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How should we teach intellectual character? Student and teacher perspectives on the impact of enculturation on adolescent intellectual character growth

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How should we teach intellectual character?: Student and teacher perspectives on the impact of enculturation on adolescent intellectual character growth

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Abstract

Intellectual character refers to character strengths, such as curiosity and intellectual humility, that are associated with productive thinking. Relatively few studies have examined how to foster intellectual character in schools, and scholars continue to disagree whether indirect or direct teaching methods should be used to cultivate students' intellectual character strengths. The present study employed a quasi-experimental, mixed methods, longitudinal design to consider the intellectual character development of 76 sixth grade adolescents attending two urban charter middle schools in the western United States-- one with an explicit mission of intellectual character development (BIMS), the other with a mission of social-emotional learning outcomes (ICS). Data collection included pre-post questionnaires at both schools, as well as faculty and student semi-structured interviews at BIMS. Analyses indicate that BIMS students concluded the year with significantly higher intellectual humility scores than their peers at ICS; triangulation with our qualitative data provides insights into which practices students and teachers found most promising for fostering intellectual character strengths.

Keywords: Intellectual character, enculturation, intellectual humility, mixed-methods

How should we teach intellectual character?: Student and teacher perspectives on the impact of enculturation on adolescent intellectual character growth

Intellectual character is an overarching term that refers to an individual's thinking dispositions that are associated "with good and productive thinking" (Ritchhart, 2002, p. 18; Tishman, 1995). Many scholars consider developing intellectual character an avenue to fostering students' lifelong love of learning (Baehr, 2013). Indeed, Shields (2011) noted, "Developing the dispositions of intellectual character… will provide a foundation for a lifetime of intellectual adventure. It will promote ongoing learning, growth, and creativity. It will promote an ability to solve new problems rather than mimic solutions to textbook problems" (p. 50).

Indeed, a growing body of research has found that intellectual character strengths, such as intellectual curiosity, intellectual humility, open-mindedness, and the Aristotelian conception of practical wisdom, or *phronesis* (Baehr, 2011; Battaly, 2006), are associated with a host of positive youth outcomes. For example, intellectual curiosity (an "intrinsic desire for experience and knowledge"; Kashdan, 2004, p. 125) and humility ("owning" one's intellectual limits and mistakes; Baehr, 2015) have been linked to higher classroom engagement (e.g. Ainley, Corrigan, & Richardson, 2005; Porter, 2015), higher academic achievement (e.g. Porter, 2015; Schiefele, Krapp, & Winteler, 1992), and the use of deeper learning strategies, such as devoting more time in order to understand information (e.g. Porter, 2015; Richards, Litman, & Roberts., 2013). Yet, despite these positive outcomes, relatively few empirical studies have investigated how to develop students' intellectual character strengths in schools (Ritchhart & Perkins, 2005).

Moreover, philosophers, psychologists, and education scholars disagree whether indirect or direct teaching methods should be used to foster students' intellectual character strengths. For example, Tishman and colleagues (1993, 1995) advocated an enculturation model, one that

"emphasizes the full educational surround" (p.150) and includes direct teaching, as most appropriate for fostering intellectual character strengths. Alternatively, Ritchhart (2015) has argued that intellectual character strengths should not be directly taught. To date, relatively little extant research has empirically examined the impact of an enculturation method on students' intellectual character development. More specifically, there have been relatively few "on-the-ground" efforts looking at how enculturation happens in-practice, and how teachers and students make sense of this practice's impact on students' intellectual character growth. Given the paucity of research, this study aimed to fill the need for ecologically valid (Lerner & Callina, 2014), "on-the-ground" efforts looking at the impact of intellectual character enculturation practice and how teachers and students make sense of these practices in regard to students' intellectual character growth.

Theoretical Framework

Although numerous studies have found associations between instruction and improvements in students' thinking skills (see Nickerson, Perkins & Smith, 1985; and Ritchhart & Perkins, 2005 for reviews), there is a dearth of extant research examining the impact of interventions on the development of intellectual character strengths or dispositions. Perkins et al. (2000), for example, argued that few programs have been explicitly designed to teach thinking dispositions, and that even fewer have been empirically evaluated. Those programs that have been specifically designed to foster students' intellectual character strengths, such as the Philosophy for Children program, which focuses on Socratic discussions (Lipman, 1984) or the CSILE program, an online knowledge building program (Scardamalia & Bereiter, 1996), have been primarily evaluated on how they build students' thinking abilities rather than their strengths or dispositions (Ritchhart & Perkins, 2005). Ultimately, Ritchhart and Perkins (2005) argued that while they "think it likely that many programs have at least some impact on learners'

dispositions….an extensive empirical case remains to be made" (p.788).

In addition, there are few schools designed to specifically teach intellectual character strengths. Although there are schools focused on inquiry-based learning, such as those found in the United States in the Hewlett study of Deeper Learning (American Institutes of Research, 2014), these schools "still represent just a 'drop in the bucket' in terms of the overall education system" (Berger, 2014, p.53; see also Wolfe, Steinberg, & Hoffman, 2013). Even the Montessori system, which has been recognized for its focus on student inquiry, only represents 1% of America's educational system (Berger, 2014). In all, many of the schools that cite intellectual character goals that do exist are too new to have been, or simply have not been, empirically examined (Berger, 2014; Hmelo-Silver, Duncan, & Chinn, 2007). Thus, we entered into the present study in order to add to this body of scholarship by empirically examining the potential impact of a school specifically designed to teach students about intellectual character strengths and to foster such strengths.

Furthermore, as noted above, educational, psychology, and philosophical scholars have proposed a number of methods for fostering students' intellectual character strengths (Baehr, 2013; Ritchhart, 2015). Perhaps the most common method highlighted within educational psychology and philosophy literatures is the "enculturation method," which Tishman and colleagues (1993) described as one that "emphasizes the full educational surround" (p.150) and that draws on cultural exemplars, cultural interactions, and direct instruction in cultural knowledge in order to foster intellectual character strengths. Baehr (2015), a prominent intellectual virtues philosopher, also argued for eight core practices merging indirect and direct teaching practices for cultivating intellectual character in students: creating a safe space, using direct instruction, creating opportunities for practicing the virtues, providing virtue-based feedback, teaching for deep understanding, drawing attention to value and meaning, focusing on

risk-taking and failure, and modeling intellectual virtues. Ritchhart (2002), a strong proponent of creating cultures of thinking for fostering intellectual character strengths, argued that four factors create cultures wherein such strengths might develop: the presence of salient models, consistent expectations, explicit instruction, and opportunities for practice, although he more recently argued that intellectual character strengths cannot be directly taught (Ritchhart, 2015). These practices echo those found in the broader character strengths literature, such as in Berkowitz and Bier's (2014; 2016) PRIME[D] framework of character education; through drawing on multiple meta-analyses of "what works" in character interventions, Berkowitz and Bier (2014, 2016) have argued that schools should prioritize character by focusing on language and safety (P), focus on building relationships with students (R), use intrinsic motivation to motivate students (I), model character for students (M), empower stakeholders (E), and use developmentally appropriate pedagogy such as direct teaching (D) in order to foster students' character development.

Specifically, intellectual virtues philosophers arguing for the inclusion of direct instruction have stated that intellectual virtues can be acquired through habit formation via practicing the behaviors associated with each of the virtues; ultimately, they argue that the virtues are mostly acquired through imitation and practice (Battaly, 2006). Indeed, Battaly (2006) noted, "by repeatedly trying on virtuous perceptions, actions, and emotions, students come to acquire a taste for them" (p.204-205). Conversely, other scholars, like Ritchhart (2015), have argued that these lessons do not need to be explicitly taught, but that often these lessons are implicitly given to children through the informal culture of the child's surroundings. Ritchhart argued, "We are socialized into ways of thinking by the environment. We learn what counts as good and acceptable thinking" (p.45). In all, several scholars have claimed that an enculturation model drawing on both indirect and direct forms of teaching is particularly adept at fostering all

elements of an individual's intellectual character strength, or disposition, including one's inclination (motivation to engage in a behavior), sensitivity (perceiving the opportunity to engage in a behavior), and ability (the capacity to do the behavior) (Baehr, 2015; Tishman, 1995).

It is important to note that there is no consensus within the intellectual character literature regarding what characterizes an 'indirect' or 'direct' character teaching strategy. Baehr (2015) considered cultural forces for fostering intellectual character as those forces in a school working to foster students' intellectual character outside of the confines of the classroom, such as role models, language, rituals, celebrations, physical space of the school, and governance structures. Alternatively, Ritchhart (2015) identified expectations, language, the use of time, modeling, deeper learning opportunities, thinking routines, interactions, and the school's physical environment as eight cultural forces that he argued constitute a "culture of thinking." In regard to direct teaching, Baehr (2015) has defined "direct instruction" as "teaching students what intellectual virtues (and vices) are, how intellectual virtues are related to the other (e.g. moral) dimensions of personal character, how the various intellectual virtues are related to each other, and why intellectual virtues are important for learning and living well" (p.306). Elsewhere, Kirschner, Sweller, and Clark (2006) gave examples of direct instruction as modeling, self-checking (self-assessment) and using "worked-examples" (Rosenshine, 2009). Likewise, Narvaez and Lapsley (2008) include role modeling, demonstration, thinking aloud, talking about the importance of specific moral and ethical behaviors or about moral situations, and offering opportunities for practicing moral skills as examples of direct teaching of moral character. In light of this research, and for the purposes of this study, we here define elements such as the use of language, time, physical space, relationships, and classroom expectations as indirect strategies

of character enculturation. In contrast, we here define direct instruction in the meaning of the virtues, virtues feedback, opportunities for practice, and modeling as direct instructional methods for fostering intellectual character.

To date, relatively limited research considers student and teachers' own perspectives on how to develop such intellectual character strengths. It is quite possible that teachers and students have their own view of how to develop these strengths that fit best for the various educational contexts in which they teach and learn. A deeper understanding of teachers' and students' perceptions of the implicit and explicit curriculum surrounding intellectual character development will allow us to find the most successful ways to foster students' intellectual character in various educational environments. Thus, in this study, we additionally seek to investigate teachers and students' perspectives regarding the effectiveness of indirect and direct methods for fostering early adolescents' intellectual character that are relevant to the participants' contexts and contextual restraints; through considering teacher and student perspectives, we hope to contribute to ecologically valid understandings of this concept (Lerner & Callina, 2014).

This study employed a quasi-experimental, mixed methods, longitudinal design to investigate the impact of attending Bright Ideas Middle School (BIMS)[1], a school with an express mission of developing students' intellectual character strengths, upon sixth grade students' intellectual character development. Specific research questions guiding this study included:

1. What differences, if any, emerge in intellectual character development between youth attending BIMS and peers at a matched comparison school who express a commitment to students' social-emotional learning but who do not have an express focus on intellectual character?

[1] All schools and students have been given pseudonyms

2. What aspects of BIMS' curriculum, programming, and culture do BIMS students and teachers describe and understand as fostering student intellectual character?

Method

The present study draws upon data collected from the first year (2015-2016) from a larger, ongoing mixed-methods longitudinal investigation of intellectual character development in adolescents at the participating schools begun in the fall of 2015. Only data relevant to the current investigation will be reported.

Participating Adolescents

This study's participants included 76 sixth grade adolescents-- 43 enrolled in the 2015-2016 class at Bright Ideas Middle School (BIMS) and 33 enrolled in the 2015-2016 sixth grade at Imagination Charter School (ICS)—who completed all two waves of the study and for who consent was obtained for their data to be used. See below for descriptions of the participating schools.

Participating Schools

Bright Ideas Middle School (BIMS).

BIMS is a charter school located in a large city in the Western United States. In 2014-2015, the school population of 112 students was 38.4% White, 26.8% Hispanic or Latino, 12.5% Black/African American, 11.6% Two or more Races, 6.3% Asian, 0.9% Filipino, and 3.8% none reported. 14.3% of their population receive Free or Reduced Lunch, a proxy for low income status. BIMS focuses on fostering nine core intellectual character strengths in students: curiosity, intellectual humility, intellectual autonomy, attentiveness, intellectual carefulness, intellectual thoroughness, open-mindedness, intellectual courage, and intellectual perseverance. They note on their school website that their school model focuses on discussion and deep understanding. Students participate in advisories.

Imagination Charter School (ICS).

ICS is a Coalition of Essential Schools elementary and middle school located in a large city in the Western United states. Although ICS and BIMS are located in the same state, they are located in different cities. In 2014-2015, the ICS school population of 413 students was 34.9% White, 12.6% Hispanic or Latino, 7.8% Black/African American, 4.6% Two or More Races, 8.2% Asian, 28.6% none reported, 1.9% Filipino, 1.5% and American Indian or Alaska Native. 17.2% of their population receive Free or Reduced Lunch, a proxy for low income status. On their school website, ICS is described as focusing on rigor, community service, social emotional learning, moral courage, respect, tolerance, creativity and the arts, and experiential learning. Students participate in an advisory program, and there is a strong focus on student-centered, collaborative learning. Sixth grade students participate in an interdisciplinary humanities project that results in an exhibition night.

Data Collection

Quantitative Surveys. All participating BIMS and ICS sixth grade students completed a pre-post 15-minute online anonymous questionnaire during the 2015-2016 school year that included previously validated measures of intellectual character strengths, as described below.

Qualitative Data.

Faculty and Student Interviews. During the 2015-2016 school year our research team conducted 30 to 45-minute semi-structured interviews with five randomly selected faculty members (2 male, 3 female) and six randomly selected sixth grade students (3 male, 3 female) at BIMS. A semi-structured interview protocol with open-ended questions was used as a guide for the interviews in order to allow our research team to remain open to the interviewees' narratives regarding intellectual character development at BIMS and we asked follow up questions as

appropriate. A sample teacher question included, "How do you find yourself infusing intellectual character into your classroom?" A sample student question included, "How do you feel like you learn about virtues here at [BIMS]?"

Measures

In addition to demographic questions, the following measures comprised the student survey. All questions were adapted to be answered on a 5-point Likert scale, with a score of "5" indicating a higher reflection of that character strength (once reverse coded items were taken into account).

Values in Action Inventory for Youth—Intellectual Curiosity Sub-Scale. The Values in Action Inventory for Youth (Park & Peterson, 2006) is a self-report questionnaire for ages 10 to 17 that measures 24 character strengths. The curiosity sub-scale includes eight items and includes questions such as *"I am always curious about people, places, or things I am not familiar with*." Responses are given on a five-point scale ranging from "*not like me at all*" to "*very much like me*." Park and Peterson (2006) reported a Cronbach's alpha of .77 for the curiosity subscale and a six-month test-retest reliability coefficient of .55. For the current sample, Cronbach's alpha at Time 1 was .73 and at Time 2 was .75.

Grit Scale. The Grit Scale is a twelve-item scale that measures two factors—consistency of interest (six items) and perseverance of effort (six items). Items on the consistency of interest scale include questions such as, "*I often set a goal but later choose to pursue a different one.*" Items on the perseverance of effort scale include questions such as *"I am a hard worker*." Duckworth and colleagues (2007) report Cronbach alphas for the grit scale ranging from .77 to .85 across six different studies. For the current sample, Cronbach's alphas for the combined perseverance and consistency subscales at Time 1 was .73 and at Time 2 was .52.

Actively Open-Minded Thinking-Short Version. The Actively Open-Minded Thinking Scale (Short Version) (Haran, Ritov, & Mellers, 2013) is a seven-item scale adapted from Stanovich and West's (1997; 2007) 41-item Actively Open-Minded thinking measure that assesses individuals' openness and flexible thinking. Items include statements such as, "*Changing your mind is a sign of weakness*" and "*People should take into consideration evidence that goes against their beliefs.*" Responses are on a seven-point scale ranging from "completely disagree" to "completely agree". Elik and colleagues (2010) reported a Cronbach's alpha of 0.87 and Stanovich and colleagues (2007) have reported a Cronbach's alpha of 0.83 for the full, 41-item AOT measure. For the current sample, Cronbach's alpha at Time 1 was .35 and at Time 2 was .52.

Intellectual Risk Taking. The Intellectual Risk Taking scale (Beghetto, 2009) is a six-item scale that assesses an individual's propensity towards taking adaptive risks in the classroom. Responses are on a five-point Likert scale ranging from "not at all true for me" to "very true for me" and questions include statements such as "*I like doing new things even if I am not very good at them*" and "*I will try to do new things even if I am not sure how*." Beghetto (2009) reported a Cronbach's alpha of 0.80. For the current sample, Cronbach's alpha at Time 1 was .76 and at Time 2 was .76.

Mindful Attention Awareness Scale. The Mindful Attention Awareness Scale is a 14-item scale designed to assess individual's "sustained, receptive attention to present events and experiences" (Brown, West, Loverich, & Biegel, 2011, p.1). Responses are given on a six-point scale, ranging from 1 (*almost always*) to 6 *(almost never*). Statements are given such that they are meant to reflect inattention, such as, *"It seems I am 'running on automatic' without much awareness of what I'm doing.*" The scale has been validated with youth ages 14 to 18, and

Brown and colleagues (2011) report a Cronbach's alpha of .82 for this sample. For the current sample, Cronbach's alpha at Time 1 was .77 and at Time 2 was .86.

Implicit Theories of Intelligence Scale. The Implicit Theories of Intelligence Scale (Dweck, 2000; Levy, Stroessner, & Dweck, 1998) is an eight-item scale that is used to assess if individuals view human attributes, such as intelligence, as fixed or malleable. The scale includes four-items meant to assess an individual's entity theory of intelligence (or fixed mindset) and four-items meant to assess an individual's incremental theory of intelligence (or growth mindset). Items on the entity scale include statements such as, *"You can learn new things, but you can't really change how intelligent you are.*" Items on the incremental scale include statements such as, *"You can always change basic things about the kind of person you are.*" Responses are given on a six-point scale, ranging from 1 (*strongly agree*) to 6 (*strongly disagree;* Levy, Stroessner, & Dweck, 1998). Levy and Dweck (1997, as cited in Levy, Stroessner, & Dweck, 1998) reported a Cronbach's alpha between .93 and .95 for the eight-item scale, with a test-retest reliability of .82 for a 1-week period and .71 for a 4-week period. For the current sample, Cronbach's alpha at Time 1 was .75 and at Time 2 was .73.

Intellectual Humility Short Scale. The intellectual humility scale includes eight-items that measured participants' willingness to acknowledge the partial nature of their own knowledge (e.g., "*I am willing to admit it if I don't know something*"; "*I actively seek feedback on my ideas, even if it is critical*") and their acknowledgement of others' intellectual strengths (e.g., "*I sometimes marvel at the intellectual abilities of other people*") (Porter, 2015). For the current sample, Cronbach's alpha at Time 1 was .66 and at Time 2 was .74.

Quantitative Data Analysis

Only participants who completed all two waves of the study were included in data

analyses (n=76). First, in order to determine whether there were significant differences between students' intellectual character scores at baseline (Time 1), we ran one-way ANOVAs with students classified by two groups—"BIMS" (n=42) and ICS (n=33)—and each of the average scores for each character strength at Time 1 as the dependent variable. We then ran single-level Ordinary Least Squares (OLS) regression analyses to explore the role of various predictors (e.g. gender and school) on shifts in students' Time 2 (Spring) intellectual character scores. In our model, students' Time 2 averaged intellectual character score for each character strength served as the dependent measure (e.g. averaged curiosity, averaged intellectual humility, etc.), and we fit gender (with male as the reference group), school (coded 0 for "BIMS" and 1 for ICS), and students' Time 1 score on the measure of interest as predictors.

The final fitted model for analyzing these data was the following:

$$\text{IntellectualCharacter(IC)MeasureTime2}_i = B_0 + B_1\text{ICMeasureTime1}_i + B_2\text{Gender}_i + B_3\text{School}_i + \varepsilon_i$$

where:

- B_0 is the intercept parameter
- B_1 represents the impact of the student's scores on the IC measure at Time 1 on the outcome
- B_2 represents the effects of the students' gender
- B_3 represents the effects of school type
- ε_i represents the random effects for each adolescent (or residual error)

Qualitative Data Analysis

All interviews with students and faculty were audiotaped and transcribed verbatim. Our analyses primarily drew on Braun and Clarke's (2013) Thematic Analysis approach to coding qualitative data. This approach was particularly useful in this study as it allows for both top-

down (etic) and bottom-up (emic) coding (Maxwell, 2013), allowing for the application of themes derived from the larger literature on intellectual character, as well as allowing themes to emerge from the data itself. We began by selectively coding the data according to etic codes derived from the intellectual character literature, keeping in mind areas of the data that did not ascribe to these codes. We then attempted to derive codes for these un-coded areas from the data itself, staying close to the data and using "in-vivo" codes (Charmaz, 2006) when possible. Next, we re-coded the data using the wider array of both etic and emic codes. Examples of etic codes include "teacher modeling" and "noticing & naming" (e.g. Baehr, 2015; Ritchhart, 2015). Examples of emic codes include "no right answer" and "fun." Using MAXQDA software, we then constructed conceptually clustered matrices in order to analyze patterns and differences across the data, with specific focus on themes that were prominent for teachers versus themes that were prominent for students (Maxwell, 2013).

Results

Here, we begin by reporting on our quantitative findings, and then turn to our qualitative results.

Quantitative Results

The descriptive statistics for each school on each of the character measures are reported in Table 1 below. Correlations between the intellectual character measures can be found in Table 2. Results indicated that only the difference between intellectual humility (BIMS: 3.59 ± .56 vs. ICS: 3.31 ± .39, $F(1, 66)=5.00$, $p=.02$) was significantly different between schools at Time 1.

INSERT TABLE 1 HERE.

INSERT TABLE 2 HERE.

OLS Regression Models

See Table 3 for the OLS regression results. Gender was not a significant predictor of any of the intellectual character strengths. In addition, after controlling for students' Time 1 scores and other demographic variables, school was not a significant predictor of students' intellectual character for six of the seven intellectual character strengths measured. Yet, after controlling for students' Time 1 intellectual humility and gender variables, students attending BIMS concluded the year with significantly higher levels of intellectual humility than their peers at ICS (β= -.22, p=.05). It is important to note that as our initial one-way ANOVAs indicated a significant difference between students on their Time 1 intellectual humility scores between schools, it was particularly important that we controlled for students Time 1 scores within the model in order to better understand potential shifts in students' Time 2 scores.

INSERT TABLE 3 HERE.

Qualitative Results

We turn to our qualitative findings in order to shed light on what programming and practices students and teachers at BIMS understand as successfully cultivating intellectual character.

Student Data

Four prominent themes arose in the student data: a) the importance of appreciating student questioning and ideas; b) Creating a culture where error is normalized; c) The importance of feeling safe and comfortable; and d) Noticing and naming intellectual virtues when they arise.

Appreciating student questioning and ideas. Several students spoke to the importance of teachers appreciating and taking time out for student questioning and sharing of ideas, particularly in

relation to their curiosity. For example, one student, Sophie, noted: *"*once I got here I realized that I could ask as many questions as I wanted … it was sort of cool because I could ask my own questions without someone telling me to stop." Another student, Matt, noted that he's now more willing to talk to his teachers because: "here it's like they are a lot more open to like what you have to say or something." His classmate, Elisa, echoed this sentiment, noting that teachers at BIMS are always open to students' questions: "…one of our main virtues that we focus on is …curiosity … so usually if you have a question they call on you and you can say I have two or more questions and they'll be like ok what's your questions ..." Trevor agreed, noting that attending BIMS has made him "ask more questions." In all, these students seemed to agree that there was space at BIMS for their voices and ideas to be heard and appreciated.

Many students specifically spoke to the importance of advisory as a space for question-asking and as a place to explore one's curiosity. Sophie noted: "Advisory…is a place where you can ask questions and you can present your idea." Her classmate, Trevor, similarly commented about advisory: "[advisory is] to explore more like that answer- like we call it intellectual exploration? We explore our topic instead of find the right answer. We have been presented with un-open-ended questions but I feel like we've turned them into open-ended questions." Both students again echoed the sentiment that BIMS creates spaces for students to share their voices.

Culture of Normalizing Error. Several students spoke about how their school's focus on normalizing error and/or having "no right/wrong answer" in the classroom helped to foster their intellectual character, particularly their intellectual humility and growth mindset. For example, Elisa spoke about how having "no wrong answer" allows for intellectual humility and growth: "…like intellectual humility- we like to have wrong answers in science because then you learn from your mistakes, so there's no wrong answers at this school." Cody likewise commented

on how the school focuses on growth by attending to student errors: “they don't necessarily ask for the right answer, they ask for what you did wrong and what you did right of course … so if you got the right answer great- what did you what did you do before that to get to the right answer …if you had anything wrong …” This student further noted, in asking what helped to develop his intellectual humility, “what I said- they implement you to not necessarily get the right answer but to tell them what you did wrong.” As noted above, Trevor similarly argued that having “no right answer” in advisory class helped allow for intellectual exploration: “like there’s no right answer- it’s not come into advisory and solve the answer- it’s to explore.”

Furthermore, Elisa commented that teachers help to encourage intellectual humility when they are “nice” about students’ errors and mistakes:

> …even if you make a mistake it's intellectual humility… at my old school they actually didn't have … no rules for making mistakes, you get it right or you get it wrong, but if you have intellectual humility there's always right there's no wrong there's just right. So, even if it's a mistake it seems better to have these virtues, because your teachers are not mean they're really nice they understand it… so even if it's a little thing it's still intellectual humility you know that and you don't need to be like ‘Oh my gosh!’ You just be like ‘oh ok I just need to change this’…

Matt echoed his peer’s comments, noting that at BIMS “it was like a lot more comfortable where like you can like pretty much say anything and like not really like somebody will laugh at you or something or think you're wrong or something like that.”

More comfortable. Several students noted that BIMS was a “more comfortable” school for them, primarily due to its smaller size. Students connected this sense of belonging to both their intellectual humility (willingness to be wrong) and intellectual courage (willingness to speak up) within the classroom. For example, Cody commented, “Um, I really like how there's not a lot of students so everyone knows each other. It's like a big family, a really big …. here it's as if everyone’s friends with each other I think.” In particular, he noted that this smaller size

allowed him to feel more comfortable in getting the wrong answer. He responded to a question about getting the wrong answer in class: “Not as many people- so there are only 28 kids in a classroom compared to like 50 at [an areas school], so … I just feel better.”

His classmate, Molly, similarly noted that BIMS’ small size is conducive to friendships: “Well a lot of people are friends, like some eighth graders are like friends with seventh graders and seventh graders with sixth graders and some sixth graders with eight graders so it isn't - it's a small school, so you have like a lot of friends, make friends easily.” Like her classmate, Molly connected the smaller classes to sharing out in class: “Well, there's more smaller classes, and you kind of feel more comfortable with sharing- instead of like a big crowd, cause we only have like 25 or 28 people in our classes, which is really small and you can share your ideas and feel comfortable with sharing them.” Most directly, this student noted: “Well many people's intellectual character change because this school is like very small…” Elisa similarly agreed with her classmates, describing her advisory as a “safe environment” and her “third home.”

Noticing and naming. Another common pedagogical practice students appreciated in regard to their virtue development was their teachers and peers “noticing and naming” the virtues in the classroom. Trevor commented, “like if someone like notices something really great in like say science like about the math we’re learning like today [the teacher will] say like ‘great um attentiveness’ or ‘great thoroughness in striving to be attentive’ or something like that.” Students noted that peers also “notice and name” virtues in the classroom as well. Sophie, for example, noted that a peer encouraged her intellectual humility: “so one person, I think it was one of my friends, they actually um raised their hand and they just said ‘I just want to shout out Sophie because … I think she used a lot of intellectual humbleness and courage to raise her hand and to say yeah I was wrong on this.’”

In particular, many students described a weekly ceremony their school holds where students are "shouted out" for their intellectual virtues as a positive aspect of the school. For example, Molly noted: "I think me and my friend… we got shouted out because we were using like thoroughness in class and we were just bringing up a lot of questions…everyone feels happy when they shout out." Matt similarly commented, "like here like you get shouted out for like what things you did good in school for and stuff like that so I think that's like a lot more cool."

Yet, some students reflected on the elements of extrinsic motivation brought about by the ceremony and by being "shouted out." Cody, for example, noted of their ceremony, "I think it's a good thing because it gets um the students get to know if they were good that week I guess and I guess that students gets to shine, they get bragging rights…" His classmate, Sophie, similarly reflected on the ceremony: "It sort of makes me want to impress my teachers more because I want to set a good example for my [sibling] who's going to come here and I also want to make my parents happy and I want me to feel good about myself so for them to shout out the good things about me I really like that instead of saying … you need to do this better. So I like them yelling and shouting out what I've done."

Teacher Data

Three prominent themes arose in the teacher data: a) the usefulness of modeling; b) the importance of having a common language; and c) flexibly using time to allow students to share ideas and ask questions.

Modeling. Several teachers spoke about the importance of modeling one's own intellectual character strengths for teaching intellectual character. For example, Maria noted:

> I know [our founder], he's talked to us a lot about we need to make sure that we are always modeling these virtues even if we're not talking about them explicitly- students notice these things, they all notice that oh Ms. [Teacher] or Ms. so and so were being careful about this or they were asking questions along with us, it wasn't just us asking questions- so the modeling really helps.

Jessica similarly noted how her own willingness to model open-mindedness within a classroom exercise permeated her classroom: "… the more that I model …the ripple effect just goes throughout the class and it just kind of permeates everyone and if one student's willing to open after me then another student will be willing and it'll … trickle across."

In particular, three teachers spoke about their own modeling of humility and growth mindset. Laura, for example, stated:

> So the very first year …the kids had so many questions…and I didn't know the answers to probably 90% of them so we had this like ongoing list of unanswered questions and then if someone came back with an answer we would talk about it or I would look stuff up … and I think um modeling that humility and just a genuine curiosity in what they're asking got them excited about learning.

Maria likewise commented that students were able to be wrong and take risks in her classroom because of her modeling: "I think it goes back to the modeling that I will admit to students like 'you know what I don't know the answer to this but uh, we can look it up let's figure it out.'" Ben, too, noted that his training at the school had made him consider, "am I modeling that to my students that I can grow too and so can they?"

Ben, too, noted that they make an effort to model how to create a respectful environment where students can learn how to share ideas: "… it's important that we… set up these opportunities for kids to kind of share their ideas … how can we respond to each other in ways that's not just shutting each other down … often that gets modeled I think."

Common Language. Many teachers felt that having a "common language" surrounding the intellectual virtues helped to facilitate students' intellectual character development, particularly through guiding student feedback. One teacher, Jessica, commented that having a common language helps teachers to provide feedback and reflect with students on their

intellectual character development, making intellectual character a part of the school's everyday culture:

> [Talking about the virtues is] just pretty much a standard way of communication in the school … it gives us just this language that we all understand and this culture and so it's a great way to assess where we are, to be honest about our performance and to communicate with the students and ask them 'ok, you know, this is the grade you received on this, maybe you can tell me which virtue you didn't apply that could have supported you in performing better.' So we use it all the time, we use the language allll the time, and it just becomes a part of the *life*.

Maria similarly commented that having a common language is useful in providing intellectual character feedback to students: "that perpetuates a culture, we have this common language so we know that when we give feedback we try to reference those definitions of the virtues and it's becoming more and more instilled in us." Jessica similarly agreed that the language becomes instilled in the students, noting:

> …I mean you know essentially they are still middle schoolers and they'll say things like 'I saw so and so do this and I didn't think you know that was cool' or whatever it was and somebody even if it is very facetiously somebody might still say 'that's not very open minded of you' and even they say it the language and the culture is still there the knowledge is still ingrained in them so in some way it's still a part of who they are even if they're not always being authentic in the way they're using it it's still kind of part of this storage bank of ways to encounter a situation and so I think that it is really buried deep within them at this point …'

Overall, Will echoed his colleagues' sentiments that having a common language surrounding the language was essential to developing the school's culture. In speaking to the establishment of the school culture, he noted: "So yeah, I think just the fact that the language is present in everybody's classroom, um I mean and that's true even of the thinking routines, a lot of the teachers use, a lot of use the same thinking routines which is helpful for the students and helpful for us in teaching." Moreover, he noted that when he tried to use intellectual character language at his previous school, it was this lack of a cohesive language that he found challenging. At BIMS he described not encountering this issue:

> … I was kind of on my own…as far as ... telling my class 'I want you to be intellectually thorough it was perpetually like 'what? what is that? why is that important?' I constantly felt myself having to explain 'here's why this type of thinking is really valuable' and … I very rarely have to do that here … because it is part of every teacher's language, it's a part of our advisory, it's a part of our whole school assemblies, we talk about those things, at our information nights, before students even come here- parents or students come here- they're introduced to some of this language and why we value it.

Flexible use of time. Several teachers spoke about their belief in the need to use time flexibly in the classroom in order for students to develop their intellectual character, and particularly for students' voices and questioning to be heard. Jessica described this flexible use of time as a "surrender":

> It is a surrender that takes place…I mean there are days I have this agenda and I think yes we are going to do ten minutes here and fifteen here and …we get through half of it, but then after that I just sit and I reflect on the class and I think ok well students had an incredible discussion I could never duplicate and I didn't want to cut them off … and I was challenged in some way to consider what I wanted them to complete …the students their eyes lit up because they figured something else out on their own instead of me giving instruction in front of the class …

Ben described the "tangents" his class goes off in: "… they've been asked to wonder ever since they got here, so curiosity is kind of a big thing. A lot of my lessons … get off on tangent… but someone brought up a question that should be addressed because it's … a branching of their curiosity…" He further noted that time needs to be given to student questions in order to empower students:

> … it's a balance… I personally don't feel that it is beneficial to a student to say that you brought something up we're not going to talk about it. I think you should address it in a way that makes students aware that you are willing to talk about it and it was great that they brought that up and even continue that conversation or tell the student 'yeah that's a great idea why don't you bring it up during this time so we can kind of explore it more?' Obviously talking about one thing for two hours isn't as productive as maybe it should be … you kind of have to put a little bit of boundaries around it, but students need, in order to feel like they are a part of the learning environment and to feel empowered in this learning environment, they need to feel like they can bring something to the table.

Another teacher, Laura, applauded her students for being able to get her off topic for a certain amount of time: "I tell the students that if you can get me off topic for at least, not off-topic, well if you can get me off-topic for at least 20 minutes, that means you have asked an exceptionally good question. ….and I am not opposed to just opening up my laptop and saying 'Let's figure this out'…"

Maria echoed her colleagues' sentiment that teachers must be flexible with their time and scheduling in order to show appreciation for students' voices, ideas, and questions:

> …so if we are telling the students we want you to be curious and we want you to ask questions, we want you to not take things at the surface level, then when we write our agendas we want to make sure that we're flexible, that we want to provide them with opportunities for thinking… number one on its own might inspire students and get them talking and discussing and so it's just…us welcoming that and not shutting it down be like, 'Mm, don't have time for that, got to get through this agenda.' Just engaging in it for a while and then we do have things to cover so we can say like 'Alright, that was a great discussion now how does it apply back to this? How can we put it back to this?' Um, and just encouraging them and appreciating that they posed that question and trusting that they will appreciate it…

In all, these teachers' comments resonate with one another in noting that creating a space for their students to share their voices and questions and engage in discussion with one another is an important element of cultivating students' intellectual character.

Discussion

Scholars have suggested that enculturation is an appropriate method for fostering intellectual character strengths (e.g. Baehr, 2015; Ritchhart, 2002, 2015; Tishman et al, 1993, 1995), yet relatively little empirical, "on-the-ground" research has investigated the impact of an enculturation model on students' intellectual character development (Ritchhart & Perkins, 2005). Moreover, scholars continue to disagree whether indirect or direct teaching methods should be used to cultivate students' intellectual character strengths (Baehr, 2015; Ritchhart, 2015). Accordingly, the present study employed a quasi-experimental, mixed methods, longitudinal

design to consider what potential differences emerged in the intellectual character development of adolescents attending two urban charter schools--one with an explicit mission of enculturating intellectual character development (BIMS) in its students and the other with a mission of social-emotional learning outcomes (ICS). In addition, we sought to understand what programming and practices students and teachers at BIMS understand as helping to affect young adolescents' intellectual character change.

Our quantitative analyses found that, after controlling for participating students' Time 1 scores and gender, school was a significant predictor of students' Time 2 intellectual humility score. That is, students attending BIMS concluded the year with a heightened sense of intellectual humility in comparison to their peers at ICS. Therefore, BIMS' focused mission on enculturating intellectual character may be particularly suited towards fostering intellectual humility in its students. However, it is important to consider that, given the medium correlations between intellectual humility, curiosity, intellectual risk-taking, and tenacity at time 2, and the theoretical literature that suggests an overlap between these concepts (e.g. Baehr, 2011), it remains unclear why BIMS' enculturation methods would uniquely impact intellectual humility. One possibility is that our analyses, which involved 76 students total, were underpowered to detect effects for the other intellectual character strengths. Nonetheless, future research should further disentangle the interrelationships between these various intellectual character strengths in order to more fully understand how best to target these strengths through intellectual character programming. Moreover, given that many programs and models aspire to engender practical wisdom (e.g. Jubilee Center for Character and Virtues, 2015; Schwartz & Sharpe, 2006) a more focused understanding of practices that foster an integration of intellectual character strengths in concert with one another, rather than individually, is needed.

Considering the students' and teachers' qualitative responses lends useful insights into which enculturation programs and practices students and teachers believe effectively foster intellectual character. Notably, both students and teachers brought up both direct and indirect practices that they find useful for fostering intellectual character strengths. For direct strategies, students spoke about their appreciation of intellectual character strengths being "noticed and named" throughout the school (Ritchhart, 2015), whereas teachers noted the importance of directly modeling virtues for students, such as demonstrating that they did not know an answer to a question. For indirect strategies, students commented on the importance of creating an error culture throughout the school, and the importance of their questions and voices being appreciated, how they felt more comfortable being wrong and taking risks because the school was safe and comfortable. In addition, teachers found it helpful to have a common language throughout the school and noted that they use time flexibly, both indirect strategies for fostering students' intellectual character strengths.

In all, these students' and teachers' perspectives provide support for several character frameworks and work by several scholars who argue that intellectual character is best developed through a coalescence of indirect and direct teaching methods (Baehr, 2015; Birdwell, Scott, & Reynolds, 2015; Lapsley and Narvaez , 2006; Tishman et al., 1995). For example, the Jubilee Centre's "Framework for Character in Education in Schools," argues that character, including intellectual character, is "largely caught through role-modeling and emotional contagion" but that it is also necessary to teach character because "direct teaching of character provides the rationale, language and tools to use in developing character" (Jubilee Centre for Character and Virtues, 2015, p.2). Likewise, Tishman and colleagues (1995) argued "in the classroom one has

to work toward cultivating [thinking dispositions] on many fronts" (p.40), including the use of direct teaching.

Our results align well with Berkowitz and Bier's (2014, 2016) and Seider's (2012) findings that creation of a common language is an important strategy for schools working to adapt a character framework to a school's individual character goals and context. Moreover, Baehr (2015) described "noticing and naming" as a form of direct, virtue-based feedback that teachers can offer students; BIMS' students' descriptions of the virtue-based feedback they hear from peers and teachers throughout their school suggests that this direct method of feedback relies on the presence of an indirect method, namely, their shared common language of intellectual character. Indeed, Ritchhart (2015) has described "noticing and naming" as one process that serves to reinforce the norms of a "language of thinking" that is being enculturated at a school. Students' comments that being shouted out for virtues is "cool" or makes them happy suggests that they do find this to be a reinforcing, or motivating, aspect of their school environment.

It is important to note, though, that some students described "noticing and naming" as motivating, but often for external reasons. Indeed, Baehr (2015) contended that the "deep personal change" involved in intellectual character development requires more than asking students to "be virtuous" (Baehr, 2015, p.179). Rather, several scholars argue that intellectual virtues must be intrinsically motivated (Baehr, 2011; Battaly, 2006). Given that sixth grade students are just beginning to develop formal-operational thinking abilities (Steinberg, 2014), pedagogical techniques such as "noticing and naming" may be particularly salient to such students as they may help to make the abstract concept of intellectual virtues development more concrete and tangible. Alternatively, the students' comments that they wanted to have "bragging

rights" or please family members by being shouted out for their virtues may suggest that these students' continued focus on extrinsic goals is a result of a social dynamic. For example, Wentzel (1998) found that only young adolescents' parents, rather than the teachers or peers, significantly influenced their children's adoption of mastery or performance goals. Given the complex findings regarding the motivational dynamics between teachers, peers, parents and students (see Wentzel, 2009), future research might more fully consider how family beliefs influence students' engagement at school with intellectual character programming and curriculum.

Young adolescents often report feeling less nurturance from teachers upon their transition to middle school (e.g. Midgley, Feldlaufer, & Eccles, 1989; Eccles et al., 1993; Wentzel, 2009). Hence, it is noteworthy that BIMS' sixth grade students were vocal in connecting their feelings of safety and comfort at their small school to their intellectual character development. Indeed, these findings corroborate several studies demonstrating that feelings of classroom belonging for young adolescents are related to academic, motivational, and prosocial outcomes (e.g. Wentzel, 2002, 2009). Moreover, students' comments that their voices, ideas and questions are appreciated, as well as teachers' comments that they use their agendas flexibly in order to honor their students' questions and ideas suggest that empowering students' voices may be one way to encourage their sense of belonging and corresponding willingness to admit when they are confused or do not understand something. Indeed, Wentzel (1998, 2002, 2009) found that teachers who engage in democratic, egalitarian communication with middle school students are more often reported to be "caring." Likewise, Hassinger (2016) found that students who participated in character education groups (e.g. advisories) reported a higher sense of belonging, particularly when they: felt they were accepted by their peers, experienced their group as a

family, and sensed their voices were honored. In light of this study's quantitative findings and the scholarship on autonomy supportive classrooms and related intellectual character strengths such as curiosity and intellectual-risk taking (e.g. Deci & Ryan, 2000; Ryan & Deci, 2014), additional research is needed directly considering the link between students' sense of belonging, empowerment, voice, and intellectual humility.

As noted above, a variety of methods of indirect and direct methods of modeling are discussed within the intellectual character literature, including drawing on external cultural exemplars, engaging in reciprocal teaching (Tishman et al., 1995), "explicitly direct[ing] … students to size up situations in particular ways…" (Battaly, 2006, p.205), and cognitive apprenticeships into a teacher's thinking processes. BIMS teachers made the most references to engaging in what Baehr (2015) described as "authentic modeling"— an explicit process of modeling one's own intellectual virtues—and what Ritchhart (2015) described as dispositional apprenticeship, a more informal process. Aligning with Baehr's (2015) suggestion that teachers "think out loud" regarding their intellectual virtues and vices, teachers at BIMS reported admitting when they do not know something or expressing their own questions to students. Given our study's quantitative finding—that students at BIMS displayed higher intellectual humility than peers at a comparison school—it is notable that several teachers directly spoke to how they engage in modeling elements of intellectual humility and growth mindset for their students; future experimental studies will be able to shed light on whether this practice causally impacted students' intellectual humility development.

Finally, BIMS students commented on the importance of normalizing error within their classrooms. Although several scholars have noted that intellectual character classrooms need to focus on cultures of growth mindsets or mastery goals, where learning is achieved through risk-

taking and mistake making (e.g. Baehr, 2015; Ritchhart, 2015), relatively less attention has specifically been paid to the role of creating an error culture for fostering intellectual character. Steuer, Rosentritt-Brunn, and Dresel (2013) defined an error climate as containing eight elements: teacher tolerance for error, errors do not result in bad grades, teacher offers support after errors, teacher does not react negatively to error, classmates do not react negatively to error, students engage in class without knowing if something is correct ("taking the error risk"), communication about errors, and errors are used for learning. Recall that BIMS students spoke most to how they feel their school has "no wrong answer" which helps them learn; these comments align with the elements of functionality of errors for learning and "taking the error risk." In addition, students commented that their teachers and peers supported them when they made errors, aligning with Steuer and colleagues' (2013) norm of students engaging in error without negative reactions from teachers or peers. In light of Steuer and colleagues' (2013) finding that a positive error climate in the classroom is a unique predictor of self-regulation learning strategies above and beyond students' perception of their classroom's perceived goal structure (i.e. mastery goal versus performance goal structure), future research might further consider the mediating role of a classroom or school error climate in the development of students' intellectual character strengths in conjunction with the student and classroom goal structures. Indeed, our findings corroborate those of Steuer and Dresel (2015) that the absence of negative classmate reactions to error is associated with a greater likelihood of "taking the error risk" (i.e. saying something even if it might be wrong), and suggest that a positive error climate in the classroom may be related to both intellectual humility, risk-taking, and curiosity in the form of question-asking.

Limitations

This study has several limitations. First, a significant limitation is the lack of random assignment to the two participating schools, leading to possible issues of selection bias (Baltes et al., 1988). Therefore, although both participating schools are charter schools where the students are admitted by randomized lotteries, it is possible that there could have been preexisting differences between the student bodies that could have confounded the study's results. The study cannot fully account for all exogenous variables influencing the students' intellectual character development and therefore cannot make *causal* claims regarding the impact of attending BIMS on students' intellectual character development (Baltes et al., 1988). We note, however, that the students at both schools were equivalent at baseline on six of the seven constructs that we assessed, and came from schools with very similar demographics. This suggests that the groups were appropriate for comparison.

A second limitation is the study's limited sample size. As previously noted, our statistical analyses may have been underpowered to detect effects. Future research should aim to recruit a larger sample of participants. Moreover, given that we conducted interviews with the teachers and sixth grade students at BIMS and did not conduct interviews with the students or teachers at ICS, our findings are limited in their generalizability. It is possible that the pedagogical strategies discussed here may not apply to schools with different pedagogical goals (e.g. social-emotional learning), non-charter schools, or those with different demographic or geographical make-ups. Future studies should explore teacher and student perspectives on intellectual character development within a variety of pedagogical milieus.

Conclusions

Several scholars have debated whether indirect or direct methods of enculturation are most appropriate for fostering students' intellectual character strengths. Accordingly, through

employing a quasi-experimental, mixed-methods, longitudinal investigation of the Bright Ideas Middle School, a school with an explicit mission of enculturating intellectual character strengths in its students, this study explored "on-the-ground" student and teacher perspectives. Results indicated that BIMS students ended their sixth grade year with a heightened sense of intellectual humility in comparison to their peers at a matched comparison school (ICS). Furthermore, teachers and students at BIMS described a coalescence of indirect and direct methods of enculturation useful for engendering young adolescent's intellectual character strengths. In light of these findings, future research should continue to explore the role of multiple methods of enculturation and their more targeted role in directly cultivating intellectual character strengths such as humility.

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Table 1. *Summary Statistics (Mean, Standard Deviation) for Intellectual Character Measures*

		Intellectual Curiosity		Intellectual Courage		Intellectual Tenacity		Open-Mindedness	
	N	T1	T2	T1	T2	T1	T2	T1	T2
BIMS	43	3.75	3.79	3.39	3.53	3.21	3.16	3.06	3.29
		(.63)	(.63)	(.80)	(.65)	(.51)	(.44)	(.39)	(.38)
ICS	33	3.99	3.93	3.61	3.73	3.34	3.14	3.19	3.28
		(.56)	(.68)	(.65)	(.72)	(.37)	(.48)	(.44)	(.40)
All	76	3.86	3.85	3.48	3.62	3.27	3.15	3.11	3.28
		(.61)	(.65)	(.74)	(.68)	(.45)	(.46)	(.42)	(.39)

		Growth-Mindset		Intellectual Humility		Attentiveness	
	N	T1	T2	T1	T2	T1	T2
BIMS	43	3.33	3.54	3.59	3.72	3.28	3.36
		(.56)	(.41)	(.56)	(.53)	(.58)	(.65)
ICS	33	3.40	3.53	3.31	3.40	3.43	3.26
		(.47)	(.49)	(.39)	(.52)	(.56)	(.72)
All	76	3.36	3.53	3.48	3.58	3.35	3.32
		(.52)	(.44)	(.52)	(.55)	(.57)	(.68)

Table 2. *Correlations Among Intellectual Character Measures*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1- Curiosity T1	-													
2- Curiosity T2	0.5429*	-												
3- Courage T1	0.5550*	0.3809*	-											
4- Courage T2	0.4469*	0.6541*	0.4770*	-										
5- Tenacity T1	0.0986	0.3246*	0.1974	0.3382*	-									
6- Tenacity T2	-0.0296	0.3814*	0.2987	0.3463*	0.4697*	-								
7- Open T1	0.2229	0.0215	0.1821	0.1233	0.0826	-0.2095	-							
8- Open T2	0.2954	0.4371*	0.1795	0.3683*	0.3056	0.1722	0.5239*	-						
9- Growth T1	0.2338	0.0894	0.1030	0.1907	0.1277	0.1724	0.3337*	0.4004*	-					
10- Growth T2	0.1937	-0.0484	0.2421	0.1625	0.0218	-0.0061	0.3220*	0.3097	0.6613*	-				
11- Humility T1	0.0499	0.2541	0.1446	0.3981*	0.2579	0.1274	-0.0294	0.2170	0.3412*	0.1457	-			
12- Humility T2	0.0734	0.4321*	0.1283	0.4214*	0.1607	0.3560*	-0.1142	0.2196	0.3270*	0.1803	0.7138*	-		
13- Attentive T1	0.1169	0.5097*	0.1519	0.4801*	0.5235*	0.4021*	0.2632	0.4648*	0.3991*	0.2872	0.3328*	0.4231*	-	
14- Attentive T2	-0.0779	0.2022	0.1342	0.1869	0.3915*	0.5940*	0.1311	0.2717	0.4547*	0.2569	0.1007	0.3509*	0.6609*	-

Note: 1=Average Curiosity Time 1 (T1), 2= Average Curiosity Time 2 (T2), 3= Average Intellectual Courage T1, 4= Average Intellectual Courage T2, 5= Average Tenacity T1, 6= Average Tenacity T2, 7= Average Open-mindedness T1, 8= Average Open-mindedness T2, 9= Average Growth Mindset T1, 10= Average Growth Mindset T2, 11= Average Intellectual Humility T1, 12= Average Intellectual Humility T2, 13= Average Attentiveness T1, 14= Average Attentiveness T2

Table 3. *OLS Regression Models for the Relationship between School and Intellectual Character Measures (n = 76 students)*

	Intellectual Curiosity				Intellectual Courage				Intellectual Tenacity				Open-Mindedness				Growth Mindset			
	B	*SE*	*T*	*p*	*B*	*SE*	*T*	*p*	*B*	*SE*	*T*	*P*	*B*	*SE*	*T*	*p*	*B*	*SE*	*T*	*p*
Intercept	1.61	.38	4.29	<.0001	1.77	.34	5.10	<.0001	1.42	.35	3.96	<.0001	1.59	.34	4.59	<.0001	2.09	.31	6.61	<.0001
T1 Score	0.57	.09	5.80	<.0001	0.49	.09	5.32	<.0001	0.53	.10	4.99	<.0001	0.55	.11	4.89	<.0001	0.46	.08	5.17	<.0001
Gender	0.06	.11	0.58	.56	0.98	.14	0.97	.33	0.04	.10	0.40	.69	0.07	.08	0.89	.37	-0.13	.09	-1.42	.15
School	-0.00	.12	-0.02	.98	0.14	.14	1.05	.29	-0.16	..10	-1.60	.11	-0.05	.08	-0.66	.51	-0.11	.09	-1.23	.22
R^2	.36				.32				.31				.28				.36			

Note: School was coded *0* for BIMS and *1* for ICS.
Gender was coded *0* for male and *1* for female.

Table 3 cont. *OLS Regression Models for the Relationship between School and Intellectual Character Measures (n = 76 students)*

	Intellectual Humility				Attentiveness			
	B	*SE*	*T*	*p*	*B*	*SE*	*T*	*p*
Intercept	1.63	.39	4.18	<.0001	0.85	.42	2.01	.04
T1 Score	0.59	.10	5.60	<.0001	0.77	.12	6.06	<.0001
Gender	-0.08	.10	-0.80	.42	-0.07	.13	-0.59	.55
School	-0.22	.11	-1.99	.05	-0.19	.13	-1.38	.17
R^2	.41				.37			

Note: School was coded *0* for BIMS and *1* for ICS.
Gender was coded *0* for male and *1* for female.