established the causal role of efficacy beliefs in the development of academic competencies (see also Multon, Brown, & Lent, 1991; Zimmerman, 1995). In a recent study (Huguet, Dumas, Monteil, & Genestoux, 2001), these beliefs also predicted students' course grades at the second and third trimester (T2 and T3,

respectively) in all academic courses. Self-efficacy beliefs also have proved influential in students' level of effort, persistence, and choice of activities (e.g., Schunk, 1981). Thus, because of its influence on perceived self-efficacy, the SES stereotype may affect the low SES students' academic achievement level as well as motivation.

These students, therefore, especially those who are low-achievers (who are the most likely to make use of the SES stereotype) deserve special attention. Several strategies can be used in this perspective. For example, teachers can encourage them to compare themselves with slightly superior students from the same socioeconomic background. These comparisons may have at least two advantages: First, by increasing the salience of inconsistent-stereotype evidence, they would help the low-SES students who are low achievers to call the SES stereotype into question (see also Blanton, Crocker, & Miller, 2000 for a similar reasoning in the context of another stereotype about African-American females). In line with this, the low-SES students whose achievement level was inconsistent with this stereotype (i.e., the high-achievers) did not produce the SES bias in Study 1. Second, these comparisons would also lead to better performances. Several studies (Blanton, Buunk, Gibbons, & Kuyper, 1999; Huguet, Galvaing, Monteil, & Dumas, 1999; Huguet et al., 2001) have shown that slightly upward comparisons facilitate students' performance, at least when they are made with others who are similar on attributes perceived as related to the task at hand. The present data show that the low-SES students perceive SES as an attribute related to academic performances (a central feature of the SES stereotype). Comparing themselves with more successful others from the same socioeconomic background, therefore, would result in better performances in these students. The reasons why upward comparisons might result in improved performance are numerous. For example, observing another person who has proficiency at a task can reveal useful information about how to

improve (e.g., Buunk & Ybema, 1997; Taylor & Lobel, 1989). Seeing another person succeed may also increase the motivation to improve (Huguet et al., 1999, Huguet, Galvaing, Dumas, & Monteil, 2000; Seta, 1982). Finally, observing others doing well can endow individuals with a sense of their own potential (e.g., Buunk, Collins, Taylor, Van Yperen, & Dakof, 1990), and this can raise self-confidence and feelings of self-efficacy at the task.

These positive effects, however, are less likely to occur when students believe that they are not able to successfully execute the behaviors required to elevate standing relative to their more successful comparison others (i.e., those who perceive that their degree of control over their status relative to the comparison targets is relatively low; see Huguet et al., 2001). This is why special attention should also be paid to the low-SES students' conception of intelligence: The influence of the SES stereotype may be maximized in those who perceive their intelligence as stable, compared with those who perceive it as relatively malleable. Consistent with this, recent findings (Aronson, Fried, & Good, 2002) show that self-threatening stereotypes do no longer interfere with academic performance when students' believe that their intelligence is malleable (rather than stable). In other words, by emphasizing the malleability of intelligence, teachers may help the low-SES students (especially those who are low achievers) resist to the negative influence of the SES stereotype.

In conclusion, it can be reasonably assumed that this stereotype plays an active role in the construction of the low-SES students' academic history: Its strength among these students may lead to stereotype-consistent inferences about oneself and others, which may lead to poorer performances, which may themselves maintain the salience of the SES stereotype and its negative effects on performance, and so forth. Combined with other findings, which revealed the crucial role of students' prior academic experiences

in the determination of their current classroom performances (Brunot, Huguet, & Monteil, 2000; Huguet, Brunot, & Monteil, 2001; Monteil, Brunot, & Huguet, 1996; Monteil & Huguet, 1999), this conclusion leads toward investigating cognition in perspective with the temporal - autobiographical dimension of human beings, that is, with their social and personal history.

NOTES

¹ A minitel is a French telecommunication system home-based terminal.

² The assumption of sphericity (evaluated via Mauchly's test) being slightly violated, the Greenhouse-Geisser index was used in the present study (cf. Tabachnick & Fidell, 1996). Because the use of this index did not change the results, the non-adjusted values are reported here. Corresponding non-parametric tests also led to the same effects. This is also the case for all ANOVAs presented in this paper.

REFERENCES

- Aronson, Joshua, Fried, Carrie B., & Good, Catherine (2002). Reducing the effects of stereotype threat on African American college students by shaping theories of intelligence. *Journal of Experimental and Social Psychology*, **38**(2), 113--125.
- Baron, Reuben M., Albright, Linda, & Malloy, Thomas E. (1995). Effects of behavioral and social class information on social judgment. *Personality and Social Psychology Bulletin*, **21**(4), 308--315.
- Bar-Tal, Daniel, Raviv, Amiram, & Arad, Mira (1989). Effects of information on student-teachers' stereotypic perception of pupils. *British Journal of Educational Psychology*, **59**(2), 143--154.
- Blanton, Hart, Buunk, Bram P., Gibbons, Frederick X., & Kuyper, Hans (1999). When better-than-others compare upward: Choice of comparison and comparative evaluation as independent predictors of academic performance. *Journal of Personality and Social Psychology*, **76**(3), 420--430.
- Blanton, Hart, Crocker, Jennifer, & Miller, Dale T. (2000). The effects of in-group versus out-group social comparison on self-esteem in the context of a negative stereotype. *Journal of Experimental and Social Psychology*, **36**(5), 519--530.
- Bourdieu, Pierre (1979). *La distinction*. Paris: Les Editions de Minuit.
- Brunot, Sophie, Huguet, Pascal, & Monteil, Jean-Marc (2000). Performance Feedback and Self-Focused Attention in the Classroom: When Past and Present Interact. *Social Psychology of Education*, **3**(4), 277-293.
- Buunk, Bram P., Collins, Rebecca L., Taylor, Shelley E., VanYperen, Nico W., & Dakof, Gayle A. (1990). The affective consequences of social comparison: Either direction has it ups and down. *Journal of Personality and Social Psychology*, **59**(6), 1238--1249.

- Buunk, Bram P., & Ybema, Jan F. (1997). Social comparison and occupational stress: The identification-contrast model. In B.P. Buunk & F.X. Gibbons (Eds.), *Health, coping and well-being: Perspectives from social comparison theory*. Hillsdale, NJ: Erlbaum, pp. 359--388.
- Croizet, Jean-Claude & Claire, Theresa (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**(6), 588--594.
- Darley, John M. & Gross, Paget H. (1983). A hypothesis-confirming bias in labeling effects. *Journal of Personality and Social Psychology*, **44**(1), 20--33.
- Dittmar, Helga & Pepper, Lucy (1994). To have is to be: Materialism and person perception in working-class and middle-class British adolescents. *Journal of Economic Psychology*, **15**(2), 233--251.
- Hardin, Curtis D., & Higgins, E. Tory (1996). Shared reality: How social verification makes the subjective objective. In R. M. Sorrentino & E. T. Higgins (Eds.), *Handbook of motivation and cognition. Vol. 3. The interpersonal context*. New York: Guilford Press, pp. 28--84.
- Huguet, Pascal, Brunot, Sophie, & Monteil, Jean-Marc (2001). Geometry versus Drawing: Changing the meaning of the task as a means to change performance. *Social Psychology of Education*, **4**, 219--234.
- Huguet, Pascal, Dumas, Florence, Monteil, Jean-Marc, & Genestoux, Nicolas (2001). Social comparison choices in the classroom: further evidence for students' upward comparison tendency and its beneficial impact on performance. *European Journal of Social Psychology*, **31**(5), 557--578.

- Huguet, Pascal, Galvaing, Marie-Pierre, Dumas, Florence, & Monteil, Jean-Marc (2000). The social influence of automatic responding: Controlling the uncontrollable. In J.P. Forgas, K.D. Williams, & L. Wheeler (Eds.), *The Social Mind: Cognitive and motivational aspects of interpersonal behavior. Vol.2*. Cambridge University Press, pp. 371--388.
- Huguet, Pascal, Galvaing, Marie-Pierre, Monteil, Jean-Marc, Dumas, Florence (1999). Social presence effects in the Stroop task: Further evidence for an attentional view of social facilitation. *Journal of Personality and Social Psychology*, **77**(5), 1011--1025.
- Kelley, Harold H. (1973). The process of causal attribution. *American Psychologist*, **28**(2), 107--128.
- Krueger, Joachim & Rothbart, Myron (1988). Use of categorical and individuating information in making inferences about personality. *Journal of Personality and Social Psychology*, **55**(2), 187--195.
- Locksley, Anne, Borgida, Eugene, Brekke, Nancy, & Hepburn, Christine (1980). Sex stereotypes and social judgment. *Journal of Personality and Social Psychology*, **39**(5), 821--831.
- Lorenzi-Cioldi, Fabio (1988). *Individus dominants et groupes dominés*. Grenoble: Presses Universitaires de Grenoble.
- Lorenzi-Cioldi, Fabio & Joye, Dominique (1988). Représentations sociales de catégories socio-professionnelles: Aspects méthodologiques. *Bulletin de Psychologie*, **Tome XL**, 377--390.
- Monteil, Jean Marc, Brunot, Sophie & Huguet, Pascal (1996). Cognitive performance and attention in the classroom: An interaction between past and present academic experiences. *Journal of Educational Psychology*, **88**(2), 24--248.

- Monteil, Jean-Marc & Huguet, Pascal (1999). *Social context and cognitive performance: Towards a social psychology of cognition*. European Monographs in Social Psychology, Hove, East Sussex: Psychology Press.
- Multon, Karen D., Brown, Steven D., & Lent, Robert W. (1991). Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation. *Journal of Counseling Psychology*, **38**(1), 30--38.
- Rosenberg, Morris & Pearlman, Leonard I. (1978). Social class and self-esteem among children and adults. *American Journal of Sociology*, **84**(1), 53--77.
- Schunk, Dale H. (1981). Modeling and attributional feedback effect on children's achievement: A self-efficacy analysis. *Journal of Educational Psychology*, **73**(1), 93--105.
- Schunk, Dale H. (1989). Self-efficacy and achievement behaviors. *Educational Psychology Review*, **1**(3), 173--208.
- Seta, John J. (1982). The impact of comparison processes on coactors' task performance. *Journal of Personality and Social Psychology*, **42**(2), 281--291.
- Tabachnick, Barbara G. & Fidell, Linda S. (1996). *Using multivariate statistics* (3rd ed.). New York: HarperCollins College Publishers.
- Taylor, Shelley E., & Lobel, Marci L. (1989). Social comparison activity under threat: Downward evaluation and upward contacts. *Psychological Review*, **96**(4), 569--575.
- Wiltfang, Gregory L. & Scarbeck, Mark (1990). Social class and adolescents' self-esteem: Another look. *Social Psychology Quarterly*, **53**(2), 174--183.
- Zimmerman, Barry J. (1995). Self-efficacy and educational development. In Bandura, A. (Ed.), *Self-efficacy in changing societies*. Cambridge: Cambridge University Press, pp. 202--231.

Answers Pattern of the Fictitious Targets

Figure 1: Students' Ratings of the Targets' SES as a Function of the Targets' Answers Pattern to the 6 Items.

Note. Means not sharing a common letter differ at $p < 0.01$.

Table 1

Perceived weight of Indicators

Indicators number and label	Weights	
	<u>M</u>	<u>SD</u>
Item 3- A calculator	3.5 a	2.04
Item 4- Cinema	4.6 b	1.90
Item 2- A Minitel at home	5.5 b	1.85
Item 1- Skiing	7.0 c	1.98
Item 5- A computer connected to Internet	8.3 d	2.14
Item 6- 500 Francs a month for pocket money	8.5 d	2.07

Note. Means not sharing a common letter differ at $p < 0.05$.

Table 2

Students' Predictions of targets' memory ability (and standard deviations) as a Function
of Targets' SES, and Participants' SES and Achievement Level

Participants		Targets' SES					
SES	Achievement level	Extremely low	Very low	Low	High	Very high	Extremely high
Low	Low	2.88	3.41	4.17	4.76	4.76	4.41
	($\underline{n} = 17$)	(1.86)	(1.62)	(1.66)	(1.03)	(1.14)	(2.00)
	High	3.47	4.23	4.76	4.17	3.29	3.41
	($\underline{n} = 17$)	(1.80)	(1.35)	(1.10)	(1.13)	(1.16)	(1.77)
High	Low	4.05	4.23	4.29	4.29	2.94	2.70
	($\underline{n} = 17$)	(1.92)	(1.35)	(1.16)	(1.10)	(1.14)	(1.57)
	High	3.82	4.17	4.53	4.53	3.58	3.29
	($\underline{n} = 17$)	(1.30)	(1.01)	(1.10)	(1.00)	(1.00)	(1.57)

Table 3

Students' Predictions of Targets' SES (and standard deviations) as a Function of Targets' Memory Performance, and Participants' SES and Achievement Level

Participants		Targets' Memory Performance				
SES	Achievement level	70	80	90	100	110
Low	Low	11.56	12.20	17.19	21.25	23.35
	(<u>n</u> = 17)	(4.56)	(4.40)	(6.02)	(6.32)	(6.57)
	High	12.26	14.52	17.86	19.89	23.15
	(<u>n</u> = 17)	(7.78)	(4.82)	(6.90)	(6.21)	(6.74)
High	Low	18.95	17.51	19.34	19.13	18.90
	(<u>n</u> = 17)	(11.52)	(6.66)	(4.79)	(5.77)	(10.14)
	High	20.43	19.93	18.46	16.46	18.65
	(<u>n</u> = 17)	(9.41)	(6.76)	(6.71)	(8.13)	(7.58)

BIOGRAPHICAL NOTES

Isabelle Régner is an Assistant Professor at the Université Toulouse Le Mirail, France. She received her Ph.D. in Social Psychology in 2000 (at the Université Blaise Pascal, France). As a full member of the 'Laboratoire Dynamiques Sociocognitives et Vie Politique', she is especially interested in social phenomena such as stigmatization, social judgment and social comparison.

Pascal Huguet (researcher in the department of life sciences at the Centre National de la Recherche Scientifique -- CNRS, the French equivalent of the U.S. National Science Foundation) received his Ph.D. in Social Psychology in 1992 (at the Université Blaise Pascal, France). As a full member of the Laboratoire de Psychologie Sociale de la Cognition, his major interest is the social regulation of cognitive functioning. Phenomena such as social facilitation, social loafing, or social comparison are part of this interest. His recent relevant publication is Huguet et al. (1999). Social presence effects in the Stroop task: Further evidence for an attentional view of social facilitation. *Journal of Personality and Social Psychology*, 77, 1011-1025.

Jean-Marc Monteil is a full Professor of Psychology. He received his Ph.D. (in Psychology) in 1978 at the Ecole des Hautes Etudes en Sciences Sociales (Paris). He created and directed (from 1983 to 1998) the 'Laboratoire de Psychologie Sociale de la Cognition' at the University Blaise Pascal and he is now the Director of Education at the Universities of Aix-Marseille, France. His recent relevant publication is Monteil, J.M & Huguet, P. (1999). *Social context and cognitive performance: Towards a social*

psychology of cognition. European Monographs in Social Psychology, Hove, East Sussex: Psychology Press.