High-Achieving, Cognitively Disengaged Middle Level Mathematics Students: A Self-Determination Theory Perspective

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Abstract

A substantial body of research has shown that academic intrinsic motivation/cognitive engagement decreases from grades three through eight (Lepper, Corpus, & Iyengar, 2005). This phenomenon is troubling if education is to be viewed as a process through which learning goals become gradually internalized and connected with one’s sense of self. Although substantial research addresses motivational means through which achievement can be increased, few studies problematize the unintended consequences of these approaches. From a larger quantitative study of the relationship between engagement and achievement (5,392 students in grades 3–12), eight high-achieving, cognitively disengaged middle-school students were interviewed to understand their motivation toward learning. Classroom observations, teacher/principal interviews, and parent surveys contextualized the findings. Thematic analysis was organized according to the subscales of autonomy, competence, and relatedness, as described in self-determination theory (Deci & Ryan, 1985). Findings suggest that the student participants experienced a single-minded focus upon grades, which manifested itself through rigorous homework routines and academic competitiveness. In alignment with Baumrind’s (1966) construct of authoritative parenting, participants described a gradual removal of parental supervision with respect to the students’ academic responsibilities. This emergent trust in the students was based upon measurable academic success, rather than upon evidence of self-endorsed learning.

Keywords: cognitive engagement, intrinsic motivation, self-determination theory

More than two decades of research supports the importance of student engagement in schools. Researchers continue to uncover a positive relationship between engagement and academic achievement.
(Boberg & Bourgeois, 2016; Caraway, Tucker, Reinke, & Hall, 2003; Finn & Rock, 1997) that appears essential to academic success in terms of both higher grades and higher scores on standardized tests (Fredricks, Blumenfeld, & Paris, 2004; Marks, 2000). Exploring one possible antecedent of that success, Klem and Connell (2004) found that engaged students were more likely to exhibit effective learning behaviors than their less engaged peers, and Reyes, Brackett, Rivers, White, and Salovey (2012) found that student engagement mediated the relationship between the classroom’s emotional climate and year-end grades. Thus, engaged students appear more likely to demonstrate certain learning behaviors related to their success and appear to thrive in more emotionally supportive environments.

Despite these findings that indicate the importance of student engagement to student success, engagement tends to decrease as students progress through the educational system (Finn, 1989; Finn & Voelkl, 1993), especially during the middle grades (Wigfield, Eccles, Schiefele, Roeser, & Davis-Kean, 2006). Disengaged students are not only more likely to underachieve, but they also tend to misbehave and drop out of school at higher rates than their engaged peers (Finn & Rock, 1997; Lee & Breen, 2007). This decline of engagement in middle level students in the United States unfortunately coincides with their tendency to underestimate the importance of mathematics (Sakiz, Pape, & Hoy, 2012), to lose interest in mathematics (Middleton, Leavy, & Leader, 2013), and to underperform in mathematics when compared to their international peers (OECD, 2014). Thus, research must examine the motivational factors of middle level mathematics students more closely if policymakers, school leaders, teachers, and parents hope to leverage student engagement to improve learning.

Statement of the Problem

Although there appears to be a growing consensus around the importance of student engagement, understanding the role of engagement in schools has been undercut by the lack of a clear definition and construct for engagement (Fredricks et al., 2004). Recently, Fredricks and associates (2011) documented 156 different instruments that have been used to measure student engagement, highlighting 21 validated instruments that have been used to measure student engagement in upper elementary through high school. In the early 1980s, researchers (e.g., Brophy, 1983; Natriello, 1984) focused primarily on observable behaviors that reflect a student’s level of compliance to regulations and outward attention or participation. By the 1990s, studies (e.g., Connell, 1990; Finn, 1989; Leithwood & Jantzi, 2000; Silins, Mulford, & Zarins, 2002) began to include emotional items that focus on a student’s affective processes and sense of interest or feeling of belonging in the school community. Only recently have researchers explored a third component of engagement that emphasizes the student’s mental investment in learning, characterized in terms of the level of cognitive interest (Fredricks, Blumenfeld, Friedel, & Paris, 2005).

While some engagement researchers continue to adopt global measures (e.g., Ten Bruggencate, Luyten, Scheerens, & Sleegers, 2012), these single-factor measures can mask the effects of more complex models that include all three types of engagement (Boberg & Bourgeois, 2016). In contrast, Fredricks and associates (2004, 2005) adopted a three-dimensional meta-construct of engagement that includes behavioral, emotional, and cognitive components. Emphasizing the importance of adolescent attitudes toward future learning and satisfaction, Lewis, Huebner, Malone, and Valois (2011) found that the cognitive engagement of seventh and eighth graders predicted general life satisfaction, independent of SES, GPA, race, and gender. They reasoned that focusing on cognitive engagement may be the best way to enhance such learning attitudes and adolescent well-being because it reflects lifelong learning attitudes “related to students’ views of education as a whole, instead of being limited to their particular feelings of bonding with a school or behavior in school” (p. 258).

While researchers have emphasized the role of affective processes with respect to academic motivation (Turner, Meyer, Midgley, & Patrick, 2003), analysis focusing on cognitive engagement may shed light on why some middle level students succeed and others underperform in math class (Lewis et al., 2011). Although the construct of cognitive engagement has been shown to be reliable (\( .55 \leq \alpha \leq .82 \)) at a satisfactory level in quantitative analyses (Boberg & Bourgeois, 2016; Fredricks et al., 2005), it has limitations because it focuses on the presence of specific student behaviors, but sheds no light on the “the energization and direction” (Deci & Ryan, 1985, p. 3) of those behaviors. Only through a contextual understanding of motivational factors can we tease out why students are disengaged, and how the process of disengagement developed. Since engagement may vary from subject to subject and according to a student’s level of academic success, research should focus on a single discipline and a homogeneous student group in terms of achievement.
Because middle grades have been shown to represent the nadir of academic motivation (Gottfried & Gottfried, 1996, 2006; Harter, 1981; Lepper et al., 2005), research must explore the perspectives of middle level students at varying levels of achievement and engagement to understand the roots of this disengagement. Moreover, because educators and researchers tend to assume that high-achieving students must be ipso facto motivated, exploring high-achieving, cognitively disengaged students will help shed light on how these students achieve even when engagement is low. Before one can suggest effective interventions to address the decline in academic motivation during the middle grades, it is essential to gain a contextual understanding of latent motivational factors that influence the academic practice of this unique student group that receives little attention in part because of their prima facie success.

**Theoretical Framework**

To understand the motivational approach of high-achieving, cognitively disengaged students, we selected self-determination theory (Deci & Ryan, 1985) as the most appropriate lens through which to view the data. Originally conceived as a meta-theory, self-determination theory is comprised of five separate mini-theories relating to human motivation. The mini-theories most relevant to the present study are cognitive evaluation theory and organismic integration theory (Deci, 1975). While cognitive evaluation theory deals specifically with factors that enhance and undermine intrinsic motivation, organismic integration theory attempts to explain the process by which individuals integrate extrinsically motivated activities into their sense of self (Deci & Ryan, 1985). This focus is particularly relevant when exploring cognitive engagement, which could be characterized as an intrinsic, self-directed approach to learning.

Building upon DeCharms’ (1968) concept of personal causation, self-determination theory posits three universal human needs, including autonomy, competence, and relatedness (Deci & Ryan, 1985). Autonomy represents a manifestation of a perceived internal locus of control for actions (Deci & Ryan, 1985); competence represents a perceived expectation of performing activities at a proscribed level; and relatedness concerns how students develop emotional connections with significant others such as teachers and fellow students (Deci, Vallerand, Pelletier, & Ryan, 1991). Deci and associates (1991) described self-determined acts as being “fully endorsed” (p. 328) and intrinsically motivated at the cognitive level. According to Deci and Ryan (1985), the degree to which these needs are met either supports or undermines individuals’ intrinsic motivation to learn about and act upon their surroundings. Just as cultural factors, such as parenting style or education, can enhance intrinsic motivation, they can also undermine long-term interest and cognitive engagement (Deci & Ryan, 1985).

The motivational orientation of students in the middle grades is particularly relevant in light of the findings of Gottfried and Gottfried (1996, 2006), showing a steady decline in academic motivation throughout the elementary years. This trend often results in “poorer quality motivation” (Hayenga & Corpus, 2010, p. 377) for middle level students, indicating relatively lower levels of intrinsic and extrinsic motivation when measured in fall and spring of a single school year. On the other hand, middle level mathematics students who perceived teacher support during the transition to the middle grades (Midgley, Feldlaufer, & Eccles, 1989) and who benefited from autonomy-supportive curriculum (Middleton et al., 2013) demonstrated higher levels of belief in the utility of mathematics. More recently, Symonds and Hargreaves (2016) investigated the complexities of academic engagement for middle level students at this transitional time, indicating how students could be both engaged and disengaged simultaneously, based on ongoing environmental and emotional factors, often relating to feelings of self-concept. Schlechty’s (2011) construct of engagement, including ritual and strategic compliance, is particularly relevant for this age group, which may respond to often contradictory motivational impulses. From a theoretical perspective, these middle level studies call for a nuanced approach to understanding the motivational orientation of the students in transition, as opposed to the traditional dichotomous metric of intrinsic/extrinsic motivation in the most common motivational scales (e.g. Harter, 1981).

**Research Questions**

The following questions guided the present study:
1. How do high-achieving, cognitively disengaged middle level students experience motivation toward academic tasks in math?

2. How do teaching and parenting practices support the cognitive engagement of high-achieving middle level mathematics students?

3. In what ways do the experiences of high-achieving, cognitively disengaged middle level mathematics students support understandings posited in self-determination theory (Deci & Ryan, 1985)?

**Study Design**

The current study uses a mixed-methods methodology, in which the qualitative design is based upon quantitative results, in order to provide a depth of understanding to student engagement and achievement. Phase I of the study employed multi-source data from teachers (N = 680) and students (N = 5,392) from a single charter school organization in the southern United States to provide empirical evidence of the indirect effects of school leadership on student engagement and achievement (Boberg & Bourgeois, 2016). While a range of measures were available to assess student engagement, we selected the 15-item School Engagement Scale (Fredricks et al., 2005) because of its multidimensionality and capacity to distinguish superficial from deep engagement. The School Engagement Scale included four items relating to a behavioral engagement subscale, such as “I follow the rules of school.” The emotional engagement subscale included six items, such as “I like being in school.” Because cognitive engagement is central to the present (Phase II) study, we list all five items of the subscale below:

1. I try to watch TV shows about things we are doing in school.
2. I read extra books to learn more about things we do in school.
3. When I read a book, I ask myself questions to make sure I understand what it is about.
4. I check my schoolwork for mistakes.
5. I study at home even when I don’t have a test.

Finally, the dependent achievement variable consisted of student-level standardized testing results in math and reading, expressed in terms of raw percentage of correct items.

During Phase I of the study, bivariate correlations generally supported the centrality of teacher efficacy in the relationship between leadership and student outcomes. Perceived transformational leadership was positively correlated with collective teacher efficacy (r = .56, p < .01), teacher extra effort (r = .65, p < .01), and reading achievement (r = .28, p < .01), but not with either omnibus student engagement or mathematics achievement. Collective teacher efficacy (Goddard, 2002), on the other hand, correlated positively with omnibus student engagement (r = .32, p < .05), and both reading (r = .60, p < .01) and mathematics (r = .49, p < .01) achievement. These associations suggested that while perceived transformational leadership might directly affect reading achievement, most of its effects on student outcomes appeared to be mediated through collective teacher efficacy. Despite the positive associations with omnibus engagement, closer examination of the three dimensions of the student engagement construct revealed that only the emotional subscale was positively associated with collective teacher efficacy (r = .42, p < .01).

While previous research (Fredricks et al., 2004; Marks, 2000; Middleton et al., 2013) supported a significant positive association between engagement and achievement, the current study produced conflicting results, particularly when each subscale of engagement was analyzed separately through path analysis. Serial multiple mediation analysis using the PROCESS macro in SPSS 22 revealed that while increases in emotional engagement predicted increases in student achievement, lower levels of cognitive engagement appeared to predict higher levels of student mathematics success. Although the latter finding was only approaching significance (p = .06), the inverse nature of the relationship seemed to challenge prior research and the common sense assumption that achievement requires engagement. To the contrary, the results suggested that the highest achieving students were not necessarily the most deeply engaged. This apparent inconsistent finding and the dearth of research on cognitive engagement led us to dig deeper and apply qualitative data collection and analysis to the problem.

For Phase II, we selected a phenomenological research design because of its strength in uncovering the lived experiences of several individuals (Creswell, 2006). From the quantitative dataset, we identified 125 students in grades 6–8 who scored 91–100 on the state math assessment. Of these students, 21 scored 1–1.99 on the cognitive engagement scale, fulfilling the conditions of high achievement and low cognitive engagement. Finally,
eight of those students from a single middle school agreed to take part in our study of high-achieving, cognitively disengaged students. According to Polkinghorne (1989), the optimal number of participants in a phenomenological study is five to 25, which allows sufficient depth of analysis. The combination of interviews and observation inherent in phenomenological research is essential to an in-depth exploration and interpretation of subjective experience that provides insights into people’s motivations and behaviors.

To achieve triangulation of data collection, we performed open-ended interviews of students, their math teacher, and the campus principal, along with classroom observations. Using a voice recording device, we conducted eight individual student interviews to gain insight into their academic motivation. The protocol was organized according to the subscales of autonomy, competence, and relatedness, as described in the framework of self-determination theory (Deci & Ryan, 1985). Open-ended items for participating students sought to shed light on their interests (both academic and non-academic), feelings of relatedness at school, perceptions of academic competence and enjoyment, academic preparation activities, parental involvement, and most importantly, the extent to which they exhibited cognitive engagement and self-directed learning behaviors. At a single campus, we conducted interviews of the student participants’ math teacher and campus principal, seeking to gain a contextual understanding of the learning environment. Research demonstrates the importance of school context on learning attitudes related to cognitive engagement (Fredricks et al., 2004; Lewis et al., 2011; Roeser & Eccles, 2000).

Student, teacher, and principal interviews lasted 30–45 minutes and followed a predetermined protocol of questions. To gain depth of understanding, we observed student participants in their math classes for 50 minutes each, using the same observer protocol and scales. Although we did not record classroom observations, we took notes with particular attention to the quality of engagement for the identified student. As a final element to the data collection, we gathered survey data from the parents of the eight student participants. In addition to demographic items, open-ended questions addressed issues of parental involvement, systems of rewards, and the educational culture of the families.

**Procedures for Data Analysis**

After completing the data collection and transcription of oral interviews and field notes, we were confronted with significant textual data. The challenge to qualitative researchers is to filter the responses to create a coherent narrative that reflects the essence of the phenomenon (Van Manen, 1990). Realizing that any narrative account was necessarily an interpretation, we did not follow the procedure of bracketing (Moustakas, 1994) or *Epoche* as proposed by Husserl (1931, original work published 1913). Rather, we followed Van Manen (1990) to the extent that the phenomenology was overtly our interpretation of lived experience, complete with reflexive awareness of our familiarity with research in academic motivation, particularly from the perspective of self-determination theory (Deci & Ryan, 1985). This aligned with Gadamer’s (1975) view that “foregrounding and appropriation of one’s own fore-meanings and prejudices” is fundamental to the researcher’s quest for understanding “the other” (pp. 271–72). After initially coding participant comments into the three major elements of self-determination theory (Deci & Ryan, 1985), including autonomy, competence, and relatedness, we allowed themes to emerge, based upon consensus from the participants. Throughout the hermeneutic process, we sought to merge the various data sources, including classroom observations, interviews (principal, teacher, and student), and parent surveys into a cogent account. Since our analysis centered on aspects of student motivation, we privileged data relating to that theory-laden area of investigation. From a methodological perspective, we sought to foster a contextual understanding of the lived experience of high-achieving, cognitively disengaged middle level mathematics students.

**Presentation of Data**

Data are presented in narrative format, with the initial section describing the site, followed by a brief contextual background on the school environment from the perspective of the math teacher and the campus principal. The narrative continues with a summary of two classroom observations of math, during which we viewed the eight student participants in action. The most substantial portion of data is in the form of student comments, organized in thematic units. As a final element of triangulation, we present textual corroboration of many of the same themes from the perspective of the students’ parents. Recognizing that there are no innocent questions, particularly within the realm of qualitative research, we assert our role as both interpreters and judges of which
lines of the transcript to include and which to leave. Therefore, we were mindful of Gadamer’s (1975) assertion that “interpretation begins with foreconceptions that are replaced by more suitable ones. This constant process of new projection constitutes the movement of understanding and interpretation” (p. 269). With that in mind, we recognized that the researcher serves as research instrument, theoretical framework, interpreter, and storyteller.

The Site

The site of the study was a middle school serving students in grades six through eight with a total enrollment of 206. This open-enrollment charter school served a relatively affluent student population, with only 17.5% qualifying for free and reduced lunch. The demographic breakdown included 66% White, 13.1% Hispanic, and 9.2% African American. The school employed 13 full-time teachers, representing a range of experience. Eighty-three percent of the teachers were in their first three years in the profession, while 17% had taught six years or more. Unique to the school was a blended curriculum, where social studies and science were taught with individualized workbooks, and the remaining coursework were taught in the face-to-face setting. For the 2013–14 school year, the campus received the “met standard” designation by the state, with 92% of students passing the math assessment, 93% passing reading, 78% passing social studies, 89% passing writing, and 86% passing science. To facilitate differentiated learning goals, the school had established regular and Pre-AP tracks for both math and English.

Perspectives of Math Teacher and Principal

This section includes general comments by the students’ math teacher and campus principal regarding their motivational orientation and the quality of their engagement. We also reference the teacher and principal within the theme-based sections below. All students shared the same math teacher, who had been identified as a lead teacher by the campus principal. Having taught math for 10 years, he could be characterized as an experienced teacher who had taken on a mentoring role with other teachers on the campus. The campus principal had similar experience, serving for 16 years as a teacher and two years as a principal.

Both the teacher and principal highlighted the school’s emphasis on student effort. The math teacher characterized the eight students in the study as “very bright, and excellent workers. . . . The thing that separates them is their effort, their hard work. All of them participate in class, ask questions, probe.” The principal had a similar view of the students, noting, “We have motivated kids, because when I meet with their parents before they come, we establish that we have high academics. The kids will work hard.” She went on to explain that “they have lots of homework. They need to know that before they walk in the door, and understand the expectations.”

The math teacher and principal also shared similar goals for the students, stressing the importance of a welcoming learning environment in which students could gain confidence. The math teacher detailed his approach, stating, “My teaching philosophy is all about relationships. So for me, if I have that relationship, then whatever I ask of them, they know it’s because I care, that I want them to truly succeed.” On a similar note, the principal expressed her aspirations for the students, noting, “My goal for these kids is that they enjoy being here—enjoy learning. It’s not about a grade—it’s about loving to learn, because they’re going to have to do that their entire lives.” She went on to explain that “middle school is such a malleable time in their lives. In middle school, they still have that joy in them—that school is still a good place to be.” Building on this point, the math teacher stressed he wanted his classroom to be “a relaxed setting.” He later expanded on this idea, stating, “I don’t want these students to be on edge so much—to be on pins and needles—you learn the best when you’re relaxed and when you feel comfortable at a place.”

Observational Data

Building upon the background information provided by the school staff, we sought to gain a contextual understanding of the phenomenon by conducting two 50-minute classroom observations of seventh/eighth grade math classes. Seeking to witness each student participant in the math setting, we observed two pre-algebra classes. Participating students were identified on a seating chart prior to the observations, though no formal introductions were made with the researchers. What follows is a consolidation of the two observations because the procedures and student participation were similar in both sessions.

The math class could be characterized as highly teacher-centered, with the teacher holding court at a dry erase board throughout. He explained his
approach later, noting, “I teach more of a lecture-style in math, and it’s proven to work here. . . . But I see it as kind of a college lecture style, where everybody’s in rows.” The middle level students directed their attention at the teacher, their textbooks, and their notebooks throughout the lesson. Opening with public accounting of the students’ usage of Study Island, which is a web-based series of homework problems, the teacher administered praise and disapproval in equal measure. Subsequently, he interrogated students concerning their completion of the weekly homework, with approximately 40% indicating non-completion. After stressing that “anything is better than a zero,” he commenced the process of revealing the answers to the weekly homework assignment. Since so many students had not completed the assignment, the fervor with which they took down notes and answers increased. The teacher repeatedly referenced “tomorrow’s” imminent test. In fact, since the content was so important, it would be broken down into two back-to-back tests. The teacher gave the impression that he was giving this class special information on how to tackle this test, detailing the item types and enumerating strategies for success. He stated that if students could correctly complete the homework problems, then they would do well on the test.

The day’s lesson focused on the objective of mapping coordinates and finding slope. Based upon the triangulation between a worksheet, textbook exercises, and Study Island problems, the students spent their class time individually solving problems, publicly stating answers, and taking notes. It was difficult to distinguish the behavior of the eight study participants since all students were occupied with the same tasks. In terms of classroom management, the teacher had few opportunities for redirection, since students seemed uniformly satisfied with the classroom routine.

While teacher-talk represented the most prevalent form of classroom discourse, students occasionally interjected, most frequently in the form of one-word answers to the teacher’s prompts. The only extended student talk was when the teacher asked individual students to read a question out loud. Through a series of short, knowledge-level questions, the teacher was able to gauge the understanding of his students. He subsequently explained this process, stating, “I probe. I use random calling; I cold-call quite a bit. I can tell who is engaged. . . . I call on the ones who don’t raise their hands. I don’t settle for ‘I don’t get it.’” There appeared to be a press for the teacher to hear the correct answer, with explanations tending to be clipped and student questions, if any, tending to be procedural. There was always an implicit “you need to know this because it is on the test” interaction, with the teacher overtly leveraging grades over interest. There also seemed to be a fear of failure, a fear of the wrong answer. One female participant seemed to blend in with the others, rarely looking up, and devoting her time to taking notes and checking answers. She responded orally with one correct answer and then was silent for the remainder of the period.

Intermittently, the teacher commented about how the content of the story problems was “real world.” He later explained the context for this frequent remark, noting that “as a math teacher, the most frequent question I get every year, no matter what school I teach at, is ‘When am I ever going to use this stuff?’ and ‘How does it apply to my life?’” As the lesson continued, students persisted in note-taking and answered the teacher’s short questions, while raising few of their own. Near the end of the lesson, students grew restless, putting away their supplies and anticipating the transition to the next classroom, with a new set of procedures, new questions, and new assessments.

Employing Schlechty’s (2011) terminology for engagement, this class appeared to be ritually and strategically compliant, displaying outward signs of engagement but focusing upon the instrumental value of the task in anticipation of a reward, typically in the form of a grade. During the classroom observations, signs of authentic engagement in the form of student-to- student interaction or student-generated questions were conspicuous in their absence. Similarly, there were no signs of retreatism (actively disengaging from the lesson) or rebellion (overt and intentional misbehavior) since all students were visibly occupied with the procedures of class. Students sat in rows, took notes, and responded to teacher prompts, engaging in a tacit agreement with respect to their behavioral patterns and the later assessment for which they prepared.

**Findings from Interviews**

While observational data supply meaningful context for the phenomenon under investigation, only through qualitative data can the students reveal their attitudes toward school, along with their motivational orientations. Thematic analysis suggests that the high-achieving students in the study shared several
attributes that explain their relatively low scores on cognitive engagement. These nine thematic categories relate to (1) connection to school, (2) enjoyment of school, (3) attitude toward English/Language Arts, (4) optimal challenge, (5) homework, (6) competitiveness, (7) attitude toward grades, (8) parental involvement, and (9) extrinsic incentives. The findings are organized according to these nine main themes, with supporting statements from the student, teacher, principal, and parent participants as appropriate.

**Connection to the School**

Common to all student participants was the view that their particular middle school was a welcoming place, fostering positive relationships between all stakeholders. One male student explained his view of the campus, noting, “It’s a good school. I like how you pretty much know everyone—at least by name—it’s a nice place.” He went on to stress that he felt “very connected with the students.” Within a relatively small learning environment (206 student and 13 teachers), the participating students were particularly pleased with the absence of some social challenges present in larger schools. For example, a male participant explained, “One thing is that they’re really strict on bullying. Not many people bully and stuff, and we’re all like a big family here. And so we all stand up for one another.” A female participant concurred, indicating her preference for the relatively intimate school setting, where it is “easier to make friends.” Perhaps most central to the climate at the school are the positive relationships between students and teachers. A male participant characterized the teaching staff, explaining “Some are funny, some are determined, some are really—outgoing. . . . I guess they want us to do better.” The students particularly appreciate the humor of their math teacher, who “makes jokes to keeps [them] engaged.” With respect to the school climate, the campus principal clarified her approach, which aligns with the student attitudes described above:

They just fit here. Yes, we work hard. But we don’t have straight lines walking down the hall. We don’t have silence in the cafeteria. They’re free to be kids in between classes. I think that’s critical as far as their well-being.

**Enjoyment of School**

While the participating students reported consensus concerning connection to their school, they expressed mixed views with respect to their enjoyment of school in general. One male student expressed ambivalence, stating, “It depends on the day. I mean, it’s not bad. It’s not totally fun-fun. But, I mean, I like it sometimes. Sometimes I want to go home.” Another male participant had a more decisive view, explaining, “Sometimes I don’t like it—just feel like not learning, just doing nothing. I would prefer staying at home.” Another male student shared this view, noting, “I understand it’s necessary, but not the most fun thing in the world.” Still another male participant lamented having to attend school, explaining, “Normally, I just want to go back to bed.” With respect to math, one male student described a consistent negative experience, noting that “afterwards, it leaves me with a headache. . . . It’s my hardest class too, and I learn it begrudgingly.” Perhaps less prevalent was the view that school was fun because it is relatively easy. One male student expressed this view, stating he likes school because he is “good at it.” A female student expressed a similar attitude, noting, “I enjoy it because I just understand it, and it’s just easy for me.”

**Attitude toward the English/Language Arts**

While the majority of the participants identified math as their favorite subject, they presented a unified front concerning their dislike for liberal arts subjects, specifically English/Language Arts (ELA). While one of the female students was a strong advocate for ELA, the others uniformly expressed disdain for the course and its content. A male student expressed the view of the group:

Like ELA, I sometimes find it boring. And I just like wait for the teacher to get finished with everything—just assign us the homework and just get out of class . . . and sort of learn from myself from the book.

A female student stressed the lack of clarity in language arts assessments, noting, “In English, there can be pretty much any answer—I really don’t like that. . . . I like a set answer.” She expanded on this view, clarifying, “Same thing on projects. I don’t really like creative projects. I like set projects (laughs). So you know what you’re doing.” She went on to express her frustration preparing for tests in language arts, noting, “Usually the teachers in ELA don’t stay on topic, just in general. They usually go off topic a lot . . . math, they’re pretty on time—on point.” On a related note, many of the participants, all strong math students, were averse to reading for pleasure. A male participant provided his perspective, explaining, “I don’t really like reading that much; and
it’s not my best subject.” Another male student explained that it is difficult for him “to sit still and read.” With respect to reading in class, a female student expressed a nuanced view, noting, “I like reading. I don’t like being forced to read in a set time zone.” It should be noted that students referenced reading specifically in book format and did not distinguish this from reading a range of online materials.

**Optimal Challenge**

Although the participants’ apparent aversion to language arts bordered on hostility, they shared an appreciation for the value of math, particularly with respect to the task of overcoming challenges. Within the context of math, a female participant expressed the view of the group:

> I like algebraic equations. . . . They’re challenging, and they’re harder than like geometry. It’s like—it’s in the middle ’cause it’s not too hard, it’s not too easy. And there’s a lot of different things you can build on and learn to be better at it. It’s not so simple and it just stays that way. They get harder as they add different equations, or elements—they get harder. They build harder as you keep learning. Like kind of at your pace.

A male student echoed this view with respect to solving math problems, noting, “I find it really fun to work out problems, instead of memorizing text.” On a similar note, a female student shared her approach to pushing through difficult math material, explaining, “I do like a good challenge. And if I solve a difficult problem and I get it right, I feel way happier than I probably should.” While these high-achieving students appreciated the chance to solve challenging problems, they also expressed feelings of frustration when the teacher must slow down instruction to meet the needs of less advanced students. A female student expressed this view of the group:

> Like if they’re going too fast, like if they’re basing it off—and this was my problem in public school—if they’re basing their education off the slower kids, none of the average to higher-level kids are going to learn anything, and they’re gonna get bored, and grades are gonna drop.

From written survey data, this student’s mother expressed a similar view of the school, explaining, “I think the curriculum is way too easy. I think the curriculum does not emphasize math and science enough. . . . [She] is capable and should be further along in math than she currently is.” While the other parents expressed more positive sentiments concerning the level of rigor at the campus, her point brings out the challenge of meeting the needs of a diverse student population.

**Homework**

Since the student participants responded positively to the level of challenge in math class, it is not surprising that they would articulate well-developed plans for studying and completing homework. The math teacher characterized the group of students in the study as “very self-motivated, from what I can see. It doesn’t take a lot to really motivate them. Just them wanting to do well in school is just motivation enough.” This applies to their habits of preparation, which contain commonalities relating to the time and place of completing homework, along with their level of concern for continuous preparation. Consensus among the student participants was that they completed homework prior to engaging in free-time activities. Most had a designated spot in the home that was quiet and free of distractions. A male student shared his homework routine:

> I find that I work better during the earlier times of the day, because I guess my brain is more alert. So I do homework when I get to my house, I eat a snack, do homework for two hours. And then I can get free time for me.

Another male student explained a detailed plan in which he outlined all of his weekly work by subject, completing it intermittently on Saturday and Sunday, with leisure activities interspersed. Still another male student described his level of concern on weekends with respect to his preparation for school:

> This is probably just me, but around four-ish [on Sundays] and after, I get like kind of butterflies in my stomach, and I go kind of wild trying to remember if I got everything done, and I worry about the week.

Based upon the classroom observations and the words of the campus principal, homework was a central aspect of the school’s academic program. With respect to math class, the teacher devoted a significant amount of class time going over homework, which in part explains the students’ serious approach to its timely completion.
**Competitiveness**

In light of the rigorous homework routines of the eight high-achieving math students, it was not unexpected that most identified themselves as being competitive, both athletically and academically. One of the female participants was a nationally-ranked tri-athlete, who articulated her competitive attitude, stating, “I like winning . . . in everything. Athletics, academics—I like beating my friends to a question, or in a grade—do that a lot. Just like being the first to react. Get something right.” She went on to explain that she competes with her classmates in math for “bragging rights (laughs).” With respect to competition for grades, she said, “I know that colleges don’t really care about middle school grades. But if I can just keep As all the way through high school, I think that would be pretty scholarship-worthy (laughs).” On a similar note, a male student revealed a familial source for his competitive drive, noting, “I have a sister. . . . I try to outdo her on everything that I do.” He also competes with his classmates academically, frequently “trying to get a better grade than them” . . . and getting “the best grade in the class.” He went on to explain a consequence of his competitiveness in academics, noting, “I don’t like people telling me that I am wrong.”

**Grades**

The competitiveness of the participating students described above most often manifested itself as a heightened emphasis upon course grades. When responding to a general question concerning how they were doing in school, all the students replied with direct reference to grades. Representative of the group were statements such as “Grades-wise, I’m doing good, my goal this year is 93.3 and higher for all grades.” Another noted, “Well, A-Student. I have a 97 right now.” A male student explained his attitude toward grades, noting, “My grade really reflects how well I’m supposed to be doing. So like 90% means that I just know 90% of the course.” Another typical response related to the instrumental value of grades:

> The better you do in school, the more academics you qualify in, the better it looks on your resume when you go for a job, and you’ll end up getting a good job. . . . So you don’t end up working at McDonalds or something.

Well, it’s technically my choice, but I could do it and get a zero, but like I said, it’s grades.” While the students stressed the relative importance of grades over interest, the math teacher characterized their motivation to be based upon additional factors:

> From the students that we’re talking about, it’s a combination. I do know that they care about grades . . . but I know that it is not just about grades for them. It goes beyond that, really trying to understand. And I think they all have a desire to excel in math.

Similarly, the principal provided additional context for the attitude toward grades on the campus:

> It’s about doing their best . . . especially sixth graders—they come in from middle school expecting to make straight As. It’s a huge adjustment when they don’t always make straight As. But I’ve always told the kids, ‘It’s not about what grade you have, it’s about how hard you work, and are willing to work. And if you give 100% and you make a B, that B is awesome.’ Whatever they come out with is reflective of how much work they put in.

The attitudes of the math teacher and principal were more in line with the attitude of one of the parents, who wrote the following:

> We expect [] to get good grades. When his grades fall behind, we know that he has not completed his homework and turned it in. He can do and understands the work without any problems; however, sometimes he decides not to put the effort into it. I do not worry about his class rank and have no idea what his class rank is.

Looking at the attitudes of students, school staff, and parents, there seems to be a lack of consensus concerning the relative importance of grades. Based upon the corroborating evidence of the classroom observations, we suggest that the centrality of grades represents a more accurate evaluation of the school climate.

**Parental Involvement**

While the participants presented a mixed message concerning the importance of grades, they offered a consensus concerning the role of parents in their children’s academic lives. Common to the remarks was a tendency for direct parental supervision during
the elementary years, followed by a less active participation during the middle grades. One parent presented an account that is representative of the group, stating, “I am less involved now than I have been in previous years. … My involvement now consists of reminding him to do his homework and checking the status on projects that are due.” This gradual decrease in involvement was also expressed by a female student, noting, “I’m pretty gifted in school, so they are not as worried. They kind of expect me to do my work to the best of my ability. So I do that—no problem.” It seems that these academically gifted students have gained the trust of their parents, earning a less authoritative approach toward school. A male student described this phenomenon, stating, “They usually just trust me. They said, ‘I know that you are going good in school, and just I trust you and everything.’ They don’t usually get too much into homework. They don’t help me.” Another student stated that her parents were involved in her schooling “less as it progressed.” She went on to clarify her parents’ view toward her grades, noting, “They love when I get 90s and above. But, if I get below, it’s not the end of the world, as long as I tried and did everything to the best of my ability.” These accounts align with that of the math teacher, who shared his impressions and aspirations for parental involvement of his students:

I can tell that parental involvement is strong. … Parents have high expectations of them, and they want to fulfill that and please their parents as well. … Ideally, we want parents to check up on the students, but not over them like every single assignment or every little detail. Because in middle school, we’re trying to prepare them to be more independent.

**Rewards**

While the participants presented a picture of limited parental involvement in the academic lives of the students, there was also a consensus concerning the use of contingent rewards. Specifically, participants told of pervasive token reward systems in the classroom and at home. While each family had a different iteration of an incentive plan, the most typical included a proscribed grade point average and a negotiated cash amount. According to a female student, her parents paid out “40 bucks for all As.” Even with such a small sampling, another participant had an identical arrangement, explaining, “My grandmother—each semester if I get straight As—then I get 40 dollars.” A female student’s mother explained that she had reluctantly started incentivizing report cards, lamenting, “This is the first year I have given a financial incentive. Ten dollars per A if all As and Bs on report card. All of her friends seem to be getting big bucks, and I finally caved.” Others received non-monetary rewards for good grades, including “a cell phone” and “a Play Station 3.” In one case, a male student described how participation on a select baseball team was contingent upon a satisfactory report card, explaining, “You have to have your grades up to play with ’em. So that’s one of the motivators for me.” Speaking to the same theme, the principal detailed the school-wide incentive program, complete with performance goals and predetermined rewards:

We have campus incentives every six weeks. And they usually are related to attendance, academics. … We’ll set three goals, like no zeros in core classes for any homework; they had to complete their Study Island, and 100% attendance. … If they do one, they might get a popsicle, and if they get two, they might get a free dress day. If they get three, they might get a game, or first period they get to go play games, or they might get to wear pajama pants, or something random. But we try to give them incentives every six weeks that rotate and change, so our kids are constantly trying to see which ones they can meet. And I’m sure the teachers have incentives in their rooms as well.

**Discussion**

Although exploratory in nature, the current study represents a marriage between quantitative and qualitative methodologies, particularly with respect to the selection of student participants. By identifying students according to their achievement and engagement scores, we targeted a group that was both academically gifted and cognitively disengaged. Prior to the student interviews, we expected to be confronted with eight students who were highly competitive, grade-conscious, and possessing a future orientation with respect to college acceptance and future employment prospects. We also anticipated hovering parents who monitored their child’s homework and grades with a heavy hand. Along the same line, we expected to see a classroom environment that stressed achievement, complete with systems of contingent rewards. What follows is a brief discussion of the findings, emphasizing how the data aligned with our expectations. We organize the discussion through the lens of self-determination theory (Deci & Ryan, 1985), with separate sections on the subscales of autonomy, competence, and
relatedness. Through this discussion, we emphasize the alignment of our findings with that of existing literature, cognizant of our own reflexivity and central role within the interpretive process.

**Autonomy**

Reeve (2006) argued that the imposition of contingent rewards undermines autonomous learning on the part of students. Within the school environment, he framed this view in terms of increased teacher control, which results in relatively fewer student choices, and a teacher-centered classroom environment (Reeve, 2006). Similarly, the imposition of token reward systems in the home, often in the form of pay for grades, reflects the message that the activity of learning is not of inherent value; only the activity’s instrumental value would be meaningful to students. The findings of the current study seem to support the views of Reeves (2006) and Kohn (1993), particularly with respect to student autonomy. In the present study, the campus principal was happy to relate the intricacies of the campus-wide programs of incentives and sanctions, describing a clear power structure, where the teachers bestowed a range of rewards to their students. She suggested that teachers supplemented the school-wide system with classroom-level programs of their own. Similarly, parents and students reported formal and informal arrangements of pay for grades, reflecting a consensus that an A was worth approximately $40. This system of contingent rewards, both within the classroom and in the home, has been shown to have a cumulative adverse effect, which profoundly limits autonomous, self-endorsed learning (Deci, Koestner, & Ryan, 1999). While participating students expressed a range of views concerning the motivational impact of the rewards, most commented that they valued the reinforcement of grades more than the learning which it represented.

In addition to reliance on grades as a motivator, students reported a similar story concerning the involvement of their parents in their school activities. The most common pattern was for parents to be directly and substantially involved in the students’ schooling during elementary years. Once students reached the middle grades and had demonstrated patterns of academic success, parents withdrew and took on a relatively less active role. This aligns with Baumrind’s (1966) authoritative parenting, where children are provided a consistent structure but are allowed to navigate with increasing freedom as they grow older. According to Deci and Ryan (1985), this form of parenting is autonomy-supportive to the extent that parents trust the students to monitor their own academic performance. While the teacher and principal participants in the present study characterized *helicopter parenting* as the exception, they described a more moderate parenting approach by the overwhelming majority of families from their school. The parents who supplied survey data for the present study corroborated the principal’s report. While they offered academic support for their children, they described a *hands-off* approach, trusting their child to perform to the best of their ability. The students, in turn, earned the parents’ trust by taking initiative with respect to their homework and study regimens.

While examples of authoritative parenting (Baumrind, 1966) seem to point to an approach that fosters cognitive engagement, this finding warrants additional analysis. From the words of participating parents and students, the pattern of emergent trust in the middle grades is based upon the students’ attainment of measurable academic success, rather than upon evidence of self-endorsed learning. Thus, the trust hinges on a tacit agreement between parent and child with respect to academic achievement: As long as the student produces acceptable grades, the parent will not take an active role in that student’s academic preparation.

This relationship seems to point to a broader issue with respect to the quality of academic motivation. The students selected for this study demonstrated relatively low scores in cognitive engagement, reflecting an extrinsic approach to learning that appears to be of little concern to the adults in their lives. While the parents’ trust can be viewed as autonomy-supportive, it can also be viewed as an overt endorsement of the preeminence of measurable outcomes over more authentic forms of academic engagement. This view aligns with the verbiage of the participating teacher and principal, who often characterized school as “work” and stressed the centrality of “tomorrow’s” test. We admit that a student can be viewed as self-directed when he/she organizes study times and takes an active role in reaching academic goals, but we suggest a construct of *authentic engagement* (Bourgeois, 2013/2014; Schlechty, 2011) which further clarifies the motivational content. This more specific type of self-directed learning is motivated by interest in the course content itself, rather than in the grade or any other extrinsic factor connected with successful performance. Admittedly, many student actions described in the Presentation of Data can be viewed
as both self-directed and intrinsically motivated. We are trying to problematize just that type of behavior which may appear self-directed, but is ultimately pursued because of its instrumental value.

**Competence**

Closely related to autonomy is the concept of perceived competence, where students develop an understanding of success with respect to academic output. According to Deci and Ryan (1985), perceived competence can be viewed as a predictor of intrinsic motivation. Since the systems of incentives described by the participating teacher and principal, along with the pay for grades arrangements described by students and parents, represent a ubiquitous feedback loop, one could argue that it fosters feelings of competence. Deci and Ryan (1985) posit that verbal feedback can be interpreted as either controlling or autonomy-supportive by students, depending upon the tone with which it is delivered. With that in mind, the students’ perception of competence may be moderated by the quality of that feedback. Based upon the classroom observations, students received confirmations of their learning in the form of fact-based questioning strategies of the teacher. Students also received feedback for formative and summative assessments, which they described as highly valued.

Particularly salient to a student’s perceived competence is the extent to which the learning activities are optimally challenging (Csikszentmihalyi, 1997). In the current study, most student participants indicated that math was their favorite subject, characterizing it as “easy.” While student, teacher, and principal participants considered the amount of assigned math homework as substantial, they also described the work itself to be only moderately demanding. Uncovering a potential misalignment between course content and the optimal level of challenge necessary to generate flow-type experiences, the student data suggest a need to explore how teachers might raise expectations for this unique student group.

On a related note, students were united in their competitive approach to academics, striving to outdo siblings and fellow students with a view toward long-term benefits of outstanding grades. The students’ competitive stance indicates that the students’ perceived competence in math was based on test scores, report card grades, and performance relative to their peers more than on their perceived ability to solve problems. From the self-determination theory perspective, the drive to compete academically would have a potentially undermining effect on intrinsic motivation and authentic engagement (Deci & Ryan, 1985; Schlechty, 2011). This warning aligns with Kohn’s (2004) point that teachers often create distrust between students when they promote competition within the classroom.

**Relatedness**

According to Deci and Ryan (1985), seeking a sense of belonging to a group represents a basic human need, which is foundational for subsequent intrinsic motivation and authentic engagement. In the present study, although our initial impression was that the school displayed a heightened emphasis on attaining measurable student outcomes, we were surprised to learn of a culture that stressed the love of learning and a sense of belonging. Principal and teacher interviews clarified the school’s approach to foster a welcoming learning environment with a balanced approach to interest and effort. While the students all characterized grades as the most important indicator of their relative success, school personnel emphasized non-measurable outcomes, such as hard work, self-motivation, and membership in the school community. The students spoke as one concerning their love for the school and classmates, with particular respect for the approach of their math teacher. The math teacher, in turn, expressed a desire to create a learning environment of trust, where students would feel willing to take risks and accept his constructive feedback in a positive manner.

While the relational component of the data aligns with existing literature, we were surprised to observe the significance of emotional engagement in the math context. Student responses indicated that the math teacher was most typically their favorite teacher. On a related note, students expressed a unified dislike for language arts class, stressing that the relationship with the math teacher was relatively stronger. This affective bias toward the math teacher may represent a bidirectional finding, where student success in the subject fosters their positive feeling for the math teacher. Conversely, students who are less successful in language arts may develop less positive feelings for their ELA teacher.

**Recommendations for Teaching and Parenting Practice**

Although educators and parents often clash with respect to a range of school policies and procedures, the current study demonstrates that they are in accord with respect to the centrality of grades and the perceived efficacy of incentive structures to bolster student performance. Even though the student population in the present study is unique with respect
to achievement (high) and cognitive engagement (low), the recommendations below apply to all groups of students.

**Less Emphasis on Grades**

While data from the current study show complicity between teachers, campus principal, parents, and students with respect to the primacy of grades, we recommend a more intrinsic approach, where the academic content itself becomes the point of emphasis. The fixation on quantitative measures of academic performance has become so ingrained in the scholastic endeavor that the term *learning* has in effect been replaced by *achievement*. While research has shown that the extrinsic approach cannot be sustained in the long run (Deci & Ryan, 1985), educators persist in leveraging this universal focus on measurable outcomes with the goal of moving students to meet established accountability targets.

Problematizing this traditional approach, we recommend that teachers stress the inherent interest and utility of subject matter, rather than the weight of the upcoming assessment. This approach, which has been demonstrated to improve motivation and achievement in middle level math students (Middleton et al., 2013), would entail replacing the current definition of student success in terms of measurable achievement with that of authentic engagement (Bourgeois, 2013/2014; Schlechty, 2011) and love of learning. Furthermore, we urge teachers to restructure their instructional approach, encouraging open-ended inquiry on the part of students and displaying willingness to digress from the lesson plan based upon student interest. While this group of high-achieving, cognitively disengaged students expressed liking math class because it is “easy,” we call on teachers to seek out instructional strategies and materials that are optimally challenging (Csikszentmihalyi, 1997) and expand students’ capacity for learning across disciplines.

Similarly, we suggest that parents reframe discussions with their children concerning their time in school, replacing inquiries about grades and class rankings with more substantive discussions about academic content and the potential to expand on current learning into a range of contexts. Rather than asking, “How did you do in school?” we recommend, “Describe what you found most interesting in school.” While both parental requests show interest in school, which can only be considered positive, the second emphasizes intellectual inquiry and the student’s active role in the process. Parents who take an active interest in the importance of mathematics content have been shown to improve their children’s interest in high school mathematics (Harackiewicz, Rozek, Hulleman, & Hyde, 2012). We contend that such parental inquiries into a child’s school experience communicate priorities and should have a cumulative effect throughout the crucial middle grades and into high school. This process may be exacerbated by current technology which expands parents’ capacity to hover, receiving minute-by-minute updates on their children’s grades. While this technology has many potential benefits, it also supports systematic academic surveillance, which has been shown to undermine intrinsic motivation (Lepper & Greene, 1975). We hold that parental involvement can be beneficial to a student’s academic success, but to have a positive motivational effect, students must interpret that involvement as autonomy-supportive, rather than controlling (Deci & Ryan, 1985).

While we fall short of recommending abandonment of grades altogether, we recommend a more holistic approach, with more qualitative and textual feedback, and less emphasis on discrete items that lend themselves to easy assessment. We suggest that parents and teachers seek ways to broaden a student’s view of academic endeavors, placing less emphasis on what can be easily measured, and more on the potential to expand knowledge in new and unexpected contexts. This more comprehensive focus on process-based feedback and behaviors aligns with McNeil (1986), who stated that “measurable outcomes may be the least significant results of learning” (p. xviii).

**Resist Incentivizing Learning**

Similar to the focus upon grades, the current data revealed an eagerness on the part of all stakeholders to incentivize learning. These incentives were sanctioned by the teacher, campus director, parents, and the students themselves. Students and parents detailed arrangements of pay for grades, buttressing the schoolwide system of token rewards detailed by the teacher and campus director. All participants in the study characterized school as work which must be compensated in the form of a tangible reward. Following Deci and associates (1991), we caution educators to consider the long-term implications of this incentive structure. There will certainly come a time when the reward is removed, and the student must rely on internal capacity to sustain learning activities. With this in mind, we recommend that educators and parents take drastic measures, limiting...
praise as much as possible, taking a matter-of-fact tone. Moreover, we recommend informational over controlling praise (Deci & Ryan, 1985), and praise for effort over praise for ability (Mueller & Dweck, 1998). Asking students to clarify details and choices about their academic tasks reshapes the discussion away from the evaluative aspect of education. To be blunt, we strongly recommend that schools cease and desist from the imposition of class- or school-wide incentive systems. While they expeditiously foster competition and superficial effort among students, a body of research has shown that these extrinsic approaches have a long-term undermining effect on intrinsic motivation to learn (Deci et al., 1999). At the very least, incentive systems have a wide range of effects on middle level learners of differing ability and motivations, and must be more carefully studied and applied (Abramovich, Schunn, & Higashi, 2013). Similarly, we advise parents to resist paying students for grades, for reading books, or for maintaining satisfactory citizenship behavior. We stress that learning is a virtuous activity, and there is no justification for rewarding virtue, since virtue is its own reward.

Limitations and Future Research

Although the data came from a single campus within a single school district, one would expect similar accounts in most classrooms across the United States for similarly identified student groups. In light of Kohn’s (1993) analysis of the ubiquitous presence of praise and contingent rewards in the work, home, and academic settings, along with descriptions of how the context of high-stakes testing has increased controlling teaching practices (Ryan & Weinstein, 2009), the present findings essentially substantiate expectation. The individual student comments reveal a complex motivational structure that transcends categorical analysis, particularly in terms of intrinsic/extrinsic motivation. While purposeful sampling was based upon quantitative datasets, the cut points for inclusion were arbitrary and based (in part) upon ease of access to a single campus. As a follow-up, we would like to conduct interviews on a variety of campuses, exploring a range of campus effects. While we were able to depart from our interview protocols for follow-up questions with eight students, math teacher, and principal, the parents responded to written questionnaires, making follow-up questions impossible. In the future, we would like to interview parents since their written responses were particularly compelling. After eight student interviews, we reached a point of saturation concerning the academic approach for this student group. We would have benefitted from the perspective of additional teachers. We recommend similar research to examine the opposite spectrum: namely, low-achieving, highly cognitively engaged students. We also recommend exploring a similar research design with more racially diverse students. In the current sample, students had parents in the home who were available and committed to supporting their academic achievement. We recommend studying the phenomenon with families who are less able to offer this type of support. Finally, in keeping with our methodology, we recommend learning from the qualitative findings and moving back to a broader quantitative data collection. Based upon the current study, we recommend isolating student variables, such as intrinsic motivation, competitiveness, relatedness, and self-efficacy, creating a multi-factor model of engagement.

Conclusion and Implications

While the present study was exploratory in nature, it confirmed many suspicions that we had about high-achieving, cognitively disengaged students. As qualitative research often demonstrates, the phenomenon under investigation gains complexity and nuance upon closer examination. The participants’ responses shed light on an extrinsic approach to learning that transcended disciplinary content. The study uncovered students who received little scrutiny or attention from teachers, due to their apparent academic success. This finding is consistent with other engagement studies that found that teachers tend to focus on students with lower levels of achievement. Although the bi-directionality of teacher support and student engagement explains why students who are more engaged tend to get more teacher support on average, teachers tend to provide extra support for overtly disengaged students (Klem & Connell, 2004; Skinner & Belmont, 1993). Conversely, teachers may believe that high-achieving students do not require as much support as students who exhibit marginal or moderate achievement. With recent attention on the goal of creating lifelong learners, the present work points to future research on the quality of academic engagement. By focusing on a standardized measure of achievement as a proxy for student engagement, teachers potentially undermine their students’ lifelong attitudes toward learning.

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