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Predictive Validity of the Classroom Performance Survey

Asia Simone Thomas

PREDICTIVE VALIDITY OF THE CLASSROOM PERFORMANCE SURVEY

by

Asia Simone Thomas

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Accepted by:

Samuel McQuillin, Major Professor

Kimberly Hills, Committee Member

Guillermo Wippold, Committee Member

Christine DiStefano, Committee Member

Tracey L. Weldon, Interim Vice Provost and Dean of the Graduate School

ABSTRACT

The current study evaluated the concurrent associations between an adapted version of the Classroom Performance Survey (CPS) and academic and behavioral student outcomes. Participants were one cohort of kindergarten through 5th grade children enrolled in a public elementary school. Preliminary results suggested that the CPS was a significant predictor of academic student outcomes similar to previous research. Hierarchal regression analyses indicated that the Academic and Interpersonal Subdomains improved the prediction on students' GPA, above and beyond MAP scores alone. Finally, descriptive statistics indicate similar student performance across 'in person', 'virtual', and 'hybrid' learning settings. Educators using a Multi-Tiered System of Support Framework to circumvent poor student outcomes should consider the practical value of administering the CPS as a screening measure of school functioning.

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CHAPTER 1

INTRODUCTION

Conceptualization of School Functioning

During the Spring semester of 2020, school buildings began to close due to the spread of a global pandemic. To help mitigate the spread of the Coronavirus disease (COVID-19), schools adopted virtual and hybrid models of instruction to support students' learning at home and in re-opened school buildings. Educators have maintained responsibility for students' continued development during these unprecedented times. More than ever, there is a growing expectation for school leaders to keep students invested in their educational success by looking beyond academic achievement alone. Even before COVID-19, the expectation to provide opportunities for social and behavioral development represented a shift away from overreliance on preparing students for performance on high-stakes standardized tests (Anderson-Butcher, Amororse, Iachini, & Ball, 2012; DiPerna & Elliot, 2000; DuPaul et al., 2019; Green et al., 2012; Grooves & Welsh, 2010). The shift towards a more whole-child approach is rational, as students' overall well-being warrants even more attention amidst a global pandemic.

An emergent body of research suggests school success is influenced by a wide range of modifiable thoughts and behaviors (e.g., students' perceptions about education, self-efficacy, and study skills) that are inextricably linked to academic achievement (DiPerna & Elliot, 2000; Oberle et al., 2014). Specifically, researchers find that the influence of these attitudes and behaviors on academic success is equally as important as

aptitude in predicting school success and failure (Diperna & Elliot, 2000; Groves & Welsh, 2010; DuPaul et al., 2019). In response to this research, educators are increasingly measuring and providing services targeting the attitudes, behaviors, and beliefs linked to learning and school performance (DiPerna & Elliot; 2000; DiPerna, 2006; Hertzman, & Zumbo; 2014). Specifically, schoolwide collection of student data used to assess these factors can help facilitate educational decision-making during a time when it is needed most.

Data-based decision-making refers to a process whereby schools use data to minimize the likelihood of making errors when deciding how to adjust instruction, allocate resources for interventions, or make eligibility decisions for special education. Although this approach to decision-making is well established for academic skills, less research has focused on educational decision-making for broader conceptualizations of school functioning. Furthermore, research specific to student learning during remote instruction amidst a global pandemic is only emerging. This is an essential area for initial and continued study as timely intervention for all students, both virtual and in-person, is a critical element to help reduce adverse projected outcomes for those at-risk of school impairment (DiPerna, Bailey, & Anthony, 2014; Kettler et al., 2014; Lovelace, Reschley, Appleton, 2017). The current study investigated the screening utility of a broad measure of school functioning adapted for dual-modality instruction. The assessment of students' attitudes and school behaviors was used to predict corresponding academic and behavioral outcomes.

School functioning or academic competence is a multidimensional construct of students' attitudes, behaviors, and skills that fit into two distinct categories: academic

enablers and academic skills (DiPerna & Elliott, 1999). Academic enablers are related to academic achievement but are distinct in the sense that they provide a unique contribution to explain academic achievement beyond learning ability (Allen, 2005; DiPerna, 2006; Diperna & Elliott, 1999; Oberle et al., 2014). According to DiPerna & Elliott (1999), there are four academic enablers (also called "critical tools for learning" or "academic helping behaviors"): academic motivation, study skills, academic engagement, and interpersonal skills. Assessing students' attitudes, behaviors, and skills early on is critical to help prepare them for the growing demands of higher grade levels and adulthood as they become increasingly independent. Student advancement to higher grade levels is significant for school leaders to consider. Students begin to experience larger class sizes, the compounding effects of expectations from multiple classroom teachers, a heightened need for peer acceptance, and general declines in academic self-concept.

Researchers DiPerna & Elliot (1999) initially hypothesized 'academic self-concept' would be included as an academic enabler in their model of school functioning. However, in their study, it was not feasible to assess students' academic self-concept as an unobservable trait using teacher report alone (Diperna & Elliot, 1999). Nonetheless, students' perceptions and beliefs about education significantly impact projected educational outcomes, as indicated in the current review of school functioning (Cham et al., 2014; Groves & Welsh, 2010; Oberle et al., 2014). Support for each domain of school functioning in DiPerna & Elliott's (1999) model, including academic self-concept, was found during a systematic literature search of the construct.

A standardized literature search was conducted using electronic searches of databases. The reference sections of retrieved articles were scanned to identify additional research not captured by the systematic search procedure. The objective of the search was to obtain all empirical, peer-reviewed articles in which aspects of school functioning were used as variables (either independent or dependent) to gather support for each domain indicated in DiPerna & Elliott's (1999) original model of school functioning. Searches were restricted to the period from January 2010 to December 2020, and articles published in English. The systematic search yielded 1,568 documents (including duplicates). After removing duplicates, the document titles, keywords, and abstracts of the remaining search results were screened for inclusion. After the initial screen, full text was obtained for the remaining 111 documents. Of the papers assessed for eligibility, 23 were excluded.

Domains of School Functioning

  Academic Self-Concept. Academic self-concept is a metacognitive measure of students' perceived self-efficacy related to general academic performance (Bandura, 1986; Bong & Skaalvik, 2003; DiPerna & Elliot, 1999; Wouters, Colpin, & Verschueren, 2011). Self-efficacy represents a student's belief in their ability to organize and employ actions necessary to achieve concrete academic tasks with their skills (Bandura, 1977; Liu & Wilson, 2010). Students who are confident in their ability to succeed academically demonstrate a positive academic self-concept and are likely to persist through challenges with an increased effort to meet educational goals (Liu & Wilson, 2010). Academic self-concept is typically measured using self-report Likert scale items such as "Schoolwork is easy for me" or "I do well in school." Items that assess self-efficacy are narrower in scope

and include items like, "I expect to do very well in math class this semester" and "I am confident I will get an A in English" (Bong & Skaalvik, 2003).

There is substantial evidence to support how influential students' self-system beliefs are regarding adequate school functioning, high school completion, and continued success beyond graduation (Bandura, 1997; Cham et al., 2014; Huang, 2011). In a 2011 meta-analysis study, Huang examined the relation between self-concept and academic achievement using 39 longitudinal samples and found small to medium mean correlations (r = .20 - .27). These results are consistent with prior research that supports the small but significant impact of academic self-concept on future academic achievement (Valentine, DuBois, & Cooper, 2004). Additionally, in a 2011 study, Wouters, Colpin, & Verschueren found significant associations between students' academic self-concept and academic adjustment in higher education (r = .23). There were also significant correlations between students' academic self-concept and future success in higher education (r = .35). Researchers concluded that students with favorable academic self-concepts were better able to handle academic demands in the future as compared to students with poor academic self-concepts.

The small to medium associations between academic self-concept and future student outcomes suggest the importance of evaluating emotional intelligence risk factors like negative self-system beliefs. Assessment of students' academic self-concepts can help to inform intervention and allow students to reflect on their in-school experiences with heightened awareness (Anderson-Butcher et al., 2012; Good, 2014). By engaging students to reflect on their personal academic beliefs, there is an increased opportunity to change unhelpful thinking patterns and promote growth mindsets. Additionally, school

personnel can create opportunities to enhance students' academic self-concepts by targeting the four sources of self-efficacy (i.e., mastery experience, social persuasion, vicarious experience, and emotional or physiological state) (Liu & Wilson, 2010).

Many existing interventions explicitly target students' academic self-concept with substantial effects (d = .76- 1.16). Primary characteristics of intervention programs empirically demonstrated to affect students' self-concept include general self-concept activities, individual counseling, and praise-feedback, which has the most substantial impact (d = 1.90- 1.13) (O'Mara et al., 2016). Furthermore, opportunities for building mastery experience through continued skill practice or increased exposure to specific academic material can boost academic self-concept (d = .18-.42) (O'Mara et al., 2016). Moreover, adults who convey expectations for achievement are likely to bolster students' perceptions of their scholastic ability (Good, 2014; Masten et al., 2009). When academic standards are explicit and seemingly obtainable, the context of a supportive environment in the form of praise-feedback and social persuasion helps to strengthen students' academic beliefs. (Bandura, 1997; Cham et al., 2014; Hughes, Luo, Kwok, & Loyd, L, 2008). Students are likely to develop and internalize academic goals if they believe they have the skills necessary for academic competence (Brigman et al., 2007; Roybal, Thornton, & Usinger, 2014).

Academic Motivation. Academic self-concept is intricately linked to academic motivation making it difficult for researchers to disentangle the two (Green et al., 2012). Academic motivation, however, is a distinct representation of students' goal-directed behavior and interest in learning (Ainley, 2004; Diperna, Bailey, & Anthony, 2014; Diperna, & Elliot; 1999; Learner & Kruger, 1997). Students' learning goals are

performance-based when academic success intertwines with personal worth and is contingent upon performance relative to peers. In comparison, students with mastery goals attribute their academic success to continued practice, increased understanding, and personal improvement. Mastery goals, in particular, are linked to student engagement, practical study skills, and academic proficiency (Ames, 1992; DiPerna, 2006; Mouratidis, Vansteenkiste, Lens, Michou, & Soenens, 2013). Students' interest in learning or intrinsic motivation can be either domain-specific or situational, depending on whether academic interests are stable or contingent (Linnenbrink & Pintrich, 2002). For example, a student with domain-specific intrinsic motivation may have a longstanding interest in History, compared to a student who enjoys a particular lecture in History due to situational interests in the temporary focus of study. Educators can probe students' disposition toward learning by asking targeted questions specific to their interests and goal-directed behavior. Assessment items used to measure academic motivation might include the following, "I enjoy learning new things" and "I feel important when I succeed in school" (Vallerand et al., 1992).

Academic motivation, in general, has strong associations with performance on standardized tests, grade point average, and other indices of academic performance (Diperna & Elliot, 1999; Groves & Welsh, 2010). Often, students with increased motivation to learn make better grades, meet state proficiency standards, and ultimately complete high school (Cham, Hughes, West, & Im, 2014). Students who are highly motivated to succeed are also likely to persist through complex tasks, endure in the face of obstacles, and receive help to achieve academic goals (Cham et al., 2014). Students who are academically motivated also prioritize schoolwork in the face of competing

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activities like spending time with peers or participating in extracurricular events. Generally, highly motivated students choose similar peers who support their educational goals (Altermatt & Pomerantz, 2005).

Researchers have recently tapped into the influence that emotional variables may have on students' motivation related to approach or avoidance behaviors. Positive emotions bridge the gap between sustained attention and achievement of academic goals (Ainley, 2004; Fredrickson, 2000; Liem, 2016). Researchers recommend activities designed to evoke positive emotions for educators looking to sustain academic motivation. Additionally, genuine praise, words of encouragement, and tangible rewards have rejuvenating effects on academic motivation (Joseph, Ijeoma, & Phemelo, 2019). Moreover, in a 2016 meta-analysis, Lazowski & Hullen found several effective motivation interventions (e.g., attribution retraining programs, self-affirmation interventions), "averaging approximately half a standard deviation effect size" ($d = 0.49$).

Study Skills. According to researchers, study skills are a byproduct of academic motivation (DiPerna, 2006; Gettinger & Seibert, 2002). These self-regulatory behaviors (e.g., time-management, goal-setting, self-monitoring) reflect the retention and understanding of new and learned material often measured by test performance (DiPerna, 2006). According to Gettinger & Seiber (2002), studying is skillful and developed through continued practice and the use of specific strategies that help students access, organize, retain, and apply information. Study behaviors become essential for students with growing responsibilities and autonomy. Students with adequate study skills can complete academic tasks, prepare for tests, take practical notes, organize educational material, and manage their time effectively (DiPerna, 2006). Choosing to study in an

environment conducive to optimal concentration and focus is also an element of effective study habits (Ainley, 2004). Furthermore, study skills like breaking tasks into manageable chunks, creating timelines for tasks, recording deadlines or due dates, and using exam preparation and test-taking strategies often require explicit training and practice. Example items used to probe individual study skills include the following: "I study in a place free from auditory and visual distractions," "I anticipate what possible questions may be asked on my tests and make sure I know the answers," and "I use a 'to do' list to keep track of completing my academic and personal activities."

There is strong support for the relation between adequate study skills and academic achievement (Gettinger & Seibert, 2002). Moreover, researchers suggest that some poor academic performance may be due to deficits in cognitive and self-regulatory abilities instead of low academic aptitude. Students may have high motivation, engagement, and interpersonal competence but lack the necessary study skills that set them up for academic success (Bergsmann, Lüftenegger, Jöstl & Spiel, 2013; Elliot et al., 2004). Insight regarding the importance of study skills has also been gained from studies indicating low-achieving students use study strategies less frequently than effective learners. Regular use of study strategies is associated with increased performance on standardized achievement tests ($r = .61$) and assignment completion ($r = .61$) (DiPerna, 2006; Zimmerman & Martinez-Pons, 1986). Some of the most effective study strategies that distinguish proficient learners from low-achieving students include the following: preview reading, forming connections between key concepts, utilizing prior knowledge, monitoring understanding, and changing strategies after evaluating understanding and study effectiveness (Gettinger & Seibert, 2002; Pressley & Afflerbach, 1995). Overall,

students with adequate study skills are what researchers call "active" learners who demonstrate initiative, independence, and responsibility in their access to new information and proficiencies (Gettinger & Seibert, 2002).

Some students have inherently developed study skills. However, there are significant implications for the direct instruction of study skills due to an existing population of passive learners with underdeveloped study skills (i.e., students who use rote memorization of minor details, who fail to establish study goals, cram for tests, and rely heavily on others to regulate their studying) (Gettinger & Seibert, 2002; Wood, Woloshyn, & Willoughtby, 1995). Educators often disregard the reality of diverse student populations and expect the independent development of effective study habits for all students. Nonetheless, systematic instruction of these skills through guidance and support is essential for academic achievement (Deshler, Elis, Lenz, 1996; Gettinger & Sibert, 2002; Zimmerman, 1998).

Fortunately, study skills are easy intervention targets. Examples of effective study strategies with empirical support include the following: creation and use of mnemonic devices with mental imagery, organizational routines and schedules for studying (i.e., complete challenging tasks during high alert/low distraction times, break large tasks into manageable chunks, alternate between types of study tasks, incorporate breaks and contingency plans), semantic mapping, generative summarization, self-questioning (e.g., "Why am I studying this material?, "Does this material make sense to me?", and "Should I try a different study strategy?"), and peer-assisted learning approaches. Finally, the most effective supports allow students to develop personalized study strategies that work for them and that vary across tasks (Gettinger & Seibert, 2002).

Academic Engagement. Study skills are directly linked to academic engagement due to intentional use of strategies and self-directed behaviors. Proficient students use and maintain good study habits even in the face of obstacles as a demonstration of high academic engagement (Gettinger & Seibert, 2002; Gersten, 1998). Students' academic engagement can be behavioral, emotional, and cognitive, similar to previously described domains of school functioning that are interrelated (Fredricks, Blumenfeld, & Paris, 2004; Lovelace, Reschly, & Appleton, 2017). Behavioral engagement represents observable elements of class participation and rule compliance (e.g., frequency of questions asked, volunteered answers, and leadership characteristics). Emotional engagement overlaps with sociability to represent students' ability to react positively to peers and adults in school. Another significant contribution is students' attitude about school that influences effort and motivation. Finally, cognitive engagement is the extent to which students work appropriately, attentively, and diligently to learn and master skills. Often students who are invested in their educational growth demonstrate goal-directed behavior due to their engagement (Calderella et al., 2017; Diperna & Elliot, 1999; Fredricks et al., 2004). Engaged students also perceive school to be a meaningful part of their life and feel a sense of belongingness (Lovelace et al., 2017). Assessment of academic engagement might include teacher- or self-report items like the following: "Student volunteers answers to questions during class discussion" and "I am focused during class time and pay attention to my teacher" (Fredrick et al., 2004).

Indicators of academic engagement help to explain student outcomes such as academic and behavior patterns, school connectedness, and in many cases student dropout (Ainsely, 2004; Calderella et al., 2017; DuPaul, 2019; Fredrick et al., 2004;

Groves & Welsh, 2011; Juvonen, 2006; Lovelace et al., 2017; Roybal, Thornton, & Usinger, 2014). Froiland & Worrell (2016) found significant correlations between students' engagement and GPA (r = .20-.40) after controlling for prior GPA and other powerful predictors. Moreover, researchers investigating the development of students' engagement in relation to dropout found that 60% of students who demonstrated initial positive academic engagement remained engaged over an extended amount of time (Lamote, Speybroeck, Van Den Noortgate, & Van Damme, 2013). In contrast, those with lower levels of engagement generally remained disengaged over time and subsequently had higher levels of risk for dropout in the future.

Researchers contend that academic engagement is a malleable construct and an essential area for interventionists to improve overall school functioning. Often educators who are skillful in their efforts to increase in-class participation do so by providing students with multi-method opportunities to respond and demonstrate understanding (e.g., think-pair-share, choral response, use of whiteboards and technology, forced-choice response opportunities, nonverbal response signals, and student lead teaching) (Gettinger & Seibert, 2002). Additionally, several interventions exist to target academic engagement specifically. Examples include Martin's (2008) self-directed engagement workbook and programs that target cognitive (e.g., Self-Regulation Empowerment Program; Cleary, Platten, & Nelson, 2008) or affective engagement (e.g., Banking Time; Pianta, 1999, ALAS; Larson & Rumberger, 1995).

Interpersonal Skills. Although academic engagement includes affective or social aspects of school functioning, interpersonal skills narrowly reflect students' ability to communicate and demonstrate cooperative learning behaviors. In social situations with

peers and adults in school, interpersonal skills are often the driving force helping students to achieve their academic goals (Brady et al., 2012; Diperna & Elliot, 1999; Wang, Do, Bao, Xia, & Wu, 2017). Specifically, students' ability to initiate and maintain relationships with school personnel, seek out academic help as needed from peers or adults, and relate positively to peers are important indicators of this domain. Social skill measures typically tap into students' appropriate sociability, active coping skills, self-confidence, and communication. Anti-social behaviors like aggression and impulsive behaviors are important indicators of poor interpersonal skills. Example items from an interpersonal skills measure might include the following: "Student is well-liked by peers," "Student is easily able to establish and maintain relationships," and "Student asks for help from others when needed."

As interpersonal relationships and peer acceptance become increasingly important to students, researchers suggest that these indicators significantly influence classroom behavior and academic achievement (Nelson, Leibenluft, Tone, & Pine, 2005; Oberle et al., 2014). Positive social interactions— support from adults for educational achievement and peer acceptance—are associated with increased academic success and positive outcomes (Brady et al., 2012; Brinkworth et al., 2018; Cham et al., 2012; Lamote et al., 2013; Wentzel, 1991). In a study conducted to assess the effectiveness of social skills training for peer-rejected students, significant improvements in interpersonal competence and positive peer relationships were developed (Ikporukpo, 2015). Furthermore, students with social-emotional competence demonstrated less alienation and a lower frequency of anti-social behaviors.

In a 2014 study, Oberle et al. conducted a large-scale empirical review to investigate the relation between interpersonal skills (i.e., self-reported social responsibility goals and teacher-rated social-emotional skills) and specific domains of academic achievement (i.e., math and reading standardized test scores). Findings from this study revealed independent associations between social skills and academic achievement after controlling for prior standardized test scores. When students do not have positive relationships with peers and teachers, they forego access to social capital, which can result in poor school performance and subsequent dropout (Roybal et al., 2014; Becker & Luthar, 2002).

Students with interpersonal deficits may benefit from behavior intervention plans tailored to their individual needs or training that helps to promote prosocial classroom behavior and related academic achievement (Calderella et al., 2017; Good, 2014; Ikporukpo, 2015). Students can build competence across several areas (i.e., active listening, starting and ending conversations, assertive communication, giving and receiving compliments, and confident self-expression) that contribute to positive social interactions with peers. Additionally, there are many effective social-emotional interventions supported by empirical research to help boost student motivation to learn, prosocial behavior, and academic achievement (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). Compared to students who do not receive support, those who participate in social and emotional learning improve across areas of school functioning, including engagement, school conduct, and academic performance. Remarkably, researchers purport an 11- percentile gain in academic achievement for students who participate in social-emotional intervention (Durlak et al., 2011).

Academic Skills. Traditionally prioritized academic skills provide valuable information about school functioning related to student performance in core subject areas (DiPerna & Elliot, 2000; 2006; Kettler et al., 2014). According to researchers, prior academic performance may be one of the strongest predictors of continued academic performance (DiPerna, 2006). As an overt measure of learning ability, academic skills assess acquisition and retention of knowledge, problem-solving ability, and critical thinking skills (DiPerna & Elliot, 2000; Haring, Lovitt, Eaton, & Hansen, 1978). Furthermore, academic skills represent students' ability to read, write, and perform mathematically in relation to same-age or same-grade peers. Academic reading skills consist of students' phonological awareness, alphabetic knowledge, vocabulary knowledge, reading fluency, and reading comprehension (U.S. Department of Health and Human Services, 2000). Writing skills include students' understanding of the relation between words, correct use of grammatical structures, and ability to form well-written sentence structures to express organized ideas (Kellog, 2008). Mathematic skills include students' quantitative knowledge, ability to perform computations with accuracy and solve problems using algebraic expressions, symbols, shapes, and spatial relationships (Fryer et al., 2013). Educators can easily assess academic skills as the focus and outcome of formal instruction using a variety of methods. DiPerna (2006) offers the following questions to help inform targeted instruction or initial intervention: "What is the student's current skill level in the subject area of interest?", "How does the student's skill level compare to performance standards?" and "Does the skill need to be taught or refined?"

Unsurprisingly, a large body of research supports the association between academic skills and long-term student outcomes (e.g., academic achievement, educational

attainment, and adult behaviors). Both early reading and math abilities help to predict students' proficiency in math. Prior research also suggests that students with lower early reading skills tend to have depressed rates of continued education due to the indirect yet cumulative effects of early academic difficulty (Rabiner, Godwin, & Dodge, 2016). Negative and potentially long-term consequences across the lifespan are also possible for students with early academic difficulties (Darney, Reinke, Herman, Stormont, & Ialongo, 2013; January et al., 2017). Struggling readers who do not receive early remediation are at increased risk for dropping out of high school, suicide ideation, future homelessness, teenage pregnancy, and juvenile delinquency (Bennett, Frasso, Bellamy, Wortham, & Gross, 2013; Daniel et al., 2006; January et al., 2017; McGill-Franzen, 1987; Reschly, 2010; Vitaro, Brendgen, Larose, & Tremblay, 2005). Conversely, students with proficient academic skills are likely to have positive relations with teachers, increased academic motivation and engagement, and continued academic proficiency (Duncan et al., 2007; Rabiner et al., 2016).

There are several targeted interventions with empirical support to address preventable student difficulties across school subject areas. Torgesen (2000) estimated that up to 50% of students at risk for reading failure would demonstrate proficiency due to effective early prevention and intervention efforts. In a systematic review to understand the effectiveness of reading interventions, researchers found support for response-to-intervention approaches as indicated by substantial gains in reading comprehension on standardized tests (ES = 1.20). Additionally, targeted reading interventions with multiple reading components (ES = 0.72) and word reading strategies (mean d = 0.35) were deemed promising for comprehension outcomes. Lastly, there are

many age-specific resources that interventionists and school psychologists recommend to teachers for students struggling across subject areas (e.g., Intervention Central and What Works Clearinghouse). Effective instructional practices for struggling students include the following: modeling, explicit instruction, creating multiple opportunities for response, giving immediate corrective feedback, increased time on tasks, increased opportunities for practice, and rewarding successive approximations toward academic proficiency (Codding & Martin, 2016; Gettinger & Seibert, 2002; Solis, Miciak, Vaughn, & Fletcher, 2014; What Works Clearinghouse, 2012).

In sum, the literature review conducted provides evidence to support the substantial collective influence of academic enablers to predict overall school functioning beyond what academic skills can predict alone. Non-academic skills can be built into school curriculums as instructional targets to bolster students' academic success (Isakson & Jarvis, 1999; Roybal et al., 2006). Implementation of well-designed student success programs that target modifiable academic enablers can also significantly improve academics and school behavior (Brigman, Webb, & Campbell, 2007; Cauley & Jovanovich, 2006; Roybal et al., 2014). Despite the recognized importance of assessing a combination of academic skills and enablers to predict and prevent poor projected outcomes, many educators continue to rely only on indicators of school functioning that fail to inform intervention. Symptomatic indicators like GPA, standardized test scores, attendance, and Office Discipline Referrals do not probe for early signs leading up to school failure but are traditional measures of 'school functioning' (Allen, 2005; Brady et al., 2012; Diperna et al., 2014; Mattison, 2004; Oberle et al., 2014; Sibley et al., 2014).

Symptomatic Indicators of School Functioning

  Grade Point Average. As a summative report of academic performance, GPA merely represents a signal of underlying impairment. Grades do not provide specific targets for intervention (Allen, 2005; Brady et al., 2012; Good, 2014). Specific enabling behaviors such as turning in completed assignments and having the ability to work with other students are potential areas of difficulty that may go undetected without direct assessment of these skills. Moreover, the validity of grades reported by teachers has been called into question given the subjective criteria used to determine course subject mastery (Allen, 2005; Good, 2014; Pollio & Hochbein; 2015). The primary purpose of reporting student grades is to communicate academic achievement; however, educators have been known to factor in other elements to report student grades. For example, teachers may grade students based on subjective interpretations of "what they deserve" that are not factual or academic (Allen, 2005; Pollio & Hochbein; 2015). As a result, grade reports become an amalgamation of students' ability to meet subjective standards across inadvertent areas of school functioning (e.g., effort, social skills, rule compliance, attendance) as opposed to objective reports of performance (e.g., tests, quizzes, participation, assignment accuracy, and completion).

  Without a formal process for documenting the many variables that make up a student's final grade, it becomes difficult to pinpoint specific areas to target during intervention (Allen, 2005; Brady et al., 2012). Teachers inadvertently include student behaviors such as motivation, engagement, and effort in grade reports, when there are existing measures intended to assess these specific areas that enable academic achievement (i.e., measures of school functioning that include assessment of both

academic skills and academic enablers, one of which will be evaluated in the current research study). Objective, standard measures of academic competence would help to decrease ambiguity, opportunities for teacher bias, and poor reliability. Lastly, GPA gets aggregated across time and course subjects. As a result, this index does not reveal areas of skill deficit to help inform student support (Sibley et al., 2014). Nonetheless, student grades are one of the many factors used to help determine grade promotion, high school graduation, and college acceptance. As a high-stakes outcome measure, educators need to move towards more standardized grading procedures and prevent poor student grades by targeting underlying contributing elements of school functioning.

Standardized Assessments. Similar to the poor construct validity of GPA, researchers suspect standardized achievement tests may indicate teacher behavior (i.e., effective teaching ability) rather than student achievement (Good, 2014). States that receive federal funding are held accountable for academic success, which would explain the pressure teachers face to ensure students meet national academic benchmarks on standardized tests (Every Student Succeeds Act, 2015). However, educators need to note that poor performance on standardized state tests is, in many cases, symptomatic of ancillary factors that facilitate academic achievement. When students do not meet proficiency standards by the end of the school year, it is unclear what enabling behaviors could have been targeted earlier in the school year to ensure better student outcomes.

State-mandated standardized testing is commonly used to determine grade promotion and graduation, similar to GPA (Horn, 2003). Historically, state tests have also been used as a marker of accountability to improve public education through reform initiatives. Moreover, standardized tests help educators collect and share aggregated

school data about how students rank amongst local and national peers. Nonetheless, educators would be remiss to focus solely on 'teaching to the test' to meet state standards. It is equally important to consider the enabling factors that allow students to benefit from academic instruction that are also important for long-term success as adults (e.g., communication skills, problem-solving skills, interpersonal skills, critical thinking, and self-regulation skills) (Horn, 2003). Despite the intent to hold educators accountable, state-mandated standardized tests do not assess the extent to which students have adequate goal-oriented behaviors or social skills necessary for becoming successful contributing members of society. Educators create an opportunity gap when teaching students how to perform well on standardized tests but failing to promote and track progress toward social responsibility goals (Oberle et al., 2014). Nonetheless, standardized assessments are more objective than measures of school performance like GPA and make a significant impact during the college application process for students interested in higher education.

Attendance. Attendance is another measure of school functioning used by educators, given the reciprocal relation between chronic absenteeism and academic success. Educators are most interested in reducing high absenteeism rates as an outcome of school impairment. Several factors like disengagement, illness, conflicting obligations, and bullying might prevent regular school attendance (Freeman, 2018). Frequent absences lead to negative social and behavioral consequences for all age groups (e.g., delinquency, dropout, and failure to graduate) (Baker, Sigmon, & Nugent, 2001; Balfanz & Byrnes, 2012). Several studies also suggest an increased risk of long-term consequences for youth with chronic absenteeism who do not complete educational

milestones (Cham et al., 2014; Daniel et al., 2006; Freeman, 2019; January et al., 2017; McFarland et al., 2018). The short-term consequences of frequent absenteeism include misdemeanor charges or fines for students and parents alike (Freeman, 2019).

Despite knowing the daunting outcomes of high absences, the cause behind students' absenteeism may be unknown to educators and require further investigation. Screening measures that include attendance in a comprehensive measure of school functioning can help educators initially flag attendance. High absence rates might then be linked to other elements of a student's profile to help educators generate hypotheses about chronic absenteeism. For example, a student with chronic absenteeism might also flag for poor interpersonal skills if bullied by peers in school and hence avoid school altogether. Educators can intervene directly with the student (i.e., provide counseling or training for dealing with bullies) or indirectly (i.e., establish and enforce rules and policies that communicate how students should treat each other) to prevent the compounding effects of poor attendance (U.S. Department of Health and Human Services, 2019). The routine screening of school functioning can also help educators determine whether frequent absenteeism due to a specific illness might require further assessment of functional needs. School personnel can then provide appropriate accommodations or supportive school services (Baldi et al., 2007; Berliner, 2014; Good, 2014; Vervoort, Logan, Goubert, De Clercq & Hublet, 2014). Researchers have found that contingency plans involving parents help to reduce unnecessary absences for frequently ill students (Freeman, 2019).

Furthermore, researchers have found that recognition and reinforcement of even minor improvements in attendance can have lasting effects that lead to improved social and academic outcomes. In a systematic review of interventions for students with high

rates of absenteeism and truancy, Freeman (2019) found several effective interventions to improve attendance (Eggert, Seyl, & Nicholas, 1990; Futter, Magnuson, & Suggs; Maynard, McCrea, Pigott, & Kelly, 2012). The three most common effective interventions included skills training, familial support, and incentive-based strategies. Interestingly, the skills training programs offered to students had several underlying academic enabling targets (e.g., study skills, self-management skills, interpersonal skills, and problem-solving skills). Following the top three common components were mentoring, environment alterations (e.g., providing breakfast, changing class schedules), academic interventions, and mental health counseling.

Office Disciplinary Referrals. Similar to poor attendance, overt behavior issues that lead to discipline referrals have the potential to become progressively consequential (e.g., in- and out-of-school suspensions, expulsion) (Calderella et al., 2017; Gage, Whitford, & Katsiyannis, 2018; Wallace, Goodkind, Wallace, & Bachman, 2008). Of the 49 million students enrolled in public schools in 2011-2012, a total of 6.95 million students were suspended, and 130,000 were expelled (U.S. Department of Education, 2016). Classroom removal due to undesirable conduct can lead to academic and social consequences such as direct interference of classroom instruction, low engagement, school dropout, and entry into the juvenile justice system (American Academy of Pediatrics [AAP], 2013; Fabelo et al., 2011; Flannery, Fenning, McGrath Kato, & Bohanon, 2011; Losen & Martinez, 2013; Skiba & Rausch, 2006). There are many negative classroom behaviors or disruptions that lead to office discipline referrals (ODRs), including bullying, cheating on exams, interfering with the instructional process, and unauthorized cellphone usage. Disruptive conduct that is more serious might include

violent offenses (e.g., physical assault, harassment, intimidation, or physical threats to others) that lead to significant consequences.

Office discipline referrals, in particular, represent a systematic method for communicating and assessing student behavior (i.e., location, type, and time of day for misconduct) that may warrant increased attention from school leaders. In a research study investigating the accumulation and specific patterns of ODRs, three of the top problem behaviors accounting for more than 60% of ODRs included defiance/disrespect, skipping class/truancy, and tardiness (Flannery et al., 2011; NCES, 2009). Research also indicates that ODRs reduce class time by an average of 20 minutes per incidence (Scott & Barret, 2004). Missed opportunities to participate in and benefit from classroom instruction make student behavior an area of school functioning worthy of critical attention (Flannery et al., 2011). The formidable associations between disciplinary exclusions and poor student outcomes have led to alternative methods like restorative justice practices to reduce maladaptive behavior and keep students in class (Flannery et al., 2011; Gage et al., 2018).

Schoolwide approaches to help reduce the likelihood of disciplinary exclusions include multi-tiered frameworks for preventing and responding to problem behavior like Positive Behavior Interventions and Supports (PBIS). Educators are implementing PBIS to create, define, and reinforce prosocial behavior at the school level through effective classroom management strategies (e.g., establishing classroom rules, including students in the rule-making process, and rewarding specific prosocial behavior). Students who need behavioral support beyond school-level approaches might benefit from targeted intervention, small group social skills training, or mentoring programs (Horner et al., 2006; Gage et al., 2018; Mitchell, Stormont, & Gage, 2011).

In sum, commonly used indicators of school performance like GPA, state test scores, attendance, and ODRs, although helpful in reporting student information, are insufficient to help educators target underlying deficits for intervention. These traditional indices of school functioning are only symptomatic, and some are flawed due to subjectivity. Student grades, in particular, help communicate how students are performing; however, there is room for bias without any standardization across teachers. Standardized test scores are helpful to gauge how students rank amongst their peers. Yet, they are suspected to be a better indicator of teaching than students' school functioning. Lastly, attendance and ODRs are indicators of school functioning that do not provide information about causal factors or the function of behavior when considered in isolation. Nonetheless, these symptomatic indicators might best serve as high-stakes outcomes of school functioning given their use to help determine grade promotion, graduation eligibility, and college acceptance.

Ecological and Individual Factors Related to School Impairment

There are several factors related to indicators of school functioning that educators have direct influence over as preventable problems or teachable skills during the most sensitive stages of development. Other factors outside of teachers' direct impact include low parental support and learning environments at home that are not conducive to student success at school. In a 2019 study, researchers found that parent social support (B = 0.092; p <.001) was significantly and positively associated with perseverance toward challenging long-term goals and positive outcomes like academic achievement. Similarly, in a 2016 study, researchers sought to better understand the relation between parental educational involvement (i.e., interest in education at home and in school, educational

expectations, and academic advice) and youth educational outcomes (i.e., GPA in 12th grade and educational attainment eight years after high school graduation). Higher levels of school-based parental involvement and greater educational expectations were related to higher GPAs and greater educational accomplishments after controlling for other variables (Benner et al., 2016).

Aside from parent and environmental factors, students' identity development across intersections of race, ethnicity, sexual orientation, gender identity, and mental health status tend to have patterned associations with school outcomes like discipline referrals, attendance, and academic achievement (Espelage, 2016; January et al., 2018; National Center for Education Statistics, 2009; Wallace, Goodkind, Wallace, & Bachman, 2008; Nelson et al., 2005; Skiba et al., 2011). Historically, African American and Latino students have had the highest ODRs, suspension, and expulsion rates compared to White and Asian students. Similarly, low SES students have a higher likelihood of being suspended or expelled (Mizel et a., 2016; Skiba, Michael, Nardo, & Peterson, 2002). These patterned associations are important. The effects of disciplinary exclusion perpetuate opportunity gaps for African American, Latino students, and students of low SES. Recent research also indicates that lesbian, gay, and bisexual students are at increased risk for high rates of absenteeism, reduced school-belonging, lower GPA, and truancy in comparison to heterosexual students. These outcomes are related to feeling unsafe at school, peer victimization, and academic challenges (Birkett, Russell, & Corliss, 2014; Russel, Everett, Rosario, Birkett, 2014; Robinson & Espelage, 2011). Distinct from the research specific to sexual minority students, gender minority students often report increased victimization and less school safety (Fenaughty, Mathijs,

Lucassen, Clark, & Denny, 2019). Lastly, researchers report at least 25% of students in school have substantial mental health problems that contribute to school impairment (Costello, Mustillo, Erkanli, Keller, & Angold, 2003).

There are many ways that both parents and educators can help to improve outcomes for marginalized students with increased risk for school impairment. Opportunities for prevention and advocacy include early identification of risk factors using a screening measure for overall school functioning, focused attention on protective factors, and social support for students at home and school. Unsurprisingly, academic enablers like engagement, motivation, and study skills serve as protective factors helping to decrease the likelihood of poor outcomes for marginalized students. Furthermore, parental involvement and homework review is associated with reduced misconduct for specific subgroups of students (Peguero & Shekarkhar, 2011). Family cohesion and respect also positively influence student engagement and study skills (Rumbaut, 2005). For LGBTQ youth, in particular, schools can help promote positive school functioning using evidence-based bully prevention strategies. When students' differences are respected and celebrated as part of school culture, they have the opportunity to belong and feel safe where they learn. School belonging, in turn, helps to create a sense of community for students at risk. Finally, pairing high academic expectations with rigorous coursework in the context of a supportive environment will help to push marginalized groups of students towards attainable success (Fenaughty et al., 2019; Isakson & Jarvis; 1999; Roybal et al., 2014; Smith-Millman, Harrison, Pierce & Flaspohler, 2019).

It is also crucial for researchers and educators to acknowledge when measures of school functioning are normed using homogenous and aggregated samples of students.

These measures may demonstrate potential bias for marginalized students with unique profiles and patterns of school functioning. In particular, studies investigating the utility of school functioning measures for diverse groups of students are needed. Early identification and provision of positive supports leads to better attendance, increased academic achievement, higher educational aspirations, and a greater sense of school belonging for all students (Birkett, Russell, & Corliss, 2014; Roybal et al., 2014; Smith-Millman et al., 2019). Nonetheless, the study of potential bias in predictive validity of school functioning measures is critical to help reduce the over-or under-representation of minority groups when reporting academic and behavioral problems. Independent peer-reviewed evidence investigating the technical characteristics of tools used to measure school functioning with diverse populations of students is steadily emerging (Hosp, Hosp, & Dole, 2011).

Grade-Level Advancement

As students advance from grades K through 12, they experience increased risk for feelings of incompetence and poor school connectedness (Cham et al., 2014; Cook et al., 2012; Eccles et al., 1991; Fenzel & 1997). Shifts in setting, expectations and teaching approaches in higher grades often lead to higher perceived stress and decreased school-belonging. Decreases in school connectedness may be due to several factors, including perceived school climate, social relationships, and peer rejection (Roybal et al., 2014). Class sizes also tend to increase as students progress to higher grade levels. This increase creates a wide range of academic and behavioral concerns for teachers to manage (Blatchford, Basset, & Brown, 2011). Unsurprisingly, inadequately prepared students advancing from lower to upper elementary and middle to high school may have increased

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difficulty. Preexisting skill deficits are only further compounded by increased academic and social demands (Wexler, Reed, Pyle, Mitchell, & Barton, 2015). In sum, unfavorable perceptions about school combined with increased academic and social demands may ultimately lead to declines in school functioning (Cook et al., 2012; Roeser & Eccles, 1998).

As students transition to higher grade levels, school impairment is distinct from that of early grades (Brady et al., 2012; DuPaul et al., 2019). For the first time, many students who experience growing autonomy are adjusting to larger workloads across subject areas (Brady et al., 2012; Evans, Schultz, & Demars, 2014; Roybal et al., 2014). Weak study skills are generally ascribed to older students mainly because expectations for independent textbook study increase substantially (Gettinger & Seilber, 2002). Furthermore, transitioning to higher grades is often characterized by a wavering sense of self that is accompanied by augmented academic (e.g., class presentations, large assignments, and long-term projects) and social demands (e.g., increased independence and social consequences for misconduct that become more serious) (Cook et al., 2012; Deshler, Ellis, & Lenz, 1996; Eccles, Lord, & Midgley, 1991; Fenzel, Magaletta, & Peyrot, 1997; Green et al., 2012; Roybal et al., 2014). Ganeson & Ehrich (2009) indicated the following additional factors that are specific to grade-level advancement: loss or changes in friend groups and previous school supports, difficulties related to unfamiliar routines, weak self-efficacy beliefs, homework challenges, and differences in teacher orientation. Students are also beginning to participate in self-selected afterschool activities, adding further complexity to their school experiences. Educators would be remiss not to check in and assess students' ability to balance these newfound

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responsibilities using a measure of school functioning. Equally as important to students'
specific skills are developmental considerations that should also inform expectations and
demands.

Developmental changes that Influence School Functioning

Developmental changes marked by brain elasticity, hormonal fluctuations, and
prioritized peer acceptance distinguish older students from younger age groups. As
students mature, they undergo a heightened restructuring of the neural circuitry,
impacting regions of the brain associated with academic enablers: planning, social
information processing, self-regulation, and decision-making (Nelson et al., 2005; Sisk &
Foster, 2004; Steinberg, 2008). Successful transition to adulthood calls for mastery of
academic enablers, making specific periods of child development critical for intervention
(Sibley, Altszuler, Morrow, & Merrill, 2014; Steinberg, 2008). Younger students are
seemingly more impressionable and responsive to supports than older students with
relatively rigid academic self-concepts (Cook et al., 2012). School personnel who
capitalize on developmentally sensitive periods of change are likely to yield more
positive student outcomes (Cook et al., 2012). School programs that meet students'
developmental needs for independence, school connectedness, social acceptance, and
positive social interactions are likely to ensure the best outcomes for students (Eccles &
Midgley, 1989; Fenzel et al., 1997; Roybal et al., 2014).

Transition Programs to Reduce Impairment

Researchers often recommend effective transition programs to help reduce high
rates of school impairment. According to Roybal et al. (2014), effective transition
programs require schools to discover and create environments that maintain adaptive

school behavior and foster a sense of belonging. School leaders are encouraged to reflect on existing barriers to school belonging and success by screening for underdeveloped skill areas. Additionally, teachers should be intentional in creating a healthy balance between delivering highly effective instruction and demonstrating ongoing support for students with varying levels of needs across domains of school functioning. Additional components of effective transition programs include tutoring, small learning communities, student planners, new school orientations, school layouts with room directions, graduation requirement information, reward systems for student success, and peer support. Peer support programs, in particular, help students adjust socially, emotionally, and academically (Charlton; 1998; Roybal et al., 2014).

Student mentors themselves often report increased self-esteem and listening skills. In 2005, Lampert collected qualitative reports from student mentors and mentees and found support for an increased sense of responsibility and appreciation of older students, respectively. In a peer mentoring program designed to promote academic and social support consistent with the conceptualizations of school functioning by DiPerna (2000; 2006) and Brady et al. (2012), teachers trained older students to promote student attachment (i.e., school connectedness and activity participation), achievement (i.e., study skills, test-taking strategies, time management, stress management, reading strategies, and note-taking strategies), and awareness (i.e., students' self-concept and healthy life choices) (Lambert, 2005). Quantitative reports of program effectiveness showed 14% decreases in failure rates, and school activity participation increased by 6%.

Although many academic and social supports have the potential to be incorporated directly into school curriculums, teachers already providing academic

instruction often prefer older students to function independently (i.e., have these skills already). Understandably, teachers may already feel overwhelmed with the task of employing multi-method strategies to keep students engaged, managing classroom behavior, and teaching academic content to promote proficiency. It is, therefore, important for educational leaders to set the tone at the school level with transition program efforts and appropriate screening tools to assess students' needs. Collaborative efforts between school leaders and instructors should systematically reduce school impairment (McIntosh, Flannery, Sugai, Braun, & Cochrane, 2008; Roybal et al., 2014). An initial step in the right direction would be a schoolwide collection of student profiles across school functioning domains to identify risk for impairment and inform intervention (Kettler et al. 2014; Roybal et al. 2014). School leaders need valid assessment tools to collect accurate student data. Data-based educational decision-making helps to facilitate the appropriate allocation of time, resources, and supports.

Assessment Tools for Dual Modality Instruction

Despite the many screening tools geared toward students' academic performance in the classroom, less research is tailored to assessing students' overall school functioning–especially while receiving virtual or hybrid models of instruction during a global pandemic. This is unsurprising given the only recent adaptations in instructional delivery models. Efforts to support students' learning at home and school continue to prevail despite challenging circumstances related to instruction. It is, therefore, important that educators are equipped with the appropriate tools that are psychometrically sound and capture students' unique experiences of school functioning during this time.

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The Classroom Performance Survey (CPS; Robin, 1998) is a brief and commonly used teacher-informant measure that can be used to assess school functioning as supported by previous research (Brady et al., 2012; Calderella et al., 2017). In the first psychometric analysis study of the CPS as a screening measure, Brady et al. (2012) proposed an abridged conceptualization of school functioning similar to DiPerna's (2000) model, emphasizing quick and easy schoolwide administration. Fewer academic enablers (motivation and engagement) were included to prioritize efficiency. Still, these excluded enablers were indirectly incorporated due to how interrelated they are to the two subdomains in the model proposed by Brady et al. (2012): academic competence and interpersonal skills. Academic skills include academic performance and study skills (i.e., test performance, ability to study for exams, note-taking ability, and turning in assignments on time).

In contrast, interpersonal skills include school-related behaviors such as cooperating with other students, asking for help when needed and getting along with peers and teachers. Brady et al. (2012) contended that these two categories were a minor restructuring of the academic skills and academic enablers subgroups made by DiPerna and Elliott (2000). According to the restructured model, school impairment includes deficits in academic skills or interpersonal skills. During a factor analysis of the CPS, three items were eliminated from the original version of the CPS (Items 9, 12, and 15) (CPS; Robin,1998). Additionally, two more items (Items 10 and 11) were removed due to their strong association with each other, and low variance accounted for by these items (Brady et al., 2012).

To date, only one out of two existing peer-reviewed studies exists to investigate the CPS and its psychometric properties with elementary school students. In 2018, Caldarella et al. reported positive implications for a modified version for the CPS with developmentally appropriate items specific to a subgroup of elementary students at risk for emotional and behavioral disorders. Based on researcher knowledge of developmentally appropriate assessment items, four questions were dropped from the original version of the CPS that were deemed more relevant to secondary students: "brings necessary materials to class," "completes long-term assignments," "arrives to class on time, and "takes notes in class". When used as a progress monitoring tool, the researchers reported high internal consistency and preliminary evidence to help establish predictive validity of the CPS-E (i.e., the Academic Competence domain predicted academic outcomes including standardized reading and math scores and attendance). The present study examines the predictive and incremental validity of the CPS as a screening measure instead of a progress monitoring tool for a subgroup of students at risk in Calderella's study. Interestingly in Calderella's (2018) study, the Interpersonal Competence domain was not a significant predictor of positive academic outcomes. As a domain comprised of items specific to sociability, the researchers noted that Interpersonal scores might have been more distally related to academic outcomes than the Academic Competence domain.

As a measure intended initially for use with adolescents, previous studies on the CPS were used to denote the differences between students diagnosed with Attention-Deficit/Hyperactivity Disorder (AD/HD) and to monitor their progress in response to treatment (Evans, Schultz, DeMars, & Davis, 2011; Meyer & Kelley, 2007). However, a

measure like the CPS is also informative for students who have underdeveloped academic skills and academic helping behaviors. Students without clinically significant disabilities like AD/HD should still receive appropriate support in schools (Wakefield, 1992). In 2012, Brady conducted research to support the use of the CPS as a screening measure for adolescent students schoolwide. Findings indicated adequate internal consistency and strong associations with other measures of school functioning. The present study examines the screening utility with elementary students participating in virtual or in-person instruction to expand the literature beyond students at-risk for emotional and behavioral disorders or students with AD/HD in the traditional learning setting only.

A modified version of the CPS, based on the current researchers' knowledge of contextually appropriate questions during virtual and in-person instruction for elementary students, was used in direct association with research conducted by Brady et al. in 2012. Only one item was removed from the 2012 version of the CPS, "records assignments consistently," similar to Calderella's (2018) version of the measure. This particular item was replaced with "displays organization skills" as a seemingly important study skill that would enable students to be successful during virtual and in-person instruction (e.g., having a designated and neat workspace at home if virtual, keeping track of assignments on google classroom, having necessary tabs open on the computer, keeping desk at school neat). Additionally, several items were modified slightly to reflect language inclusive to students online and in person. Finally, two additional items were added to the Interpersonal subdomain. "Participates when required" was an item similar to "cooperates/participates in class" that was originally deleted during the Factor Analyses conducted by both Brady et al. (2012) and Calderella et al. (2018). During a time when

educators are particularly concerned with student engagement, this item was added in the current study, given its practical validity. "Persists through learning challenges" was a novel item added due to educators' overwhelming concern with students' resilience during these challenging times (e.g., issues with technology, frequent changes in procedures and expectations, stressors directly related to the pandemic.) (Minkos & Gelbar, 2020). The current study aims to determine the potential use of the adapted CPS as a psychometrically sound screening tool within a multi-leveled framework of support for elementary school students across learning settings.

Multi-Tiered Systems of Support

During the educational decision-making process, educators need systems that help them accurately identify students who could benefit from additional support. Many schools have adopted Multi-Tiered- Systems of Support (MTSS) to screen for academic and behavioral concerns schoolwide (Anderson-Butcher et al., 2012; DiPerna et al., 2014). Experts in the field of early prevention and intervention endorse systematic, multi-level frameworks such as Response to Intervention (RTI) and Positive Behavior Interventions and Supports (PBIS) (Kettler et al., 2014). These multi-level frameworks help educators recognize different levels of student impairment and circumvent poor student trajectories (Kettler et al., 2014; Glover & Albers, 2007). Accurate and timely identification of struggling students across school functioning domains would help reduce the number of missed opportunities for service delivery.

Universal screening is a fundamental element of an MTSS framework and can identify students who may benefit from additional support or more comprehensive evaluation. Brief measures are generally administered to students schoolwide across

three-time points during the fall, winter, and spring. Screening data can be used to detect risk for impairment and to determine prospective intervention targets that are predictive of future student outcomes (Glover & Albers, 2007; Jenkins, Hudson, & Johnson, 2007). Despite compelling evidence to support the early identification of elementary school students at risk for impairment, empirical evaluation of school functioning measures that are brief, cost-effective, accurate, and easy to administer is still lagging (Brady et al., 2012; DiPerna et al., 2014). Additionally, no existing measures of school functioning are known to the researchers for specific use across learning settings. Commonly used measures that align with the conceptual definition of school functioning include the Classroom Performance Survey (CPS; Robin, 1998) and the Academic Competence Evaluation Scale (ACES; Diperna & Elliot, 2000). Both measures are supported by emerging evidence for use in schools. Given the complexity of students' experiences in school during this time, educators need deliberate measures that tap into relevant areas of functioning that are reliable across learning settings (DuPaul et al., 2019). Brief screening instruments that target collective areas of school functioning and demonstrate evidence of validity and adequate technical utility are of increased value to educators who seek to improve student outcomes (Brady et al., 2012; Caldarella et al., 2017; DiPerna et al., 2014; Glovers & Albers, 2007).

Critical Features of a Screening Measure

Educators who seek to improve student outcomes or prevent school impairment should have screening tools that are valid, accurate, efficient, and acceptable. Researchers conceptualize validity as a comprehensive appraisal of empirical substantiation and theoretical grounds to support data-driven decision-making (Kettler et al., 2014; Messick,

1989). Criterion validity indicates the strength of the relation between a screener and a reputable measure that is norm-referenced or criterion-referenced (Glover & Albers, 2007; Jenkins et al., 2007). Norm-referenced measures denote how students rank compared to their peers and help educators differentiate between proficient and struggling students. Conversely, a criterion-referenced measure is an indicator of student achievement linked directly to educational learning objectives (Aiken, 1985).

Measures of the same or similar constructs should correlate (i.e., coefficients of .40 and above) to indicate concurrent or predictive validity (Burns, Haegele, & Petersen-Brown, 2014; Jenkins et al., 2007). When a screening measure and criterion measure are administered simultaneously, there is a potential concurrent relation. Predictive validity is measured when there is a gap between the administration of two assessments (Glover & Albers, 2007; Jenkins et al., 2007). Although criterion validity is a critical feature of a screener's utility, it is a preliminary part of the process to support the initial or continued use of a screening tool. As a next step, classification accuracy measures the extent to which a screening measure accurately differentiates between students "at risk" for school impairment and those projected to perform proficiently on a criterion measure of school functioning (Jenkins et al., 2007). Initial screening scores below a specified threshold are considered "at risk" for impairment. Comparatively, those who score at or above standard during screening are not considered for additional support or evaluation. Therefore, appropriate and accurately set cut scores are essential to help inform educational practices (Ball & Christ, 2012; Kettler et al., 2014).

Classification accuracy includes the conditional probability of student outcomes characterized by four possible scenarios: true positives, true negatives, false positives, or

false negatives (Riedel, 2007). False positives transpire when screeners indicate a student is at risk for poor outcomes when, in fact, they were not at risk on the outcome measure. False positives are unfavorable, as they can result in the misallocation of time and resources (Jenkins & Johnson, 2009). False negatives ensue when screening results suggest no risk, despite actual risk and consequent failure on the criterion measure. False negatives are even more detrimental due to potentially missed opportunities for students in need of targeted intervention. Associated long-term negative consequences are only preventable provided students at risk are identified as such. Furthermore, true positives result when screeners correctly identify students at risk, and true negatives are a correct indication of students who are not at risk. By strategically circumventing a high number of false negatives while also producing a high percentage of true positives, educators can work in the best interests of students (Christ & Nelson, 2014).

Additionally, educators should elect to adopt screening tools that demonstrate a reasonable balance between sensitivity and specificity, two critical components of classification accuracy. Sensitivity represents the proportion of students correctly identified as having some risk for impairment, whereas specificity is the proportion of students correctly identified to have proficient skills. Sensitivity [i.e., true (+)/true (+) + false(-)], is considered satisfactory when greater than 90% and when at least 80% for specificity [i.e., true (-)/true (-) + false (Catts et al., 2015; Jenkins & Johnson, 2009). For every increase in specificity, there is a decrease in sensitivity and vice versa; therefore, striking an optimal balance between the two is a delicate task for test developers and researchers who set student cut scores or threshold points (Glover & Albers, 2007; Jenkins & Johnson, 2009).

Acceptability

　　Equally important to a screeners' psychometric properties is informant acceptability or the extent to which an instrument is fair, comprehensive, and beneficial to school personnel. Social validity can have a highly consequential effect as it is often used to determine the initial or continued use of an assessment measure based on consumer satisfaction (Ekert et al., 1999). School leaders are increasingly using rating scales in schools to help guide intervention decisions. Ultimately assessment should be used to inform the planning, design, and evaluation of intervention or instruction (Anderson-Butcher et al., 2012; Brady et al., 2012; Kettler et al., 2014). Test developers who are privy to the general goal of promoting student growth through tiered assessment and mediation are informed to create measures that coincide with interventions for school impairment. Researchers must continue to make connections between areas of assessment that are important and applicable to the informants.

Informant Types

　　Educators should also consider the informant or individual who completes the measure before adopting a new screener (Elliot et al., 2004; Oberle et al., 2014). Although the CPS has traditionally been evaluated using a single-informant teacher report, students themselves provide rich information about their own school experiences across academic and social domains of functioning. Nonetheless, parents and other individuals in direct contact with students may also have valuable insights to report. Despite the valued input of each informant, there are several drawbacks to relying on one perspective over another (Brady et al., 2012; DiPerna et al., 2014). Students, for example, may have difficulty accurately reporting their school experiences if, in reality, their

academic or social performance is below standard. Students may opt to inflate their

school performance and, in turn, forfeit the opportunity to receive appropriate

intervention. The extent to which information about school functioning is accurately

reported depends on the willingness of students to report on their experiences with

honesty. Students' perceptions of their in-school experiences can be used for the dual

purpose of providing opportunities to reflect on personal strengths and weaknesses, while

also reporting on information relevant to teachers for data-based decision-making.

Adult informants may have more credibility in their report of students' school

functioning; however, teachers of older students often interact with multiple classes each

day without extended observation of each student (DiPerna et al., 2014; DuPaul et al.,

2019). Additionally, parents tend to become less involved in their child's academic

experiences and do not directly observe classroom behaviors. Students spend an average

of six and a half hours in school, and parents increasingly expect independent homework

completion. As a result, parents may not provide the most reliable report of school

functioning (Brady et al., 2012). Despite these drawbacks, each informant provides

valuable information adding to the larger picture of a student's school functioning.

Researchers have long debated how useful or cumbersome having multiple informants

report on student behavior might be (Brady et al., 2012; Kettler et al., 2014).

A comparison of student and teacher reports may provide rich information to

either dispel or confirm how common it is for teachers and students to interpret shared

experiences quite differently (DiPerna et al., 2014). As the gatekeepers of academic

records, the power that teachers wield during their subjective evaluation of students

might be a better forecast of outcomes than students' reports of their own functioning

(Brinkworth et al., 2018). As a result, school administrators may seek to assess teachers' perceptions of student performance across domains to investigate potential biases that might be harmful if left unchecked. Additionally, tracking patterns of deficits at the classroom level might help to galvanize schoolwide efforts to meet students where they are, as teachers become more mindful when intentionally prompted to do so with a screening measure.

Rationale for the Current Study

Given the many essential functions of universal screening, the measures educators employ should be technically sound and useful. When developing a screening system, educators must evaluate the strengths and weaknesses of measures with their school-specific goals for improving student outcomes (DiPerna et al., 2014; Wilding & Griffey, 2015). The current study adds value to the existing literature by investigating the utility of an adapted version of the CPS appropriate for administration across learning settings. In previous research investigating the schoolwide screening utility of a modified version of the CPS (i.e., researchers deleted three items as a result of exploratory factor analysis findings) with adolescent populations, Brady et al. (2012) provided results for reliability, construct validity and associations with measures of school functioning. The current study will be used to evaluate concurrent and incremental validity of the modified version of the CPS with high-stakes academic and behavioral outcomes for elementary school students participating in either virtual or in-person instruction. These high-stakes outcomes are prognostic of grade promotion and future student success. Additionally, previous studies assessed the psychometric properties of subdomains alone, which will occur in the current study. The CPS subdomain scores will be used in isolation and

combination to forecast GPA, standardized test scores, records of misconduct, and attendance.

Goals of the Study

The following research questions will be investigated to provide preliminary evidence to support the screening utility of a modified version of the CPS with elementary school students participating in dual-modality instruction:

1. What is the concurrent validity of the adapted CPS to predict high-stakes academic and behavioral student outcomes?

2. What is the incremental validity of the adapted CPS to predict corresponding student outcome measures?

CHAPTER 2

METHODS

2.1 PARTICIPANTS

Extant data were obtained from a public elementary school located in a large

suburban school district in the southeastern region of the United States. All personally

identifiable student information was removed from the dataset by school personnel before

it was provided to the researchers and replaced with unique student ID numbers. The

University of South Carolina's Institutional Review Board (IRB) did not consider this

study to be human subjects' research. The dataset included basic demographic

information for students (i.e., grade, ethnicity, socio-economic status, gender, learning

setting, English language learner status, and special education status) and teachers (i.e.,

grade taught and ethnicity). Data for 64 students in grades kindergarten through fifth

were obtained, and 29 teachers completed surveys on behalf of students. Based on school

demographic data, most students selected for the current study were from low-income

backgrounds (i.e., 64% of students were designated 'Pupils in Poverty' by the School

District where research was conducted). Demographic information is summarized in

Table 2.1. and 2.2 for students and teachers, respectively. Most of the student sample

were males (62.5%), 75% of students were Black/African American, 10.9%

White/Caucasian, 6.3% Hispanic/Latino, 3.1% Asian, and 4.7% Multi-Ethnic. Eleven

students had an Individualized Education Program, and three students had limited English

proficiency. The sample of students in each grade varied based on the number of teachers

that volunteered to participate in the study (10.9% kindergarten, 18.8% first grade, 10.9% second grade, 26.6% third grade, 23.4% fourth grade, and 9.4% fifth grade). For all students included in the sample, 14.3% of the 448 data points were missing across students' GPA and standardized assessment scores in the fall and winter. Some standardized test scores were missing due to grade level and reasons unknown to the researchers. Kindergarten students did not take the standardized assessment that was administered to all other grades. Additionally, GPA was not reported for kindergarten and first-grade students due to the pass/fail model of grading for younger students in elementary school. All other data was complete, including teacher and student demographic information, students' CPS scores, attendance, and discipline history.

2.2 MEASURES

Predictor Measures. The Classroom Performance Survey modified by Brady et al. (2012) (CPS; Robin, 1998) is a 15-item Likert-scale assessment with three additional non-Likert questions designed to investigate school functioning for secondary school students. According to Brady et al. (2012), the CPS can also be used as a screener to indicate when more assessment is needed or to help inform intervention as part of a MTSS framework in schools. Previous researchers also report adequate internal consistency (ω = .91- .98) for the modified version of this measure with secondary students. Additional reports include appropriate correlations with other measures of school functioning, including the Impairment Rating Scale, a 5-item measure used to assess peer and teacher relations, academic progress, self-esteem, Etc. (r = .48-.73) (Brady et al., 2012; IRS; Fabiano et al., 2006). Both the CPS and the IRS used low scores to represent higher levels of functioning, resulting in positive correlations. Specifically,

the association between the Academic Competence domain and Relationship to Peers item was r = .48; Relationship with Teachers r = .57, Academic Progress r = .73, Classroom Functioning r = .56, and Overall Impairment r = .62. For the Interpersonal Subdomain, the following correlations were reported: Relationship to Peers, r = .62; Relationship with Teachers, r = .70; Academic Progress, r = .64; Classroom Functioning, r = .65; and Overall Impairment, r = .64. In sum, the Academic Competence associations with academic enablers ranged from r =.48-.57, with a correlation of r = .73 for academic skills; and r = .62. for total impairment scores. The Interpersonal Competence associations with academic enablers ranged from r = .65-.70, with correlations of r = .64 for academic skills, and r = .64 for total impairment scores.

The version of the CPS used with elementary school students demonstrated internal consistency ranging from α = 79-.92 and significant inverse correlations (r = -04 to -71) with established measures of social skills, problems behaviors, academic competence, attendance, and standardized assessment scores (SSIS; Gresham & Elliott, 2008, SSBS-2; School Social Behavior Scales-Second Edition; Merrell, 2002, MOOSES: Tapp, Wehby, & Ellis, 1995, Days Absent; and KTEA-II Brief; Kaufman Test of Educational Achievement-Second Edition, Brief Form; Kaufman & Kaufman, 2005). Specifically, the correlation between the Academic Competence domain and Days Absent was r = .09. Conversely, the association between the Interpersonal Competence Domain and Days Absent was r = -.04. Neither correlation was statistically significant. The correlations between the Academic Competence domain and measures within the SSIS included the following: Communication, r = −.22, p < .01; Cooperation r = -.38, p < .01; Assertion, r = -.35, p < .01; Responsibility r = -.30, p < .01; Empathy, r = -.07;

Engagement, r = -.19, p < .01; and Self Control, r = -.01. In relation to the SSBS-2, the following associations were reported: Peer Relations, r = -.22, p < .01; Self-Management/Compliance, r = .02; and Academic Behavior, r = -.71, p < .01. For the MOOSES, the following correlations were indicated: Disruptive Behavior, r = -.08; and Disengagement, r = .14, p < .05. Statistically significant correlations between Academic Competence and measures of academic-related behaviors or academic enablers ranged from r = .14-71 in terms of absolute value. The correlations between the Academic Competence domain and the standardized achievement test in reading ranged from r = -.18, p < .01 to r =.19, p < .0 and in math r = -.16, p < .05 to r = -.20, p < .01. Statistically significant correlations between Academic Competence and measures of academic skills ranged from r =.16, p < .05 to r =.20, p < .01 in terms of absolute value. For the Interpersonal Competence Domain and SSIS, the following correlations were reported: Communication, r = -.41, p < .01; Cooperation, r = -.32, p < .01; Assertion r = -.10; Responsibility r = -.53, p < .01; Empathy r = -.41, p < .05; Engagement r = -.34, p < .01; and Self Control r = -.48. In relation to the SSBS-2, the following associations were reported: Peer Relations r = -.28, p < .01; Self-Management/Compliance r = -.55, p < .01; and Academic Behavior r = -.27, p < .01. For the MOOSES, the following correlations were indicated: Disruptive Behavior, r = .16, and Disengagement, r = .14, p < .05. Statistically significant correlations between Interpersonal Competence and measures of academic-related behaviors or academic enablers ranged from r = .14, p < .05 to r = .55, p < .01 in terms of absolute value. The correlations between the Interpersonal Competence Domain and the standardized achievement test in reading ranged from r = -.02 to -.05 and in math r = -.05 to -.07. There were no statistically significant correlations between

Interpersonal Competence and academic skills in reading or math as measured by the KTEA-II (Calderalla et al., 2017).

The current study includes similar items to the 2012 modified version of the CPS created by Brady et al.. The Academic subdomain consists of 10 items, and the Interpersonal subdomain includes seven items. A score of 1 on a specific Likert item indicates always, 3 sometimes, and 5 never. In previous research, the CPS factors are scored such that higher scores indicated impairment and were analyzed accordingly. However, in the current study, items were reverse coded during analysis for uniformity across student outcome scores (i.e., high scores suggest satisfactory school functioning and low scores suggest school impairment). The three non-Likert items on the CPS allow teachers to report percentages of work completed compared to other students and provide a forced-choice response (Yes/No) about students working up to their full potential. These were not, however, included in the current study. To date, there are no studies aside from the current research that investigates the utility of this adapted measure for students across learning settings.

Covariate Measures. Students' previous standardized test scores in reading and math (Fall administered Measures of Academic Progress Scores, MAP; NWEA, 2011) were obtained from the School District Research Coordinator and used as a control measure for the current study during hierarchical regression analysis.

The Measures of Academic Progress (NWEA, 2011) is a computerized assessment of multiple-choice questions administered to students in a group setting for fall, winter, and spring. The reading assessment includes developmentally appropriate content areas specific to each grade level. These areas include word analysis and

vocabulary development; literary response and analysis; and reading comprehension (NWEA, 2011). As an adaptive measure, assessment items are presented to each student based on their responses to questions already answered. Students are, therefore, provided questions that fall within their unique range of ability. A RIT score on the MAP assessment is an equal-interval scale or approximation of a student's performance given the difficulty of questions administered (NWEA, 2015). The number of questions for each student may vary over 30-90 minutes. The 2020 MAP Normative Data Report included Reading Student Achievement Norms or RIT scores of 146.28 for kindergarten, 165.85 for first grade, 181.20 for second grade, 193.90 for third grade, 202.50 for fourth grade, and 209.12 for fifth grade during winter administration. Math Norms were 150.13 for kindergarten, 170.18 for first grade, 184.07 for second grade, 196.23 for third grade, 206.05 for fourth grade, and 214.70 for fifth grade during winter administration. According to the most recent technical manual published by test developers, MAP has marginal reliability that ranges from .94 to .95 for Grades 2 through 5, test-retest reliability ranging from .70 to .85 for students in Grades 2 to 10, and internal consistency from .70 to .86 across grades (NWEA, 2011).

Outcome Measures. Students' Grade Point Averages (GPA) and standardized test scores (Concurrent MAP Reading and Math scores in the winter) were obtained from school personnel as outcome measures for the current study. All data were made available to the researcher aside from GPA for kindergarten and first-grade students who do not receive reports of GPA. Grade Point Average was calculated by the School District Research Coordinator on a scale from 0.0. to 4.0 using grades from core academic courses (i.e., English Language Arts, Mathematics, Science, and Social

Studies) during the 2020-2021 school year. Some students did not have grades stored in the student data information system for the first two quarters of the school year for reasons unknown to the researchers.

Additionally, student behavioral outcome data (total number ODRs and records of attendance) was collected. Student attendance for virtual, hybrid and in-person instruction was calculated by subtracting the number of days marked absent from the number of days enrolled during the school year. A total of 38 students participated in virtual learning for a variety of reasons (e.g., parent beliefs that school conditions were not safe due to COVID-19, students and/or family members with underlying health conditions could not be put at risk, parent beliefs that students performed better academically at home, Etc.). According to teachers' reports, a remainder of 23 students received face-to-face instruction, and 2 students vacillated between virtual and in-person instruction.

The School District Attendance Procedures during Virtual & Hybrid Schedules included marking a student virtually "present" if they participated in the synchronous class or submitted the Daily Participation Assignment (DPA) by Sunday at 11:59 pm of each school week. Students were marked virtually "absent" if they did not participate in the synchronous class nor complete the DPA by Sunday at 11:59 pm. For students receiving in-person instruction, onsite attendance was determined by their physical presence in class on school grounds. A student was marked absent from in-person instruction if they did not physically attend class in the school building.

To document students' discipline history, the total number of office discipline referrals when a student was listed as the offender was reported. The number of referrals for each student in the study sample ranged from 0-1. The range of referrals was reverse

coded to reflect a 'positive' scale consistent with the three other student outcomes measures. Students who did not have a discipline history received the dichotomous score of 1 to reflect relatively prosocial behavior in school. Conversely, students who did have a discipline referral received a dichotomous score of 0.

2.3 PROCEDURES

The researchers recruited all kindergarten through fifth-grade certified teachers for voluntary participation. The purpose, procedures, risks, benefits, and participant requirements for the current study were disclosed via an informational video during a school faculty meeting and follow-up email invitations. The study involved one session to complete the CPS, which took approximately 1-3 minutes for each student (9 minutes total). Teachers were asked to complete the survey within two weeks of receiving the survey link.

Distribution of survey. Teachers completed the CPS by using an electronic link provided via an email invitation. They were asked to complete the survey for three of their students within two weeks of receiving the link. Survey data were initially collected by the School District Research Coordinator using an in-network Google Form. Survey responses were matched with demographic information in a secure excel sheet. Names were deleted from the excel sheet before being provided to the researchers. Teacher and student identifiers were re-identified by the researcher using excel (randomly number generation and sequencing) to ensure confidentiality in connection to the current study. No personally identifying information was stored with the research data or connected to teacher survey responses. The data was stored in the investigator's office on a password-protected computer using a secure network. Consent was not required due to the nature of

this research and IRB approval. No identifying information about students was collected, and the researchers did not have direct contact with students.

Student Outcome Data Collection. The state assessment was computer-administered in the fall and winter for each grade level except kindergarten. The School District Research Coordinator provided GPA except for kindergarten and first-grade students, records of misconduct for all grades, and attendance for all grades. Deidentified screening data and other student information was transferred into a researcher-created data-management system.

2.4 STATISTICAL ANALYSIS

All statistical analyses were conducted using SPSS v25. Preliminary descriptive statistics (i.e., students' grade, ethnicity, sex, ELL, and SPED status), statistical assumptions, and tests of normality were assessed for all variables. Pearson's correlation analysis was used to measure the extent to which the total CPS and each subdomain (i.e., CPS-A and CPS-I) was associated with academic and behavioral student outcomes and to assess concurrent validity using the aggregated sample of students. Alpha was set a priori to $p = .05$. Based on prior research, the expected correlation coefficients between the CPS domains and indices of school functioning were $r = .40$; however, the CPS has never been tested within a global pandemic situation wherein many children were not taught in the classroom. Because of this, we expected depressed covariation between the CPS and indices of school functioning.

Next, five hierarchical linear regressions for the aggregated sample were used to determine the incremental validity of the CPS subdomains to help explain the variance in each set of corresponding outcome measures. This analysis tests the added explanatory

value of the CPS on winter indicators of school functioning over fall semester indicators of school functioning. Specifically, the change in R2 parameter from these analyses indicates the extent to which the CPS would explain winter scores over fall scores. The academic subdomain was entered before interpersonal competence to predict GPA, Winter Reading MAP scores, and Winter Math MAP scores because there was an expected overlap between academic achievement outcome measures. Similarly, the interpersonal competence subdomain was entered first when predicting the remaining outcome measures that were behavioral (i.e., attendance and discipline history). Previous student standardized test scores or Fall Reading and Math MAP scores were controlled for in each model (Oberle, 2014). Control variables (previous standardized assessment scores) were entered in Block 1, CPS-A was entered in Block 2, and lastly, CPS-I was entered in Block 3 to predict both GPA and each standardized assessment subject area. Again, Fall MAP scores were controlled for in each model. Control variables (previous standardized assessment scores in Reading and Math) were entered in Block 1, CPS-I was entered in Block 2, and CPS- A was entered in Block 3 to predict attendance records and discipline history. Significance of the change in variance explained (i.e., R2) for each subsequent Block was then calculated. Semipartial correlation coefficients were included for the student outcome variables to signify the unique influence of each subdomain on the outcome measures (see Tabachnik & Fidell, 2007).

Table 2.1 *Demographic Information for Students*

Grade	K	1	2	3	4	5	Total
n	7	12	7	17	15	6	64
Female	2	6	4	7	3	2	24
Male	5	6	3	10	12	4	40
LEP	–	–	1	1	1	–	3
SPED	1	–	1	4	3	2	11
Low SES	4	11	1	13	9	3	41
White or Caucasian	–	–	2	2	3	–	7
Black or African American	7	10	4	12	11	4	48
Hispanic or Latino	–	–	–	2	–	2	4
Asian	–	–	1	–	1	–	2
Multi-Ethic	–	2	–	1	–	–	3

Note. LEP = limited English proficiency; SPED = special education;
Low SES = low socio-economic status

Table 2.2 *Demographic Information for Teachers*

Grade	K	1	2	3	4	5
n	3	5	3	8	7	3
White or Caucasian	1	1	3	4	3	1
Black or African American	1	3	-	4	4	2
Asian	-	1	-	-	-	-
American Indian or Alaska Native	1	-	-	-	-	-

CHAPTER 3

RESULTS

3.1 DESCRIPTIVE STATISTICS

Descriptive statistics, including sample size, mean, and assessment correlations, are presented in Tables 2.1-3.2, including a comparison of means across learning settings. Given the evolving nature of the current research and unanticipated study adaptations due to COVID-19 including hybrid models of instruction, supplemental findings specific to disaggregated associations between predictor and outcome variables across learning settings are included in Appendix A. In summary of the supplemental findings, there were no statistically significant associations between the CPS (i.e., total or subdomains) and any of the outcome measures for the sample of students in person (n = 24). For students participating in virtual instruction (n = 38), there were statistically significant correlations between the CPS-T and the Winter MAP Reading (r = .49, p < .01) and Math (r = .38, p < .05) scores. Additionally, there was covariation between the CPS-I and Winter MAP Reading/Math scores, as well as the CPS-A and Winter MAP Reading/Math scores that were statistically significant. Finally, the CPS-A was the only measure to demonstrate statistically significant associations with GPA and attendance. These associations ranged from r = .37-.49.

3.2 INFERENTIAL STATISTICS

Concurrent Validity. Aggregated student data is reported for major findings of the current study to answer the original research questions. Intercorrelation results from the

aggregated data indicated that the CPS as a whole had statistically significant associations only with Reading ($r = .40$, $p < .01$) and Math ($r = .35$, $p < .05$) standardized state assessment scores. These correlations were expectantly lower than those reported by Brady et al. ($r = .47-.73$). The CPS-T did not have statistically significant associations with either of the behavioral outcomes or GPA. The Interpersonal subdomain performed similarly to the CPS-T with statistically significant associations for the Reading ($r = .37$, $p < .01$) and Math ($r = .33$, $p < .05$) standardized state assessment scores. These associations fell within the range of correlations from previous research. There were no significant associations with any other outcome measures. The CPS-A was the only predictor to demonstrate consistent levels of significance at $p < .01$ across the Reading ($r = .41$) and Math ($r = .35$) outcome measures, similar to the range of correlations from previous research.

The association between the CPS-A and the Reading assessment demonstrated the highest correlation between predictor and outcome measures performing only slightly better than the CPS-T and CPS-I subsequently. Additionally, the CPS-A was the only measure to demonstrate a statistically significant ($r = .39$, $p < .01$) association with GPA. Correlations between the reading standardized assessments were consistently higher than the math assessment for all predictor measures. There were no statistically significant associations between any measure of the CPS and the behavioral outcomes, which ranged from $r = .01-.21$. This is consistent with the research reported by Calderella et al. regarding attendance (2018). Overall, the CPS was a moderate predictor of the state assessment across subject areas ($r = .33-.41$), and the CPS academic subdomain was the strongest predictor of all academic outcomes ($r = .35-41$).

Incremental validity. Findings from the hierarchical regression analyses are found in Table 3.3 and 3.4. After previous MAP scores were controlled for (R^2 = .57, p < .05), adding the Academic subdomain scores did not contribute incremental value to explain Winter Reading MAP scores (ΔR^2 = .01). Adding the Interpersonal subdomain led to a decrease in the percent of variance explained (ΔR^2 =.00) across models. Similarly, after controlling for previous MAP scores (R^2= .59, p = .01), adding the Academic subdomain scores did not add incremental value to explain Winter Math MAP scores (ΔR^2 = .01), nor did the Interpersonal Subdomain (ΔR^2 = .00). The only model to demonstrate a significant change was adding the CPS-A after controlling for previous MAP scores to explain GPA (ΔR^2 = .12, p < .05). Furthermore, adding the CPS-I as well led to an additional increase in explained variance of GPA (ΔR^2 from .12 to .18). The remaining models used to explain the behavioral outcomes were all insignificant.

Table 3.1 *Descriptive Statistics Across Learning Setting*

		CPS-T	CPS-I	CPS-A	F-MAP-R	F-MAP-M	W-MAP-R	W-MAP-M	GPA	Attendance	Discipline
Learning Setting											
In-person	*M*	62.25	42.13	20.12	181.88	183.65	179	180.06	2.93	98.05	1
	n	24	24	24	17	17	17	17	13	24	24
Virtual	*M*	65.37	43.47	21.89	184.50	189.36	191.34	193.63	3.18	97.09	.92
	n	38	38	38	34	33	35	35	29	38	38
Both	*M*	59	41.50	17.50	192	198	194	202	2.13	92.92	1
	n	2	2	2	2	2	2	1	2	2	2

Note. CPS-T= Classroom Performance Survey Total; CPS-A= Academic Subdomain; CPS-I= Interpersonal Subdomain; F-MAP-R= Fall MAP Reading; F-MAP-M= Fall MAP Math; GPA- Grade Point Average; W-MAP-R= Winter MAP Reading; W-MAP-M= Winter MAP Math.

Table 3.2 *Descriptive Statistics and Intercorrelations Among Study Variables*

Measure	n	M	Correlations									
			1	2	3	4	5	6	7	8	9	10
1. CPS-T	64	64	–									
2. CPS-I	64	42.91	.98**	–								
3. CPS-A	64	21.09	.95**	.85**	–							
4. F-MAP-R	53	184.58	.36**	.35*	.34*	–						
5. F-MAP-M	52	187.83	.23	.24	.18	.84**	–					
6. GPA	44	3.06	.22	.11	.39**	.23	.02	–				
7. W-MAP-R	54	187.56	.40**	.37**	.41**	.75**	.62**	.21	–			
8. W-MAP-M	53	189.43	.35*	.33*	.35**	.74**	.74**	.10	.89**	–		
9. Attendance	64	97.32	.16	.11	.21	.28	.29	.26	.28*	.36**	–	
10. Discipline	64	.95	.02	.01	.03	-.08	-.07	.34*	-.19	-.14	-.07	–

Note. CPS-T= Classroom Performance Survey Total; CPS-A= Academic Subdomain; CPS-I= Interpersonal Subdomain; F-MAP-R= Fall MAP Reading; F-MAP-M= Fall MAP Math; GPA- Grade Point Average; W-MAP-R= Winter MAP Reading; W-MAP-M= Winter MAP Math. *$p < .05$, **$p < .01$

Table 3.3 *Summary of Hierarchical Regression Analyses Using CPS Subdomains to Predict Academic Outcomes*

Predictor	B	$SE\ B$	β	R^2	ΔR^2
GPA					
F-MAP-R, F-MAP-M	-.02	.01	-.40	.12	.12
F-MAP-R, F-MAP-M, CPS-A	.04	.02	.37	.24	.12*
F-MAP-R, F-MAP-M, CPS-A, CPS-I	-.06	.02	-.84*	.42	.18*
W-MAP-R					
F-MAP-R, F-MAP-M	-.02	.18	-.02	.57	.57*
F-MAP-R, F-MAP-M, CPS-A	.29	.32	.09	.57	.01
F-MAP-R, F-MAP-M, CPS-A, CPS-I	.01	.35	.00	.57	.00
W-MAP-M					
F-MAP-R, F-MAP-M	.41	.17	.41*	.59	.59**
F-MAP-R, F-MAP-M, CPS-A	.29	.30	.10	.60	.01
F-MAP-R, F-MAP-M, CPS-A, CPS-I	.09	.32	.05	.60	.00

Note. *p < .05, **p < .01

Table 3.4 *Summary of Hierarchical Regression Analyses Using CPS Subdomains to Predict Behavioral Outcomes*

Predictor	B	$SE\ B$	β	R^2	ΔR^2
	Attendance				
F-MAP-R, F-MAP-M	.02	.04	.14	.10	.10
F-MAP-R, F-MAP-M, CPS-I	.02	.05	.05	.10	.00
F-MAP-R, F-MAP-M, CPS-I, CPS-A	.12	.13	.25	.12	.02
	Discipline History				
F-MAP-R, F-MAP-M	-	.00	.00	.01	.01
F-MAP-R, F-MAP-M, CPS-I	.00	.00	.06	.01	.00
F-MAP-R, F-MAP-M, CPS-I, CPS-A	.01	.01	.15	.02	.01

Note. *$p < .05$, **$p < .01$

CHAPTER 4

DISCUSSION

Preceding the global pandemic of COVID-19, school leaders were already shifting towards providing more opportunities in education for whole-child development. Now more than ever, success in schools is predicated upon the skills that enable academic achievement. During a period marked by nontraditional instruction, frequent changes in routine, and often social isolation, some of those critical enabling skills have included engagement, persistence, the ability to self-monitor, and help-seeking behaviors (Minkos & Gelbar; 2020). Educators who rely on Multi-Tiered Systems of Support to further prevention and intervention efforts need screening tools that include these academic enablers. Teachers' perspectives on students' attitudes, beliefs, and school behaviors offer much value to help predict future academic and behavioral outcomes (DiPerna & Elliot, 1999).

There is limited empirical evidence aside from construct validity, reliability, and inferential correlations to support the screening utility of the CPS as a measure of overall school functioning (Brady et al., 2012). Moreover, any research to support its utility across remote and in-person learning settings has not yet been conducted. The current study examined the CPS as a screening measure by evaluating it's (1) concurrent and (2) incremental validity for a sample of students participating in dual

modality instruction. The CPS subdomain scores (i.e., academic and interpersonal skills) were used in isolation and combination to forecast future student outcomes, including GPA, standardized test scores, discipline history, and attendance. The present study was also used to provide an introductory comparison of predictor and outcome measures based on students' learning setting, to inform educators about school success during dual-modality instruction.

Preliminary descriptive results from Table 3.1 suggest that student performance across predictor and outcome measures is similar across learning settings despite existing differences of the intercorrelations. For the sample of students participating in face-to-face instruction, no statistically significant correlations were found between the CPS and any student outcome measure. However, it is noted that the sample size for this subgroup was smaller than the sample of students participating in virtual instruction. For the latter group, there were some statistically significant correlations that were moderately strong and generally more prominent than the correlations for students in-person. It is also noted from the descriptive statistics that virtual students generally performed slightly better than their in-person counterparts across the CPS total and subdomains as well as the academic outcomes (i.e., Fall and Winter MAP scores and GPA). Conversely, in-person students had slightly better behavioral outcomes.

Specific to concurrent validity of the aggregated student data, findings from the intercorrelation analysis indicated statistically significant associations between the CPS as a whole and each standardized assessment. Similar results were observed using the Interpersonal and Academic subdomains to predict each subject area of the standardized assessment. The Interpersonal subdomain and standardized assessment coefficients,

although statistically significant, were slightly lower given the items that represented social behaviors as opposed to academic and study skills. Nonetheless, the moderate correlations suggest academic enablers are just as important predictors of academic achievement, which is consistent with previous studies (DiPerna & Elliot, 2000; Oberle et al., 2014). Overall, the Academic subdomain demonstrated the highest correlation when used to predict the standardized reading assessment and was the only significant predictor of GPA. The Academic subdomain may have demonstrated a significant relation with GPA due to the nature of items (i.e., academic skills and study skills) that best overlap with how teachers report GPA (e.g., completes class assignments and homework on time, performs satisfactorily on tests, Etc.). Additionally, the reading standardized assessment correlations were slightly higher than the math standardized assessment correlations.

Preliminary findings suggest that the adapted version of the CPS is an acceptable universal screening measure used to predict concurrently administered academic outcomes across learning settings. The Academic subdomain which includes academic and study skills (originally categorized as an academic enabler by DiPerna & Elliott, 2000) may be sufficient to predict concurrent performance for standardized assessments and GPA; however, more evidence is needed to support its screening utility. Findings also indicated in corroboration with previous research that academic enablers are just as important to explain students school functioning.

There were no statistically significant correlations between the Interpersonal domain and the outcomes measures that were behavioral as hypothesized. Nonsignificant results may have been due to the assortment of academic enabling items on the Interpersonal measure that did not relate specifically to students' attendance.

Additionally, nonsignificant correlations were consistent with the work done by Calderella et al. (2018). It is also noted that attendance was not always an accurate indication of whether students were present either physically or virtually. School leaders who recognize the challenges students and families face that impede regular attendance adopted this approach to allow for grace and prevent high rates of 'truancy' in the process. Nonetheless, attendance may have been better classified as an academic outcome given the option for students to turn in a completed assignment each week. Lastly, the insignificant relation between the Interpersonal subdomain and students' discipline history may be due to the lack of variance within the small sample of students and binary data reported.

Overall, the moderate associations between the adapted version of the CPS and the standardized state assessment were slightly lower or within the range of correlations reported in previous research. Lower results may be due to the impact of the aggregated student data across grade, actual differences across learning settings, and the change in items adapted for dual-modality instruction. Additional influences include differences in instructional practices, test-taking setting, and characteristics of the outcome measures.

Concerning the additive value of each subdomain, results indicated significant contributions after controlling for previous test scores to explain the variance of GPA. This is an interesting finding given the two-fold increase in variance explained with each subdomain added to the model. It also supports the premise that academic skills alone (i.e., standardized test scores) are not sufficient predictors of overall school functioning (i.e., GPA is likely comprised of academic skills and enabling behaviors when reported by teachers). Screening tools like the CPS explicitly designed to capture more than

academic skills can better predict overall school functioning and high-stakes outcomes like GPA. Additionally, although previous standardized assessments consistently outperformed the CPS as a predictor of future standardized assessment scores, they do not help inform specific academic enabling targets for intervention like motivation, engagement, participation, Etc. Lastly, no other models for the hierarchical analyses demonstrated significant changes in added variance to explain the academic and behavioral outcome measures.

As a brief measure of school functioning, educators should consider the practical significance of the adapted CPS that can be used to inform targeted intervention for schools participating in MTSS. Additional analysis, including classification accuracy is needed to determine the screening utility of this measure. Nonetheless, school leaders may find utility in a measure like the CPS with face validity as a clear assessment of academic skills, thoughts, beliefs, and behaviors.

4.1 LIMITATIONS

Despite the preliminary evidence to support the CPS and its predictive ability, there are limitations in the present research. First, given the homogenous sample of students regarding demographic information, external validity is restricted to other elementary schools with a similar makeup of students. Nonetheless, the current study adds to the literature by investigating the technical characteristics of the CPS with a diverse sample of students from marginalized groups (Hosp, Hosp, & Dole, 2011). Additional study limitations include the small sample size, which affected the reliability and generalizability of statistical analyses. Moreover, the quality of criterion measures was imperfect, especially given the validity of test results collected during a global

pandemic. Students' true performance may be skewed due to several variables. Potential influences related to testing performance include the setting where students took the MAP test that may have helped or hindered performance. Students at home may have received help on tests or been provided more or less structure. Lastly, extended school closures, low attendance, and lost instructional time are effects to consider as well.

Related to attendance, construct validity was compromised when used to reflect either students' work completion or actual attendance. For GPA, teachers and administrators have understandably been lenient in their report of 'true' GPA, similar to attendance. Certainly, most students have inadvertently mastered flexibility this school year during ever-changing procedures and policies (Minkos & Gelbar, 2020). The expectation of optimal school performance has been unreasonable for students at this time. Prioritizing reprieve has been a recurrent theme in many schools during the COVID era. Understandably, teachers' assessment of performance through GPA may have been closely connected to academic enabling behaviors like effort during this challenging school year, which the CPS is fortunately designed to capture. Even within disrupted instruction and educational challenges, the CPS seems to provide substantial explanatory value of students' school functioning.

For Office Discipline Referral information, it is unsurprising that the frequency of behavioral incidents was low and did not exceed one per student. This finding is interesting since most of the sample were students participating in virtual instruction who may or may not have been under the supervision of caregivers at home. For many students, a combination of environmental factors and structural demands occasion behavioral problems that lead to office discipline referrals. Virtual instruction could have

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inadvertently prevented high reports of behavioral concerns. Nonetheless, many students with parents who continue to work may have had little to no supervision at home. When these students demonstrate behavioral concerns, it is more difficult for teachers to manage virtually.

An additional study limitation is the convenience sampling method used to recruit participants. The teachers in the current study may represent a group of individuals with specific characteristics that influence their report of students' performance. It is also noted that many teachers have and continue to experience burnout during one of the most challenging times to be a teacher in the history of education. Furthermore, educator salaries are generally not commensurate with juggling the novel workload of dual-modality instruction and keeping students healthy and engaged in schools. It is reported that 27 percent of teachers are considering leaving the profession this year (Mann, 2020).

The stressors that teachers experience can contribute to negative bias and potentially skewed reports of student performance. It is also possible that many teachers have not consistently interfaced with students to describe them well enough during the screening. This may result from virtual learning or frequent student and teacher absences related to quarantine policies and actual COVID symptoms. Furthermore, it is hard to collect valid assessment data to inform grades and general perceptions of students when they are wearing masks. Previous school year teachers may have been better informants of student performance over current teachers in many cases. Caregivers at home or daycare personnel may have been better informants for students participating in virtual instruction. Future studies may add a measure of teacher/parent acceptability of the CPS,

including their ability to report on individual students and their classroom performance, the quality of instruction they are receiving, and other relevant information.

COVID-19 Related Factors

It would be remiss not to acknowledge the many COVID-19 related factors that may have potentially impacted students' school functioning and the overall results of the current study. Researchers have looked at summer learning loss trends to estimate the effects on student performance during the pandemic (NWEA, 2020). Interestingly, researchers note that students typically experience a plateau in their learning over the summer instead of regression (Von Hippel et al., 2018). Unlike summer learning loss, however, school closures due to COVID-19 are likely to have occurred in the context of students' experiencing individual trauma, social isolation, and insufficient provision of resources (NWEA, 2020).

Large-scale studies are burgeoning to track the impact of COVID-19 on students' performance, including a recent study using the Renaissance Standardized State Assessment (NWEA, 2020; Renaissance, 2020). Computerized assessments like the Star and MAP have offered utility in schools despite cancellations of state and national testing programs (Renaissance, 2020). A recent study specific to the Star Assessment indicates students' math performance and growth were lower in Fall 2020 than they would have been under normal circumstances. Researchers predict that more students will need intervention and supports in the upcoming school years. Already, general findings suggest students may need 12 or more weeks of intervention in supplement to covering grade-level material particularly in math (Renaissance, 2020). This would potentially max out the existing resources available in schools.

Nonetheless, educators are encouraged to consider the extent and severity to which students have been negatively impacted. Differences may exist across districts, schools, grades, previous risk status for poor academic outcomes, and learning settings. Using a sample of students from one elementary school, results from the current study suggest students receiving virtual instruction do not differ very much compared to students receiving in-person instruction. Further research is needed, however, to determine the long-term academic effects of remote versus in-person instruction with a larger and comparable sample size.

In addition to the traditionally prioritized academic concerns, educators need to address the glaring effects of school closures, virtual learning, and social isolation on students' mental health and interpersonal development. Additionally, student engagement during this time has been a critical area of concern as national attendance rates have collapsed due to several unique and contextual factors (Korman, O'Keefe, & Repka, 2020). Other important academic helping behaviors, including motivation and study skills, should be discussed regarding how the pandemic has impacted students. The CPS offers excellent value to educators looking to understand these patterns of academic helping behaviors.

Social-Emotional Wellness

One common theme across school districts is the concern for social-emotional wellness while contemplating where academic achievement falls within students' hierarchy of needs at this time. For those who have been virtual throughout the school year, opportunities to connect with peers and teachers, demonstrate cooperative learning behaviors, and further their social development has been compromised. Furthermore,

students' emotional states have been negatively impacted by feeling overwhelmed and chronic stress. The breadth and severity of symptoms related to mental illness are higher than they have ever been before (Minkos & Gelbar, 2020). Therefore, educators are challenged with the balancing act of supporting students' heightened social-emotional needs while attempting to boost school morale.

Based on what the literature says about students' academic beliefs, it is understandable that when academic standards are ever-changing, students' academic sense of self and emotional states have been adversely affected (Ainley, 2004; Fredrickson, 2000; Liem, 2016). For many students who have never met their teachers in person, missed opportunities for authentic support and connection may be exasperated by symptoms of social-emotional impairment. This is particularly concerning given the research indicating interpersonal skills such as maintaining relationships, seeking help, and relating positively with other students are critical to school success (Brady et al., 2012; Diperna & Elliot, 1999; Wang, Do, Bao, Xia, & Wu, 2017).

While considering the social-emotional challenges in schools today, educators are strongly encouraged to respond proactively instead of reactively to students' needs during this time. Intentional decisions should be made regarding the allocation of resources for tiered social-emotional support and wellness. Additionally, students who demonstrate risk or impairment in this area may look different now than they did before COVID-19. A screening tool like the CPS used to detect interpersonal needs can identify students that should be on teachers' radar as new concerns arise. Students in particular who have not attended school regularly or have only received virtual instruction for the past year may have unprecedented social-emotional needs as they return to face-to-face learning.

Engagement and Attendance

Many students, in particular, have not attended online classes over the academic school year for reasons not easily explained in general terms. Some obstacles to students' regular virtual attendance have included the following: lack of reliable internet or computer access, familial responsibilities to supervise younger siblings, lack of viable alternatives for continued educational accommodations and supports, isolation from protective supports to help reduce unfavorable conditions experienced in the home. In particular, students' sense of belonging may be compromised when competing priorities, stressful events, and decreased feelings of school connectedness occur while not physically present in the school building.

Researchers estimate that as many as 3 million young people nationwide have not been attending school regularly during the pandemic (Korman, O'Keefe, & Repka, 2020). As a result, many of these students are likely to be recommended for retention during the upcoming school year due to lack of instruction. Actionable steps for school leaders to take at this time include the collection and report of disaggregated attendance data. As chronically absent students are identified, educators can initiate direct correspondence with families and students. Many schools have already begun to create tiered levels of support to increase student engagement. School leaders are implored to adopt a responsive rather than punitive approach when reaching out to students and families as educational goals may be in direct conflict with familial demands and students' well-being. Many students are navigating complex situations and left to cope in ways that are not conducive to the achievement goals of an educational system (Korman et al., 2020). Fortunately, the CPS assesses many of the domains influenced by COVID-19 and can be

used to identify those students who are not attending or participating in class, as a first step to addressing these concerns.

Motivation

For many students with chronic absenteeism due to lack of motivation, schools and families are encouraged to develop systems of support and accountability. Educators can identify and intervene accordingly for students who score particularly low on the Interpersonal subdomain of the CPS. Unsurprisingly, many students have missed out on learning in response to lenient policies regarding video cameras or technology challenges. Additionally, teachers may be competing with preferred tasks (e.g., readily accessible forms of entertainment like cellphones, video games, and streaming services) and students' temptation to sleep in. Strategies at the classroom level to increase student motivation and engagement might include whole-class incentives for logging in and participating during instruction, modeling persistence in the face of technology challenges, and scheduling frequent breaks to reduce screen time fatigue (Minkos & Gelbar, 2020). At the student level, available school personnel may offer check-in/check-out interventions to help supervise students virtually while parents are at work. At the classroom level, teachers may look to students with increased motivation to set a standard for other students. Strategies at the school level might include opportunities for community outreach where school personnel collectively visit neighborhoods where students have high rates of absenteeism and provide technical support or other resources.

For some, the online learning setting when free of distractions and socially demanding situations, may provide students who previously struggled in the classroom setting a chance to be successful. Additionally, teachers responsible for an entire class of

students with relatively limited attention devoted to individual students, may see better academic performance from those fortunate enough to have direct supervision at home (e.g., parents, grandparents, hired caregivers, older siblings). This is particularly illuminating for specific subgroups of students with disabilities. However, it is noted that this may be at the expense of opportunities to grow in areas of social and behavioral development. Although unanticipated, these insights drawn from school functioning measures like the CPS and further research might help inform future educational plans for students (e.g., E-school, homeschool, face-to-face instruction). Considering the many existing variables related to academic competence, educators should take a case-by-case inventory of students' school functioning to determine what might increase or decrease motivation at home or school during this time.

Study Skills

Study skills have received less attention when compared to other academic enablers during the pandemic (DiPerna, 2006; Gettinger & Seibert, 2002). This is not surprising given the changes in expectations for homework¬—if students are required to complete assignments at home at all, particularly in elementary school. In-class assessments are also more likely to be open book, and students are given less opportunity to use traditional study skills. Under normal circumstances, study skills are an equally important variable related to school functioning. Admittedly, teachers have fewer opportunities to report on students' study or organization skills when virtual. Nonetheless, students have been challenged with the task of designating a workspace conducive to learning which has varied across individuals in terms of distractibility. Many students can now access instruction remotely from almost any location, which may result in decreased

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prioritization of schoolwork. Additionally, managing one's time and self-monitoring while unsupervised at home is a difficult task for younger students as well as students with disabilities. Since the CPS was predicated for use with students who have attention deficits, this measure is particularly relevant for younger students learning at home with underdeveloped study skills like filtering distractions.

4.2 FUTURE DIRECTIONS

Given the importance of gauging where students are as more schools allow for in-person instruction, assessing individual profiles of school functioning across evidence-based domains using a measure like the CPS will be beneficial to educators. Future studies should include a self-report measure of the CPS in addition to a measure for parents. Despite the recognized importance and dual function of self-assessment, the current study did not include a student version of the CPS as initially intended due to demands placed on schools during this time. Academic self-concept, in particular, may look quite different for students negatively impacted by the pandemic.

Future research should also include a larger sample of schools, students, and teachers to increase power and generalizability. With a larger sample of participants, researchers can also use statistical analysis to determine whether significant differences exist across learning settings rather than visual inspection of a small and unequal sample in the current study. Another area to explore, as mentioned previously, is the social validity of the CPS, especially during such a unique time for instruction. Researchers can gain valuable insight from those expected to administer and complete the CPS. Future studies should also examine the internal consistency of this adapted version of the CPS, given the slight changes made that were contextually appropriate. Finally, to further

investigate the screening utility of the CPS, research analyses should include classification accuracy to predict student risk for impairment across academic and behavioral outcomes.

4.3 IMPLICATIONS FOR PRACTICE

Results from the present study suggest preliminary evidence in support of the CPS to predict academic outcomes for students participating in virtual or in-person instruction. Additional research specific to accurately identifying students at risk for future school impairment is needed to determine the predictive quality of the CPS as a universal screening measure (Jenkins et al., 2007). School leaders should also consider the practical utility of the CPS given the strong support for construct validity as a measure of overall school functioning. The CPS is quick and easy to administer and might help to promote whole-child development as educators are primed to assess academic helping skills in addition to traditional academic ability. Academic enablers are supported in the literature to contribute largely to students' academic performance and can be built into school curriculums (Diperna & Elliot, 2000; Groves & Welsh, 2010; DuPaul et al., 2019. Despite some of the nonsignificant findings due to several uncontrollable factors that affected the internal validity of the current study, the CPS offers substantial explanatory value of students' school functioning above academic skills alone (Allen, 2005; DiPerna, 2006; DiPerna & Elliot, 1999; Oberle et al., 2014). Data collected during a time when students either missed instruction or learned from home might also generalize to school functioning after instructional loss over the summer or for students who are temporarily homeschooled.

Ultimately, school leaders should adopt screening measures that assess all areas that contribute to overall success in order to close opportunity gaps for prevention and intervention. Based on similar performance across learning settings, results of the current study suggest preliminarily that many students may be just as successful or better equipped to learn in a virtual setting. However, social and behavioral development opportunities are often missed when students are not face-to-face with teachers and peers in the school building. This is important considering the dilemma of educational decision-making when students with behavior concerns, in particular, perform better academically at home but miss out on opportunities for social development in school.

A final implication is the practical value offered by the CPS to report on students' unique needs that may differ during a typical school year. Students who were once a part of sports teams, clubs, or receiving other forms of social support may look much different as social restriction has become the new norm. The CPS can be used as a tool to 'check-in' with students who no longer have the same social supports available to them as a result of the pandemic. Regardless of the specific measure used to assess school functioning during this time, educators should consider the context in which screening tools are used and prioritize the validity, acceptability, and ability to inform appropriate and adequate prevention and intervention (DiPerna et al., 2014; Wilding & Griffey, 2015).

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APPENDIX A

CLASSROOM PERFORMANCE SURVEY

Student ID:_____Teacher ID:_____Date: _____

Please complete the following ratings to help us identify the student's strengths and areas of concern in the classroom. Circle the number that best represents this student's behaviors in the past month. 1 Always 3 Sometimes 5 Never

1. Demonstrates they are prepared for class	1	2	3	4	5
2. Completes class assignments	1	2	3	4	5
3. Completes homework on time	1	2	3	4	5
4. Displays organization skills	1	2	3	4	5
5. Turns in completed work	1	2	3	4	5
6. Completes long-term assignments/projects	1	2	3	4	5
7. Attends to instructions during class	1	2	3	4	5
8. Arrives to class on time (Logs in)	1	2	3	4	5
9. Performs satisfactorily on tests	1	2	3	4	5
10. Completes assigned work with accurate computation/detail	1	2	3	4	5
11. Relates positively to peers	1	2	3	4	5
12. Relates positively to teacher(s)	1	2	3	4	5
13. Demonstrates respect for school property (e.g., laptop/classroom items)	1	2	3	4	5
14. Communicates own needs or asks questions	1	2	3	4	5
15. Accepts assistance when needed or offered	1	2	3	4	5
16. Participates when required	1	2	3	4	5
17. Persists through learning challenges	1	2	3	4	5

18. What percentage of this student's assignments were turned in completed on time?__%

19. What percentage of assignments were handed in completed and on time by the average student in your class?__%

20. Is the student working up to potential YES NO

Table A.1 *Intercorrelations Among Study Variables for In-Person Students*

| | | Correlations | | | | | | | | |
Measure	1	2	3	4	5	6	7	8	9	10
1. CPS-T	–									
2. CPS-I	.98**	–								
3. CPS-A	.95**	.87**	–							
4. F-MAP-R	.37**	.33	.42	–						
5. F-MAP-M	.10	.07	.14	.81**	–					
6. GPA	.23	.17	.32	.29	.20	–				
7. W-MAP-R	.24	.15	.37	.60*	.46	.31	–			
8. W-MAP-M	.31	.20	.44	.64**	.55*	.38	.93**	–		
9. Attendance	.20	.18	.21	.28	.36	.46	.28	.37	–	
10. Discipline	–	–	–	–	–	–	–	–	–	–

Table A.2 *Intercorrelations Among Study Variables for Virtual Students*

| | Correlations | | | | | | | | | |
Measure	1	2	3	4	5	6	7	8	9	10
1. CPS-T	–									
2. CPS-I	.98**	–								
3. CPS-A	.94**	.84**	–							
4. F-MAP-R	.35*	.36*	.30	–						
5. F-MAP-M	.30	.34	.20	.86**	–					
6. GPA	.24	.10	.45*	.22	-.08	–				
7. W-MAP-R	.49**	.49**	.43*	.84**	.71**	.14	–			
8. W-MAP-M	.38*	.40*	.30	.81**	.85**	-.04	.86**	–		
9. Attendance	.28	.20	.37*	.39*	.39*	.13	.37*	.40*	–	
10. Discipline	.05	.03	.07	-.09	-.07	.48**	-.20	-.12	-.11	–