

*Brief report***‘Where there is a will, there is a way’: Belief in school meritocracy and the social-class achievement gap**Céline Darnon^{1*}, Virginie Wiederkehr¹, Benoît Dompnier² and Delphine Martinot¹¹Clermont Auvergne University, CNRS, LAPSCO, Clermont-Ferrand, France²University of Lausanne, Switzerland

Meritocratic ideology can promote system justification and the perpetuation of inequalities. The present research tests whether priming merit in the school context enhances the effect of socioeconomic status (SES) on school achievement. French fifth graders read a text priming either school merit or a neutral content, reported their French and mathematics self-efficacy as well as their belief in school meritocracy (BSM), and then took French and mathematics tests. Compared to the neutral condition, the merit prime condition increased the SES achievement gap. Self-efficacy and BSM were tested as two potential mediators of the effect. The results support a mediated moderation model in which belief in school meritocracy is the mechanism through which the merit prime increased the SES achievement gap.

Who has never told a child that ‘where there is a will, there is a way’ and that working hard is the pathway to success, particularly, at school? There are few doubts that effort and hard work should be valued at school. However, the purpose of the present paper is to highlight a possible dark side effect of promoting meritocracy in the context of school. Indeed, in that context, the promotion of school meritocracy may contribute to the reproduction of social inequalities.

School and meritocracy

Believing in descriptive meritocracy means believing that ability and hard work are the main determinants of success (Son Hing *et al.*, 2011). At school, it refers to the conviction that ability and hard work lead to school success and, conversely, that the lack of success may be due to a lack of effort or school abilities (Jost & Hunyady, 2002; Wiederkehr, Bonnot, Krauth-Gruber, & Darnon, 2015). School meritocracy is often presented as a way to fight social inequalities because, in meritocratic beliefs, success is perceived as the direct consequence of children’s deservingness and not of irrelevant factors such as social class, gender, or ethnicity. However, the pattern of stratification among groups in the school system shows that the goal of meritocracy is not being met

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(Mijs, 2016) because school success is influenced by factors unrelated to real merit. Social class is one such factor (Bradley & Corwyn, 2002; Goudeau, Autin, & Croizet, 2017; Sirin, 2005; White, 1982). An SES achievement gap exists before entering school and expands as children progress through school, most notably in mathematics skills (Galindo & Sonnenschein, 2015; Jordan & Levine, 2009) and reading and language skills (Aikens & Barbarin, 2008; Arnold & Doctoroff, 2003). Indeed, by promoting norms, values, practices, and language that are familiar to higher class families, the school system reproduces social inequalities (Bourdieu, Passeron, & Nice, 1990). Not only does the school system unequally distribute grades and rewards among children depending on their parents' occupations, but it also makes people attribute school performance to internal factors, particularly their efforts or lack of efforts (Dompnier & Pansu, 2010; Pansu, Dubois, & Dompnier, 2008). In such a system, both low- and high-status individuals are led to believe that their success or failure is not due to their social background, but rather to differences in efforts and abilities (i.e., merit). In the present paper, we argue that meritocratic environments are particularly likely to make this internalization process occur. Indeed, the promotion of school merit among children is susceptible to affecting both the perception low and high SES students have of their ability to succeed within the system and their endorsement of system-justifying beliefs, two processes that—as detailed below—may contribute to increasing the SES achievement gap.

First, in meritocratic environments, performance is perceived as a relevant and accurate indicator of one's own ability (Trautwein, Lüdtke, Köller, & Baumert, 2006). This point is of importance as school self-efficacy—that is, the extent to which individuals think they have the resources to succeed at school (Bandura, 1977)—is a consistent predictor of school success (Usher & Pajares, 2006, 2008) and actually depends on social class (Gecas, 1989). Low social-class children are usually perceived as having lower abilities (Baron, Albright, & Malloy, 1995) than their higher class counterparts. Wiederkehr, Darnon, Chazal, Guimond, and Martinot (2015) recently showed that low SES fifth-grade pupils performed more poorly than their high SES counterparts, in part because of a lower sense of school self-efficacy. Taken together, these results suggest that, in meritocratic environments, low and high SES students are likely to endorse self-perceptions that match the place they occupy in the hierarchy (i.e., low and high self-efficacy beliefs), which could further explain the SES achievement gap.

Second, meritocratic contexts push individuals to endorse beliefs that are susceptible to explaining and legitimating social inequalities. Such beliefs are expected to be particularly deleterious for low SES students. Indeed, outside of school, research has underscored the very role of meritocracy, especially in its descriptive form (i.e., believing the system is meritocratic), thereby making people accept the place they occupy within a system (O'Brien & Major, 2009; Son Hing *et al.*, 2011). According to system justification theory, meritocracy is one of the legitimizing myths through which a positive vision of the social system is maintained (Baron & Banaji, 2009; Jost, Banaji, & Nosek, 2004; Jost, Pelham, Sheldon, & Sullivan, 2003), regardless of one's own social position (Jost & Burgess, 2000; Ledgerwood, Mandisodza, Jost, & Pohl, 2011; Sidanius & Pratto, 1999). In meritocratic environments, members of advantaged groups are perceived as having worked harder than members of disadvantaged groups. Meritocracy promotes outgroup favoritism for members of low-status groups and in-group favoritism for members of high-status groups (Jost & Hunyady, 2005; O'Brien & Major, 2009). Preference for merit also predicts a denial of racial privileges among white

participants (Knowles & Lowery, 2012), pushes members of low-status groups to self-describe in a stereotyped way (McCoy & Major, 2007), reduces the perception of discrimination (see also Major *et al.*, 2002), and leads people to attribute the disadvantages of dominated groups to internal causes (Fraser & Kick, 2000; Jost, 2001; see also Godfrey & Wolf, 2016).

To sum up, priming school meritocracy should accentuate the SES achievement gap via two possible mechanisms. First, as developed above, SES affects school self-efficacy, which is positively related to performance. As a merit prime should favour the internalization process, it should strengthen the relationship between self-efficacy and performance. Second, priming merit should make both high and low SES children believe they deserve their position in the hierarchy and, thus, endorse system-justifying beliefs (i.e., belief in school meritocracy, BSM). As these beliefs are expected to be particularly self-debilitating for low-status groups' members, the negative link between BSM and performance should mainly be observed among low SES students. Thus, school self-efficacy and BSM will be tested as two potential mediators of the impact of merit prime on the SES achievement gap.

Overview and hypotheses

In the present research, low and high SES fifth-grade children were primed with a text that, depending on the condition, underscored either descriptive school meritocracy (merit prime condition) or an unrelated topic (control condition) before reporting their self-efficacy (in math and French) as well as their BSM. They then took school (math and French) tests. We expected the SES achievement gap to be strengthened in a merit prime context (H1). Self-efficacy and BSM will be tested as two processes expressed as two mediated moderations (Muller, Judd, & Yzerbyt, 2005; Preacher, Rucher, & Hayes, 2007) that could explain the impact of the merit prime on the SES achievement gap (cf. Figure 1). To validate mediated moderation 1 (self-efficacy), SES should predict school self-efficacy (H2), and the relationship between self-efficacy and performance should be higher in the merit prime condition than in the control group (H3). To validate mediated moderation 2 (BSM), the merit prime should increase BSM (H4), and the negative link between BSM and performance should be stronger among low SES students than among high SES students (H5).

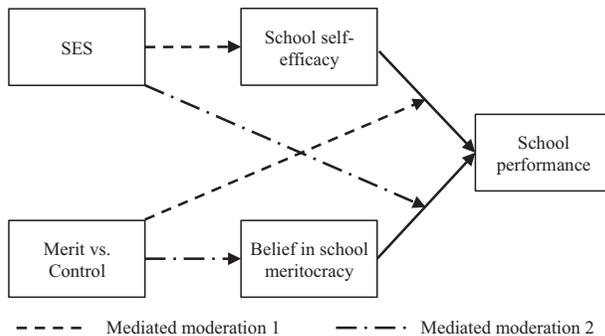


Figure 1. Graphical representation of the two mediated moderations underlying the impact of merit prime on the SES achievement gap.

Method

Participants

One hundred and forty-nine fifth-grade French children ($M_{\text{age}} = 10.13$, $SD = 0.51$; 80 girls, 66 boys, 3 not specified) voluntarily participated in this experiment during school hours. Approval from an ethical committee was obtained to conduct the research (ref 2013 CE/50). An information letter was sent to parents a few weeks before the experiment was conducted. Only pupils for whom parental consent was obtained were included in the study. Assuming a small effect, our stopping rule for data collection was 35 participants per condition. However, participants whose parental profession was insufficiently described were not retained in the analyses ($N = 25$). The final sample comprised 124 participants (65 low SES and 59 high SES).

Procedure

Participants were given booklets containing all the material. Children were randomly assigned to one of the two conditions. In the 'merit prime' condition ($N = 59$; 33 low SES, 26 high SES), the introductory text indicated that 'At school, everyone has the same chances to begin with, but only some students manage to succeed: those who have the ability and motivation. Indeed, to succeed in school, children have to deserve it. (. . .). Thus, if students fail, they can only blame themselves. To succeed in school, one just has to work well; it is only a matter of will'.¹ In the control condition ($N = 65$; 32 low SES, 33 high SES), a neutral text dealing with frogs' ability to anticipate disasters was presented. Children were asked to summarize the content in one sentence. They answered a BSM scale, the self-efficacy scales, and, then, solved the exercises. These last two measures were clustered in two domain-congruent sets—one in French and the other in mathematics—which were counterbalanced between participants. Participants were then debriefed. In particular, they were informed that school success did not only depend on merit and that some students might not succeed at a test for several reasons including being tired and being stressed, meaning that it was not 'their fault'.

Measures

School performance (tests)

Exercises were extracted from standardized national assessments for children.² The French performance test included four exercises, combining spelling, punctuation, grammar, and reading comprehension. Scores could range between 0 and 21 ($M = 15.39$, $SD = 3.74$). The mathematics material included six exercises, containing fractions, scientific vocabulary, operations, and geometry. Scores could range between 0 and 21 ($M = 12.22$, $SD = 4.62$). Both French and mathematics scores were calculated blindly by the experimenter and based on a standardized evaluation matrix. Because we assumed that the same mechanism would concern both disciplines, performance scores were aggregated into a mean score of school performance ($\rho = .68$, $M = 13.80$, $SD = 3.63$).

¹ The full description of the material and data is available at: osf.io/mdvez

² For details, see <http://cisad.plejade.education.fr/eval/>

Socioeconomic status

Children reported their mother's and father's occupations. Their categorization into a high SES or a low SES was based on the classification of the *National Institute of Statistics and Economic Studies* (see Smeding, Darnon, Souchal, Toczeck-Capelle, & Butera, 2013).³

Belief in School Meritocracy (BSM)

Six items were used to measure BSM. Children reported the extent to which each sentence was true in school on a scale ranging from 1 ('totally disagree') to 6 ('completely agree'). As the initial Cronbach's alpha including all items was low ($\alpha = .42$), only three items were kept in the final scale ('At school, where there is a will, there is a way', 'Everyone has the same chance to succeed in school', 'To succeed at school, one only has to work hard'; $\alpha = .58$, $M = 5.48$, $SD = .07$).

School self-efficacy

A short version of the Joët, Usher, and Bressoux (2011) questionnaires was used to measure French and mathematics self-efficacy. Each scale contained 15 items ($\alpha = .73$, $M = 3.40$, $SD = .40$ for French self-efficacy, e.g., 'I know the difference between singular and plural'; $\alpha = .75$, $M = 3.37$, $SD = 0.40$ for mathematics self-efficacy, e.g., 'I know how to calculate a subtraction mentally'). Children answered on a 4-point scale (from 1: 'not at all true' to 4: 'very true'). The two scales were correlated ($r = .44$) and aggregated into a single score of school self-efficacy ($\alpha = .83$, $M = 3.39$, $SD = 0.34$).

Results

Table 1 presents zero-order correlations among the variables. To test our hypotheses, four regression analyses were conducted on school performance (Models 1 and 4), self-efficacy (Model 2), and BSM (Model 3) and are presented in Table 2. Models 2, 3, and 4 correspond to the test of a *second-stage moderated parallel multiple mediation model* (Hayes, 2015).

Table 1. Zero-order correlations among variables

| | 1 | 2 | 3 | 4 | 5 | 6 |
|---------------------------------------|------|--------|--------|--------|------|------|
| 1. Belief in School Meritocracy (BSM) | | | | | | |
| 2. French self-efficacy | .15 | | | | | |
| 3. Mathematic self-efficacy | .11 | .44*** | | | | |
| 4. Performance (French) | -.10 | .33*** | .20* | | | |
| 5. Performance (Maths) | -.15 | .32*** | .35*** | .50*** | | |
| 6. Merit prime | .21* | .01 | .03 | -.16 | -.00 | |
| 7. Socioeconomic status | -.12 | .11 | .21* | .25** | .19* | -.07 |

Note. Merit prime is coded -1 for control condition, +1 for merit prime condition. Socioeconomic status is coded -1 for low SES, +1 for high SES.

* $p < .05$; ** $p < .01$; *** $p < .001$.

³ The National Institute of Statistics and Economic Studies is a sort of census bureau (see <http://www.insee.fr/en>). In case of a discrepancy between the father's and the mother's SES, the highest parental SES was retained. If an occupation was reported for only one of the parents, this single occupation was used to code students' SES.

Table 2. Unstandardized regression coefficients with confidence intervals of the four regression analyses

| | Performance (Model 1) | | School self-efficacy (Model 2) | | BSM (Model 3) | | Performance (Model 4) | |
|------------------------------------|-----------------------|-------------------|--------------------------------|--------------------|---------------|-------------------|-----------------------|--------------------|
| | b | 95% CI | b | 95% CI | b | 95% CI | b | 95% CI |
| Socioeconomic status (SES) | 0.87** | 0.26, 1.48 | 0.06* | 0.004, 0.12 | -0.08 | -0.21, 0.06 | 0.22 | -0.43, 0.88 |
| Merit prime (MP) | -0.30 | -0.91, 0.31 | 0.01 | -0.05, 0.07 | 0.16* | 0.02, 0.29 | -0.18 | -0.83, .48 |
| SES × MP | 0.66* | 0.05, 1.27 | 0.03 | -0.03, 0.08 | 0.07 | -0.06, 0.21 | 0.35 | -0.30, 1.01 |
| School self-efficacy (SSE) | | | | | | | 3.44*** | 1.50, 5.38 |
| Belief in school meritocracy (BSM) | | | | | | | -0.92 | -2.41, 0.57 |
| SES × SSE | | | | | | | -1.28 | -3.22, 0.66 |
| SES × BSM | | | | | | | 1.69* | 0.19, 3.18 |
| MP × SSE | | | | | | | -0.59 | -2.53, 1.35 |
| MP × BSM | | | | | | | 0.31 | -1.19, 1.80 |
| SSE × BSM | | | | | | | -0.10 | -3.99, 3.79 |
| SES × MP × SSE | | | | | | | -1.07 | -3.01, 0.87 |
| SES × MP × BSM | | | | | | | 1.07 | -0.43, 2.56 |
| SES × SSE × BSM | | | | | | | 4.03* | 0.14, 7.91 |
| MP × SSE × BSM | | | | | | | 0.43 | -3.46, 4.32 |
| SES × MP × SSE × BSM | | | | | | | 1.06 | -2.82, 4.95 |

Note. Coefficients corresponding to the hypotheses are in bold.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Does merit prime increase the SES achievement gap?

A first regression analysis was conducted with SES (coded -1 for low SES, $+1$ for high SES students), merit prime (coded -1 for the control condition, $+1$ for the merit condition), and their interaction product as predictors and school performance as a dependent variable (Model 1). The effect of SES was significant, $b = 0.87$, $t(120) = 2.83$, $p = .005$, $\eta_p^2 = .06$. High SES students ($M = 14.85$; $SD = 3.01$) performed better than low SES students ($M = 13.14$; $SD = 3.81$). The effect of merit prime was not significant, $t(120) > -1$, but the interaction was $b = 0.66$, $t(120) = 2.15$, $p = .03$, $\eta_p^2 = .04$ (cf. Figure 2). Supporting H1, whereas high SES students did not differ as a function of the condition, $t(120) < 1$, low SES students obtained a lower performance score in the merit prime condition than in the control condition, $b = -0.96$, $t(120) = -2.27$, $p = .03$.

Why does merit prime increase the SES achievement gap?

School self-efficacy

Regressing school self-efficacy on SES, merit prime, and their interaction product (Model 2) revealed a significant main effect of SES, $b = 0.06$, $t(120) = 2.12$, $p = .04$, $\eta_p^2 = .04$. In line with H2, high SES students ($M = 3.44$; $SD = 0.28$) had a higher school self-efficacy than low SES students ($M = 3.31$; $SD = 0.37$). Neither the effect of merit prime nor the interaction between SES and merit prime reached significance, $ts(120) < 1$.

Belief in school meritocracy

The same regression model was also used to predict BSM (Model 3). The effect of the condition was significant, $b = 0.16$, $t(120) = 2.32$, $p = .02$, $\eta_p^2 = .04$. As expected by H4, BSM was higher in the merit prime ($M = 5.66$; $SD = 0.51$) than in the control condition ($M = 5.34$; $SD = 0.92$). No other effect reached significance, $-1.12 < t < 1.10$.

School performance

A last model was regressed on school performance with SES, merit prime, school self-efficacy, BSM (both mean-centred), and all interaction products as predictors (Model 4).

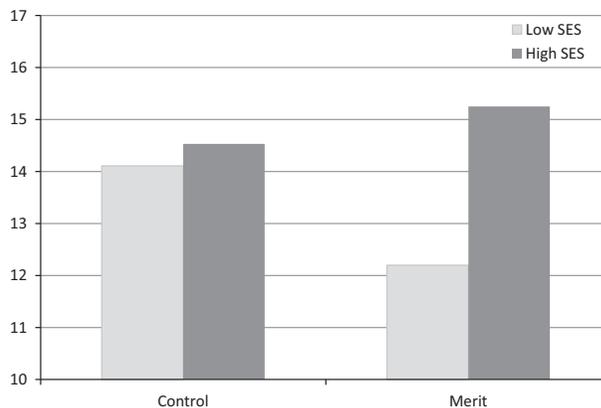


Figure 2. Mean school performance as a function of SES and merit prime.

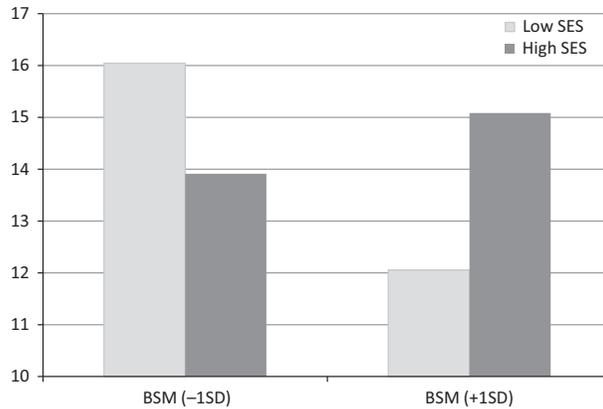


Figure 3. Mean school performance as a function of belief in school meritocracy (BSM) and SES.

School self-efficacy was related to school performance, $b = 3.44$, $t(108) = 3.52$, $p = .0006$, $\eta_p^2 = .10$. More importantly, as expected by H5, the interaction between SES and BSM reached significance (cf. Figure 3), $b = 1.69$, $t(108) = 2.24$, $p = .03$, $\eta_p^2 = .04$: BSM was significantly and negatively related to performance among low SES students, $b = -2.61$, $t(108) = -2.93$, $p = .004$, but not significant among high SES students, $b = 0.76$, $t(108) < 1$.

In addition, this last interaction was moderated by school self-efficacy, $b = 4.03$, $t(108) = 2.05$, $p = .04$, $\eta_p^2 = .04$: the higher the students' school self-efficacy, the stronger the interaction between SES and BSM. In other words, the relationship between BSM and performance was more negative among low SES students with a high level of self-efficacy (+1 SD), $b = -3.99$, $t(108) = -2.85$, $p = .005$, than among low SES students with a low level of self-efficacy (-1 SD), $b = -1.22$, $t(108) = -2.08$, $p = .04$. It was not significant among high SES students with a high (+1 SD) or a low level (-1 SD) of self-efficacy, respectively, $b = 2.08$, $t(108) = 1.55$, $p = .12$, and $b = -0.55$, $t(108) > -1$.

No other effect reached significance, $-1.32 < ts < 1.42$, $ps \geq .16$. This lack of additional results enabled several conclusions. First, the lack of significance of interaction between school self-efficacy and merit prime indicated that H3 was not supported, $b = -0.59$, $t(108) > -1$. Second, when controlled by the other terms included in the model, the interaction between SES and merit prime previously observed (H1; cf. Model 1) was strongly reduced and did not predict school performance anymore, $b = 0.35$, $t(108) = 1.07$, $p = .29$.

In sum, these findings revealed that the increase in the SES performance gap produced by the merit prime was explained by mediated moderation 2 (BSM) but not by mediated moderation 1 (school self-efficacy): Both H4 and H5 were supported by the data, whereas only H2 (but not H3) was confirmed.⁴

⁴ As explained in the Method section, math and French performances and self-efficacy beliefs were aggregated into two single scores of school performance and school self-efficacy. This aggregation relied on the assumption that the same process would apply for both domains. To test this assumption, a last set of analyses tested whether results obtained varied across the two disciplines (French versus math). To this end, within-subject variables contrasting the two fields were created for self-efficacy and performance and used as dependent variables (cf. Judd, McClelland, & Ryan, 2009). The results obtained indicated that the field did not significantly moderate the effects involved in the test of the five hypotheses, all $ps > .36$, supporting the assumption that the conclusions raised from the tests of the two mediated moderations can be considered similar in both domains.

Discussion

The ideology of merit is a powerful instrument for system justification (Jost *et al.*, 2004; Sidanius & Pratto, 1999; Son Hing *et al.*, 2011). The present paper examined whether in the school context, priming merit contributes to accentuating the SES achievement gap. This question has important practical implications as merit is often promoted in the school context and low SES students have repeatedly been shown to have a poorer school achievement than their high SES counterparts. We argued that meritocracy is likely to favour an internalization process, through which low and high social-class children attribute to themselves individual characteristics (i.e., low versus high self-efficacy) and endorse system-justifying beliefs (BSM)—two processes that may further explain their low or high performance. The present results support that priming merit has produced an increase in the achievement gap. As far as the two mediated moderation processes are concerned, the results indicated that BSM, more than self-efficacy, seems to be the key mechanism explaining this effect. Indeed, the merit prime increased BSM endorsement (H4). Moreover, the link between BSM and performance is stronger among low SES than among high SES students (H5). Again, this last result has important practical implications as it indicates that BSM contributes to accentuating the SES achievement gap and, as such, can be considered a ‘self-debilitating’ belief (Sidanius & Pratto, 1999). The irony is that low SES students have recently been shown to be precisely the ones who endorsed the most BSM when their place within the system is challenged (McCoy, Wellman, Cosley, Saslow, & Epel, 2013; Wiederkehr, Bonnot, *et al.*, 2015). Although school meritocracy is often presented as a way to *fight* social inequalities, the present results suggest that endorsing such beliefs may in fact *accentuate* social inequalities.

The results also suggest that the moderation of the link between BSM and performance by SES (i.e., negative for low SES, non-significant for high SES) increases with self-efficacy. Although unexpected, this result is coherent with some findings showing that low SES students who seem to suffer the most from their status are, surprisingly, those who achieve quite well in the system (Jury, Smeding, Court, & Darnon, 2015; Jury, Smeding & Darnon, 2015). A potential explanation is that students who have both low SES and low self-efficacy might disengage from academics. Future research should examine this hypothesis.

The present findings echo some results obtained in the stereotype threat literature on adults (Croizet & Claire, 1998; Spencer & Castano, 2007) and children (Désert, Préaux, & Jund, 2009), showing that the SES achievement gap is particularly likely to occur when negative stereotypes about low SES students are activated. Although our merit prime did not mention SES, in future research, the implicit activation of the SES stereotype could be tested as another potential mediator of the SES by merit prime interaction on school performance. The results would also benefit from being replicated with a control for initial French and math abilities. Finally, although mainly focused on effort, the present induction of merit underscored the role of both efforts and ability in explaining school success, which may explain the quite low effect size. Effort is more controllable than ability. Consequently, the internalization process is particularly likely to occur under the salience of effort-based merit. However, future research should disentangle the respective role of effort versus ability salience in increasing the SES school achievement gap.

Merit is a widespread ideology in Western societies (Kraus & Tan, 2015) and is particularly present at school. The present findings showed that merit prime leads low and high SES children to endorse system-justifying beliefs (BSM) that in turn contribute to reproducing and accentuating the SES achievement gap. In terms of practice, there are a

few reasons not to promote effort and hard work at school. Indeed, effort is a *sine qua non* condition for learning (Dweck, 1999). However, we believe effort should not be described and presented as the only factor that determines school success and failure not to legitimate, perpetuate, and accentuate the achievement gap.

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