

Defining and Measuring Character Skills

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After years of neglect, character education is once again in vogue among American educators and researchers who seek to understand and influence their work (Sojourner, 2012; Tough 2012). Principals and teachers increasingly complain that school accountability regimes too narrowly focused on test scores have forced them to neglect goals such as character development, which are equally important, but more difficult to define and measure. Of course, the relative inattention to character in American public education long predates the rise of test-based accountability, reflecting mid-20th century developments, such as the secularization of public schools, the legal regulation of school discipline, and the rise of moral and cultural relativism. Whatever the validity of educators' present-day diagnosis, however, the debate over what No Child Left Behind-style accountability leaves behind has sparked a welcome conversation about the broader purposes of elementary and secondary education.

Meanwhile, a growing number of “no excuses” charter schools have demonstrated remarkable success in raising student test scores, at least in part by implementing comprehensive discipline systems aimed at molding student behavior in and out of school in pro-academic directions (Lake et al., 2012). Concerned that too few of their graduates are succeeding in college, the Knowledge is Power Program (KIPP) network and other leading charter management organizations have recently redoubled their efforts to cultivate character skills in their students as a means to promote success in college and beyond (Pondiscio, 2013). KIPP's work in this area spawned the formation of the Character Lab, which, in addition to conducting research on

interventions to foster character development, makes available a Character Growth Card “to help middle school teachers provide students with formative feedback on skills that researchers and teachers alike have linked with success.” Among them: grit, optimism, self-control, gratitude, social intelligence, curiosity, and zest.

These developments provide a window of opportunity for those with long-standing concerns about the atrophy of character education in American public schools, yet the moment is not without risks. First, many contemporary proponents of character education justify their work instrumentally, based on the contribution specific character skills make to individual academic and economic success. This has in turn led to an emphasis on skills like conscientiousness, self-control, and grit – skills often labeled “performance character” because they are needed to achieve excellence in environments such as school, co-curricular activities, and work (Lickona and Davidson, 2005). At least among empirical researchers, far less attention is paid to students' concern for others and for their community, which comprises the essential moral and civic dimensions of character (Seider, 2012). The danger, then, is that the current enthusiasm for character education will result in the adoption of a definition of character – or perhaps a definition of those aspects of character that are appropriate for and amenable to school-based intervention – that is unduly narrow. After all, one can demonstrate performance character in service of ethical and unethical goals.

A second risk stems from the field's limited experience with measuring performance character. Whereas

achievement tests that assess how well children can read, write, and cipher are widely available, character skills are typically assessed using self-report and, less frequently, informant-report questionnaires. Like achievement tests, questionnaires have the advantage of quick, cheap, and easy administration. And unlike behavioral indicators that might be interpreted as a gauge of the overall strength of a student's character, questionnaires can be crafted to capture specific traits to be targeted for intervention. Questionnaires inevitably require subjective judgment, however, and are thus prone to reference bias, or the tendency of survey responders to be influenced by their social context. The challenge posed by reference bias may become more severe over time, to the extent that schools explicitly work to change students' habits, and thereby alter their normative standards. Efforts to promote character education, if successful, will therefore only increase the need to develop alternative measures of character skills in order to determine whether those efforts have been effective.

Defining character skills

Among researchers with an economic bent, much of the current interest in character has its origins in Nobel laureate James Heckman's seminal work on the General Educational Development (GED) program. The GED exam is a test of general knowledge administered to individuals without a high school diploma who seek an equivalent credential. Cameron and Heckman (1993) demonstrate that the exam is successful in identifying individuals with cognitive skills comparable to those of a high school graduate. After taking into account their greater cognitive ability, however, GED recipients fare no better in the labor market than high school dropouts. In other words, GED recipients appear to lack certain skills high school graduates possess, which are not captured by achievement tests, but are valued by employers nonetheless. Those non-cognitive deficits may be what lead them to drop out of high school in the first place (Heckman and Rubinstein, 2001).¹

¹ *These findings dovetail with a similar line of research on the long-term effects of early childhood education programs. In the influential Perry Preschool experiment, for example, the cognitive gains made by students randomly assigned to receive intensive preschool services fully eroded before students completed elementary school. Follow-up data, however, indicates that the intervention nonetheless improved earnings and employment, while reducing welfare receipt and criminal activity – presumably due to persistent improvements in non-cognitive skills (Heckman et al., 2013).*

Non-cognitive is, of course, a misnomer. Every psychological process is cognitive in the sense of relying on the processing of information of some kind. *Cognitive*, in this context, is simply shorthand for cognitive ability and knowledge – constructs that can be measured validly by standardized achievement tests (Messick, 1979). The term non-cognitive skills, therefore, remains in wide use among researchers as a catchall descriptor for traits not captured by assessments of cognitive ability and knowledge. A growing number, however, have embraced the language of character to describe the non-cognitive factors that contribute to personal accomplishment. Heckman et al. (2013, p. xii), for example, write that “Character skills—conscientiousness, perseverance, social skills, and the like—matter greatly for success in life. Raw smarts are rarely enough.”

Heightened attention to the role that character can play in enhancing personal life outcomes is, without qualification, a healthy development for American education. And efforts to cultivate performance character, which Lickona and Davidson (2005, p. 18) define as “qualities such as diligence, perseverance, a strong work ethic, a positive attitude, ingenuity, and self-discipline needed to realize one's potential in academics, co-curricular activities, the workplace, or any other area of endeavor,” should be a critical part of school-based character education programs. Just as faith without works is dead, character education is meaningless if students lack the self-discipline required to align their behavior with their values.

Yet if performance character skills are a necessary component of any definition of character, they are hardly sufficient on their own. Performance character is not intrinsically good or bad, but rather derives its ethical value from the ends toward which it is applied. As Lickona and Davidson (2005, p. 22) put it, “Performance character must always be regulated by moral character to ensure that we do not do bad things in the pursuit of our goals.” In addition to moral character, Seider (2012, p. 33) emphasizes the distinctive nature of civic character, defined as the knowledge, skills, and attributes necessary for responsible citizenship: “If moral character is situated in an individual's relationships and interactions with other individuals, civic character is situated in an individual's role within local, national, and global communities.” All three

aspects of character – moral, civic, and performance – must be integrated in order to produce a comprehensive approach to character education.

Moreover, labeling as character skills those attributes expected to contribute to personal material success (even if that success ultimately redounds to the benefit of society as a whole) is, at best, in tension with traditional understandings of character that emphasize the ethical value of self-sacrifice and the importance of doing what is right, regardless of the consequences. To the extent that schools incorporate this instrumental justification for character development into their curricula, it could even undermine students' ability to engage in this style of ethical reasoning.

Measuring performance character

Setting definitional issues aside, research on the measurement of performance character in school settings remains in its infancy. As noted above, the most common approach is to administer questionnaires in which students rate their behavior along various dimensions. One obvious limitation of questionnaires is that they are subject to faking, and therefore, to social desirability bias (Paulhus, 1991). When endorsing a questionnaire item such as "I am a hard worker," a child (or her teacher or parent) might be inclined to choose higher ratings in order to seem more attractive to observers or to herself. To the extent that social desirability bias is uniform within a population under study, it can alter the absolute level of individual responses, but not their rank order. If some individuals are more influenced by social pressure than others, however, their relative placement within the overall distribution of responses can change.

Less obvious, but likely more pernicious, is reference bias, which occurs when individual responses are influenced by differing implicit standards of comparison. When considering whether "I am a hard worker" should be marked "very much like me," a child must conjure up a mental image of "a hard worker" to which she can compare her own habits. A child with very high standards might consider a hard worker to be someone who does all of her homework well before bedtime and, in addition, organizes and reviews all of her notes from the day's classes. Another child might consider a hard worker to be someone who brings

home her assignments and attempts to complete them, even if most of them remain unfinished the next day.

To illustrate the potential for reference bias in self-reported measures of character skills, I draw on cross-sectional data from an unusually large sample of Boston students discussed in detail in West et al. (2014). My colleagues and I used self-report survey instruments to gather information on non-cognitive skills from more than 1,300 eighth-grade students across 32 of the city's public schools, and linked this information to administrative data on the students' demographics and test score performances. The specific character skills we measured include conscientiousness, self-control, and "grit" – or the tendency to sustain interest in, and effort toward, long-term goals (Duckworth et al., 2007).² Importantly, the schools that students in our sample attended include both open-enrollment public schools operated by the local school district and five, over-subscribed charter schools that have a "no excuses" orientation and have been shown to have large, positive impacts on student achievement as measured by state math and English language arts tests (Abdulkadiroglu et al., 2011; Angrist et al., 2013a).

Our overall results confirm the potential value of these measures in capturing differences in character skills that are related to important behavioral and academic outcomes. To illustrate these relationships, Figure 1 compares the average number of absences, the percent of students who were suspended, and the average test-score gains between fourth and eighth grade of students who ranked in the bottom- and top-quartile on each character skill. It shows, for example, that students in the bottom quartile of self-control were absent 2.9 more days than students in the top quartile, and are nearly three times as likely to have been suspended at least once as eighth graders; similar differences in absences and suspension rates are evident for conscientiousness and grit. In addition, the differences in test-score gains between bottom- and top-quartile students on each character skill amount to almost a full year's worth of learning in math over the middle school years.

Paradoxically, schools in which the average student

² *Of the many non-cognitive attributes that psychologists have studied in students, conscientiousness and self-control have the strongest evidence of predictive power over academic and life outcomes, even when controlling for cognitive ability and demographics (Almlund et al., 2011; Poropat, 2011; Duckworth & Carlson, 2013).*

reports higher levels of conscientiousness, self-control, and grit do not have higher average test-score gains than do other schools. In other words, the positive student-level relationships between these self-reported measures of character skills and improvements in academic achievement dissipate when the measures are aggregated to the school level.

This paradox is especially apparent when comparing students who attend over-subscribed charter schools and those who attend open-enrollment district schools. Despite making far larger test-score gains than students attending open-enrollment district schools, charter school students exhibit markedly lower average levels of self-control as measured by student self-reports (see Figure 2). This statistically significant difference of -0.23 standard deviations is in the opposite direction of that expected, based on the positive student-level relationships between self-control and test-score gains evident in Figure 1. The average differences between the charter and district students in conscientiousness (-0.09) and grit (-0.13), although statistically insignificant, run in the same counter-intuitive direction.³

This pattern is especially puzzling for two reasons. First, evidence gathered in the same study and reported in Finn et al. (in press) indicates that the test-score gains made by the charter school students in our data were not accompanied by gains in fluid reasoning skills – normally highly correlated with test-score levels and gains. This seems to suggest that these students' academic progress was supported by improvements in character skills – yet our evidence, taken at face value, indicates the opposite. A second reason is the emphasis that the over-subscribed charter schools in our study, all of which subscribe to a “no excuses” approach to urban education, place on character development as a means to foster academic success (Seider, 2012).

Two competing hypotheses could explain this paradox. One is that the measures of character skills are accurate and the charter schools, despite their success in raising

3 Nor does it appear to be the case that these differences in self-reported character skills reflect the selection of students with low character into charter schools. Exploiting data from school admissions lotteries, we replicate previous quasi-experimental findings indicating positive impacts of charter school attendance on math achievement within the students in our sample, but find large and statistically significant negative impacts on these non-cognitive skills.

test scores, and contrary to their stated goals, reduce students' character skills along crucial dimensions such as conscientiousness, self-control, and grit. An alternative hypothesis is that the measures are misleading, due to reference bias stemming from differences in school climate between district and charter schools.

Figure 3 confirms that the academic and disciplinary climates of the over-subscribed charter schools in our sample, as perceived by their students, differ in ways that could lead their students to use a higher bar when assessing their conscientiousness, self-control, and grit.⁴ Students in over-subscribed charter schools rate teacher strictness, the clarity of rules, and the work ethic expected of them substantially higher than do students in district schools. For example, charter students' ratings of expectations exceed those of their district counterparts by 0.57 on the 5-point scale used for these items, or 63 percent of a standard deviation of district students' responses. The analogous differences observed for teacher strictness and clear rules are of comparable magnitude. Students in the over-subscribed charter schools also reported substantially lower levels of negative peer effects and modestly lower levels of student input in their schools. In sum, the academic and disciplinary climates of the over-subscribed charter schools in our sample differ in ways that could lead their students to use a higher bar when assessing their conscientiousness, self-control, and grit.

Evidence from other recent evaluations of “no excuses” charter middle schools also confirms the plausibility of the reference bias hypothesis. Most notably, in a study that includes the three high school charter schools in our sample Angrist et al. (2013b) show that charter attendance increased Advanced Placement test-taking, test performance, and the likelihood of attending a four-year post-secondary institution. Though not the exact same schools and sample, these findings are difficult to reconcile with an authentic reduction in students' character skills. Tuttle et al. (2013) find large positive effects of attending KIPP middle schools on student test scores and time spent on homework, but no effects on student-reported measures of self-control and persistence in school. Similarly, Dobbie and Fryer (2013) find that attending the Harlem Promise

4 The questionnaire items measuring school climate were derived from a survey developed by the Tripod Project for School Improvement.

Academy reduced student-reported grit, despite having positive effects on test scores and college enrollment, and negative effects on teenage pregnancy (for females) and incarceration (for males). This parallel evidence from research in similar settings increases confidence that reference bias stemming from differences in school climate offers the most likely explanation for these unexpected findings.

If it is correct that the apparent negative effects of attending a “no excuses” charter school on conscientiousness, self-control, and grit are due to reference bias, than what our data show is that these schools influence the standards to which students hold themselves when evaluating their character. The consequences of this shift in normative standards for their actual behavior both within and outside the school environment are of course unknown – and merit further research.

Equally important, it appears that existing survey-based measures of character skills, although perhaps useful for making comparisons among students within the same school, are not well-suited to comparing the effectiveness of schools, teachers, or interventions in cultivating student character. In particular, evaluations of the effects of teacher, school, and family influences on character skills could lead to false conclusions if the assessments used are biased by distinct frames of reference. It is therefore incumbent on educators and researchers seeking to enhance students’ performance character to develop alternative measures that are valid across a broad range of school settings.

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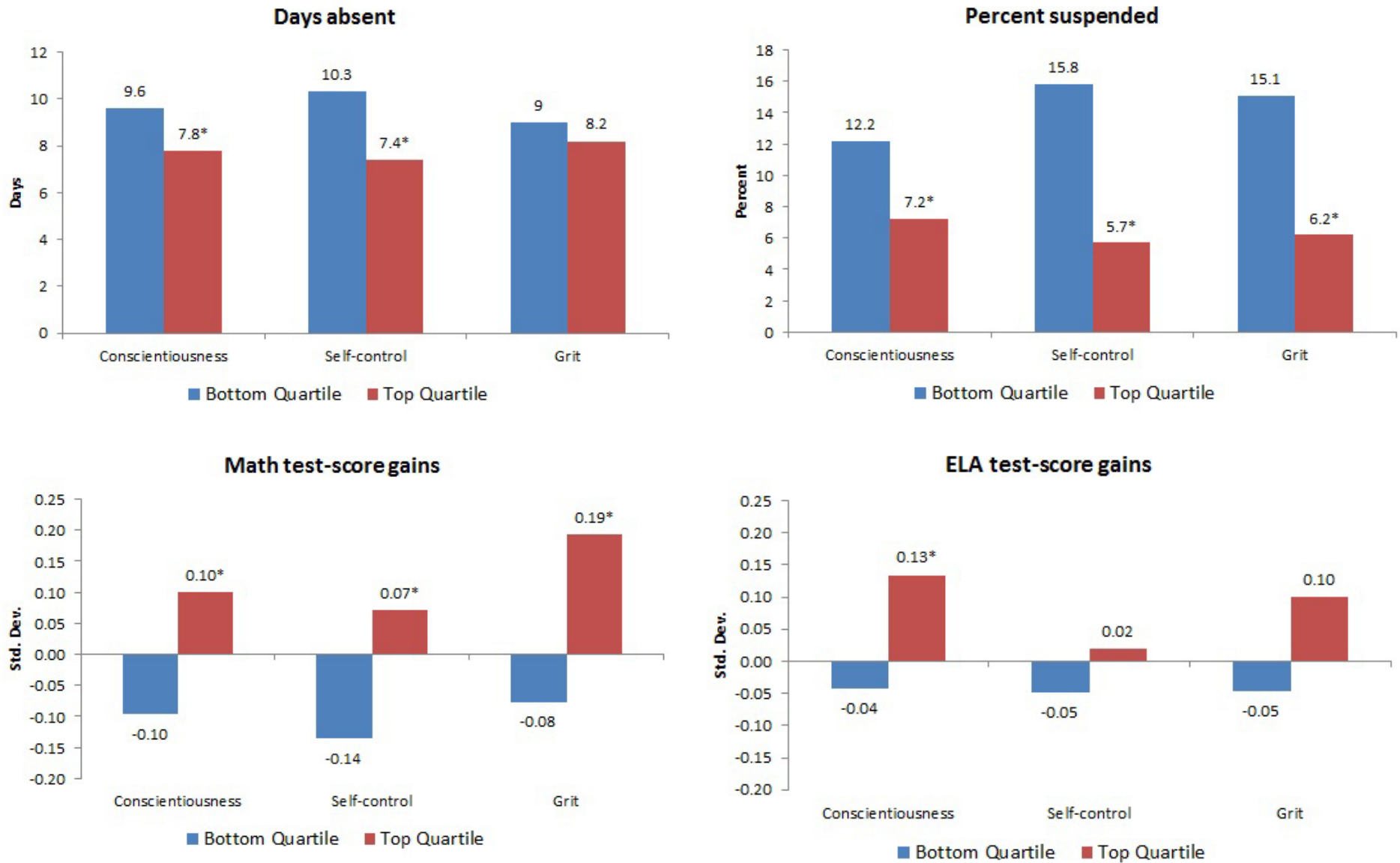
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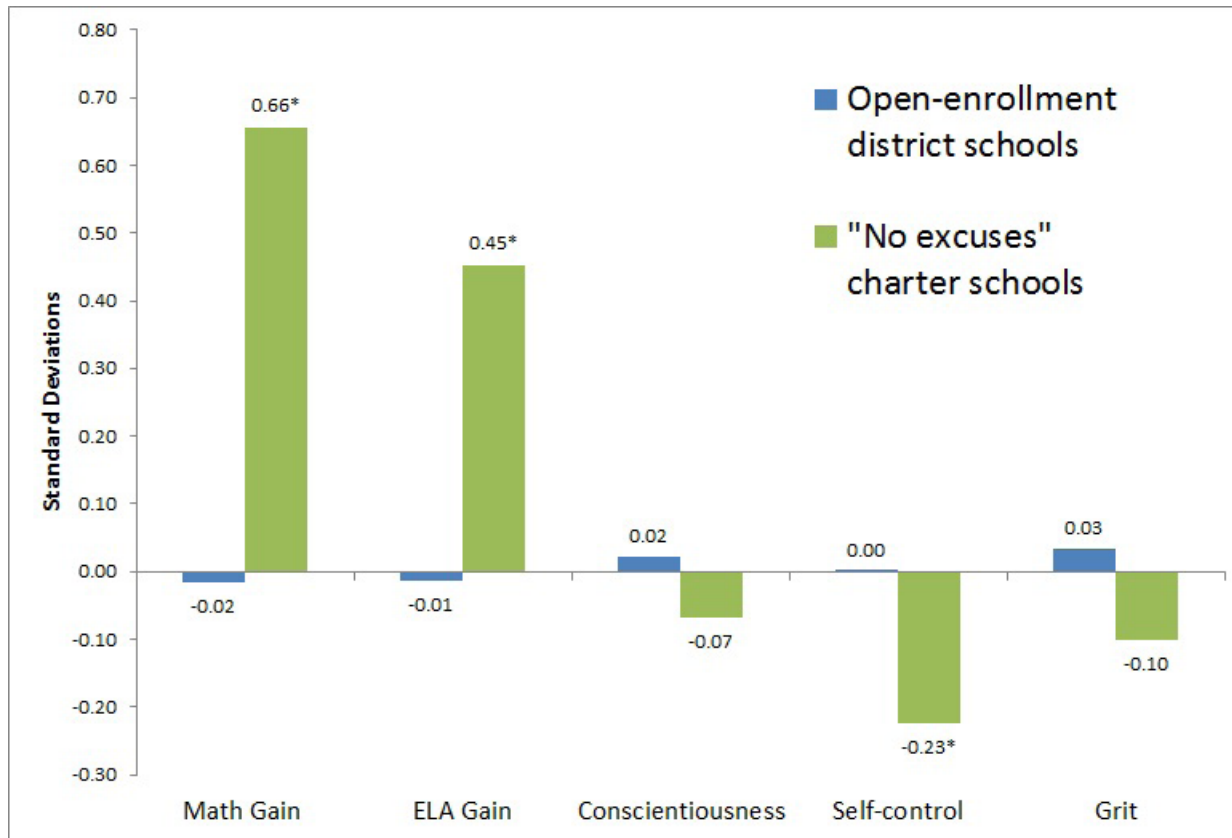
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Figure 1. Behavior and test-score gains by self-reported “character skill” quartile



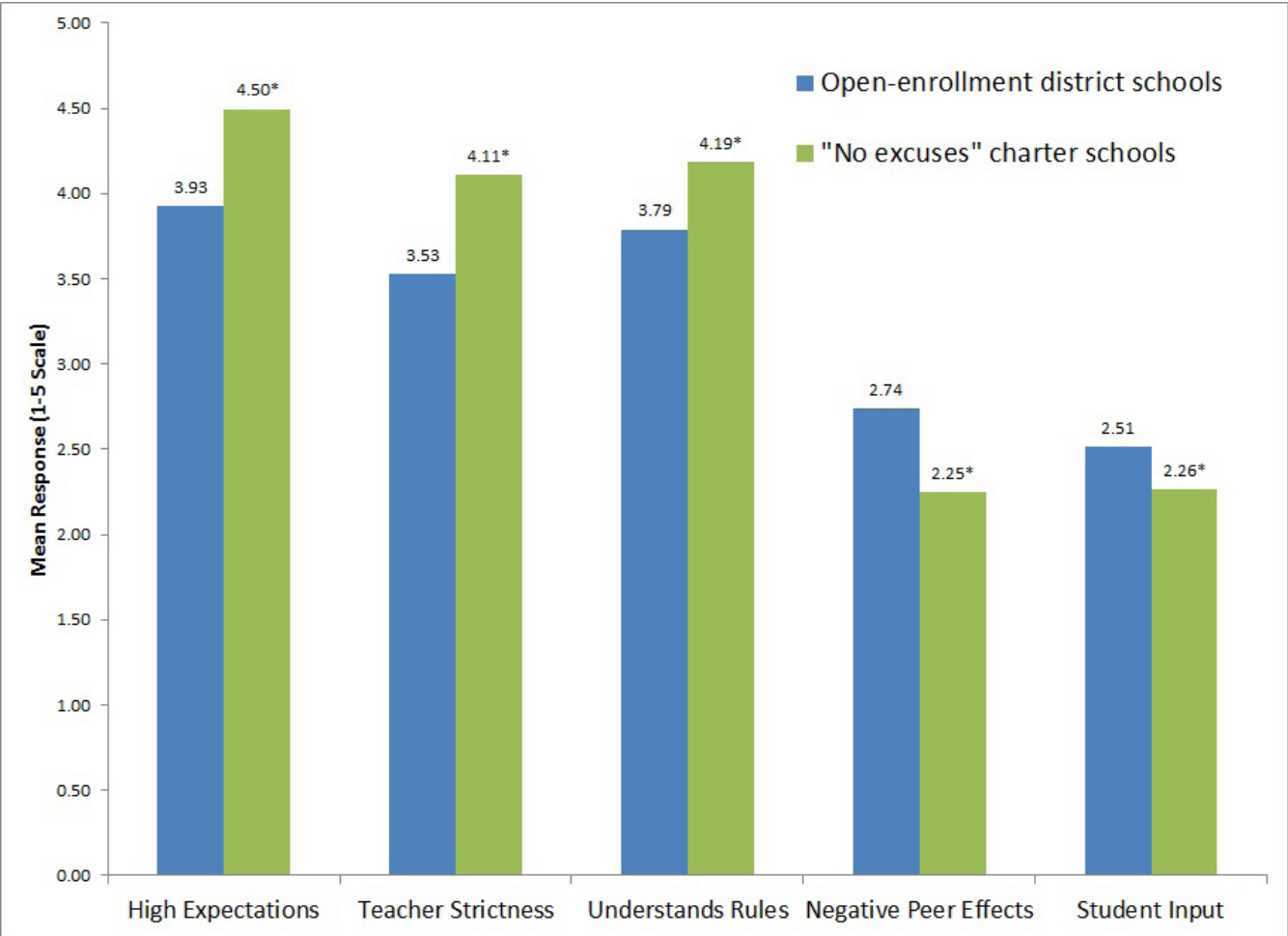
Notes: * Indicates that the difference in outcomes for the top and bottom quartile is statistically significant at $p < 0.05$ or greater. $N = 1,340$.

Figure 2. Average test-score gains and self-reported “character skills” by school type



Notes: * Indicates that the difference between school types is statistically significant at $p < 0.05$ or greater; significance tests are adjusted for clustering by school. $N = 1,033 - 1,045$.

Figure 3. Student perceptions of school climate by school type



Notes: * Indicates that the difference between school types is statistically significant at $p < 0.05$ or greater; significance tests are adjusted for clustering by school. N=990-997.