EFFECTIVENESS OF A STRENGTHS-BASED SOCIAL-EMOTIONAL SCREENER FOR APPLICATION IN A LOW INCOME ELEMENTARY CHARTER SCHOOL

AN ABSTRACT

SUBMITTED ON THE FIRST DAY OF JUNE 2016

TO THE DEPARTMENT OF PSYCHOLOGY

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF THE SCHOOL OF SCIENCE AND ENGINEERING OF TULANE UNIVERSITY FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

BY

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Abstract

Research consistently demonstrates the negative relationship between social, emotional, and behavioral (SEB) problems in children and their later academic achievement (Juechter, Dever, & Kamphaus, 2012). If left unaddressed, children who demonstrate SEB difficulties early on are more likely to see their experiences increase in severity, bringing along associated school difficulties. Evidence demonstrates that early identification framed within a multi-tiered service delivery model can ameliorate risks for SEB difficulties and enhance the likelihood of school success (Albers, Glover & Kratochwill, 2007). Although universal SEB screening has been identified as an efficacious practice for data-based decision making, schools have been reticent to implement such screening (Hess, Short, & Hazel, 2012). One identified reason for this reticence concerns the ecological validity of instruments, which has been viewed as a barrier to the implementation of universal screening in schools. The purpose of this study, which utilizes convergent mixed methods, was to investigate the effectiveness of a brief strengths-oriented universal screening instrument in the context of its use in a school serving predominately low-income minority students. This instrument, the Devereux Student Strength Assessment (DESSA)-mini (Naglieri, LeBuffe, & Shapiro, 2011), was investigated in light of its predictive and ecological validity within the context of its application in a tiered universal screening process. Study participants included 525 students in grades K to 4 attending an elementary charter school serving a predominantly low-income African American student body, along with representative data from teachers, administrators, and parents of the school community. Results suggest that the DESSA-mini screener can be effectively used, despite certain limitations, as an indicator
of student SEB functioning and can serve to inform a school’s decision-making regarding prevention, promotion, and intervention initiatives for students.

Key words: universal screening, DESSA-mini, social-emotional competence, office discipline referral, mixed methods research, response-to-intervention (RTI), multi-tiered system of support (MTSS).
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Acknowledgement

This dissertation is dedicated to my mother, Mattie Vallery. Although Mattie mostly worked as a fire tower lookout, she also served as a lookout for the well-being of the children in her life -- her own six along with countless others who received her care. Over her eighty plus years, she demonstrated time and again what it means to intervene early and support a child showing risk for difficulties, as well as how to tap an individual’s strengths. Moreover, she illustrated through daily action ways in which advocacy for children, especially those made even more vulnerable by circumstance, was not only a laudable avocation but also our responsibility as adults. Thank you for teaching me how to be on the lookout.

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Chapter 1

Introduction and Problem Statement

Tiered systems of support such as RTI (Response-to-Intervention) and MTSS (Multi-Tier System of Supports) have become the foundation for school-based service delivery (academic and social-emotional) in the United States. Both RTI and MTSS are based on public health prevention models that allow for schools to better serve more students (Doll, Brehm, & Zucker, 2014; Hess, Short, & Hazel, 2013). Public health models are multifaceted. They incorporate universal programming aimed to promote desired competencies as well as prevention initiatives to ameliorate risk. They utilize early identification methods to detect needs and include the implementation of relevant interventions and the monitoring of progress (Albers, Glover, & Kratochwill, 2007). Successful public health models also employ case identification systems that afford reliable and valid data, which can then be used to gain a full understanding of the needs and strengths of the population (Hess et al., 2013). Universal screening is one such evidence-based case identification system that schools have grown more interested in adopting (Severson et al., 2007).

Universal screening instruments are brief measures used to assess the population of a school or community and to identify patterns of need for prevention, intervention, promotion, and support (Doll et al., 2014). As part of a multi-tiered process, universal screening serves multiple purposes at multiple levels, including individual and classroom levels, grade-levels, and school-wide and community levels. In this way, universal screening can be seen as a central component to school improvement by helping schools
off-set risks, bolster systems of support, and promote student well-being (e.g., Albers et al., 2007; Levitt et al., 2007).

Many schools have incorporated screening initiatives to inform their tiered academic systems of support, and more and more schools are interested in the implementation of SEB screening (Albers et al., 2007; VanDerHayden, 2013). According to Yates and colleagues at the Center for the Social and Emotional Foundations for Early Learning at Vanderbilt University (2008), SEB competency may be the missing piece needed to ensure overall school success for students. Yates et al. (2008) explain that only 40% of children entering school are reported to demonstrate the social-emotional skills needed to succeed in kindergarten. Moreover, evidence suggests that the trajectory of a child’s social-emotional development can be changed, and in cases where children demonstrate the need for support in SEB domains, early intervention becomes critical. Consequently, Yates and others (Baker, 2008; Doll, et al., 2014; Raver, 2002; Yates et al., 2008) assert that early identification of SEB needs and better understanding of students’ SEB functioning can lead to more responsive teacher-student interactions and stronger relationships that form the basis for a positive school environment. Additionally, many service providers, researchers, and government agencies (e.g., Cook, Volpe, & Livanis, 2010; Feeney-Kettler, Kratochwill, Kaiser, Hemmeter, & Kettler, 2010; Glover & Albers, 2007; Kamphaus, Thorpe, Winsor, Kroncke, Dowdy, & VanDeventer, 2007; Lane, Kalberg, Menzies, Bruhn, Eisner, & Crnobori, 2011; President’s New Freedom Commission on Mental Health, 2003; Thapa, 2013; U.S. Department of Health and Human Services, 2005; Weist, Rubin, Moore, Adelsheim, & Wrobel, 2007) have begun to advocate more strongly for the implementation of universal SEB screening programs to
help identify students who could be best served by prevention, promotion, and intervention efforts related to social, emotional, and behavioral functioning.

However, schools have been slow to incorporate the practice even though research has established the utility of the public health, tiered-service delivery model, the importance of data-based decision-making, the link between SEB functioning and academic success, and the viability of universal screening (e.g., Algozzine, Putnam, & Horner, 2010; Catalano, Haggerty, Osterle, Fleming, & Hawkins, 2004; Juchter, Dever, Kamphaus, 2012; Reinke, Herman, Petras, & Ialongo, 2008). According to Harrison, Vannest, and Reynolds (2013), only 2% of schools utilize a formal social, emotional, and behavioral screening measure. This is unfortunate, because the links are well established among promotion (e.g., social-emotional learning), primary prevention (e.g., school-wide positive behavior support), early intervention (e.g., behavioral intervention) and improved outcomes (e.g., school performance) (Doll, Haack, & Beiber, 2013). As such, the slow pace of adoption and implementation of universal screening in schools gives rise to questions about the acceptability of the practice of universal screening and perceptions of its usefulness. According to Harrison et al. (2013), social acceptability of universal screening practices (i.e., ecological validity) may serve as a barrier to implementation of this otherwise efficacious practice, and schools may not view screening as fundamentally suitable or useful. Consequently, Harrison and colleagues (2013) argue for investigation of ecological validity as part of any investigation into the effectiveness of screening instruments to answer the fundamental question: Do social-emotional-behavioral screening data assist schools in better serving their populations?
In line with Type 2 Translational Research, as described by the Society for Prevention Research (SPR; 2011), this study focuses on effectiveness, specifically the dissemination, implementation, and evaluation of an efficacious practice within a real world context. Effectiveness studies assess the degree of benefit of an instrument (e.g., assessment tool), item (e.g., pharmaceutical), or practice (e.g., intervention) in a “real world” setting (Biglan et al., 2011). Different from efficacy studies, which investigate benefits in well-controlled randomized studies that are often conducted in artificial settings, effectiveness studies take place in naturalistic environments (SPR, 2011). As a consequence, effectiveness in this study was measured within a condition of routine practice (in a school setting and by outcomes that were useful for decision-making by school personnel.

According to Levitt, Saka, Romanelli, and Hoagwood (2007), when one evaluates the effectiveness of a universal screening instrument, one must consider such elements as feasibility, practicality, acceptability, instrument characteristics (e.g., time to administer, score, and interpret), developmental appropriateness, cultural appropriateness, and ease of use in guiding school programming. Albers, Glover, and Kratochwill (2007) also recommend investigation into the predictive validity of a screening instrument when used in differing contexts and/or applied to different populations. Finally, Harrison and colleagues (2013) contend that if researchers and advocates of universal screening desire this evidence-based practice to become commonplace in schools, it is important that research demonstrate the effectiveness of implementation within the context of a regular school environment and that research include an ecological component that investigates the validity of the practice for the population it aims to serve. This study sought to
investigate the effectiveness of a strengths-oriented universal screener, the Devereux Student Strength Assessment (DESSA)-mini (Naglieri, LeBuffe, & Shapiro, 2011) as implemented in an urban school serving a predominately low-income African America community. To best investigate the multiple components of effectiveness, a convergent mixed method research design (QUAL+QUANT) was utilized (Creswell & Plano Clark, 2011).

Mixed method research designs have been identified as suitable for use with translational research studies similar to the study described here (Stormont, Reinke, & Herman, 2010). Proponents of mixed methods research argue that mixed method designs offer the potential to better explain complex phenomena and describe the nuances of dynamic, transactional processes, particularly as they relate to children and to the promotion of their well-being (Creswell, 2009; Yoshikawa et al., 2008; Zhang & Watanabe-Galloway, 2014). When exploring effectiveness of identified efficacious practices, mixed method research can incorporate ecologically oriented frameworks (Gest, Osgood, Feinberg, Bierman, & Moody, 2011) that explicitly take into consideration setting-level contexts and stakeholder perspectives (Cappella, Reinke, & Hoagwood, 2011). These qualities have led prevention researchers, for example, to advocate for the use of mixed methods research and to argue that mixed method research has the potential to help reduce the gaps that exist between research and application (e.g., Boeije, Slagt, & van Wesel, 2013; Creswell, 2009; Klinger & Boardman, 2011; Nastasi, Hitchcock, Sarkar, Burkholder, Varjas, & Jayasena, 2007; Yoshikawa, et al., 2008; Zhang & Watanabe-Galloway, 2013). Consequently, a mixed method research design
best fits the purpose of this study to explore the effectiveness of the DESSA-mini in the specific context of its application in an elementary charter school.
Chapter 2

Literature Review

This literature review provides background on universal screening in general. It also discusses rationales supporting the use of universal screening and the application of universal screening in models of tiered service delivery that follow public health frameworks. The review highlights commonly used universal screening instruments, criteria for assessing universal screeners, and noted limitations of these instruments. This study focuses on the use of one universal screening instrument that utilizes a strengths-orientation—the DESSA-mini (Naglieri, et al., 2011)—and consequently focuses on the emergence of strengths-oriented universal screening measures and opportunities for research in this area.

Universal Screening Defined and General Benefits

School-based universal screening is broadly described as the assessment of children across a class, grade, school, or district on targeted areas of functioning, either in academic domains or in areas of social, emotional, and behavioral functioning (Ikeda et al., 2008). Screening most often uses research-based assessment tools and serves as a first step in ensuring that student needs are met. The primary goal of universal screening is to enhance likelihood of school success for all students; hence, data collected in universal screening initiatives can play an important role in determining whether curricula, instruction, and/or the school environment (e.g., classroom practices) are in need of important enhancements (Levitt et al., 2007; Severson et al., 2007). Moreover, data can be used to inform decision-making about students demonstrating a need for support beyond what may already be provided in the classroom (Ikeda et al., 2008).
Social, emotional, and behavioral (SEB) screening specifically targets domains of social, emotional, and behavioral functioning. From a clinical perspective, universal SEB screening may serve to identify students who demonstrate symptoms that merit additional assessment and possible intervention (Levitt et al., 2007). The collection of universal screening data is generally incorporated into procedures that help identify students who show higher risk for social, emotional, and behavioral problems at school. Universal screening data may also be used to monitor the success of programming and planning for individual students who demonstrate risk. Additionally, universal screening can be used to monitor population needs and changes while prevention and promotion efforts are established (Dowdy, Furlong, Eklund, Saeki, & Ritchey, 2010). Hess, Short, and Hazel (2013) describe universal SEB screening as an important element of early intervention in which data can be used to identify patterns of risk, catch early signs of difficulty, create or direct intervention efforts, and consider the implementation of initiatives that promote well-being and prevent difficulties for the populations served by the school. According to Albers, Glover, and Kratochwill (2007) universal screening has great potential to improve outcomes for children overall, including academic performance, general educational experience, and well-being. By the early identification of problems and/or their risks, universal screening can be a way to improve educational experiences, outcomes, and overall functioning of students (Levitt et al., 2007).

**Universal Screening Rationale**

Universal screening is not new (Albers et al., 2007). The United States Department of Education Office of Special Education and Rehabilitative Services has focused on screening since the early 60s (Henry & Rudder, 1963). For instance,
screening for vision and hearing problems has been well established. In the last three decades, however, there has been a proactive effort to advocate and encourage implementation of screening for students who demonstrate a variety of academic and behavioral difficulties that may result in a variety of struggles in school (Severson et al., 2007). Consequently, screening for reading and learning difficulties has become more commonplace. However, screening related to social, emotional, and behavioral functioning has until recently taken lower priority within most schools (Hess et al., 2013). Behavioral intervention traditionally followed what has been termed in recent literature as a wait-to-fail model in which only students with established, entrenched problems who exhibit major distress at a critical juncture in their academic career or development receive intervention (Levitt et al., 2007).

Counter to this trend, scholars have for some time advocated early intervention and SEB screening initiatives. For example, since at least as early as 1993, Sugai and Tindall have recommended that screening be implemented to identify student SEB difficulties before students reach a level necessitating intervention or referral for special services. Sugai and Tindal (1993) outline the importance of regular screening and progress monitoring to help schools better support student academic and SEB development as well as to prevent academic and social/behavioral difficulties. With the advent and growing acceptance of multi-tiered intervention models such as RTI and MTSS, problem-solving intervention models used in school-based service delivery, there has been increasing openness to the idea of universal screening in both academic and social, emotional, and behavioral domains; as well, there has been greater attention to
best practices for successful implementation of screening initiatives, especially SEB screening (Erchul, 2011; Hess et al., 2013; Severson et al., 2007).

Moreover, both the Executive Order 13227 (2001) establishing the President’s Commission on Excellence in Special Education and the No Child Left Behind Act (US Department of Education, 2001) have called for the use of universal screening in protocols for early identification and intervention with young children, and the Alliance for School Mental Health (2005) encourages emphasis on prevention and proactive screening to prevent serious manifestation of difficulties and negative consequences that may inhibit success in school and later life. Doll, Haack, and Bieber (2013) also explain that research on child development has long emphasized the importance of early identification of risk for developmental disruptions and early intervention.

The number of students potentially served through screening and early intervention initiatives is also substantial. According to the National Alliance on Mental Illness (NAMI; 2010), 20% of school age children experience behavioral, social-emotional, and mental health problems, including internalizing and externalizing problems. Based on 2014 public school enrollment numbers, over 49 million children are enrolled in public US schools (prekindergarten through 12th grade), and consequently over 9.8 million children may be in need of social, emotional, and behavioral support services (Kena et al., 2015). Of that number only 30% generally receive services, leaving the needs of nearly 7 million children un-served (Albers et al., 2007). Moreover, screening can help inform universal prevention programming that reduces risk and promotes protective factors and thus facilitates well-being for all students (Dowdy, Ritchey, & Kamphaus, 2010).
There is also strong empirical evidence that demonstrates the negative influence of behavior problems in the classroom setting and on long-term functioning (e.g., Feil, Walker, & Severson, 1995; Loeber, Farrington, & Petechuk, 2003; Moffit, et al., 2011; Granič & Patterson, 2006; Sutherland, Adler, & Gunter, 2003; Wehby, Dodge, Valente, & the Conduct Disorders Prevention Group, 1993). Problem behaviors decrease student engagement, result in more negative encounters with adults, and negatively impact the availability of academic achievement opportunities (Dougherty, 2013). Frustrating and negative interactions between teachers and students not only reduce learning opportunities for individual students involved in the negative interaction but also have an impact on learning for the rest of the class (Lane, Wehby, Cooley, 2006). Negative behaviors in young children are also associated with later adjustment problems and future serious behavior concerns (Albers et al., 2007). After testing for associations over time between academic achievement and externalizing and internalizing symptoms, Masten and colleagues (2005) found strong bi-directional associations between externalizing symptoms and academic achievement, as well as associations between early academic or externalizing problems and later internalizing difficulties. Their evidence suggests that patterns and impacts associated with problems in one area of functioning spread to affect other domains in both direct and indirect ways.

In contrast, positive emotional and behavioral health is associated with academic success (Algozzine et al., 2010; CASEL, 2013; Doll, Zucker, & Brehm, 2004; Durlak et al., 2011). Positive behavior and positive classroom environments increase time for learning and engagement and therefore improve learning opportunities and outcomes (e.g., Durlak et al., 2011; Levitt et al., 2007; Osher, Bear, Sprague, & Doyle, 2010). In
Building academic success on social and emotional learning: What does the research say?, Zins, Weissberg, Wang and Walber (2004) established an overarching set of competencies and adaptive skills that contribute to positive school adjustment and success including self-awareness, social-awareness, self-management, responsible decision making, and relationships skills. Additionally, teachers have demonstrated the ability to facilitate the development of these competencies and manage disruptive behavior through classroom interventions, such as creation of clear routines, supervision of activities, and management of antecedents and consequences (e.g., Bear, 2010; Bear & Manning, 2010). The strong association among classroom behavior, emotional functioning, and academic achievement establishes the importance of including behavioral and emotional factors in school-based prevention, promotion, and early intervention programming, as well as in the screening efforts that should accompany such programming (Albers et al., 2007). At a foundational level, Doll and Cummings (2008b) describe wellness as a precondition for student success, and they identify teachers and schools as responsible for ensuring that basic psychological competence is supported so students can successfully learn.

Universal Screening and Public Health Frameworks

The population-based framework is based on an epidemiological model with which one identifies patterns of difficulties, predictive or causal relationships, while guiding interventions that can modify factors that may reduce problem rates, modify attitudes and behaviors, and promote wellness (Hess et al., 2013). Knowledge of the risk and protective factors that relate to children in general and to the specific population of students is important for guiding prevention programs (Merrell, Levitt, & Gueldner,
Through early identification, programs with prevention focus and programs that promote positive outcomes reduce risk factors and bolster protective factors. This comprehensive universal prevention effort includes identification of youth with risk factors, efforts to rule out false positives, selection of preventive interventions, and implementation of interventions to address problems (Levitt et al., 2007; Merrell et al., 2010). Specifically, population-based assessment is recommended as a framework for identifying social, emotional, and behavioral problems that need to be addressed within a school (Doll, Haack, & Bieber, 2013).

In the school context, prevention practices are preferred because of the potential to reduce the development of problems (Algozzine, Dannic, & Smith, 2010). Prevention practices have the potential to improve efficiency and effectiveness of schools, classroom, and individual instructional support. While schools have begun to recognize the use of these models and are making concerted efforts toward implementation, such models are not yet commonplace (Doll, Brehm, & Zucker, 2014). Resources need to be allocated to implement population-oriented models of prevention and promotion as well as tiered service delivery systems (Baker, 2008). Furthermore, additional research on the implementation process and the effectiveness of these initiatives is needed (Albers et al., 2007). From a public health perspective, Baker (2008) explains that universal screening should be used to develop programming that enhances student supports and protective factors, promotes positive development and student competencies, and reduces identified risks at the population level. In this way screening should be used not only to assess needs of the population but to plan and implement programming in an intentional
manner. Over the course of time, universal screening data can also be used to evaluate the success of programming and to guide further school-wide changes.

Additionally, multi-tiered frameworks emphasize prevention of problems through the creation of environments that encourage positive development (Hess et al., 2013). One aim of tiered service delivery is to intervene early, based on indicators of risk, before issues become salient problems and begin to seriously impact functioning (Dougherty, 2013). Consequently, strong assessment processes that actively identify needs of students and the larger population must be in place and conducted simultaneously to universal intervention and prevention efforts (e.g., Hess et al., 2013).

**Universal Screeners Commonly Used in School Settings**

A number of social-emotional screening tools can be used in schools (Albers & Glover, 2007; Dever, Barclay, & Raine, 2012; Haggerty, Elgin, & Wooley, 2010). Some have been designed specifically for school use, while others, initially developed for clinical application, have been brought into the school context. Each of the screening tools included in Table 1 demonstrates ample psychometric properties and have potential for helping school-based mental health providers to identify students with social, emotional, and behavior difficulty (Albers & Glover, 2007; Dever, Raine, & Barclay, 2012; Haggerty, Elgin, & Wooley, 2010).
Table 1

*Common Screening Instruments Used in Schools*

<table>
<thead>
<tr>
<th>Screener</th>
<th>Population</th>
<th>Purpose</th>
<th>Length</th>
<th>Raters</th>
<th>Strengths-orientation</th>
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<tr>
<td>Ages and Stages Questionnaire—Social Emotional (ASQ SE; Squires, Bricker, &amp; Twombly, 2002)</td>
<td>3-66 months</td>
<td>Assesses social-emotional development in areas of self-regulation, compliance, communication, adaptive functioning, autonomy, affect, and interaction with people</td>
<td>Approximately 35 items (depends on age of child)</td>
<td>Parents</td>
<td>Yes</td>
</tr>
<tr>
<td>Behavior Problem Checklist (Quay &amp; Peterson, 1987)</td>
<td>Grades K-12</td>
<td>Screens for behavior disorders including conduct disorder, socialized aggression, attention problems--immaturity, anxiety-withdrawal, psychotic behavior, motor tension-excess</td>
<td>89 items</td>
<td>Teachers and parents</td>
<td>No</td>
</tr>
<tr>
<td>Behavioral and Emotional Rating Scales - 2 (BERS-2; Epstein, 2004)</td>
<td>5-18.11 years</td>
<td>Measures personal strengths and competencies in domains of interpersonal strength, family involvement, intrapersonal strength, school functioning, and affective strength</td>
<td>52 items</td>
<td>Teachers, parents, youth</td>
<td>Yes</td>
</tr>
<tr>
<td>Behavioral Assessment System for Children: Behavioral and Emotional Screening System (BASC-2 BESS, Kamphaus &amp; Reynolds, 2007)</td>
<td>3-18 years</td>
<td>Investigates risk level pertaining to behavioral and/or emotional problems</td>
<td>25-30 items</td>
<td>Teachers</td>
<td>No</td>
</tr>
<tr>
<td>Conner’s Rating Scales-Revised (CRS-R; Conners, 1990)</td>
<td>3-17 years</td>
<td>Assesses psychopathology and problem behaviors including oppositional patterns, cognitive problems, inattention, hyperactivity, anxious-shy, perfectionism, social problems, psychosomatic complaint</td>
<td>28 items</td>
<td>Teacher, youth</td>
<td>No</td>
</tr>
<tr>
<td>Devereux Student Strengths Assessment (DESSA; LeBurre, Shapiro, Naglieri, 2008)</td>
<td>Grades K-8</td>
<td>Measures social-emotional competencies including personal responsibility, optimistic thinking, goal-directed behavior, social-awareness, decision making,</td>
<td>72 items</td>
<td>Teachers, parents</td>
<td>Yes</td>
</tr>
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</table>
relationship skills, self-awareness, and self-management

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Grades</th>
<th>Description</th>
<th>Items</th>
<th>Administration</th>
<th>Use</th>
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</thead>
<tbody>
<tr>
<td>DESSA-mini (Naglieri et al., 2011)</td>
<td>Grades K-8</td>
<td>Measures level of social emotional competency associated with domains of the DESSA full version</td>
<td>8 items</td>
<td>Teachers</td>
<td>Yes</td>
</tr>
<tr>
<td>Eyberg Child Behavior Inventory (ECBI; Eyberg &amp; Ross, 1978; Eyberg &amp; Pincus, 1999)</td>
<td>2-16 years</td>
<td>Measures conduct problems</td>
<td>36 items</td>
<td>Teachers</td>
<td>No</td>
</tr>
<tr>
<td>School Social Behavior Scale (SSBS; Merrell, 1993)</td>
<td>Grades K-12</td>
<td>Assesses levels of social competence and antisocial behavior</td>
<td>65 items</td>
<td>Teachers</td>
<td>No</td>
</tr>
<tr>
<td>Strengths and Difficulties Questionnaire (Goodman, 1997)</td>
<td>3-16 years</td>
<td>Assesses behavioral functioning including emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, prosocial behaviors</td>
<td>25 items</td>
<td>Teachers, parents, youth (ages 11-16)</td>
<td>No</td>
</tr>
<tr>
<td>Student Risk Screening Scales (SSRS; Drummond, 1993)</td>
<td>Grades K-12; K-6</td>
<td>Evaluates risk pertaining to externalizing and internalizing patterns</td>
<td>7 items (externalizing) and 5 items (internalizing)</td>
<td>Teachers</td>
<td>No</td>
</tr>
<tr>
<td>Systematic Screening for Behavior Disorders (SSBD; Walker &amp; Severson, 1990)</td>
<td>Grades K-12</td>
<td>Offers a protocol for the identification of school-age children at risk for behavior disorders.</td>
<td>Gated procedure</td>
<td>Teachers</td>
<td>No</td>
</tr>
</tbody>
</table>

*Note. Universal screening instruments included in this table are not be comprehensive. However, those included were referenced in several discussions on best-practice in the implementation of universal screening initiatives in schools (Albers & Glover, 2007; Dever, Barclay, & Raine, 2012; Haggerty, Elgin, & Wooley, 2010).
To date, most screening protocols and tools used in schools focus on the presence or absence of difficulty, on potential indications of early signs of pathology, and on levels of dysfunction (Dowdy et al., 2010). Most of the screening instruments included in Table 1 have a deficit orientation. Data collected through such measures may serve important purposes of identifying students with pronounced needs. However, data may not provide a comprehensive understanding of student well-being, specifically because the data collected does not include an evaluation of strengths or desired competencies that may be targeted for improvement. Moreover, data from pathology-oriented screeners may not provide information that is directly useful to teachers’ early intervention efforts as many screeners only identify whether or not the individual child/student is at risk or demonstrating clinically significant problems. Therefore, data may be difficult to interpret into action without specialized support from mental health providers. Consequently, the lack of immediate usability of deficit and pathology-oriented screeners may impact acceptability as well as teacher compliance with completing forms and administrative support for screening efforts. With many schools having limited access to mental health professionals and those mental health professionals having large caseloads, universal screening that necessitates administration and interpretation by a trained mental health professional may present more challenges to implement at the universal population level, and may instead be better suited to more targeted evaluation. Furthermore, when universal screening is primarily used to identify mental health problems, families may be more likely to feel that the process is potentially stigmatizing and designed to refer or weed out children (Dowdy et al., 2010).
Emergence of Strength-Oriented Universal Screening Measures

Within schools, there is a movement to include the assessment of positive aspects of psychological development to complement traditional risk, symptom, and pathology-focused screening efforts (Renshaw et al., 2014). Regardless of level of risk or impairment, all students have strengths that can be identified and cultivated to facilitate more optimal developmental outcomes (Doll, Zucker, & Brehm, 2004). Accordingly, school teams can use information about positive functioning in conjunction with traditional mental health data to provide a more comprehensive, and thus more accurate reflection of, student functioning. Therefore, the collection of data on student strengths can help schools better meet the needs of the student population as a whole, as well as implementing prevention or promotion programs to serve those students better (Renshaw et al., 2014). Moreover, strengths-based assessments fit within RTI and MTSS models, since areas that need additional strengthening can be targeted directly by teachers through social-emotional programming and universal positive behavioral initiatives (Nickerson & Fishman, 2009).

According to proponents of the incorporation of strengths-based measures, use of screening tools designed with a strengths-orientation also has the potential to diminish stigma around universal screening (Dowdy et al., 2010). Consequently, schools, families, and students may be more trusting of and more agreeable toward universal screening if data collected offer a more comprehensive and potentially positive portrayal of students. As noted previously, one goal of school-wide assessment is to identify students who may be most likely to benefit from preventative, promotional, or early intervention services (Hess et al., 2013). The focus on prevention and promotion necessitates a move away
from a deficit model to a model that incorporates the assessment of protective factors that may serve to strengthen the child (Merrell, Levitt, & Gueldner, 2010). Screening for the presence or absence of positive indicators of well-being may be particularly useful when screening for early identification and early intervention. Dowdy et al. (2010) recommend an integrative approach that capitalizes on strengths and supports of well-being. As school-based mental health professionals adopt public health and population-oriented models of service delivery, a need to incorporate screening practices that directly assess strengths, supports, and prevalence of desired developmental competencies is necessary for a more complete understanding of child functioning and well-being and for more targeted universal prevention efforts (Hess et al., 2013). Because positive and negative factors both influence well-being in complex ways, multifaceted models of assessment and intervention that attend to strengths, deficits, and indications of distress are necessary for more complete consideration of well-being (Renshaw et al., 2014).

Research on using a strength-based universal screening approach is in its early stages, but results of some studies demonstrate that the evaluation of areas of strength and support can be useful in the identification of students who could be best served by prevention and promotion efforts, thus lending support to using a strengths-orientation as alternative to a deficit model (Dowdy et al., 2010; Huebner, Gilman, Reschly, & Hall, 2009; Seligman, 2011). For example, Shochet, Dadds, Hams, and Montague (2006) found that strength-oriented screening of school connectedness had the potential to identify future functioning just as well as symptom-focused or deficit-based screeners. In their study of 2,022 Australian students ages 12 to 14, Shochet et al. (2006) found that school connectedness, as measured by the Psychological Sense of School Membership
Scale (PSSM; Goodenow, 1993) predicted mental health symptoms one year later as well as the Strengths and Difficulties Questionnaire (Goodman, 1997). The PSSM is an 18-item self-report measure of school connectedness for adolescents. According to Dowdy and colleagues (2010), studies of the associations between school connectedness and well-being also provide evidence for the usefulness of strengths-oriented screening. Loukas, Suzuki, and Horton (2006) reported relationships of school connectedness and school climate to individual behavioral adjustment, with students who reported stronger school connectedness demonstrating fewer behavioral problems. However, Loukas and colleagues found no significant associations between school connectedness and internalizing problems in the adolescents participating in their study, suggesting limits to the use of the singular construct of school connectedness as the primary predictor of well-being.

Even so, in a later 8-year, longitudinal study of 2678 Australian secondary school students, Bond et al. (2007) found that school and social connectedness predicted later reports of psychological well-being. Individuals reporting higher levels of school connectedness were less likely to report experiencing negative well-being such as depressive symptoms, and individuals with high school and high social connectedness were associated with the best outcomes, reporting fewer depression symptoms, lower anxiety, and less substance use such as drinking and cigarette and marijuana smoking. Students reporting high school connectedness but low social connectedness reported more depressive symptoms than students reporting high connectedness in both domains; however, these students also scored higher on tertiary entrance exams and were more likely to complete high school. They also found that individuals reporting low school
connectedness but high social connectedness were more apt to report depressive symptoms, anxiety, and higher rates of drinking and cigarette and marijuana smoking. However, those with low school connectedness and low social connectedness were at increased risk and reported the most difficulties. According to Bond and colleagues (2007) these findings suggest that connectedness to school may be as important for the promotion of psychological well-being as social connectedness. Consequently, such preliminary findings suggest that screenings associated with the presence or absence of protective factors such as school connectedness and other aspects of well-being may be useful for prevention efforts (Dowdy et al, 2010; Renshaw et al., 2014).

**Devereux Student Strengths Assessment**

The Devereux Student Strengths Assessment (DESSA; LeBurre, Shapiro, & Naglieri, 2008) is a recently developed strengths-based screening tool. The DESSA is a 72-item instrument that measures competencies on eight strength-based subscales including Optimistic Thinking, Self-Management, Gold-Directed Behavior, Self-Awareness, Social-Awareness, Personal Responsibility, Decision Making, and Relationship Skills. A Total Protective Factor scale is also included. In a study of the convergent and divergent validity of the DESSA, Nickerson and Fishman (2009) found that parent and teacher reports of student functioning on the DESSA corresponded to parent and teacher reports on the Strength Index of the Behavior and Emotional Rating Scales—2 (BERS-2; Epstein, 2004) and the Adaptive Skills Composite of the Behavior Assessment System for Children—2 (BASC-2; Kamphaus & Reynolds, 2004). Divergent validity of the DESSA was also supported by negative correlations between high scores on the DESSA, indicating positive functioning, and elevations on BASC-2
clinical subscales, indicating symptoms of dysfunction. Results provide support for use of the DESSA as a potential substitute for deficit-oriented screening tools such as the BASC-2 (Nickerson & Fishman, 2009). However, the length of the DESSA (72 items) and associated time to administer for an entire class may serve as a barrier to its wide scale implementation in many schools.

The DESSA-mini (Naglieri et al., 2011), a brief screening instrument recently developed by the Devereaux Foundation and the instrument of choice for this study, was designed to address logistical demands, particularly time involved in universal screening efforts. The DESSA-mini was designed to be a brief, easy-to-use and technically-sound predictive measure for Tier 1 screening. Like the DESSA, the DESSA-mini uses a strengths-orientation to determine if a student needs further skill development in domains of social and emotional competency. The authors of the instrument conducted a validity and reliability trial in 2011. Teacher ratings for 1,234 children in kindergarten to eighth grade served as the sample for both standardization and for assessment of reliability and validity. According to the authors, the study sample was designed to be representative of the U.S. population with regard to gender, grade, race, Hispanic origin, and socioeconomic status based on 2006 population data. Students rated by teachers also represented the Northeast, South, Midwest, and West geographical regions. Cronbach’s alpha reliability coefficients ranged between .89 and .95, which indicates strong internal consistency and consistency with the 72-item DESSA. When investigating consistency of prediction, the authors of the instrument found that $T$-scores obtained by the DESSA and the DESSA-mini were consistent 95% of the time. Sensitivity, specificity, and positive and negative power were also evaluated. Sensitivity examined the proportion of
instances when the DESSA-mini and the DESSA both indicated that a student demonstrated a need for social-emotional skill development. Specificity investigated the proportion of individuals who earned high scores on the DESSA-mini as well as on the DESSA and who did not show a need for additional support on either instrument.

Positive predictive power examines the degree to which a need identified by the DESSA-mini corresponds to need reported by the DESSA. Negative predictive power examines the proportion of students who are not identified as having need and whose scores are confirmed by the DESSA. On all measures of predictive validity, the DESSA-mini performed well, which suggests its potential usefulness as an SEB screening tool.

Results of a literature search through library databases including PsycINFO, ERIC, and Psychology and Behavioral Sciences Collection revealed few independent studies (i.e., not conducted by the authors of the instrument) that included use of the DESSA-mini in an investigation. Harrison, Vannest, and Reynolds (2013) reviewed the social acceptability, as defined by the researchers, of five universal screening instruments for social, emotional, and behavioral well-being. Their paper summarized attributes of each screener based on information included in original norming trials of the screeners and on technical manuals. Harrison and colleagues evaluated social acceptability based on six attributes: (a) time expenditure, (b) monetary expenditure, (c) necessary infrastructure, (d) social importance of the measured constructs (e.g., reported stakeholder involvement in field-testing of original measure), (e) readability and accommodations (e.g., language), and (f) psychometric properties. They concluded that the DESSA-mini met the researchers’ criteria for basic social acceptability in a school context and had potential for use as an SEB screener with reasonable cost, ease of
administration and interpretation, and strong psychometric properties based on the norming study. In a separate study, Maras, Thompson, Lewis, Thornburg and Hawks (2015) described their use of the DESSA-mini as part of a tiered response model for social-emotional learning (SEL) at one elementary school in Missouri. Their aim was to improve school functioning through a school consultation effort and to investigate application of a tiered SEL model that incorporated the DESSA-mini at Tier 1. Using the DESSA-mini, teacher reports on student social-emotional functioning were collected on 138 kindergarten to 2nd grade students. The student body was predominantly European American (86%). The remaining students were identified as African American (6.5%), Hispanic/Latino American (3.5%), and Mixed (5.8%). Data were used to inform school programming and interventions; however, no further investigations into the DESSA-mini’s effectiveness in identifying students in need of additional support were made. Recently, Millan (2015) and Erhart (2013) each utilized the DESSA-mini to explore associations between teacher ratings of student SEB competence and school performance outcomes. Erhart (2013) utilized the DESSA-mini among other academic and SEB screening measures to explore the relationship of screening and student end-of-year performance outcomes (academic and behavioral). Overall, the DESSA-mini was found to be a successful predictor of social-emotional success (i.e. end-of-year ratings on the DESSA and ODRs) for kindergarten students. More recently, Millman (2015) found a significant relationship between DESSA-mini ratings and office discipline referrals accrued by students. In Millman’s study (2015) teachers in three elementary schools serving a predominately low-income Caucasian population in the northeastern United State rated students SEB competency at the start of the spring semester using the
DESSA-mini. Millman (2015) found a significant relationship between ratings and ODRs accrued by year-end. To date, however, no other studies were found to have investigated the psychometric properties or explored the utilization of the DESSA-mini in an applied context, specifically with a school serving a low income African American population.

**Research Opportunities on Universal Screening**

Opportunities for further research exist across all forms of screening (Albers et al., 2007). For example, further research is necessary to evaluate the applicability and effectiveness of instruments to various populations and contexts in the real world. Continued review of the uses and usefulness of screening data in the school context is also needed to assure that assessment tools are psychometrically sound, relevant to school application, useful to school professionals, and serve the larger purpose of helping to improve the well-being of children (Levitt et al., 2007). Furthermore, research is needed to identify which aspects of well-being and which protective factors are the most critical to include in strengths-based measures and which factors may be the most useful to school prevention and early intervention efforts (Nickerson & Fishman, 2009). As described by Messick (1995), such investigations are considered part of an investigation into the validity of a psychological assessment instrument. Messick (1993, 1995) also notes important lines of inquiry needed when exploring instrument validity in its translation into real world application. These questions include whether properties of instruments are generalizable across contexts and populations, whether instruments demonstrate utility for their proposed purpose, and whether score interpretation reflects attributes useful for action.
Researchers (e.g., Doll, Haack, & Bieber, 2013; Dowdy et al., 2010; Glover & Albers, 2007; Severson et al., 2007) investigating the efficacy and effectiveness of universal screening measures and initiatives agree on the basic qualities of strong universal screening measures for school use. Universal screening tools should meet the following basic criteria:

(a) suitable for the intended use and population (e.g., developmental and cultural appropriateness) and able to complement the models of service available at the school;

(b) easy and practical to use (i.e., brief to administer, efficient methods to process, code, and analyze, and affordable); and

(c) possessing strong psychometric properties including strong predictive validity and sensitivity to changes that may result from intervention.

As schools implement universal screening initiatives they should also consider how data will inform programming and guide interventions and who will serve as the most appropriate informants (Baker, 2008). In general, universal screening has moved away from a focus on identifying students who may be eligible for special education services and toward a focus on identifying students who may benefit from the receipt of early intervention efforts and on identifying patterns within the student population that suggest need for prevention and promotion initiatives (Albers et al., 2007).

Practical and ethical issues exist around the implementation of universal screening (Gensheimer, Ayers, & Roosa, 1993). Data collected through universal screening can be misused and has the potential to lead to stigma, stereotyping, and unnecessary labeling. Minority populations may be especially vulnerable to misuse of data, having experienced
long histories of educational disparity and system inequality (Dowdy et al., 2010). Consequently, one should be aware of the potential impact on and response to universal screening initiatives among families of color. Moreover, additional work should be done to ensure the validity of screening results with diverse populations and the most appropriate screening and follow-up procedures (Levitt et al., 2007). Baker (2008) asserts that universal assessments should be conducted in a fair manner that benefits the population, and that measurements should be assessed for cultural appropriateness. Guidelines on test use established by the International Test Commission (ITC; 2013) discuss the importance of social, political, institutional, linguistic, and cultural differences between assessment settings. ITC recommends one investigate test appropriateness for use with various demographic groups and assess whether validity evidence supports the intended use of the test for the various groups.

As noted in an earlier section, current screening for SEB competence occurs in only 2% of schools. Harrison and colleagues (2013) explain that for universal screening practices to be adopted more readily, screening tools and procedures need to demonstrate ease of use, interpretation, application and strong psychometric properties that include ecological and predictive validity. Otherwise, universal screening may become an evidenced-based practice that is only rarely adopted in schools—an unfortunate outcome, since according to many researchers and practitioners (e.g., Albers et al., 2007; Harrison et al., 2013; Levitt et al., 2007), universal screening has the potential to greatly benefit children and youth.

To address gaps in the literature and the need for strengths-oriented universal screening instruments to demonstrate effectiveness in identifying students who would
benefit from school-wide prevention, promotion, and intervention efforts within the context of a regular school environment, the purpose of this study is to investigate the ability of the DESSA-mini to predict students with patterns associated with school difficulty in social, emotional, behavioral, and academic domains. Additionally, the study seeks to explore the fit of the instrument to the school population and stakeholders, because ecological validity of instruments has been described as imperative for the sustainability of screening practices and the usefulness of data collected (e.g., Harrison et al., 2013).
Chapter 3

Current Study Design and Methodology

The purpose of the present study was threefold. One purpose was to systematically evaluate the effectiveness of a universal SEB screening instrument applied in an authentic school context under real-world conditions. Secondly, the author engaged in the study as a mechanism that would enable research-based feedback to the participating school designed to guide the process for implementation of a tiered mental health service delivery method. Finally, the study aimed to represent the multifaceted nature of social, emotional, and behavioral competencies that schools value in children and through this representation facilitate recognition and possible changes in broader elementary school policies where needed.

Given the gaps in research on the DESSA-mini as an SEB screening instrument and current understanding of the contextual nature of universal screening acceptability, appropriateness, and usefulness, the current study explored the effectiveness of the DESSA-mini as a universal screening tool in the context of its school-wide implementation within an elementary school setting. The study followed a convergent parallel mixed method approach (QUANT + QUAL: Creswell & Plano Clark, 2011; Plano Clark & Creswell, 2008; Tashakkori & Teddlie, 2010) in which quantitative and qualitative strands are prioritized equally and separate quantitative and qualitative research questions are developed. In accordance, the following research questions aimed to investigate two primary areas associated with the effectiveness of the DESSA-mini by looking at its predictive ability (QUANT) and contextual fit (QUAL).
Quantitative Research Questions

First, using quantitative inquiry, the study explored whether the DESSA-mini identified students who may benefit from population-wide social-emotional learning initiatives and/or primary prevention efforts as shown by student patterns of risk associated with school difficulty in academic and behavioral domains. The following three research questions guided this inquiry.

Research question 1. Do teacher reports of social, emotional, and behavioral (SEB) functioning based on the DESSA-mini at beginning of academic year predict student academic outcomes measured by standardized measures of academic skill at end of academic year?

Hypothesis 1. Teacher ratings of students on the DESSA-mini will be positively correlated with academic outcomes. Students with higher DESSA-mini scores, indicating greater strength in measured areas of SEB competency, will perform better on standardized measures of academic skill.

Research question 2. Do teacher reports of SEB functioning based on the DESSA-mini predict behavioral outcomes as recorded by composite office discipline referrals (ODRs) at year-end?

Hypothesis 2. Scores on the DESSA-mini will be negatively correlated with ODRs. Students who have lower scores on the DESSA-mini (fewer SEB competencies) will have higher rates of ODRs (poorer behavioral functioning).

Research question 3. Do teacher reports of (SEB) functioning based on the DESSA-mini predict school attendance for elementary school students, as reflected in school attendance records at year-end?
Hypothesis 3. Scores on the DESSA-mini will be negatively correlated with attendance. Students who have lower scores on the DESSA-mini (fewer SEB competencies) will have higher rates of school absence.

Qualitative Research Questions

Secondly, using qualitative inquiry, the study explored effectiveness with regard to the contextual fit (i.e., ecological validity) of the DESSA-mini for the specific population using the instrument. The following three questions were addressed.

Research question 4. What do teachers, administrators, parents, and school artifacts (i.e., documents describing school values, routines, and procedures) describe as valued social, emotional, and behavioral competencies for elementary school children?

Research question 5. How do patterns of behavioral infractions reflected in office discipline referrals (ODRs) correspond to the domains of competence identified as relevant by teachers, administrators, and parents and the domains of SEB competence measured by the DESSA-mini?

Research question 6. Do the domains of social, emotional, and behavioral competence as measured by the DESSA-mini correspond to valued SEB competencies identified by school stakeholders?

Guiding Research Framework and Method

The current study used archival quantitative school-based data along with archival qualitative focus group, narrative interview, and office discipline referral description data collected between August 2013 and December 2015. This mixed methods study is part of a larger international research project examining psychological well-being in children entitled Promoting Psychological Well-Being Globally (PPWBG; Nastasi, 2008; Nastasi
& Borja, 2016) and is under the direction of Dr. Bonnie Nastasi with partners from 14 sites in 12 countries including three sites within the United States. The PPWBG project aims to establish a framework for understanding cross-cultural representations of well-being and to highlight the multi-faceted factors and bi-directional influences of environmental context on the development of well-being. In turn PPWBG aims to facilitate the development of cultural-specific initiatives that promote the well-being of children and adolescents.

The elementary charter school included in this study is one of three sites in New Orleans, Louisiana participating in the project. The initial data collection for PPWBG began at this site in 2013 and served to assist stakeholders in data-based decision making within the context of their school. This first phase led to a partnership with the school that included the gathering of qualitative data through focus groups and permission to use archival school record data. Procedures for obtaining and using school and narrative data were reviewed and approved by the Tulane University Institutional Review Board (IRB).

Given the central nature of Nastasi’s Participatory Culture-Specific Intervention Model to both PPWBG and this current research endeavor (PCSIM; Nastasi et al., 2004; see also Bell, Summerville, Nastasi, MacFetters, & Earnshaw, 2015; Nastasi, Hitchcock, Varjas, et al., 2010; Varjas et al., 2006), a brief discussion of PCSIM is warranted. PCSIM is a 10-phase process of program development and implementation. It is rooted in participatory action research (PAR) in which research participants are also partners in the research process (Nastasi & Hitchcock, 2016). PAR engages researchers and participants (i.e., school stakeholders) in a relationship that joins them by a thematic concern committed to inform and improve a particular practice (McTaggart, 1997).
Following principles of PAR this project provided a way in which the participants could learn from their own experience and make the lessons learned from the experience accessible to others (Liamputton, 2010; Nastasi, 2006, 2014; Spencer, 2006).

Similar to PAR, PCSIM views the perspectives of stakeholders as integral to the design, implementation, evaluation, and institutionalization of culture-specific interventions. In the case of this study, the researchers, consultants, and school personnel guided the implementation of the universal screening protocol, selected the screening instrument for implementation (i.e., DESSA-mini), and identified the need for evaluation through a participatory culture-specific consultation (PCSC) process. In this way, stakeholders had an integral role in setting the agenda of the inquiry. Results will therefore be presented to the school and used in the consultation process to guide modifications of the universal SEB screening initiative and to set goals for further consultation efforts.

**Site Context and Participants**

This study utilized archival quantitative and qualitative data collected as part of the PPWBG study from a partnering elementary charter school serving K-4th grade in a mid-sized Southern city. According to the state board of education, which monitors school performance, the participating school received an above average B school performance rating based on state-wide academic assessments from spring 2014 (Louisiana Department of Education, 2015). Sixty-nine percent of students scored at or above acceptable Basic proficiency in Language Arts and 78% of students scored at or above acceptable Basic proficiency in Mathematics. Data suggests that the school is moderately achieving compared to local and state averages.
The school follows an open-enrollment application policy that results in a student population representing different neighborhoods across the city; however, the school population of approximately 540 is racially, ethnically, and socioeconomically homogenous. The majority of the student population was identified as African American (93.1%) with the remaining minority identified as of diverse racial/ethnic backgrounds (4.6% White, 1.5% Latino/Hispanic, <1% Asian and Native American). According to census data, seventy-one percent of children in the city are African American suggesting the school population is racially representative of the majority of the child population of the city (Mack, 2015). Nine-six percent of the student population qualifies for free or reduced lunch. To qualify for free and reduced lunch through the National School Lunch and Breakfast Programs, household income for a family with one child should not exceed $21,775, which suggests that most students in the school community live in families of low-income backgrounds (Louisiana Department of Education, 2015). Additionally, according to census 2013 data, thirty-nine percent of children living in the city where this study was conducted live in poverty, a rate that is 17 percentage points higher than the national average (Mack, 2015). According to the United States federal government, poverty thresholds for children are defined by the household income of families. The US poverty threshold for a household with one adult and one child is $16,067, and $18, 751 for a household of two adults and one child. Consequently, one may conclude that students and families served by the partnering school experience risks associated with low income and poverty.

The school has 28 teachers and 5 administrators on staff. The school staff has been identified as 55% African American, 43% White, and the remaining 2% as
Latino/Hispanic or Asian. All teachers hold Bachelor’s degrees and approximately 30% have master’s degrees. Teachers range in experience from 1-17 years, with a mode of 5 years.

**Teacher and staff recruitment.** Teachers from all classrooms and integrals (music, art, dance, physical education, and drama) were sent a brief description of the PPWBG study and given the opportunity to participate in a focus group session. Seven teachers participated in a 90-minute focus group session. Individual 60-minute interviews were conducted with the school principal, the school social worker, and the school special education coordinator. Demographics of school staff participants are included in Table 2. Member checking discussions of approximately thirty minutes in length were held with eight additional teachers during a professional development workday. Two brief 10-minute member checking activities were also held during after-school teacher preparation periods, and teachers were given the opportunity to provide feedback on coding inferences.

Table 2

*School Staff Participant Demographics*

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<tr>
<td>Caucasian/White</td>
<td>8</td>
<td>2</td>
</tr>
</tbody>
</table>

*Note. N = 18*
**Parent and caregiver recruitment.** Parent and caregiver participants were recruited by email and telephone based on school contact information. The purpose of the PPWBG project was explained in a brief letter and a follow-up conversation. Eight caregivers participated in a focus group session held after a monthly family-style breakfast with the school principal and are represented in Table 3.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>5</td>
</tr>
<tr>
<td>Male</td>
<td>3</td>
</tr>
<tr>
<td>Ethnic Origin/Race</td>
<td></td>
</tr>
<tr>
<td>African American/Black</td>
<td>6</td>
</tr>
<tr>
<td>Caucasian/White</td>
<td>1</td>
</tr>
<tr>
<td>Declined to Identify</td>
<td>1</td>
</tr>
</tbody>
</table>

*Note. N = 8*

**Student data.** Permission to use de-identified, archival student performance data from the 2014-2015 school year was obtained for use with the PPWBG project and the current study. Of 525 students for whom school data were available, 285 were male (54.3%) and 240 (45.7%) were female. Students ranged between 6 and 13 years of age based on end-of-year age calculations. Kindergarteners represented the smallest percentage of students in the sample (*n* = 99; 18.9%) and 4th graders represented the largest percentage (*n* = 111; 21.1%). Student characteristics by grade level are included in Table 4.
Table 4

*Student Sample by Grade*

<table>
<thead>
<tr>
<th>Grade</th>
<th>N</th>
<th>Percentage of Total Sample</th>
<th>Percentage of Males per Grade</th>
<th>Percentage of Females per Grade</th>
<th>Mean Student Age in Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kindergarten</td>
<td>99</td>
<td>19%</td>
<td>60%</td>
<td>40%</td>
<td>6.24</td>
</tr>
<tr>
<td>1st grade</td>
<td>105</td>
<td>20%</td>
<td>51%</td>
<td>49%</td>
<td>7.34</td>
</tr>
<tr>
<td>2nd grade</td>
<td>109</td>
<td>21%</td>
<td>58%</td>
<td>42%</td>
<td>8.34</td>
</tr>
<tr>
<td>3rd grade</td>
<td>101</td>
<td>19%</td>
<td>49%</td>
<td>51%</td>
<td>9.43</td>
</tr>
<tr>
<td>4th grade</td>
<td>111</td>
<td>21%</td>
<td>54%</td>
<td>46%</td>
<td>10.46</td>
</tr>
</tbody>
</table>

*Note. N = 525*

**Data Collection and School-Records**

Data used for this study included archival transcripts of key stakeholder focus groups and interviews, narrative data describing each incidence of office discipline referral recorded in the 2014-2015 school year, school documents describing school routines and disciplinary procedures, and archival de-identified school record data from the 2014-2015 academic year obtained with permission from school. Procedures for utilizing the quantitative and qualitative archival data were reviewed and approved by the Tulane University Institutional Review Board (IRB) and procedures for collecting the data are described below.

**Qualitative data.** Qualitative data were collected in the summer and fall of 2015 and as noted above, were part of the larger international project entitled *Promoting Psychological Well-Being Globally (PPWBG)*; Nastasi, 2008; Nastasi & Borja, 2016). The project, under the direction of Dr. Bonnie Nastasi aims to develop definitions of
psychological well-being and psychologically healthy schools/communities, based on perspectives of key stakeholders (teacher, student, school, community). Focus groups were facilitated by three senior members of the PPWBG team who had an established relationship with the school through the provision of regular consultation on the implementation of universal screening. The PPWBG team members had also conducted workshops concerning childhood mental health issues, teacher-student relationships, and tiered models of social, emotional, and behavioral intervention and were known among the school staff through these provisions of service. The facilitators were experienced in delivering semi-structured interviews and conducting focus groups, and all had been working on the PPWBG project for 3 to 4 years. In addition to experience with focus group facilitation under the PPWBG project, the lead researcher has experience as a classroom teacher, academic interventionist, and school leader. All facilitators have experience with behavioral intervention, mental health service delivery, and school-wide consultation. A trained undergraduate research assistant was present at all focus groups to transcribe session content. Individual interviews were conducted with the school social worker, the special education coordinator, and the school principal. The present author of this study conducted each interview in a private setting. All focus groups and interviews were audio-recorded for later confirmation of accurate transcription.

Focus group questions with teachers and parents covered three primary areas: expectations for students, sources of student stress and support, and challenges to discipline. Administrator interviews were more broadly focused with questions pertaining to general descriptions of psychological well-being, healthy environments, and the role of various stakeholders in supporting psychological well-being. The full protocol for
PPWBG focus group sessions (Nastasi, 2008) is outlined in the *International Handbook of Psychological Well-Being in Children and Adults* (Nastasi & Borja, 2016). After initial coding of focus group data and interview transcripts, member checking meetings were held with additional teachers to insure that data collected in initial focus groups represented the broader views of school stakeholders and therein could be considered as trustworthy representations of school staff views.

De-identified narrative office discipline referral data were also collected from the school to be used in qualitative analysis. Students whose behavior is deemed unacceptable for the classroom environment may be referred to an administrator for disciplinary action and such action is referred to within the school context as an office discipline referral (ODR). The school maintains documentation of each ODR, including a narrative description of the referral reason, and office personnel track the referral data in a spreadsheet. These data, in de-identified form, were included in the dataset.

Although viewed as a rich resource of data, discipline referrals are not without their limitations. Discipline referrals lack reliability and are dependent upon not only school discipline policy but upon individual teacher expectations (Irvin, Tobin, Sprague, Sugai, & Vincent, 2004). Nonetheless, they can reflect the level of difficulty a student demonstrates in meeting classroom behavior expectations and reflect the school-wide behavioral climate. At the participating school, similar to their use in other schools (McIntosh, Frank, Spaulding, 2010), office discipline referrals were commonly used for problem-solving to identify rates of behavior problems and patterns of behavioral concern. According to Reinke et al. (2012) and others (e.g. Irvin et al., 2004), high rates of referrals by certain teachers or grade levels may be indicative of classroom-based
problems. As such, the participating school also used discipline data in their teacher support initiatives and with their teacher coaching team\(^1\) to help identify classroom management problems and areas where support may be needed. For this study, narrative explanations for each ODR occurring during the 2014-15 school year were included in the qualitative data set and used to establish greater understanding of school culture, school-wide behavioral expectations, and desired student competencies.

Three relevant school documents were also included in the data set: discipline referral form, outline of school-wide routines and procedures, and rubric for teacher evaluation. The ODR referral form accompanies students when they are referred for disciplinary action. The form provides key words that may be used to describe behavioral incidents along with blanks where descriptions of incidents are written. Descriptions are automatically transcribed into the ODR tracking spreadsheet. The template itself was used in analysis to help guide the locally driven definitions of behavioral expectations. The outline of school-wide routines and procedures, which highlight student behavioral expectations across the school day, serve as a general guide for both student and teacher expectations in relation to key transition periods, including arrival, dismissal, lunch, recess, and classroom teaching time. Finally, the school’s teaching rubric, also included in the dataset, is used to guide on-going teacher appraisal and coaching efforts that support teachers through the school year. Classroom management and desired student classroom behaviors are described in the rubric and are relevant to understanding the larger culture of the school and overall behavioral aims.

\(^1\) Teachers are a part of grade-level and instructional coaching teams that serve to support teacher skill growth. Representatives of coaching teams observe and evaluate teacher performance and provide feedback and consultation to teachers on ways to enhance classroom practices.
Quantitative measures. The results of five quantitative measures of student performance were included in the archival quantitative data set. Descriptions of each, including norming data when applicable, follow.

- **Devereux Student Strength Assessment-mini** (DESSA-mini; Naglieri, LeBuffe, & Shapiro, 2011) is an 8-item strengths-oriented universal screening tool that uses positively worded items to assess social-emotional competencies of students. Data from teacher-ratings on the DESSA-mini are included in this study. There is no self-report of functioning. Items of the DESSA-mini use a 5-point Likert scale ranging from 0 to 4 (Never=0, Rarely=1, Occasionally=2, Frequently=3, Very Frequently=4). The rater reads the stem: “During the past four weeks, how often did the child . . .” and then rates the student on the 8 items. Items included on Form 1 address areas related to student responsibility, positive peer and adult relations, attention, group participation, and habits of care toward schoolwork. Raw scores (0 to 32), percentile ranks, and T-scores are provided for the Social and Emotional Total. When converted to T-scores, results are allocated to three categories: Need for instruction (T-scores 40 and below), Typical T-scores 41-59), and Strength T-scores 60 and above. Follow-up with the DESSA is recommended for students who have a “Need for Instruction.” Four 8-item parallel forms are available for use. All items were selected using items from the larger 72-item DESSA. Each form has been shown to demonstrate strong psychometric properties. Internal reliability coefficients (Chronbach’s alpha) for Form A were reported during the norming trial as .92. All forms of the DESSA-mini demonstrated strong internal reliability with Chronbach’s alpha >.90.
Sensitivity, Specificity, and Positive and Negative Predictive Power for each DESSA-Mini were also investigated in the standardization and norming trials. For Form 1, the results of which will be used in this study, power results follow:

- **Sensitivity** is a measure of the proportion of those instances in which the DESSA-mini scores and the DESSA both indicated that a student was in need of instruction to enhance SEB competence. Sensitivity = True Positives/(True Positives + False Negatives). Sensitivity for DESSA mini 1 = .770

- **Specificity** is a measure of the proportion of those instances in which the DESSA-mini and the DESSA indicate a student is not in need of additional SEB instruction. Specificity = True Negatives/(True Negatives + False Positives). Specificity for DESSA-mini 1 = .848

- **Positive Predictive Power** describes the proportion of the sample for whom a need is suggested by the DESSA-mini and is confirmed by the DESSA. Positive Predictive Power = True Positives/(True Positives + False Positives). Positive Predictive Power for DESSA-mini 1 = .912

- **Negative Predictive Power** indicates the proportion of students who are not identified as having need for additional SEB instruction whose scores are confirmed by the DESSA. Negative Predictive Power = True Negatives/(True Negatives + False Negatives). Negative Predictive Power for the DESSA-mini 1 = .963

Results from original standardization trials provided initial support in a controlled setting for the use of Form 1 of the DESSA-mini as predictor of social-emotional
functioning. Internal validity, sensitivity, specificity, positive predictive power, and negative predictive power results of all forms of the DESSA-mini were similar and suggest the potential value of the DESSA-mini as a universal screening tool.

- **Measures of Academic Progress** for students in grades K-4 (Northwest Evaluation Association; NWEA, 2005) is a computer-administered and adaptive system of normed academic assessment to measure student progress in reading, language, math, and science. Items for each subject area assess corresponding subareas. For example, the primary area of Reading is comprised of Word Meaning, Literal Comprehension, Interpretive Comprehension, and Evaluative Comprehension. Mathematics is comprised of Number/Numeration Systems, Operations/Computation, Equations/Numerals, Geometry, Measurement, Problem Solving, Statistics/Probability, and Applications. Each sub-area is assessed with at least seven items. According to a review of the instrument in the Mental Measurements Yearbook (Cizek, 2014), only limited information about the development of content is provided except that items for each domain were developed through a guided process with classroom teachers who participated in item-writing workshops and that these items were field tested with 300-400 examinees and reviewed for bias in relation to race, ethnicity, gender, SES, and native language. During testing, each student receives items optimal to the student’s ability level through an IRT (item response theory) model based on a one-parameter IRT (Rasch) model. Scores are reported in RITs (Rasch units), which are a transformation of the Rasch ability estimates. MAP norms are based
on data collected from approximately 2.3 million students from 5,616 schools in 794 districts across 32 states. However, Cizek (2014) explains that NWEA does not contend that the RIT scale norms are representative of national demographic patterns. Reported RITs should be interpreted in relation only to other students who use NWEA testing systems. For example, if a second grade student’s RIT score is equivalent to the 25\textsuperscript{th} percentile, one can say that the student scored better than 25 percent of other second grade students who use the NWEA testing system.

- **Office Discipline Referral** data are maintained by the school administration and RTI (response to intervention) team. As noted previously, students whose behavior is deemed unacceptable for the classroom environment may be referred to an administrator for disciplinary action, and referrals are tracked throughout the academic school year. Although discipline referrals lack reliability, and referral rates may be contingent upon both school-wide discipline policies and individual teacher expectations (e.g., McIntosh, Frank, Spaulding, 2010; Reinke et al., 2012), discipline referrals have been used to demonstrate the predictive ability of other social, emotional, and behavioral screening measures (Dowdy et al., 2011; Verlenden, 2014). The index used for the quantitative portion of this study was the total number of office discipline referrals accumulated by each student over the academic year of 2014-2015.

- **Student attendance records** are maintained by the school office staff and classroom teachers. The total number of absences, excluding suspension days, recorded by the administrative staff for the academic year 2014-15 was used in
this study. Absenteeism has been used in several studies to assess school engagement and as an outcome indicator associated with school climate (e.g., Estridge, 2009; Plavcan, 2004). Regular attendance has also been identified as an important contributor to student success. Absenteeism has been associated with lower academic achievement and lower school engagement. Students with high absenteeism are also at greater risk to drop out of school later. Both ecological risk factors, such as high poverty, and school-related factors, such as school climate, have been demonstrated to impact attendance (Montgomery & Rossi, 1994).

Table 5 provides a summary of the archival quantitative data used in the study to measure relevant constructs of school functioning. In the current study, teachers in grades K-4 completed the DESSA-mini Form 1 in September of 2014.
Table 5

*Constructs and Related Quantitative Data Indices*

<table>
<thead>
<tr>
<th>Construct</th>
<th>Data to be Utilized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic performance</td>
<td>MAP scores language arts (grades K-4, spring, 2015), Standardized Z scores</td>
</tr>
<tr>
<td>Academic performance</td>
<td>MAP scores mathematics (grades K-4, spring, 2015), Standardized Z scores</td>
</tr>
<tr>
<td>Social, emotional, &amp; behavioral (SEB) functioning</td>
<td>DESSA-mini (fall, 2014) Raw scores</td>
</tr>
<tr>
<td>Social, emotional, &amp; behavioral (SEB) functioning</td>
<td>Attendance (cumulative, 2014-15) Total absences</td>
</tr>
<tr>
<td>Social, emotional, &amp; behavioral (SEB) functioning</td>
<td>Office Discipline Referrals (cumulative, 2014-15) Total number of referrals</td>
</tr>
</tbody>
</table>

*Note.* MAP = Measures of Academic Progress (Northwest Evaluation Association; NWEA, 2005). DESSA-mini = Devereux Student Strength Assessment-mini (Naglieri et al., 2011).

Raw score data from DESSA-mini administrations at the beginning of the year were included in the study as the predictor variable of interest. MAP scores are used by the participating school to track academic progress in broad areas of language arts and mathematics and represent academic functioning of students in the sample. MAP assessments are conducted in the fall, winter, and spring of each school-year. Results of spring math and language arts assessments (i.e., end-of-year), administered in April 2015, were used for this study. Z-scores with a mean of zero and standard deviation of 1 were calculated from raw MAP scores for both language arts and mathematics and used as outcome variables representing student academic functioning.
**Mixed Methods Data Analyses**

The current study used a convergent parallel mixed method design (QUANT + QUAL: Creswell & Plano Clark, 2011; Plano Clark & Creswell, 2008). As such, quantitative and qualitative strands were prioritized equally, and strands remained independent through data collection and analysis. Mixing of results occurred in the final interpretation phase. Figure 1 depicts the congruent strands of the research design and corresponding data that was used in each. In the following two sections, the process of analysis for each strand is explained.

*Figure 1. Data Strands Used for the Convergent Parallel Mixed Method Research Design.* This model represents the congruent mixed method research design utilized in this study and is based on typology descriptions provided by Creswell & Plano Clark, 2011.

**Quantitative analysis.** Descriptive statistics for all quantitative measures were used to describe characteristics of the school population and provide a general overview
of student performance in academic and social-emotional domains. Omnibus correlations were conducted to assess relationships among all measures. Regression analyses were used to evaluate the ability of the DESSA-mini to predict school outcomes including math and language arts performance, office discipline referrals accrued, and school absence.

Qualitative analysis. Qualitative analysis necessitates a flexible yet disciplined interplay between research and data (Strauss & Corbin, 1998). As qualitative inquiry draws upon both critical and creative thinking, it necessitates that a researcher remains open to possibilities through the process of analysis and willing to explore these emerging possibilities. Through qualitative analysis one makes use of multiple avenues of investigation to stimulate the inquiry process. These nonlinear processes are often times iterative in nature, going back and forth, diverging from one’s usual way of thinking, and working to get a fresh perspective. Consequently, qualitative analysis requires some trust in the process but it also demands intensive focus, energy, and rigor to insure the validity and trustworthiness of findings. In the following sections, the process of qualitative data analysis is described in a level of detail to allow for possible replication as well as application to other studies.

Data analysis team. To ensure the accuracy and validity of findings, the current study utilized a team approach to coding. Two coding teams were utilized, each including the lead author and two undergraduate research assistants. Coding teams were dedicated to different forms of qualitative data. One team focused primarily on the coding of focus group and interview data. The second team focused primarily on the coding of ODR data and corresponding school documents that guided discipline policy.
The use of coding teams had several important benefits that enhanced the veracity of findings (Saldaña, 2016). Coding with a team ensured that schemes and themes were defined and applied appropriately. Qualitative analysis necessitates that the researcher aptly name categories, ask questions that delve into the data, and make important comparisons. Coding teams worked independently, held regular group discussions about coding practices, and utilized procedures of adjudication and group consensus to come to agreements about codes and their application. Consequently, the team approach promoted meaningful discussion and reflection about the research process and outcomes. Finally, the coding team served as rigorous examiners and auditors of analyses that aimed to insure that extracted themes and interpretations appropriately represented the data and perspectives of the participants rather than the aims and perspective of the lead researcher/author. In qualitative research one may strive to build theory, to identify alternative meanings of phenomena, and to develop concepts that promote additional inquiry. While such aims involve processes of highly creative thought, to insure their rigor these processes must also be systematic. The use of a coding team and a protocol for inquiry and analysis helped maintain this rigor.

To ensure readiness for coding and analysis the author conducted a three-part training session with team members. Before the initial training session, coders had completed required CITI (Collaborative Institutional Training Initiative) courses to provide foundation on research with human subjects, although no direct work with human subjects was a part of their coding responsibilities. Nonetheless, these courses served as a foundation for understanding research with vulnerable populations. In part one of the training, the study purpose, guiding questions, and general study protocol were
reviewed. Additionally, an overview of qualitative coding techniques with a focus on inductive strategies to coding (Saldaña, 2016) was given. In part two of training, coders participated in guided group coding as well as independent coding exercises to gain comfort and experience with inductive coding strategies and to promote inquiry both on the coding process and on the dataset of focus. The final didactic aspect of the training process included exercises on coding and analytic reflection as well as processes for consensus building around identified emergent themes. Self-reflection, discussion, and consensus building measures were central aspects of the coding and analysis process throughout the data analysis process, and coding teams held weekly meetings to guarantee fidelity to the research aims and to maintain coding consensus. Weekly meetings served to keep members engaged and on track, with the author setting the agenda for each meeting to ensure common focus (Fernald & DuClos, 2005).

**General approach to analysis.** Inductive-deductive/emic-etic approaches to qualitative analysis were applied to focus group and ODR data (Onwuegbuzie & Combs, 2010). Emic (inductive) perspectives attempt to capture indigenous meaning and the point of view of participants. In contrast the etic (deductive) perspective reflects an external view that relies on preexisting theories, hypotheses, and perspectives that are then applied to the setting or culture. The inductive-deductive process followed the emic-etic perspective of the qualitative research questions. Specifically, an emic orientation guided the analysis that aimed to identify the SEB competencies school stakeholders held as important for elementary school children. Likewise, an emic perspective was used to investigate the types of behavioral infractions that occurred within the school and the ways in which patterns of discipline referral corresponded to the domains of competence.
identified as relevant by teachers, administrators, and parents.

In both emic (inductive) and etic (deductive) aspects of qualitative analysis, an iterative three-part process was followed. The process included independent analysis by an individual coder, consensus building by the coding team, and recoding. Analytic memos guided by reflective questions developed by the author of this study were also maintained throughout (Saldaña, 2016). In these memos, coder reflections, ideas, questions, and problems were noted. These notes were used to promote analytical harmony through thoughtful peer discussion about the qualitative dataset and coding process (Strauss & Corbin, 1998).

Figure 2 represents the coding continuum followed in this study, which was based on Saldaña’s (2016) codes-to-theory model for qualitative inquiry. Working along this continuum, data were shaped into higher level and more abstract constructs, leading eventually to conclusions and assertions. Consequently, conclusions and assertions were an outcome of the coding, categorization, analytic reflection, and review of patterns that emerged through the process of coding. Initial codes represented specific stakeholder words and/or observable types of action. Categories were more conceptual and abstract in nature and represented identified codes and subcodes.

*Figure 2. Data to Assertions/Theory Process Model. Saldaña’s (2016) codes-to-theory model served as a foundation for the development of the coding process for this study represented here.*
Identification of units of text to code from the overall dataset of focus group and interview narratives involved a three-step process. First, members of the coding team read through the entire manuscript to become familiar with wording, phrases, and general content. During this process, coders kept reflective notes where initial impressions and questions were recorded. Second, the coders identified segments of the data that pertained to competencies valued in children/students. The term *Valued Competency* was defined by Nastasi and Borja (2016) in the guiding protocol and procedures for the PPWBG project. The author of this study chose to use Nastasi and Borja’s (2016) definition to isolate passages of narrative text that related to the discussion of child competency: *Any reference to competencies valued in the culture, to optimal functioning, engaging in culturally acceptable behavior* (p. 48). To facilitate understanding of competency and consensus, the coding teams discussed possible examples of competency across academic, social, emotional, behavioral, and cultural domains of functioning. This discussion ensured that the coding team possessed a clear understanding of the term and its possible manifestations. Using the *Review* tool in Microsoft Word, coders highlighted all sections of the text related to competencies valued in children/students. In the third and final step, individual documents were merged to achieve a comprehensive consensus of relevant units of text. A unit constituted the section of text from the start of remarks made by the focus group and/or interview facilitator to the next prompt given by the facilitator. Therefore, prompting questions and participants’ remarks that came before and after discussions pertaining to valued competency were also included in the unit. In that way, the context for remarks and discussion was preserved and would lend itself to fuller understanding during coding and analysis.
Complementing the emic approach, an etic perspective guided aspects of the analysis that investigated the extent to which the domains of SEB competencies measured by the DESSA-mini corresponded to both the valued SEB competencies identified by school stakeholders during focus groups and interviews and the competencies reflected in ODR descriptions and corresponding school procedural documents. Etic/deductive coding followed a similar process of coding and recoding. Deductive *a priori* codes were derived from the 8 items included on the DESSA-mini form1, which is used by the school as the universal screening instrument. Focus group and interview transcripts along with narrative ODR data were coded using these 8 domains. Through this process, the relevance of the domains of SEB competency measured by the DESSA-mini was investigated. The 8 questions on the DESSA-mini were transformed to phrases that represented essential competencies assessed by the form. Table 6 summarizes the association between the deductive codes the DESSA-mini Form 1.

**Table 6**

*Deductive/Etic Coding Scheme Based on Items of the DESSA-mini Form 1*

<table>
<thead>
<tr>
<th>Item #</th>
<th>Deductive Code of Student Competency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Accept responsibility</td>
</tr>
<tr>
<td>2.</td>
<td>Show kindness</td>
</tr>
<tr>
<td>3.</td>
<td>Speak positively</td>
</tr>
<tr>
<td>4.</td>
<td>Pay attention</td>
</tr>
<tr>
<td>5.</td>
<td>Contribute to group</td>
</tr>
<tr>
<td>6.</td>
<td>Perform steps of a task</td>
</tr>
<tr>
<td>7.</td>
<td>Show care for work</td>
</tr>
<tr>
<td>8.</td>
<td>Follow advice of trusted adults</td>
</tr>
</tbody>
</table>

*Note. DESSA-mini = Devereux Student Strength Assessment-mini (Naglieri et al., 2011).*

In summary, data were initially and secondarily coded to discern and label
contents and meanings according to specific inquiry (e.g., expected competencies of students). Categories described segments of data, and inductively-derived themes emerged from the process and described subtle, and, at times, global processes. Thus, through close reading and coding of transcripts, broad inductively-derived themes and patterns of responses emerged and were identified.

**Integration.** In concurrent mixed method designs, neither quantitative nor qualitative data analysis builds on the other during the data analysis stage. Instead analysis of data is conducted separately, and separate initial interpretations are made, quantitatively and qualitatively. After these three phases (i.e., data collection, analysis, and interpretation) integration of the quantitative and qualitative interpretations takes place. Inferences are drawn that integrate the interpretations made from the separate quantitative and qualitative findings. These meta-inferences (i.e., inferences that combine and go beyond the inferences made separately when discussing quantitative and qualitative strands) describe the extent to which results converge, diverge, and/or relate to one another across the strands. These meta-inferences are discussed in the final section of this study. These inferences address the three-fold purpose of the study: to systematically evaluate the effectiveness of the DESSA-mini as universal SEB screening instrument applied in real-world school conditions; to reflect on and guide the implementation of a tiered mental health service delivery method; and to represent the valued competencies that schools hold for elementary school children, thereby promote discussion on ways in which these valued competencies impact school climate and child well-being.
Ensuring trustworthiness. Lincoln and Guba (1985; see also Nastasi & Schensul, 2005) recommend 10 fundamental techniques to ensure the validity of qualitative findings: (1) prolonged engagement, (2) persistent observation, (3) triangulation, (4) member checking, (5) peer debriefing, (6) negative case analysis, (7) reflexive journal, (8) thick description, (9) audit trail, and (10) referential adequacy. Based on Lincoln and Guba’s guidelines (1985), each phase of the research process (e.g., engagement, data collection, and analysis) was guided by these important criteria.

Data collection for the proposed study arose through a multi-year embedded, participatory consultation process in which the research team developed a working partnership with the school community through application of PCSIM (Nastasi et al., 2004). At the center of PCSIM is the active participation of stakeholders with the shared aim of cultural specificity of consultation efforts. The prolonged engagement with the community and corresponding persistent observations across these years aided in the researcher’s general understanding of the context and in the discernment of typical versus atypical phenomenon. Coding and interpretations were informed by the cultural understanding gained through this partnership and therefore reflect this depth of cultural knowledge.

Moreover, through gathering of various perspectives, inclusion of school foundational documents, and use of multiple sources of data, thick descriptions of context were developed. These comprehensive descriptions enabled the researcher to make inferences that more likely reflected the views of stakeholders while also representing participant perspectives, ideas, and experiences in a comprehensive way that would be more meaningful to an outsider. Descriptions were based on a rich qualitative dataset of
transcribed focus group sessions with teachers and parents, comprehensive individual interviews with key administrators, and written narratives of behavioral incidents occurring through the school-year. Together these data aided the author’s development of thick descriptions of context and findings to transferability by consumers.

Coding procedures and analysis also incorporated processes that ensured the validity and reliability of inferences, including triangulation (use of multiple sources), member checking (confirmation of interpretations with stakeholder representatives), peer debriefing (discussions among research peers and coders regarding analysis and interpretations), reflexive journaling (process notes maintained by the researcher and coding team), and consensus assessment/building (separate coding with follow-up meetings to evaluate initial levels of consensus and to build team consensus) (Nastasi & Schensul, 2005; O’Cathain, 2011). For example, individual coders maintained reflective journals and responded to reflective analytical questions in which thoughts about the coding process, ideas about relevant theory, pertinent questions, participant remarks that represented new or counter perspectives, and coding problems were recorded. Coding teams met weekly to debrief and to plan next steps of coding and analysis. Journal notes and coder reflections were discussed. These regular meetings not only helped maintain focus and progress, but also assured that a harmonic coding process was maintained. Moreover, coder reflections offered insight into patterns, categories and assertions/conclusions arising from the coding process.

At the completion of the first stage of the coding process, the author met with teachers across grade levels to ensure that initial inferences reflected the perspective of the larger school teaching community. Responses were incorporated into the original
narrative dataset. Finally, record of each step of the data collection and data analysis phases was maintained to enable potential replication of the research process as well as third party review. In sum, throughout the qualitative data analysis phase, these methods will ensure that results are credible, dependable, confirmable, and transferable (Lincoln & Guba, 1985).
Chapter 4

Results

In this chapter, the results of quantitative and qualitative data analyses are discussed. First initial quantitative data screening, assumption testing, and preliminary analysis are discussed. After which, results related to each research question are reviewed. Following a congruent mixed method design, quantitative and qualitative results are examined separately.

Quantitative Results

Quantitative analysis investigated the predictive ability of the DESSA-mini in relation to student academic performance and behavior. Three primary questions were addressed: (1) Do teacher reports of social, emotional, and behavioral (SEB) functioning based on the DESSA-mini at beginning of academic year predict student academic outcomes measured by standardized measures of academic skill at end of academic year? (2) Do teacher reports of SEB functioning based on the DESSA-mini predict behavioral outcomes as recorded by composite office discipline referrals (ODRs) at year-end? (3) Do teacher reports of (SEB) functioning based on the DESSA-mini predict school attendance for elementary school students, as reflected in school attendance records at year-end?

Data screening. Prior to conducting statistical analysis, all data were reviewed for accuracy. Data related to all variables of interest were provided to the researcher by the school in a comprehensive spreadsheet in a de-identified format. Data were reviewed for incongruence and cross-verified by the researcher and two research assistants. A complete review of missing data was also conducted. Screening revealed that 3.5%
(\(n=18\)) were missing data on at least one variable. Of the overall sample, 6.86% (\(n=36\)) were missing data on the DESSA-mini, the predictor of interest. Examination of these cases revealed no pattern associated with the missing data. Due to the small amount of missing data relative to the overall sample (\(N=525\)) and to the random nature of the missing data, the decision to use a pairwise deletion procedure through SPSS © (Statistical Package for the Social Sciences, Version 22) was made. In other words, all available data were included, but an estimation technique to replace the missing data was not employed. Instead, missing cases were removed when they existed on the variables under analysis. While pairwise comparison results in slightly different sample sizes depending on the analysis, the results are more representative of patterns seen in the larger sample and therefore the most unbiased representation of the corresponding population parameters (Williams, 2015). Assumptions of univariate normality were also tested by examining skew and kurtosis in each of the study variables (Field, 2009). For scores of academic achievement in math and language arts, skew and kurtosis were within an acceptable range of +/-2 and considered reasonably normally distributed. Office discipline referrals and absences are both zero-bound count variables with positive skew (See Table 7). Consequently, negative binomial regression models, which address over-dispersion, positive skew, and characteristics of count-based data, were utilized for the regression analyses pertaining to these outcome variables.

**Preliminary analysis and descriptive information.** Table 7 presents descriptive statistics, including the mean, standard deviation, observed range, skew and kurtosis of all study variables.
Table 7

Descriptive Statistics Concerning Study Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Range</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>DESSA-mini Raw Score</td>
<td>489</td>
<td>1 to 32</td>
<td>24.61</td>
<td>6.65</td>
<td>-.72</td>
<td>-.21</td>
</tr>
<tr>
<td>Math Achievement (MAP) Raw Scores</td>
<td>491</td>
<td>123 to 239</td>
<td>187.15</td>
<td>19.39</td>
<td>-.28</td>
<td>.29</td>
</tr>
<tr>
<td>Language Arts Achievement (MAP) Raw Scores</td>
<td>503</td>
<td>130 to 229</td>
<td>182.60</td>
<td>19.91</td>
<td>-.15</td>
<td>-.62</td>
</tr>
<tr>
<td>Office Discipline Referrals</td>
<td>525</td>
<td>0 to 85</td>
<td>2.76</td>
<td>6.81</td>
<td>5.79</td>
<td>51.59</td>
</tr>
<tr>
<td>Absences</td>
<td>506</td>
<td>0 to 73</td>
<td>15.37</td>
<td>12.61</td>
<td>1.62</td>
<td>3.36</td>
</tr>
<tr>
<td>Suspensions</td>
<td>525</td>
<td>0 to 3</td>
<td>.04</td>
<td>.24</td>
<td>7.65</td>
<td>69.97</td>
</tr>
</tbody>
</table>

Note. MAP = Measures of Academic Progress (Northwest Evaluation Association; NWEA, 2005). DESSA-mini = Devereux Student Strength Assessment-mini (Naglieri et al., 2011).

For this study, the primary predictor of interest was the DESSA-mini. The SEB functioning of 489 students was rated by teachers using the DESSA-mini at the beginning of the 2014-2015 school-year. Based on DESSA-mini norms (Naglieri et al., 2011), results from the fall administration of the DESSA-mini indicated that 90% percent of the student body demonstrated typical or better SEB skills. Of those students, 48% were rated as Typically functioning, and 42% were rated as possessing Strengths in social, emotional, and behavioral domains. Ten percent (10%) of students at the school were
identified as *Need[ing] Support* or instruction in SEB areas. While the rates of students showing a greater need for support in SEB domains are slightly higher than typically expected, based on traditional response-to-intervention models (5%; Walker et al., 2008), given the high incidence of poverty and the accompanying stressors that this population may experience, the need for additional SEB support may be typical of the local context (e.g., Bell, Verlenden, Swift, Henderson, & Nastasi, 2016). Mean scores on all variables by gender and grade level were also reviewed. On the DESSA mini, male students were rated slightly lower than female students ($M_{\text{males}} = 24.38$, $SD = 6.44$; $M_{\text{females}} = 24.89$; $SD = 6.91$). Scores across genders were relatively equivalent on end-of-year standardized achievement tests in both math and language arts (Math: $M_{\text{males}} = 187.20$; $M_{\text{females}} = 187.20$; Language Arts: $M_{\text{males}} = 181.04$; $M_{\text{females}} = 184.49$). Average office discipline referrals for Male students were two times the average for female students ($M_{\text{males}} = 3.66$; $M_{\text{females}} = 1.69$). Figure 3 illustrates the large difference between male and female ODR incidents. Male students accumulated over 1000 ODRs, more than twice as many ODRs as accrued by females.

![Figure 3. Office Discipline Referrals by Gender.](image)

# of ODRs=Total number of referrals by gender.
Descriptive statistics for all variables by grade level were also calculated. Mean results by grade level are described in Table 8. In summary, average academic achievement scores on assessments of Math and Language Arts increased incrementally each year. No predictable grade-based patterns were revealed in the review of average DESSA-mini scores by grade level, although 2nd grade and Kindergarten students received the lowest average ratings. Average DESSA-mini scores were all within the range of typical SEB functioning for students.

Table 8

*Mean Raw Scores by Grade Level*

<table>
<thead>
<tr>
<th>Grade</th>
<th>Math MAP Scores</th>
<th>Language Arts MAP Scores</th>
<th>DESSA-mini</th>
<th>ODRs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kindergarten</td>
<td>161.63</td>
<td>158.39</td>
<td>22.86</td>
<td>0.52</td>
</tr>
<tr>
<td>1st</td>
<td>179.66</td>
<td>172.58</td>
<td>27.04</td>
<td>1.99</td>
</tr>
<tr>
<td>2nd</td>
<td>186.05</td>
<td>184.70</td>
<td>21.18</td>
<td>2.36</td>
</tr>
<tr>
<td>3rd</td>
<td>195.44</td>
<td>192.77</td>
<td>24.59</td>
<td>4.42</td>
</tr>
<tr>
<td>4th</td>
<td>208.14</td>
<td>202.05</td>
<td>26.94</td>
<td>4.38</td>
</tr>
</tbody>
</table>

*Note.* MAP = Measures of Academic Progress (Northwest Evaluation Association; NWEA, 2005). DESSA-mini = Devereux Student Strength Assessment-mini (Naglieri et al., 2011). DESSA-mini raw score range = 1 to 32. Math MAP score range = 123 to 239. Language Arts MAP score range = 130 to 229. ODR range = 0 to 85.

Finally, notable increases in average ODRs were observed with each increase in grade level. For example, the average number of ODRs accrued for a fourth grade student was eleven times greater than the average ODRs for a kindergarten student. Based on previous research, the types of disruptive behaviors that children engage in may change
over time as children progress through stages of development (Kauffman et al., 2010; Loeber & Farrington, 1998). Older students may demonstrate behaviors that are more disruptive to the learning environment and more challenging to manage within the classroom (Kauffman et al., 2010; Loeber & Farrington, 1998). Additionally, teacher expectations in higher-grade levels may result in less tolerance for disruption. In this study, further discussion about patterns of office discipline referrals will be included in the qualitative section.

![Figure 4](image)

**Figure 4.** Office Discipline Referrals by Grade Level. Total referrals accrued within the school-year by students in each grade level.

**Correlation analysis.** Preliminary zero-order correlations were conducted to identify and evaluate relationships that exist between relevant variables. Specific attention was given to the relationship between the DESSA-mini teacher reports of SEB functioning and targeted outcome variables of standardized academic scores in math and language arts, ODRs, and attendance. However, statistically significant correlations between the DESSA-mini and other study variables are also highlighted. Such statistical significance suggests a confounding variable that may impact the study outcomes.
Statistically significant results are illustrated in Table 9. For this and all further statistical analysis, pairwise comparisons and alpha of .05 were used. Omnibus correlations among all study variables are represented in Appendix A.

Table 9

*Correlation between DESSA-mini Teacher Report on Social, Emotional, and Behavioral Functioning and Universally Collected School-based Student Data*

<table>
<thead>
<tr>
<th></th>
<th>Math MAP Scores Standardized</th>
<th>Language Arts MAP Scores Standardized</th>
<th>Age</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>.193</td>
<td>.115</td>
<td>.098</td>
<td>.120</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000**</td>
<td>.013*</td>
<td>.030*</td>
<td>.008*</td>
</tr>
<tr>
<td></td>
<td>n=456</td>
<td>n=468</td>
<td>n=489</td>
<td>n=489</td>
</tr>
</tbody>
</table>


Statistically significant correlations were found between the DESSA-mini teacher reports of SEB functioning and end-of-year student academic outcomes in both math and language arts. Results demonstrated that the higher the rating of SEB functioning (i.e., the higher or better a student was rated on the DESSA-mini), the higher the student performance on standardized academic assessments at year-end. Specifically, the higher the DESSA-mini rating of SEB competency, the higher the scores in Math $r(456)=.193$, $p<.001$ and in Language Arts $r(456)=.115$, $p=.013$.

Ratings on the DESSA-mini were also positively correlated with age $r(489)=.098$, $p=.03$ and grade level $r(489)=.120$, $p=.008$. These results indicate that as students increase in grade and age, ratings on the DESSA-mini are likely to increase. This result
suggests that teachers are more frequently observing the SEB skills in students that are measured by the DESSA-mini as students grow older and move up in grade level.

Notably, statistically significant correlations were not found between DESSA-mini scores and the number of ODRs accrued over the course of the year or between the DESSA-mini and student attendance (See Table 10). However, statistically significant relationships between ORDs and gender, between ORDs and age, and between ODRs and grade-level were found. Previous research (e.g., Kaufman et al., 2010) suggests strong relationships between ODRs and gender and noticeable patterns in ODRs by student age and grade (Kaufman et al., 2010). Because of the importance of discipline referral patterns to the present study, the statistically significant relationships found between ODRs and other variables is highlighted in Table 10 and is discussed in later sections.

Table 10

Correlation between Office Discipline Referrals and Universally Collected School-based Student Data

<table>
<thead>
<tr>
<th></th>
<th>Gender</th>
<th>Suspensions</th>
<th>Age</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>-.144</td>
<td>.312</td>
<td>.238</td>
<td>.209</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.001**</td>
<td>.000**</td>
<td>.000**</td>
<td>.000**</td>
</tr>
</tbody>
</table>

Note. N=525. *p=.05 **p<.001. Gender variables were dummy coded with Males=0 and Females=1.

Results illustrate that females are less likely to receive an office discipline referral than males $r(525)=-.144, p=.001$. Higher numbers of office discipline referrals are also associated with suspensions $r(525)=.312, p<.001$. Finally, both grade and age-level are associated with ODRs, $r(525)=.238, p<.001$ and $r(525)=.209, p<.001$, respectively.
These results indicate that the likelihood of receiving an office discipline referral increases as students matriculate to higher grades, and older students are also more likely to receive office discipline referral.

In sum, correlational analysis revealed a positive relationship between SEB functioning and academic performance, which is in accordance with research around SEB competence and academics (Elias & Leverett 2011). Such research has reported the positive relationship between SEB competence and educational success (e.g., Dwyer & Van Buren, 2010; Eklund et al., 2009). It is imperative to note that correlation analysis did not reveal a relationship between SEB functioning and the behavioral outcomes assessed in this study (i.e., ODRs and attendance). The lack of significance was surprising to the author, since research suggests a strong positive relationship between SEB competence and behavioral outcomes (Rimm-Kaufman, Curby, Grimm, Nathanson, & Brock, 2009). The outcome found in these preliminary correlation analyses are explored further in the following sections.

**Hypothesis 1.** To test the hypothesis that students with higher DESSA-mini scores, indicating greater strength in measured areas of SEB competency, would perform better on standardized measures of academic skill (i.e., end-of-year standardized results on math and language arts achievement tests), separate stepwise, hierarchical regression analyses were conducted, controlling for student gender and age. Results are illustrated in Table 11 and Table 12. The DESSA-mini was found to predict outcomes in mathematics, controlling for both gender and age differences in performance. However, the DESSA-mini was not found to be able to account for variations in language arts performance. Gender did not significantly account for variations in academic performance. However,
student age in years accounted for significant differences in both mathematics and language arts.

Table 11

*Regression Analysis Predicting Math Performance from the DESSA-mini*

<table>
<thead>
<tr>
<th>Step and Predictor</th>
<th>$\Delta R^2$</th>
<th>$B$</th>
<th>$SE B$</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>.506</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Gender</td>
<td>.009</td>
<td>.065</td>
<td>.005</td>
<td></td>
</tr>
<tr>
<td>Student Age</td>
<td>.444</td>
<td>.021</td>
<td>.711**</td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td>.013</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Gender</td>
<td>-.003</td>
<td>.064</td>
<td>-.002</td>
<td></td>
</tr>
<tr>
<td>Student Age</td>
<td>.436</td>
<td>.020</td>
<td>.699**</td>
<td></td>
</tr>
<tr>
<td>DESSA-mini</td>
<td>.017</td>
<td>.005</td>
<td>.115**</td>
<td></td>
</tr>
</tbody>
</table>

*Note. n=455. *p=.05 **p<.001. MAP = Measures of Academic Progress (Northwest Evaluation Association; NWEA, 2005). DESSA-mini = Devereux Student Strength Assessment-mini (Naglieri et al., 2011).*
Table 12

*Regression Analysis Predicting Language Arts Performance from the DESSA-mini*

<table>
<thead>
<tr>
<th>Step and Predictor</th>
<th>$\Delta R^2$</th>
<th>B</th>
<th>SE B</th>
<th>ß</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>.337</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Gender</td>
<td>.119</td>
<td>.076</td>
<td>.059</td>
<td></td>
</tr>
<tr>
<td>Student Age</td>
<td>.366</td>
<td>.024</td>
<td>.576**</td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td>.003</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Gender</td>
<td>.114</td>
<td>.076</td>
<td>.057</td>
<td></td>
</tr>
<tr>
<td>Student Age</td>
<td>.362</td>
<td>.024</td>
<td>.570**</td>
<td></td>
</tr>
<tr>
<td>DESSA-mini</td>
<td>.008</td>
<td>.006</td>
<td>.051**</td>
<td></td>
</tr>
</tbody>
</table>

*Note. n=467. *p=.05 **p<.001. MAP = Measures of Academic Progress (Northwest Evaluation Association; NWEA, 2005). DESSA-mini = Devereux Student Strength Assessment-mini (Naglieri et al., 2011).*

**Hypothesis 2.** Hypothesis 2 predicted that students with lower scores on the DESSA-mini (fewer SEB competencies) would have higher rates of ODRs (poorer behavioral functioning). To explore this relationship a negative binomial regression model was used. The number of ODRs is a count variable with a negative skew. Negative binomial regression allows for the modeling of non-normal distributions of outcome variables and is recommended for use with over-dispersed count data with high numbers of zero counts (Zeileis, Kleiber, & Jackman, 2008). Using the negative binomial regression model the ability of the DESSA-mini to predict office discipline referrals was investigated along with potential interactions and confounds including
gender, age, and homeroom. (Homeroom teachers provide student ratings on the DESSA-mini and determine student ODRs.) The test of model effects revealed that both gender and age significantly predicted the number of office discipline referrals accrued, \( p<.001 \). A statistically significant interaction effect was also found between DESSA-mini and homeroom with \( p<.001 \). The significant interaction effect indicates that the relationship between ratings on the DESSA-mini and ODRs significantly varies by homeroom.

Table 13

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Wald Chi-Square ( \chi^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>39.890**</td>
</tr>
<tr>
<td>Homeroom</td>
<td>92.956**</td>
</tr>
<tr>
<td>Age</td>
<td>32.824**</td>
</tr>
<tr>
<td>DESSA-mini</td>
<td>1.054</td>
</tr>
<tr>
<td>Homeroom by DESSA-mini</td>
<td>93.594**</td>
</tr>
</tbody>
</table>

Note. DESSA-mini = Devereux Student Strength Assessment-mini (Naglieri et al., 2011). \( n=447, df_g=1, df_h=19, df_a=1, df_d=1, df_{dh}=19 \). **\( p<.001 \)

**Hypothesis 3.** The third hypothesis was that students rated lower on the DESSA-mini (fewer SEB competencies) would have higher rates of school absence. A separate negative binomial regression model was used to investigate the DESSA-mini’s ability to predict total absences by year-end. However, results indicated that ratings on the DESSA-mini did not significantly predict student absences.

**Intraclass correlations.** The nested nature of school data (i.e., students in classrooms at various grade levels) suggests the need to investigate variance that can be
attributed to the nesting, in this case differences that exist at the classroom/teacher level (Hox, 2012; Luke, 2004). Multilevel modeling provides information that allows researchers to determine the degree of non-independence in a variable and thus to examine whether between-teacher (or classroom level) differences may account for variance among variables of interest. To assess this relationship, post hoc intraclass correlation coefficients (ICCs) were calculated using a multilevel model. ICCs provide information that tells us whether the variables of interest vary systematically between teachers and estimate the degree of nonindependence (Raudenbush & Bryk, 2002). ICCs were calculated for both academic outcome variables (i.e., math achievement scores and language arts achievement scores), for ODRs, as well as for the main predictor variable of the study—DESSA-mini teacher reports of student SEB functioning. Results of the separate estimations of classroom-level variance are discussed in subsequent sections.

**Academic performance.** Results of ICC calculations suggest significant variance in math and language arts performance that may be attributable to classroom-level/teacher differences. An ICC of .661 ($u=.686, r=0.351, p=<.001$) was calculated for math achievement scores. This can be interpreted as 66.1% of differences in student math outcomes explained by differences at the classroom or teacher level. An ICC of .499 ($u=.513, r=0.515, p=<.001$) was calculated for language arts scores, which indicates that 49.9% of differences in student language arts outcomes can be explained by differences at the classroom or teacher level.

**Social emotional and behavioral functioning.** The ICC for office discipline referrals (ODRs) was .033 ($u=1.573, r=44.944, p=.001$). Although significant, ICC of .033 suggests that only 3% of variance in discipline referrals can be attributed to
teacher/classroom level differences. An ICC was also calculated for the DESSA-mini. The DESSA-mini ICC for this population was .134 ($u=5.9573$, $r=38.459$, $p=<.001$), which indicates that 13.4% of variability in DESSA-mini scores can be attributed to differences between raters.

Research suggests that when the ICC exceeds .05, multilevel modeling may be useful to best estimate variance and error; however, to be of practical use, an ICC of at least .2 indicating that 20% or more of the variance is attributable to level two characteristics warrants use of a multilevel model (Hox, 2012). While outside the parameters of this study, exploration into characteristics of teachers and classrooms that may contribute to the variance seen in these variables (especially in teacher ratings on the DESSA-mini) would be worthy of future research.

**Qualitative Results**

Teacher and parent focus group transcripts, administrative interviews, office discipline referral descriptions, and school documents provided rich information about the social, emotional, behavioral, and academic competencies valued within the context of the school environment. Three primary questions were addressed using these data: (1) What do teachers, administrators, parents, and school artifacts (i.e., documents describing school values, routines, and procedures) describe as valued social, emotional, and behavioral competencies for elementary school children? (2) How do patterns of behavioral infractions reflected in office discipline referrals (ODRs) correspond to the domains of competence identified as relevant by teachers, administrators, and parents and the domains of SEB competence measured by the DESSA-mini? (3) Do the domains of
social, emotional, and behavioral competence as measured by the DESSA-mini correspond to valued SEB competencies identified by school stakeholders?

Table 14 identifies qualitative data that was used in analysis to address each qualitatively oriented research question. Results of analysis associated with qualitative research question one are also used in analyses associated with qualitative questions two and three.

Table 14.

*Data Utilized for Qualitative Inquiry*

<table>
<thead>
<tr>
<th>Qualitative Research Question</th>
<th>Data Used in Analysis</th>
</tr>
</thead>
</table>
| **Question 1.** What do teachers, administrators, parents, and school artifacts (i.e., documents describing school values, routines, and procedures) describe as valued social, emotional, and behavioral competencies for elementary school children? | • Focus groups (teacher and parent)  
• Individual interviews (administrators)  
• School artifacts (messaging on walls, school routines and procedures) |
| **Question 2.** How do patterns of behavioral infractions reflected in office discipline referrals (ODRs) correspond to the domains of competence identified as relevant by teachers, administrators, and parents and the domains of SEB competence measured by the DESSA-mini? | • Database of office discipline referral descriptions  
• Identified valued competencies based on qualitative data analysis |
| **Question 3.** Do the domains of social, emotional, and behavioral competence as measured by the DESSA-mini correspond to valued SEB competencies identified by school stakeholders? | • Identified valued competencies based on qualitative data analysis  
• DESSA-mini Form 1 questions |

*Note.* DESSA-mini = Devereux Student Strength Assessment-mini (Naglieri et al., 2011).

**Valued competencies.** To identify the valued competencies teachers, administrators, parents hold for students, focus group transcripts, administrator interviews, and school artifacts (i.e., documents describing school values, routines, and
procedures) were analyzed. For this study, valued competencies referred to skills, abilities, and capacities identified by teachers, administrative personnel, and parents as important or expected in children. As explained in the methods section, valued competencies were identified through an inductive coding process in which specific social, emotional, and behavioral expectations as well as general academic expectations were identified, grouped, and categorized. The following section describes results of qualitative analysis by type of data. Results of focus group analysis are discussed first. Secondly, results of analysis of administrative interviews and school artifacts are reviewed.

**Focus group results.** Through inductive-oriented analysis of the transcripts of two teacher focus groups, one parent focus group, and notes from three member checking meetings, twelve valued competencies were identified. Table 15 provides an overview of the identified competency categories including descriptions of each competency derived from stakeholder language.

Table 15

**Inductively Derived Competency Themes**

<table>
<thead>
<tr>
<th>Valued Student Competency</th>
<th>Focus Group Descriptors of Competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellence</td>
<td>Putting forth best effort, working to one’s level and potential, taking time on work (not rushing), showing academic maturity by working at a higher level if possible, following through with tasks</td>
</tr>
<tr>
<td>Engagement</td>
<td>Focusing on tasks, participating in activities, showing eagerness to learn, actively listening</td>
</tr>
<tr>
<td>Persistence</td>
<td>Working hard, embracing challenges, continuing to try when the task is difficult, working through a challenging situation</td>
</tr>
<tr>
<td>Responsibility</td>
<td>Doing the work, doing one’s homework, completing assignments, working at the appropriate time, accepting responsibility for actions (e.g., behaviors)</td>
</tr>
<tr>
<td>Competency</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Assertion</td>
<td>Giving things a try, taking risks (appropriately), verbally or behaviorally expressing a desire to succeed</td>
</tr>
<tr>
<td>Independence/Autonomy</td>
<td>Working independently, self-sufficient on tasks, self-assigning when work is complete/waiting for teacher</td>
</tr>
<tr>
<td>Collaboration</td>
<td>Working as a team, learning from each other, listening when others are talking (including other students), helping teammates on tasks</td>
</tr>
<tr>
<td>Communication</td>
<td>Expressing oneself, advocating for oneself, asking for help when needed, expressing feelings and emotion</td>
</tr>
<tr>
<td>Self-regulation</td>
<td>Managing emotions (e.g., anger), showing patience, thinking through feelings before acting upon them, maintaining physical control in class, not talking out</td>
</tr>
</tbody>
</table>
| Compliance        | 1) Follows rules: Following classroom rules, following school rules, following directions, following instructions the first time, cooperating with teachers  
                      2) Fixes behaviors: Changing behaviors upon correction |
| Generosity        | Helping one another, sharing without prompting |
| Kindness          | Showing kindness in interactions with peers and teachers, being friendly, helping others |

*Note.* Competencies identified in this table are based on inductive analysis of focus group sessions with teachers and parents and incorporate stakeholders’ words.

In this section, each competency is highlighted with selected quotes that reflect the competency. Quotes were selected on the basis that they would aid in the reader’s understanding of how stakeholders originally described competencies and thus how the competency categories emerged. Competencies that are more related to academic outcomes are presented first. Then, competencies more associated with social, emotional, and behavioral (SEB) outcomes are discussed. SEB competencies impact and overlap with academic outcomes and as such those competencies are seen as related to academics. However, certain competencies were discussed by stakeholders strictly in relation to academic performance, therefore some distinction is appropriate.
Excellence. In discussions around expectations of children, teachers and parents referred frequently to academic excellence and high standards of academic performance. Excellence was defined by stakeholders as a student putting forth one’s best effort, working to one’s level and potential, taking time on work (not rushing), showing academic maturity by working at a higher level if possible, and following through with tasks. One teacher explained, “I expect kids to do their best and by best I mean put forth whatever effort they have in them toward a given task, be it behavioral or academic.” Another said, “I expect kids to grow, to make progress that is appropriate to their level and their skills.” Another teacher explained further, “But also no matter what work I put in front of you, I’m not going to give you things that are impossible, but I expect you to at least try. And to do your best.” Parents also prioritized excellence. One parent remarked, “I expect my son to excel. If you get a B, I don’t really appreciate that.” Regarding his two children a parent said, “I expect greatness from them. They don’t have any excuse.” Another parent added, “[I want my daughter] to learn to the best of her ability. I don’t really like to compare her to anybody else, because everybody is their own individual, so I feel like as long as she is learning to what I know as a parent, she is capable of learning to, then I’ll be fine with it.” And another added gender specific reference to excelling in STEM subjects, “I expect my daughters to excel in math and science.”

Engagement. Teachers expressed the desire to see children engaged academically. One teacher stated, “I expect students to be eager to learn, like they want to be here at school and they want to learn.” Another teacher remarked, “I expect students to love learning, and [I expect them] to want to engage with what they are doing, to be excited
about it…”. Research literature in education suggests that academic engagement may be defined as a dimensional concept that includes cognitive, behavioral, and emotional aspects (e.g., Davis, 2010). Teachers participating in this study defined engagement as student behaviors associated with a local (school-based) definition of active learning including focusing on tasks, participating in activities, and showing eagerness by giving full attention to lessons and asking and answering questions. Parents did not specifically reference engagement.

Persistence. Guilford (1959) defines persistence as a quality that allows someone to continue doing something or trying to do something even though it is difficult or opposed by other people (Gustafson & Norlander, 1996). In this study, teachers placed value on characteristics associated with persistence such as working hard and continuing to try. One teacher noted, “I think it is important that they [students] are used to solving problems and not expecting everything to be perfect….” Another associated persistence with growth mindset (Dweck, 2015), “I want them to have that growth mindset where they know that failing and/or getting things wrong is actually good and being able to learn from and want to learn from those mistakes.” Grit has also become a popular term affiliated with persistence and one teacher made that connection (Bowman, Hill, Denson, & Bronkema, 2015). “And not only desire but the grit and the idea of not being discouraged when [learning] takes a while.” Another teacher elaborated, “I would say just understanding that mistakes, or shortcomings, or challenges, or failures are part of the process to the end goal and so seeing them as a chance to continue to work at meeting the goal and sort of seeing it, embracing it as a chance for me to get smarter, so I’m going to keep working hard.” Finally, another teacher noted that by sharing ways in which
persistence paid off in their own lives can benefit students, “Yeah, because it’s really easy for them to sort of get discouraged and you just have to… share something that happened to you. I wasn’t always really good at writing, but, you know, a teacher pushed me, and they said I could do it, and so I did it, and now I’m really good at it. They like to know that you weren’t always perfect. You practiced, a lot.” Parents did not refer to qualities associated with persistence.

Responsibility. Both teachers and parents endorsed responsibility as a valued competency. In this set of data, responsibility was most readily defined in academic terms as children doing their work, completing assignments, and working at appropriate times. Behavioral responsibility was also endorsed by teachers and described as students accepting responsibility for actions. One teacher summarized, “So responsibility is doing your work and staying in class and going to the bathroom and coming back quickly.” A fellow teacher explained, “I have the same expectation for all of my kids that they’re going to do the work.” Another added, “You come into class and there’s a Do Now. You come in; you get to work right away. When it’s work time, it’s work time.” Parents also endorsed being responsible. Their endorsements most often related to household duties and chores. One parent explained, “At home I have tried to teach them chores and cleaning and helping in the house, so they learn to be responsible for what they do.” Other parents also mentioned “cleaning up after play” and “cleaning one’s room” as important.

Assertion. Teachers and parents endorsed skills associated with assertiveness. For instance, students were expected to give things a try and to take academic and appropriate social risks. One teacher explained the importance of assertiveness and its association to
academic performance and learning, “[Students need] to take risks, you know because that’s where they are going to learn…”. Parents also endorsed leadership competencies that the present author associated with assertion. One parent remarked, “I expect my son to be a leader.” Another concurred, “I expect my daughters to be leaders.” And another added, “I don’t want her to be a follower.” Another explained, “I tell her she has to stand up for herself.”

*Independence/Autonomy.* Teachers described valued competencies associated with independence and autonomy in relation to academic work and performance. These behaviors included comfort working independently and demonstrations of self-sufficiency on tasks. Teachers remarked that they expected students to “…have some self-independence” and “…to have autonomy and agency in the classroom.” In further explanation, one teacher said, “Teachers are guiding them and giving them a daily checklist or checking in more often or breaking up the weekly packet into sections, or whatever it is. They [Students] need to progress to be able to do things independently.” Likewise, parents endorsed the notion of independent thought. One parent said, “I have two daughters. I expect them to be free thinkers in both school and at home.”

*Collaboration.* Teachers expressed that collaboration was expected in students. At the school, students often work in teams and as a larger team. Students refer to one another as teammates and are described as members of a team. One teacher summarized this expectation, “… that they are a community and that this is teamwork, you know that we’re here to support everybody, to learn from everybody, but more that they’re, and also that they’re—it’s really important for them and their community to be united.” During member checking sessions, teachers added that working as a team was important to the
learning community at the school. Students were expected to learn from each other, to help one another on tasks, and to demonstrate comfort learning collaboratively. Collaboration and teamwork were not competencies mentioned by parents.

*Communication.* The valued competency of communication was defined in relation to both academic and social emotional aspects of competence. Communication was described as expressing oneself in general as well as expressing one’s feelings and emotions. It also included advocating for oneself and asking for help (academic and emotional) when needed. Parents explained that they valued, encouraged, and expected that their children communicate. For example, one parent noted that with her child she instructed the child to “relate to the teacher and tell [him/her] what is going on with you.” Another parent followed this remark noting the importance of communication in problem solving and stating, “Communication is the key [to working out problems].” In the initial focus group sessions with teachers, communication skills did not arise as a valued competency. However, during member checking sessions, teachers added the skill and specifically explained that they expected students to learn to advocate for themselves, to ask for help, and to express their feelings and emotions. This addition coincided with teacher remarks related to restorative conversations that took place at the school. These restorative conversations were aimed at helping students discuss and work through problem behaviors. One teacher described a restorative conversation in this way: "[A restorative conversation] gets them to self-reflect. As that becomes habit, they [students] start to think of those things on their own, or that’s the expectation. You know, they start thinking. How did I feel? Well, I was angry. Why did you do what was not supposed to be done? Or did you feel like it was someone else and you got blamed for it."
Self-regulation. Teachers spoke of behavioral competencies associated broadly with self-regulation including managing emotions (e.g., anger), “showing patience,” thinking through feelings before acting upon them, maintaining physical control in class, and “not talking out”. One teacher spoke directly about emotional management, "managing anger and not having it build up." Parents did not refer to self-regulation during the focus group discussion.

Compliance. Two primary categories or subthemes relating to compliance emerged (a) follows rules and (b) fixes behaviors. First teachers brought up the importance of students following classroom rules, school rules, and teacher directions. One teacher stated directly, "I expect kids to follow rules." Another added, “The expectation for my kids is to follow the directions the first time, like most teachers.” A third teacher added nuance to the expectation “I expect kids to follow directions that contribute to their learning and wellbeing.” And a fourth teacher stated, "It's great if they just listen, and take your advice, because then they're not going to make a mistake, and be like 'oh, you didn't tell me.'" One teacher explained that such expectations, while universal, were also tailored to meet the needs of specific students, “I think behaviorally as well, we’ve done a really good job of all kids have the same behavioral expectations. It’s just that they might have a different level of getting to those expectations. Like certain kids might have extra chances before they lose a dollar, but they’re still expected to do the behavior and to fix it.”

As noted in this last quote, fixing behaviors also arose as a subtheme related to compliance. The ability to comply with rules and instruction is valued. However, when students are not doing so and are redirected to change their behaviors, students have the
opportunity to fix their behavior in compliance with the rules. Fixing it was associated with both academic and behavioral expectations. One teacher explained the concept from an academic perspective, “If they come across something they’re going to say, ‘well how do I fix it?’ because that’s always a big thing.” Another teacher uses collaborative problem solving to help children who may be showing emotionally difficulty to address or fix problems, “seeing if we can fix the problem together is generally what I do...” Finally, a teacher elaborated on the need for students to fix it in terms of behaviors and redirection, “Sometimes it’s like a fix it, remind yourself...”. This reference indicated the association of fix it to compliance yet also referred to the ability to learn from one’s mistakes.

Parents also referenced compliance as a valued competency, “In the community, I just want her to know that if you are a part of the community you have to do your part, so you have to make sure you live about the rules...”. Another parent added, “not to get into things that you are not suppose to do.”

Kindness. Teachers expressed an expectation for students to show kindness in interactions with peers and teachers and to be friendly. In summary, a teacher explained, “I want, in terms of interactions with other teammates and what goes on in the classroom, just a general kindness, is what I want, you know from every student.” Likewise, parents endorsed the valued competence of kindness through an extended discussion on the prevention of bullying and the desire for their own children to be treated in kind ways.

Generosity. Teachers also endorsed generosity as a valued competency, which was described as helping one another and sharing without prompting. One teacher defined the term in the context of the school environment, “Generosity is, you know,
someone doesn’t have a pencil so you loan them a pencil so everyone can continue working.”

**School artifacts and administrative interviews.** School artifacts including documented school-wide routines, procedures, statements of school values, and messaging on walls and bulletin boards, as well as three administrative interviews were reviewed for their endorsement of the valued competencies identified by teachers and parents. No direct question regarding child competencies were asked during administrative interview sessions. For administrators the PCWBG protocol focuses on the role of the school in cultivating well-being of children. Consequently, administrative interviews were viewed as support documents, and the absence of discussion regarding competency was not interpreted as lack of endorsement. Instead, competencies reflected in school documents were viewed as more salient. These documents reflect student expectations and have been endorsed by administration. As such these artifacts serve as a representation of expectations of students from a school-wide perspective. Therefore, these documents, along with slogans and other prominent messaging on school walls and bulletin boards, were included in analysis to provide the author with a comprehensive understanding of school-wide expectations for students and the related valued student competencies.

All the valued student competencies revealed in focus group sessions were reflected in school artifacts. In many instances, school artifacts expanded upon the author’s understanding of the competencies identified in focus group discussions. Some artifacts, such as one of the policy and procedure documents, provided descriptions of expected student behaviors that the author associated with specific competencies.
16 describes ways in which each competency was reflected in school artifacts and
demonstrates consensus of the value across the school.

Table 16

*Valued Student Competencies Reflected in School Artifacts*

<table>
<thead>
<tr>
<th>Valued Competency</th>
<th>Reflection of Competency in Artifacts</th>
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</thead>
<tbody>
<tr>
<td>Excellence*</td>
<td>Phrases associated with high achievement (e.g., college bound) are posted in teachers’ classrooms and along hallways. The school recognizes student academic achievement in daily announcements and with classroom celebrations related to student progress.</td>
</tr>
<tr>
<td>Engagement*</td>
<td>Enthusiasm is a core value and associated with engagement (i.e., enthusiasm about learning). Expected student behaviors associated with engagement include a prescribed learning position: sit up straight, pay attention, ask and answer questions, and respond appropriately.</td>
</tr>
<tr>
<td>Persistence*</td>
<td>Phrases related to persistence are posted on walls throughout school hallways and in rooms. Commonly posted phrases include: “We can do hard things.” “You can. You will.” “Work hard.”</td>
</tr>
<tr>
<td>Responsibility*</td>
<td>Messaging on walls of hallways and rooms include phrases such as “Care for the school environment by keeping it clean” as well as the word “RESPONSIBILITY.”</td>
</tr>
<tr>
<td>Assertion</td>
<td>In school routines and procedures, students are directly asked to check restrooms when going on their own and to report anything unusual (playing, bullying, trash, graffiti, etc.). Reporting demands a level of assertiveness and thus appears to endorse this competency. Other messaging along school walls reflecting assertion includes, “Build a better tomorrow.” “Make this world a better place.”</td>
</tr>
<tr>
<td>Independence/ Autonomy</td>
<td>Messaging on walls includes phrases such as “What do you think?” and “You are the author of your own story.”</td>
</tr>
<tr>
<td>Collaboration</td>
<td>Messaging on walls includes phrases such as “We are team &amp; family.” In school routines and procedures, students are encouraged to celebrate other students who receive positive referral or in-class accolades.</td>
</tr>
</tbody>
</table>
| Communication           | Messaging on walls includes phrases such as “If we need help, we
ask.” This expectation is outlined in school artifacts with phrases such as “When called upon, use a loud and proud voice.”

Self-regulation
Outlined in artifacts with expectations for students: “Meet voice level expectations.” “Raise a proud hand.” “Calm body and voice.”

Compliance
1) Follows rules: Outlined in artifacts with student expectations such as “Follow directions.” “Respond appropriately to signals for attention.”
2) Fixes behaviors: Outlined in artifacts with student guidelines for responding to correction. “When corrected/redirected by teachers, respond with polite words and comply.”

Generosity*
Reflected on walls with phrases such as, “If a teammate needs help, we give.”

Kindness
Messaging on walls and school t-shirts worn by staff reflect this competency: “Show kindness to other students.” “Be nice.”

Note. *Listed as a core value by the school. Because of the identifying nature of the school values, the values statement is not quoted directly.

Three additional competencies were identified in the review of school artifacts—safety, orderliness, and respect. Table 17 provides descriptions of these additional competencies based upon child expectations explicitly outlined in school artifacts.

Table 17

Additional Valued Student Competencies Reflected in School Policy

<table>
<thead>
<tr>
<th>Valued student competency</th>
<th>Descriptors of Competencies based on School Artifacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety</td>
<td>Behave in a manner that maintains the safety of oneself and others</td>
</tr>
<tr>
<td>Orderliness</td>
<td>Maintain orderly physical appearance and orderly behavior by lining up as instructed, walking indoors, and keeping materials neat and tidy</td>
</tr>
<tr>
<td>Respect</td>
<td>Engage in courteous interactions with peers and school staff. Use language that reflects respect when interacting with peers and school staff.</td>
</tr>
</tbody>
</table>
Note. School artifacts included procedures and routines outlined in school policy documents.

Safety and orderliness were prominent themes arising from school documentation. Such a focus makes sense in light of research on school climate. An orderly and safe environment that is conducive to teaching and learning is a key dimension of effective schools and a priority for educators (Marzano, 2003). Research has shown strong associations between orderliness and a student’s sense of safety within the school (e.g., Welsh, 2000). Higher perceptions of safety are also correlated with lower rates of misconduct and victimization as well as higher achievement. Therefore, it is not a surprise that the need for safe and orderly student conduct was expressed overtly in school documentation.

For many years, order and safety have been a priority in schools. Going back to 1997, the 104th Congress with the guidance of the National Education Association put forward a “Quality Public Schools Agenda.” The agenda targeted four prime action objectives of which “Safety and Order in Every School” is one. Moreover, safety and order arose as a point of discussion during the parent focus group session. Parents did not speak of these two concepts in relation to expected competencies of children, but as instead as the responsibility of the school to create such an environment. One parent remarked on the importance of safety explaining that she wanted her daughter “to feel safe and be in a safe environment, it is number one.” For a school to create a safe and orderly environment, the author of this study surmises that the school would therefore value safe and orderly conduct in students. This conclusion was explicitly supported in all school artifacts.
Finally, students are expected to speak with peers, teachers, and staff in a courteous and respectful manner. Specific guidelines for appropriate response to correction and appropriate words to use in interactions with school staff are provided in school documents. Use of phrases such as “thank you” and “please” as well as “Yes, Sir,” “Yes, Ma’am,” and “Yes, Mr. Mrs. Miss, Ms. (Surname)” are expected and noted in school guidelines. While the use of sir and ma’am may be considered outdated in many areas of the United States (US), individuals in the Southern US frequently use the terms when communicating with elders (Angier, 2010) and consequently use of such terms and phrases has local and contextual relevance. Additionally, in 1999, Louisiana passed a public school courtesy law (R.S. 17:416.12) outlining appropriate language for use by students when speaking to school personnel and incorporating this cultural norm.

When any public school student is speaking with any public employee while on school property or at a school sponsored event, such student shall address and respond to such public school system employee by using the respectful terms “Yes, Ma’am” and “No, Ma’am” or “Yes, Sir” and “No, Sir” as appropriate or “Yes, Miss, Mrs., or Ms. (Surname)” “Yes, Mr. (Surname)” or “No, Mr. (Surname)” each such title to be followed by the appropriate surname. (R.S. 17:416.12)

Accordingly, all Louisiana school boards must provide for these requirements to be included in school discipline policies and codes of conduct. Furthermore, disciplinary actions for students who fail to comply with these requirements must be outlined in all public school policies. Consequently, use of such terminology to represent respect to adults is commonplace for the local context. Other phrases posted along the hallways
and in classrooms of the participating school also indicate the importance of respect as a valued student competency. Messages encourage respect of oneself, respect for each other, as well as respect for school materials (e.g., *Respect the Tech*).

In summary, transcripts from teacher and parent focus groups, individual interviews with administrators, and school artifacts reflecting routines and procedures and school messaging were analyzed to identify student competencies valued by school stakeholders. Through analysis, fifteen primary competencies were identified. These competencies were described by teachers and parents and were found to be reflected in school documentation and in discussions with school leaders.

**Patterns associated with office discipline referrals.** To investigate ways in which the patterns of behavioral infractions reflected in ODRs correspond to the domains of competence identified as relevant by teachers, administrators, and parents, narrative descriptions of ODR incidents were coded through an inductive/deductive process. ODRs were recorded at the school on a standardized form. These referral forms were completed any time a teacher or staff member referred a student out of the classroom for disciplinary action. The form included (a) the student’s name and grade level, (b) the date and time the incident occurred, (c) the name of the referring individual, and (d) a description of the incident. This data was recorded in a comprehensive spreadsheet and maintained for record review and decision-making by the school-based intervention and mental health support team. For this study, the author utilized the de-identified narrative ODR data maintained in the comprehensive spreadsheet.

A total of 1449 de-identified ODR descriptions were reviewed. These ODRs were accrued by students over the course of the 2014-2015 school year between August and
June. To organize and inform the qualitative analysis process, quantitative descriptive analysis was initially utilized. This additional quantitative analysis included exploration of frequencies and grade-level means, some of which are presented in the previous section and reviewed here to provide a general picture of the data. As described in the quantitative section, students in lower grades accrued fewer ODRs. Kindergarten students accounted for 4% of the total ODRs accrued across the school year. First grade students accounted for 14% of ODRs accrued; second grade, 18%; third grade, 31%; and fourth grade, 34%. A majority of the student population (58%) accrued zero ODRs during the year. Figure 5 and Figure 6 represent frequency patterns identified within the ODR data.

Figure 5. Frequency of Office Discipline Referral. Frequency represents total Office Discipline Referrals (ODRs) accrued in a school-year.

ODR data is often used to assess school climate patterns, to inform school decisions at the individual, group, and system level, and to plan interventions and
supports. As such ODR data may be viewed from a tiered perspective to indicate the proportion of students experiencing greater discipline problems (Everett et al., 2011; Kauffman et al., 2010; Sprick & Garrison, 2008; Sugai & Horner, 2009). Congruent with a tiered assessment of student needs, a four-tiered model best represented levels of ODR accrued for this study. The average number of ODRs was slightly below 3 \((m=2.8)\) with a standard deviation of 6.8. In the following figure, Tier 1 reflects students who accrued at or below the mean number of ODRs, rounded to 3. Tier 2 reflects students who accrued more than 3 ODRs but are within one standard deviation above the mean (4 to 10 ODRs). Tier 3 reflects those students who accrued 11 to 16 ODRs, which represents one to two standard deviations from the mean. Finally, Tier 4 represents the number of students whose ODR totals are greater than two standard deviations from the mean (more than 16).

Figure 6. Tiered Representation of Student Office Discipline Referrals. This tiered model of discipline referrals is based on multi-tiered systems of support (MTSS) and response-to-intervention (RTI) frameworks as applied to the implementation and evaluation of school-wide positive behavior intervention and supports SWPBS (e.g., Everett et al., 2011; Sprick & Garrison, 2008; Sugai & Horner, 2002)
The divisions represented in Figure 6 follow RTI models associated with the implementation of positive behavior support in schools (Sugai & Horner, 2009). In typical models one may expect 80% to 90% of the student population to respond to universal interventions and thus 80% or more students demonstrating behaviors compliant with school expectations. In the model depicted in Figure 6, which represents the local school context, 80% of the student body received at or below the mean number of ODRs for the year. This is congruent with Tier 1 expectations from research across the United States and suggests that school-wide behavioral policies are working to maintain behavioral expectations for a majority of the student body. The frequency of ODRs associated with Tier 2 (11% of the student body) may indicate the portion of students who may need a secondary level of support and additional social, emotional, and behavioral skill instruction. Based on this analysis of ODR data, approximately 8% of the student population (Tiers 3 & 4) are not adequately responding to school-wide positive behavior support practices in the classroom, as reflected by their frequency of office referral. The behavior patterns associated with Tier 3 and Tier 4 indicate that these students may require more intense, durable intervention in order to meet expectations and to demonstrate valued competencies.

*Types of discipline referral.* The researcher chose an inductive process for the coding of the behavioral data similar in format to the inductive process of coding of focus group narratives. This study aims to identify valued social, emotional, and behavioral competencies at the local level. Therefore, the author believed that application of an inductive process would best reflect the association between student behavioral problems
and desired competencies. However, although categories were derived inductively, current research on patterns of discipline referral and categories of discipline problems informed the author’s choice of labels and the classification process.

Coding involved the following steps. First, key words associated with the primary problem behaviors from each ODR narrative were identified. Second, these key words were classified into groups of similar behaviors. For example, hitting, pushing, and kicking were grouped together and titled physical aggression. Each referral was then recoded to reflect these categories. Categories were informed by current research on the analysis of behavioral data and were congruent with categorization used by other authors conducting research on student behavior patterns and discipline (e.g., Putnam et al., 2003). However, the author’s inductive process revealed more nuanced patterns in the data than would have a strict deductive process, which would have resulted in larger categories that encompassed wider ranges of behavior. Therefore, the inductive process gave the author a more comprehensive understanding of the behavioral patterns of students served by the school.

Using this inductive and deductively informed method, seven primary types of behavioral infractions were identified. During coding, some ODR descriptions did not offer a simple, single problem for which the student was being referred. For those cases, the author and coding team discussed the case and came to consensus on how to best classify the referral. Patterns of behavior referral were also revealed through this adjudication process and are be discussed below. Table 18 describes the primary types of behavioral infractions identified and how the corresponding descriptions based on the data.
Table 18

*Types of Behavioral Infraction Resulting in Office Discipline Referral*

<table>
<thead>
<tr>
<th>Categories</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggression</td>
<td>1) Physical: Fighting, hitting, kicking, punching, tit-for-tat aggression (hitting back)</td>
</tr>
<tr>
<td></td>
<td>2) Verbal: Cursing at others with apparent aggressive intent, threatening use of words</td>
</tr>
<tr>
<td>Bullying</td>
<td>Harsh teasing, name calling, mocking students</td>
</tr>
<tr>
<td>Destruction of Property</td>
<td>Vandalism or destruction of property</td>
</tr>
<tr>
<td>Inappropriate Behavior</td>
<td>Sexual or lewd remarks, behaviors, or gestures</td>
</tr>
<tr>
<td>Leaving class</td>
<td>Leaving class without permission, being found somewhere in the school without permission, running away</td>
</tr>
<tr>
<td>Noncompliance</td>
<td>1) Not following rules: Persistent self-regulatory problems that are disruptive of learning (e.g., talking out, making noises, interrupting, bothering others)</td>
</tr>
<tr>
<td></td>
<td>2) Disrespect: Talking back to adult, laughing, mocking in response to correction or disciplinary action</td>
</tr>
<tr>
<td></td>
<td>3) Noncompliance with escalation: Problem behaviors intensify and/or escalate in response to correction or disciplinary action</td>
</tr>
<tr>
<td>Stealing</td>
<td>Theft of property</td>
</tr>
</tbody>
</table>

*Note.* Behaviors are listed alphabetically.

The types of ODRs reflected in the narrative descriptions of referrals at this school are similar to the types of ODRs described in other research on discipline referrals in regular school settings. For example, Kauffman and colleagues (2010) use broad categories of attendance, delinquency, aggression, and disrespect to categorize behavioral data for a K-12 dataset; and Putnam and colleagues (2003) use broad categories of noncompliance, disruptive behavior, physical aggression, disrespect, vandalism, and theft for use with a K-6 dataset. However, the author of this study asserts that the categories
depicted in Table 18 and derived through the inductive coding process described earlier best represents the types of ODRs occurring in the school and described in the data. Additionally, review of the full descriptions of each behavioral incident enabled the research team to develop locally derived definitions of problem behaviors that also informed our understanding of the competencies valued by school personnel. Finally, the inductive process helped us identify several subcategories of problem behaviors as well as posit hypotheses on possible causes of recurring behavioral patterns that may be associated with valued competencies. The following list of inductively derived categories of ODR includes a brief discussion of patterns and; frequency of occurrence as represented in Figure 7.

- **Noncompliance** was the most common occurring problem associated with discipline referral. Noncompliance for this study is described as a student not complying appropriately to correction from an authority figure. Seventy-six percent of ODRs were a result of some form of noncompliance. Analysis of ODRs associated with Noncompliance revealed two primary patterns of noncompliant behavior. Noncompliance resulting from a student showing a form of noncompliance either ignoring redirection, not demonstrating the self-regulatory ability to stop problem behaviors, or talking back to the authority figure when the correction is made. These demonstrations of noncompliance were associated with behaviors that the researcher describes as more minor in intensity such as continuing to talk during testing. A second pattern of noncompliance with *behavioral escalation* was also revealed. ODRs reflected a pattern of noncompliance with *behavioral escalation* in which students responded
negatively to correction with behaviors intensifying or escalating. Fifty-two percent of the total ODRs were identified as basic noncompliance. Twenty-four percent of total ODRs were associated with a pattern of behavioral escalation.

- **Aggressive behaviors** (physical and verbal) were the second more frequent category of behaviors that resulted in discipline referral. Behaviors were identified as aggressive when the cause of the aggression was not prompted by correction. Instead behaviors categorized as aggressive did not appear to have a causal association related to redirection. Based on narrative description, these aggressive behaviors appeared to be unprompted teachers or staff. However, that descriptions of behavioral incidence may have been truncated and thus errors in categorization were possible. Nonetheless, *physically* aggressive acts accounted for 12% of the behavioral referrals and *verbally* aggressive acts accounted for 2% of the ODRs.

- **Leaving class** was identified as the primary cause for discipline referral in 3% of total ODRs. Questions arose during coding as to what may have caused a student to run out of class or to leave class and not return and whether previous disciplinary action may have prompted the actions. However, if the coding team could not deduce that the action was a result of previous correction and the referral description implied that the student was found to be in a part of the school building without permission, the ODR was coded as *Leaving Class*.

- **Stealing** was identified as the primary reason for 1% of referrals. Stolen items were predominantly of small value such as snacks and desk materials (e.g., pens, pencils).
• *Destruction of property* was identified as the primary cause of discipline referral in 1% of incidences. If the destruction of property was not in response to correction for another incidence *destruction of property*. Tearing up papers, breaking equipment, and vandalizing walls or school materials were commonly cited behaviors.

![Percentage of Total ODRs](image)

*Figure 7. Frequency of Office Discipline Referral by Category.* Categories derived through inductive coding process of school discipline data (Saldaña, 2016).

Figure 8 depicts the types of behavior incidences identified in each grade. Across grade levels, noncompliance was the most frequent reason for students to be referred for disciplinary action. Noncompliance with escalation was the second most common type of behavioral infraction in grades K-3 and physically aggressive behaviors were the
second most common type of behavioral infraction in grade 4. Referral for noncompliance increased with grade level. Developmental science research suggests that as students grow older, they make efforts to demonstrate more autonomy that may be associated with an increase in noncompliance to authority figures (Kalb & Loeber, 2003). In their comprehensive study of behavior problems across ages comparing typical and clinical samples, Achenbach and Edelbrock (1991) show greater argumentative behavior in middle compared to early childhood. However, noncompliance is also associated with severe behavior problems, and close relationships have been found between noncompliance, aggression, and other norm-breaking behaviors in older children (e.g., Algozzine, Daunic, & Smith, 2010). Noncompliance is a particularly pervasive problem of children referred to pediatricians and mental health providers and is more prevalent in clinical samples than nonclinical samples (e.g., Colvin, 2009; Colvin & Sugai, 2005; Masten et al., 2005). In this study, rather than focus on individual student behavior patterns and trajectories, overall school-wide patterns of ODRs were analyzed. However, future analysis of individual student behavior patterns is warranted.
Noncompliance with behavioral escalation. As noted above, 24% of ODRs were identified as following a pattern of noncompliance that included escalations of negative behavior. The relatively high prevalence of behavioral escalation in this dataset warrants additional discussion.

Research suggests that behavioral escalation patterns are common in schools. According to Walker, Colvin, and Ramsey (1995), teachers become inadvertently trapped in negative social interactions with certain students. In these interactions teacher strategies fuel and strengthen the problem behaviors of the students as what teachers may deem as a typical response to encourage compliance, such as verbal reprimands and/or punitive actions, results in a larger confrontation and escalation of the problem. In this way teacher attempts at correction of student behaviors may inadvertently lead to
increasingly negative problematic behaviors; this pattern is frequently described as behavioral escalation (Colvin, 2009).

Cycles of behavioral escalation begin when a student experiences a trigger event. Trigger can range from more general and distal provocations such as changes in routine, time pressures, and interruptions to more personal provocations such as failures, corrections, and/or interpersonal conflicts. Regardless of type of trigger, it prompts an apparent state of agitation in which the student shows increased unfocused, off-task behavior or withdrawal. Depending on the environment and reactions of others, the student may then behave in a provocative, high intensity, threatening manner such as questioning or arguing with authority figures, provoking others, whining and crying (tantrums), running away, or verbal aggression. Negative behaviors peak in displays of physical aggression, destruction of property, self-injurious behaviors, total social withdrawal, hyperventilation, severe tantrums, and/or screaming. Figure 9 depicts the pattern of behavioral escalation identified in the ODR data used in the current study. The nature of the ODR data did not include possible trigger events. Instead descriptions of problem behaviors began in media res. As such, the brief narrative describing negative behaviors begins with the student already in an agitated state.

Figure 9. Patterns of Behavioral Escalation. The graphic representation of behavioral escalation patterns identified in this study’s data is based on Colvin & Sugai’s (2005) model of behavioral escalation.
Students across grade levels showed patterns of behavioral escalation. The types of escalating behaviors varied in intensity and the level of threat to others. The following five examples excerpted directly from descriptions of behavioral referrals illustrate varying forms of behavioral escalation.

Kindergarten: “Upset after she had to redo her writing because it wasn't neat. She threw her paper, glue, scissors, and proceeded to walk out the room.”

First grade: “Has been consistently talking and playing on rug. When he gets reminders he has been storming out of the room, yelling and knocking over chairs.”

Second grade: “[Student] didn't want to sit down. He wanted to walk around the classroom. I asked him to have a seat and he replied, "No." He kept opening and closing the door. I told him to close the door, and have a seat. He did not stop! I closed the door, and he opened it again and walked out. He kicked the door and said," SHUT THE F UP!”

Third grade: “[Student] previously lost stars for talking and talking back. He was in need of a pencil, was told to buy one from the class store, and instead took a pencil out of another's hand, and threw it across the room when told to give it back. That was his last star.”

Fourth grade: “Out of seat; yelling out; warning; spoke to/ refusal to do partner work; threw a fit; started screaming. Called mom and he calmed down. A star was taken due to him not wanting to do partner work again. Started screaming again. He was sent out to reflect in [teacher’s] class, started screaming. Finally began to walk out, kicked the trashcan while yelling. Started to write him up and he became more violent. [Teacher] took him to the hall, kicking and punching- punching the door.”

Valued competencies revealed in discipline data. The identification of ODR patterns served to help the research identified ways in which valued student competencies were reflected in patterns of behavioral infractions and address the second qualitative

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2 The star system is one aspect of the school-wide behavioral support system. Students begin each day with a set of stars. Teachers remove stars as consequence for inappropriate behavior.
research question. Analysis of discipline data revealed the importance of certain student
SEB competencies wherein absence of specific competencies resulted in punitive action. These competencies were reflected in the valued competencies that were identified across stakeholder groups, and no additional valued competencies were revealed. Most frequently students received punitive action for absence of self-regulatory skills, disrespect to authority, unsafe actions, unkind behaviors, disorderly conduct, lack of compliance to school and classroom rules, and not accepting responsibility for actions. These negative actions related to the following seven valued student competencies: (1) self-regulation, (2) respect, (3) safety, (4) kindness, (5) orderliness, (6) compliance, and (7) responsibility.

**Valued SEB competencies and the DESSA-mini.** Lastly, the study addressed the question: Do the domains of social, emotional, and behavioral competence as measured by the DESSA-mini correspond to valued SEB competencies identified by school stakeholders? To explore the correspondence between SEB competencies valued by school stakeholders and competencies measured by Form 1 of the DESSA-mini, the coding team conducted a matching exercise in which each coder matched the competencies valued by stakeholders to the competencies measured by Form 1 of the DESSA-mini.

The research used a coding triangulation technique recommended by Saldaña (2016). The team first truncated each of the eight questions included on Form 1 of the DESSA-mini. This served to highlight the competency for the coders. For example, item 1 asks the rater to reflect on the following, “During the past 4 weeks, how often did the child accept responsibility for what she/he did?” The coding team truncated this question
to “accept responsibility.” Then the team identified the salient competency for this item as “accepting responsibility.” The coders used a gerund form as suggested by Saldaña (2016) to help associate the phrase with an observable action. Each of the four coders reviewed the final list of identified stakeholder competencies and associated those, when possible, to the competencies measured by Form 1 of the DESSA-mini. Consensus meetings were held to determine collectively agreed upon final correspondence. This correspondence is reflected in Table 19.

Table 19

Relationship between Emic/Inductively-Derived SEB Competencies and Competencies Measured by the DESSA-mini Form 1

<table>
<thead>
<tr>
<th>DESSA-mini Form #1</th>
<th>Valued Student Competency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accepting responsibility</td>
<td>Responsibility</td>
</tr>
<tr>
<td>Doing something nice</td>
<td>Generosity</td>
</tr>
<tr>
<td></td>
<td>Kindness</td>
</tr>
<tr>
<td>Speaking about positive things</td>
<td>Communication</td>
</tr>
<tr>
<td></td>
<td>Kindness</td>
</tr>
<tr>
<td>Paying attention</td>
<td>Self-regulation</td>
</tr>
<tr>
<td></td>
<td>Compliance</td>
</tr>
<tr>
<td></td>
<td>Engagement</td>
</tr>
<tr>
<td>Contributing to group efforts</td>
<td>Collaboration</td>
</tr>
<tr>
<td></td>
<td>Communication</td>
</tr>
<tr>
<td></td>
<td>Engagement</td>
</tr>
<tr>
<td>Following steps of a task in order</td>
<td>Self-regulation</td>
</tr>
<tr>
<td></td>
<td>Compliance</td>
</tr>
<tr>
<td>Showing care for school work</td>
<td>Excellence</td>
</tr>
<tr>
<td></td>
<td>Engagement</td>
</tr>
<tr>
<td>Following advice of trusted adults</td>
<td>Compliance</td>
</tr>
<tr>
<td></td>
<td>Respect</td>
</tr>
</tbody>
</table>

*Note. DESSA-mini = Devereux Student Strength Assessment-mini (Naglieri et al., 2011).*
Chapter 5
Integration of Results and Discussion

The purpose of this study was to evaluate the effectiveness of the DESSA-mini as a universal screening instrument in context of its school-wide implementation for a publically funded elementary charter school (K-4) serving a low income, predominately African American population in an urban setting.

This study is part of a larger international project that investigates phenomenological perspectives of psychological well-being (PPWBG; Nastasi, 2008; Nastasi & Borja, 2016). The study also followed a participatory culture-specific consultation model, with research aimed to support decision-making at the participating school (PCSCM; Nastasi et al., 2004; see also Bell, Summerville, Nastasi, MacFetters, & Earnshaw, 2015; Nastasi, Hitchcock, Varjas, et al., 2010; Varjas et al., 2006).

A convergent QUANT+QUAL mixed method research design was utilized (Creswell & Plano Clark, 2011; Plano Clark & Creswell, 2008; Tashakkori & Teddlie, 2010). School data on 525 students was used to explore quantitatively oriented questions. Transcriptions from teacher and parent focus groups, narrative descriptions of office discipline referrals, school artifacts, and administrative interviews were analyzed to address qualitatively oriented questions. In this section quantitative and qualitative results are integrated and discussed to address the DESSA-mini’s effectiveness. Also discussed are patterns that emerged through data analysis, legitimation and limitations of the current study, and suggestions for future research.
**Effectiveness and utility of the DESSA-mini**

Universal screening for social, emotional, and behavioral well-being has been identified as important to the successful provision of school-based prevention and early intervention programs. As a result of this importance, school-wide screening initiatives are more prevalent across the nation than in former times, and an array of screeners for the school environment exists. Many screeners focus on the identification of student risk factors (e.g., BASC-2 BESS, Kamphaus & Reynolds, 2007). Increasingly, however, schools are interested in screeners that have a strengths orientation. The DESSA-mini was designed to meet this latter demand. As such, it assesses the extent to which students exhibit positive behaviors associated with domains of social, emotional, and behavioral competence and school success (Naglieri et al., 2011).

However, little research has been conducted to evaluate the effectiveness of strengths-based screeners within schools and how data collected can inform decision-making at schools. In evaluation of screeners, Glover and Albers (2007) suggest consideration of three primary qualities: (a) appropriateness for intended use, (b) technical adequacy, and (c) usability. The following section discusses these three qualities of the DESSA-mini in relation to findings of this study.

**Appropriateness.** According to Glover and Albers (2007) a screener must be appropriate for its selected purpose and context. The DESSA-mini was selected as meeting this criterion during a multi-year consultation initiative. Two school psychology externs worked collaboratively with the school-based mental health provider (LCSW) along with the assistant principal and school principal to identify the need for an SEB screening instrument. When deciding to use a screener, the team evaluated intervention
protocols, school-capacity, needs of the student body, acceptability by staff and parents, barriers to implementation, methods that data would be maintained, time commitments, costs, and overall ease of use. The strengths-orientation of the DESSA-mini appealed to the team as did its relative ease of use.

Because the participating school serves an African American student body that is predominately low income (as indicated by free and reduced lunch data), the school community experiences risk factors associated with high rates of poverty. These factors include reduced access to strong early childhood programs, reductions in school readiness, and the higher possibility of experiencing community violence. Because of these already challenging factors that were in place, it was important to school stakeholders that the screener not contribute to stigmatization of the student body by focusing on these shortcomings or on pathology. To wit, during initial professional development sessions at which universal screening was discussed, school staff spoke out against screening children. They voiced concerns that screening would not necessarily address needs of children but would serve to label the student community as troubled. In this context, the strengths-orientation of the DESSA-mini was a salient feature in its being chosen. The majority of screening instruments available for school use are deficit based (Dowdy et al., 2010). Deficit-oriented screeners identify problem behaviors, whereas strengths-based screeners explore pro-social skills that can serve as protective factors against the development of social-emotional difficulties as well serve to support academic and social-emotional functioning in schools. Strengths-oriented screeners are argued to have the capacity to help schools gain more understanding of the broad social
competencies possessed by students as well as to highlight areas where student support may be needed (Renshaw et al., 2014).

The DESSA-mini’s data provided teachers with immediate feedback on students and any social-emotional skills that needed bolstering. More broadly, the data allowed school administrators to see how teachers viewed the social-emotional competence of their classes. In classrooms that had more students with greater needs, coaching teams used data to help teachers of those classrooms to identify broad areas of social-emotional competency that could be targeted in early intervention initiatives.

In addition, the universal screening implementation team confirmed that the domains of competence assessed by the DESSA-mini and the DESSA full (Tier 2) were in line with the school’s mission and core values. Analysis of those student competencies valued by stakeholders provided further corroboration of the overlap between valued competence at the school level and value competencies measured by the DESSA-mini. As described in the results section, 15 desired student competencies were identified through qualitative analysis of focus groups and school artifacts: (a) excellence, (b) engagement, (c) persistence, (d) responsibility, (e) assertion, (f) independence, (g) collaboration, (h) communication, (i) self-regulation, (j) compliance, (k) generosity, (l) kindness, (m) safety, (n) orderliness, and (o) respect.

Of these 15 competencies, the author identified that 10 competencies overlapped with competencies assessed by questions on DESSA-mini form 1. The DESSA-mini consists of eight questions, but some questions were seen by the researcher and coding team to represent more than one competence. For example, doing something nice pertains to both generosity and kindness.
Safety and order were prominent competencies revealed in the analysis of school documentation. Many rules and required behaviors related to these two competencies. One may associate safety and order with self-regulation and responsibility as well as with respect and compliance. Stakeholders also viewed persistence and student assertion as valued competencies. Persistence may be associated with tenacity, grit, and in some ways the development of resilience. Persistence is a core value of the school. Compliance and the ability to respond to redirection are reflected in the question of whether a student follows the advice of a trusted adult, as well as whether a student pays attention. What is not reflected, however, is whether a student is able to respond to redirection in an appropriate manner. In all qualitative data, stakeholders referenced the importance of students showing an ability to fix behaviors. Teachers clarified the meaning of fixing behaviors during member-checking meetings. They described the concept as the ability of students to respond to correction in an appropriate manner by changing or modifying unwanted behaviors in compliance with teacher directions or class rules. The importance of this competency, which is associated with compliance, was reflected in discipline referral data. Students are expected to show compliance to teacher requests, especially requests to modify unwanted behavior. Negative consequences including office discipline referral are associated with not fixing behaviors.

In summary, the DESSA-mini can be viewed as an appropriate screening instrument for use in this context. The strengths-orientation of the measure suited the express desires of the initial implementation team as well as suiting other teachers who outwardly expressed the importance of building upon student strengths. Constructs measured by the DESSA-mini are based on an empirically-derived model of well-being.
(Denham, Ji, & Hamre, 2010), and the data collected with the instrument is compatible with the local service delivery model. Moreover, although aspects of certain valued competencies were not reflected in questions and thus not directly measured by the DESSA-mini, the screening instrument taps into a majority of the competencies valued by school stakeholders.

**Adequacy of technical characteristics.** This study investigated predictive performance of the DESSA-mini in relation to academic and behavioral outcomes of students. According to recent literature searches, scant research has investigated the predictive performance of the DESSA-mini in school settings and none has explored its use within a school serving a predominantly low income African American population of children.

When considering the technical characteristics of an instrument Glover and Albers (2007) recommend assessment of the reliability of the scores obtained and the instrument’s predictive ability in relation to the target population. According to norming data and information provided by the publishers of the instrument, the DESSA-mini possesses good psychometric qualities (Naglieri et al, 2011). The instrument proves to have good internal reliability/consistency, which exceeds the .90 value recommended by professional standards (Hogan, 2014). Test-retest reliability correlations also range from .88 to .94, and inter-rater reliability correlations range between .70 and .81. The DESSA-mini has also demonstrated strong convergent validity with the DESSA. Additionally, the standardization sample of 1,250 children were representative of US population demographics based on age, gender, geographic region of residence, race/ethnicity, and
socioeconomic status based on reduced-lunch eligibility, although these demographics do not represent those of the participating school.

As Albers and Glover (2007) assert, exploring the applicability of the DESSA-mini for use within a specific context for specific populations is important. Problems can arise when instruments normed with one group are applied to groups who are inadequately represented in the norming process. To ensure that interpretations of data accurately reflect student functioning, researchers must investigate the instrument’s use in different contexts with a range of populations (Harrison et al., 2013). The present study investigated associations between teacher ratings on the DESSA-mini form 1 and the following domains of student functioning of an African American low income population: (a) academic achievement based on student performance on a standardized, end-of-year math and language achievement tests; (b) problem behavior based on office discipline referrals accrued by year-end; and (c) student attendance based on number of student absences.

**Prediction of academic performance.** In relation to teacher ratings of student SEB competency and academic functioning, results suggest weak but significant correlations between SEB competence measured using the DESSA-mini and year-end academic performance. A significant correlation was found between ratings on the DESSA-mini and academic performance in both mathematics and language arts wherein the higher the DESSA-mini rating of SEB competency, the higher the scores in Math $r(456)=.193, p<.001$ and in Language Arts $r(456)=.115, p=.013$. When controlling for age and gender, DESSA-mini step-wise regression analysis predicted math performance ($n=455, p<.001, \beta=.017, \Delta R^2=.013$) suggesting that the addition of DESSA-mini ratings
to a model that included Student Gender and Student Age explained a significant albeit small portion of additional variance. However, adding DESSA-mini ratings to the model predicting Language Arts scores did not explain a significant portion of additional variance. Although a strong relationship between ratings of SEB competence and academic outcomes was not found, small but significant correlations between academic achievement and social-emotional competence are consistent with current research. Combined, these results suggest that SEB competence may be a factor in academic performance, and ratings of SEB competence by teachers, depending on the tool, may point to areas that may either place students at risk or support their achievement (e.g., Durlack et al., 2011; Erhart, 2013; Renshaw et al., 2009).

In a 1991 study, Wentzel identified aspects of social competence including socially responsible behavior, self-regulation, and school achievement that related positively to school achievement. Social competence and academic competence both require self-regulatory capabilities such as goal identification, planning, and behavioral regulation and are both linked to positive social competence and academic accomplishments. In contrast, children who demonstrate undesirable behaviors at school may elicit more negative reactions from teachers, may have more negative teacher/student relationships, and may demonstrate less engagement. Each of these qualities may affect academic outcomes (Wentzel, 1991). Likewise, results of more recent research suggests positive associations between the teaching of social-emotional skills and improved academic outcomes. For instance, Farrington and colleagues (2012) with the Chicago School Research at the University of Chicago found positive links between numerous noncognitive behaviors (e.g., social skills) and student academic
success. Although strong associations were not found in this study, results from the present study suggest that children with stronger social emotional competence, such as self-regulatory skills and prosocial behavioral tendencies, may perform more highly on academic achievement. Therefore, students rated lower on the SEB competencies measured by the DESSA-mini, may benefit from participation in initiatives that enhance their social-emotional competencies with the overarching aim to improve academic engagement and school performance.

Due to the nested nature of the data, ICCs were calculated to identify the proportion of variability in achievement scores that may be due to classroom or teacher level variables. A significant portion of variability was found to be attributable to classroom/teacher level variables. An ICC of .661 ($u=.686$, $r=0.351$, $p<.001$) was calculated for math achievement, which can be interpreted as 66.1% of differences in student math outcomes explained by differences at the classroom or teacher level. An ICC of .499 ($u=.513$, $r=0.515$, $p<.001$) was calculated for language arts scores, which indicates that 49.9% of differences in student language arts outcomes can be explained by differences at the classroom or teacher level. ICCs reflect an open model that does not take into account any other factors that may explain variation. For example, variation in math and language arts scores that may be accounted for by a student’s age is not included. Further research utilizing statistical modeling techniques that allow for the exploration of the interactive relationships between classroom-level factors (i.e., teacher experience, instructional practices, and teacher values of social emotional competence) and student-level factors (i.e., social and academic functioning) would be useful for gaining an understanding of ways in these nested factors impact outcomes. However,
such a model was outside the scope of this project, in part because of limited access to
information about classroom or teacher level characteristics.

**Prediction of behavioral outcomes.** To date there has been little research
measuring the relationship between strengths-based screeners and problem behavior. In a
review of the literature, the author found only one study that used the DESSA-mini to
directly explore that relationship. In 2014, Millman investigated the associations between
social emotional competency measured in teacher ratings using the DESSA-mini Form 1
and office discipline referrals accrued by students in a kindergarten to 3rd grade setting.
Millman found a small but significant relationship between DESSA-mini ratings and
ODRs. Millman (2014) found that receiving more ODRs was associated with lower
DESSA-mini scores; however, accounting for the presence of rater non-independence,
there was only minimal effect size with 5% of shared variance.

The present study hypothesized that low scores on the DESSA-mini may suggest
an absence of SEB competence that would otherwise serve as protective factors against
the prevalence of problem behaviors. That is, students rated with low DESSA-mini
scores would be more likely to accrue more ODRs. Likewise, the researcher hypothesized
that high ratings on the DESSA-mini would be a reflection that students were meeting
behavioral expectations of teachers and therefore be less inclined to be sent out of the
classroom for disciplinary action.

However, results of omnibus correlational analysis did not show a significant
association between ratings on the DESSA-mini and accrued ODRs. Because this result
stood in stark contrast to expectations, the relationship was investigated further through
review of descriptive outcomes of relevant variables and the use of a generalized linear
model that would account for over dispersion of the count variable and allow for the exploration of interaction effects that may have affected the outcome of correlation analysis (Field, 2009).

Correlational analysis found significant relationships between ODRs and student grade level as well as between ODRs and gender. Negative binomial regression confirmed that both gender and age significantly predicted the number of office discipline referrals accrued. Congruent with previous research, students in higher grades accrued more ODRs than students in lower grades (Gion, McIntosh, Horner, 2014; Kauffman et al., 2010). Additionally, clear gender differences were found. Similar to other studies that investigated ODR patterns (e.g., Kauffman et al., 2010; Putnam et al., 2003) boys accrued more than twice as many discipline referrals as girls (ODRs$_{\text{males}}=1043$; ODRs$_{\text{females}}=406$). Such consensus may suggest that female students engage in fewer problem behaviors. However, in line with research investigating gender differences in problem behaviors (Kauffman et al., 2010; Maguire, Niens, McCann, & Connolly, 2015) observed gender differences in the number of ODRs accrued may have more to do with how a school defines unacceptable behavior and the types of behaviors that result in office discipline referral (e.g., behaviors that result in active disruption of classroom activities) rather than females exhibiting fewer behavior problems altogether. Regardless, gender differences in types of ODRs accrued as well as teacher perceptions of gender-based behavioral expectations and problems would be worthy of future investigation.

Results of negative binomial regression also suggest that the relationship between ratings on the DESSA mini and accumulated ODRs varies significantly by Homeroom. Considering that significant variance was found between DESSA-mini ratings at the
teacher level and between ODR referrals by teacher and that both DESSA-mini ratings and ODRs depend upon teacher perception of behavior, such a relationship was expected. This interaction effect prompted a post hoc exploration of the data to identify patterns that may inform future research and inquiry.

For each classroom, estimated mean ODRs were calculated at three levels of DESSA-mini ratings. (See Appendix B). These levels corresponded to scores within the three primary categories used for interpretation of DESSA-mini results: Need for Instruction (low rating), Typical (moderate rating), and Strength (high rating). Visual review of estimated means and ODR trend lines created for each classroom revealed specific patterns in ODRs and observable differences between two types of classrooms.

The first type (Type A) included eight homerooms for which DESSA-mini ratings of students followed the expected pattern. Students with low DESSA-mini scores accrued higher ODR referrals than students with high DESSA-mini scores who had fewer ODRs. Students in the eight Type A classrooms averaged 5.8 ODRs. The second type (Type B) was comprised of twelve classrooms that followed the opposite pattern. For these classes, estimated mean ODRs for students with higher DESSA-mini scores were higher than for students who were rated lower on the DESSA-mini. Students in the twelve Type B classrooms averaged 1.47 ODRs.

The differing patterns associated with the ODRs and DESSA-mini ratings suggest that the DESSA-mini captured expected behavioral trajectories for classrooms with higher overall ODRs but did not predict ODR trajectories in classes with lower mean ODRs. This pattern suggests that the DESSA-mini may not be sensitive enough to predict ODRs for students in classrooms where relatively few ODRs are given.
Additionally, differences in mean ODRs and the associated patterns revealed in the ODR trend lines (See Appendix B) suggest that qualities related to the classrooms may have affected results of the predictive analysis. These qualities may exist at the teacher and/or student level and may include unmeasured teacher attributes (e.g., classroom expectations, attitudes toward misbehavior, years of experience at the school, experience teaching) and/or student attributes (e.g., special education status, behavioral history, experience with trauma). From the present data, one cannot tease apart these factors, and further investigation of these factors is outside the scope of this study. However, future research will investigate ways in which teacher attributes may contribute to ODR patterns and will include behavioral, academic, and mental health history of students as variables of interest. In sum, the DESSA-mini may provide information about students who are likely to have a high number of ODRs, but in classes where students do not accrue many ODRs, the instrument may not be sensitive enough to identify which students may be more likely to have ODRs or not.

**Usability.** Even if a screening instrument is technically sound and defined as appropriate for use within an identified context, unless the instrument is perceived as practical to administer and use, data collected with the instrument may not be viewed as helpful. Albers and Glover (2007) include practical elements such as cost, administration feasibility, and infrastructure for data collection as part of usability. These aspects of usability were considered by the original universal screening implementation team in their decision-making. Ease of use of the DESSA-mini and ease of interpretation were key factors for its selection. The DESSA-mini is completed online and results for
students and classrooms are provided automatically. These aspects of the screening instrument were attractive to the team and enhanced the feasibility of implementation.

In making decisions about the usability of a universal screener, Albers and Glover (2007) also recommend the evaluation of the instrument vis-à-vis use of the data in improving student outcomes. Whether the data collected at the beginning of the school year with the DESSA-mini would be useful in improving student outcomes is an area addressed in part by this study. By looking closely at the relationships between data collected and student outcomes, the researcher, along with the administration of the school and the current support team, may identify ways in which the data may be used to promote student well-being, to prevent or reduce student risks, and to support early intervention efforts, or if the tool does not adequately meet these purposes.

According to Sprick and Garrison (2008), the overarching goal of SWPBS is to encourage the development of a civil, safe, and productive school environment. SWPBS has the potential to help schools establish the social culture and effective learning environments needed for students to be successful. Universal screening has been identified as an important aspect of SWPBS (Albers, Glover, & Kratochwill, 2007) since data provided in screening has the potential to provide important information to school decision makers, mental health support personnel, and educators about the school climate as a whole, the climate of individual classrooms, as well as the SEB functioning of individual students. This information can be used to identify and evaluate school-wide programs that support and promote well-being along with identifying and evaluating intervention practices.
Universal screening and SWPBS stand in contrast to wait-to-fail models of service delivery in which students do not receive support until distress or failure reach a critical level. Screening specifically aims to identify needs that can be supported in the general classroom where evidence-based prevention, promotion, and early intervention can be readily implemented (Kratochwill, Albers, & Shernoff, 2004). How then might DESSA-mini data collected from teachers about student functioning support such use? Discussion of valued student competencies, results from this study’s analysis of office discipline referrals, and DESSA-mini ratings is necessary to address the question of usability in the context of this school’s implementation of the screener.

**Teacher expectations and valued student competencies.** Education researchers concur that children are expected to possess certain skills that will enable them to meet the academic and social demands of the school environment (Lane, Givner, & Pierson, 2004). Through a series of studies, Walker and colleagues (Walker, Colvin, & Ramsey, 1995) identified specific adaptive skills, including prompt compliance and ability to cooperate, associated with school achievement and positive school relationships. When lacking these expected competencies, children may be at risk for school difficulties and may not thrive in the school environment. Lane and colleagues (Lane et al., 2004, Lane, Wehby, & Cooley, 2006) conducted follow-up research to identify domains of student social skills that teachers viewed as the most important to school success. In a series of studies, teachers identified the most salient social skills associated with school success from the Social Skill’s Rating System (SSRS; Gresham & Elliot, 1990). Items associated with three domains (i.e., self-control, cooperation, assertion) were rated on their importance for classroom success. Across studies, skills associated with self-control and
cooperation were identified as the most important. These skills included attending to and following directions, attending to instruction, controlling emotion (i.e., temper), getting along with others, managing conflicts appropriately, and using free time in an acceptable way. Skills associated with assertion, such as advocating for oneself and making efforts to introduce oneself, were identified as less important to school success, although in Lane’s research (Lane et al., 2006) teachers serving low-income students were more likely to endorse skills associated with assertiveness as important.

Overall, the valued competencies identified by stakeholders at the school participating in this study were comparable to the primary domains identified by Lane and other researchers (e.g., Lane et al., 2004, Lane et al., 2007; Walker et al., 1995) as salient to school success (i.e., self-control, cooperation, and assertion). Similar to teachers at low-income schools in Lane’s research (Lane et al., 2006) teachers at the participating school value skills associated with assertion such as giving new things a try and showing eagerness to learn as important and highly valued.

Future research may investigate the relative importance teachers place on each identified competency and ways in which valued competencies are promoted and reinforced. In other words, among all valued student competencies identified, which of these would teachers at the school identify as most salient to school success. Secondly, are overt systems in place that promote and reinforce these competencies? The analysis of ODRs may provide some insight into those questions and offer a starting point for consideration and further research.

**Teacher expectations and office discipline referrals.** When students fail to meet teacher expectations, they are often at greater risk for negative outcomes, including
strained relationships with teachers and peers and greater risk for office discipline referral (Irvin et al., 2004). Walker and other researchers (Walker, Colvin, & Ramsey, 1995) identified maladaptive behaviors (e.g., defy teachers and disrupt the group) that were more likely met with negative outcomes, problematic teacher and peer relationships, and academic difficulty. Analysis of ODRs for this study revealed several patterns. Most students at the participating school meet social, emotional, and behavioral expectations. Corresponding to expected outcomes in tiered service delivery models, 80% of students received 0 to 3 ODRs in the school-year (<m), 11% of students accrued 4-10 (>m to 1 standard deviation above the mean), and 8 percent of the student body accrued ODRs equivalent to at least 1 standard deviation above the mean). More than 300 students (58% of the student body) received no discipline referrals. These results suggest that the majority of students at the participating school are able to meet teacher expectations.

Behaviors most associated with ODRs included aggression, bullying, destruction of property, inappropriate behavior, leaving class without permission, noncompliance, and stealing. These behaviors can be associated with the absence of certain valued competencies, including compliance, self-regulation, respect, safety, and order. Patterns observed in analysis of ODRs were similar to those found in in similar studies investigating the rate and type of ODRs seen in schools (e.g., Gion et al., 2013; Irvin et al., 2004; Kaufmann et al., 2010; Putnam et al., 2003). Specifically, noncompliant behaviors that included negative response to teacher correction and redirection such as defiance, disrespect, and insubordination were the most prevalent. In this study 76% of ODRs resulted from a form of noncompliance. This finding is in accord with the research conducted by Lane, Wehby, and Cooley (2006). Other research has
demonstrated that negative student outcomes are associated with students who do not meet behavioral expectations of teachers (Achenbach & Edelbrock, 1981). Compliance is a high priority for teachers and thus, as shown in the prevalence of ODRs for noncompliance in this dataset, failure to meet this expectation is likely to result in negative outcomes.

According to Colvin (2009) students may demonstrate noncompliance for several reasons. One common reason for noncompliance is misunderstanding of directives; in many situations teacher directions simply lack clarity. In their investigation of compliance and teacher directions, Shores and colleagues (1993) found that only 20% of the teacher directives they observed included enough information that would enable students to respond correctly the first time. Another reason for noncompliance is inadequate skill. Some students may not have the requisite skills to complete the request (Greene & Ablon, 2005). Some students may be engaged in another activity (i.e., competing reinforcer) that they prefer to the directed task (Colvin, 2009). Other students may want to escape from the directed task altogether. Colvin and Sugai (2005) suggest that these students have come to recognize that noncompliance will result in removal, and teachers often unknowingly reinforce this counterproductive pattern.

What can data from the DESSA-mini tell us about these patterns? Of the eight items on the DESSA-mini, the author associates three with compliance: following directions, accepting responsibility, and following advice of a trusted adult. Students in possession of these skills may demonstrate more compliance, while students lacking these skills may have more difficulty complying with teacher requests. However, because the DESSA-mini affords one composite score, rather than both a composite and domain-
specific ratings associated with areas of competence, data provided by the DESSA-mini may be limited in their use. The general competence score identifies students overall level of competence but lacks information about the specific domains of competence where students need targeted support. From the general data collected, one cannot conclude whether a low rating on any one of these items is associated with a likelihood of discipline referral for noncompliance. Consequently, in this regard the interpretive value of the DESSA-mini is somewhat limited.

Through analysis of ODRs, a subdomain of behavioral patterns was also identified. Twenty-four percent (24%) of all ODRs included descriptions that followed patterns of behavioral escalation in which negative behaviors became more intense and severe after having been given correction or redirection. Colvin and Sugai (2005) suggest that teacher actions and reactions to noncompliance may result in incidences of behavioral escalation. For example, if a teacher administers a punitive consequence that does not match the function of the undesired behavior, instead of stopping the behavior, the punitive action may prompt student agitation, behavioral escalation, and removal from the setting (i.e., escape). According to Colvin and Sugai (2005), escape is often the outcome desired by the student.

While this study did not investigate the behavioral patterns of specific students, it is important to consider that individual student characteristics may contribute to higher instances of behavioral escalation (Mayer, 1995). For example, children who experience harsh and inconsistent consequences from parents or low levels of affection (Loeber & Dishon, 1983) have been found more likely to exhibit noncompliance and behavioral escalation. Children exposed to high stress in family and environmental situations or
Specific traumas may exhibit states of hyper-arousal that can result in an increased likelihood of negative response to correction (Ruffin, 2009; University of Minnesota Center for Early Education and Development, 2009). Classroom antecedents (e.g., noise level, conflictual peer situations, several instructions followed by several errors) or more distal antecedents (e.g., argument in the home, problem at recess) may serve to set the stage for behavioral escalation when compliance is requested (Colvin, 2009; Mayer, 1995; Sprick & Garrison, 2008). For students who experience high levels of environmental stress, the likelihood of such stimuli prompting behavioral escalation is greater (Ruffin, 2009; University of Minnesota Center for Early Education and Development, 2009).

Finally, for some students, behavioral expectations and punitive consequences associated with them can serve as overt stressors and triggers for behavioral escalation (Colvin, 2009). In a recent study of student stress and support, elementary (K-3rd grade) students identified school-related punishments as salient stressors in their lives (Bell et al., 2015). According to Bell and colleagues (2015), children expressed keen understanding of school-related behavioral expectations, the consequences for not meeting expectations, and the ways in which punitive actions served to heighten stress. In response to such stress, children described using a variety of methods of pro-social coping techniques, such as deep breathing. However, they also described patterns of responses to punitive discipline that included aggressive outbursts such as hitting, kicking, verbal tantrums, and destruction of property, all of which are indicative of behavioral escalation. Bell and colleagues (2015) surmise that schools need to assess their vision of student behavioral competency and the ways in which competencies are
encouraged or supported and the impact punitive actions may have on students, taking into consideration students’ knowledge and understanding of expectations and their mastery over the required skills to meet expectations. The patterns of behavioral escalation revealed in the analysis of ODRs in this study point to a need to assess school policies and procedures for teacher responses to undesired behaviors and investigate ways in which teacher responses may unwittingly encourage noncompliance and/or behavioral escalation.

The ODR trends (see Appendix B) revealed in post hoc analysis of this study suggest that data from the DESSA-mini can be used to identify classrooms where students may accrue high numbers of ODRs. As such, the DESSA-mini may provide relevant information to school administrators and RTI teams about classrooms (i.e., students and teachers) that may benefit from social, emotional, and behavioral support. Data can inform social-emotional programming decisions, class-wide behavioral interventions, and teacher consultation as well as serve to guide student-directed early intervention and prevention initiatives. All of these uses can help the participating school to better meet the needs of students whose social-emotional competencies are low. Moreover, such use is congruent with the uses of the DESSA-mini described by the creators of the instrument (Naglieri et al., 2011) as well as purposes of school screeners in general to identify students who may be at risk in order to put into place prevention, promotion, and early intervention initiatives (Sprague, Cook, Browning, White, & Sadler, 2013).

**Effectiveness and implications for practice.** Results of this study suggest that the DESSA-mini meets Glover and Albers (2007) criteria for an effective universal screening
instrument, specifically in context of its implementation in an urban, predominately African American elementary school environment. It also meets the criteria for the general purposes of guiding school-wide decision making about social-emotional climate and school-wide needs for the implementation of social-emotional learning programs.

As such, data collected with the DESSA-mini can inform decision makers about the overall ecology of classrooms and be used in combination with other school-wide data (ODRs, academic performance, etc.) to improve school practices, especially those associated with social, emotional, and behavioral development. The competencies assessed on Form 1 of the DESSA-mini are congruent with valued competencies of the school community and can be used to promote the development of these competencies.

However, this study also points to an important limitation of the DESSA-mini. Data revealed that the DESSA-mini has limited predictive ability for identifying students who may accrue ODRs across the school year, specifically for identifying specific students who may have difficulty meeting teacher expectations in classrooms where fewer ODRs occur. Limited predictive ability for academic outcomes was also demonstrated. Consequently, following best practices in educational, clinical, school, and applied developmental psychology as well as special education and educational leadership (e.g., Brown, Skow, & the IRIS Center, 2009; National Association of School Psychologists, 2013), screening results should be viewed only as a starting point for additional data collection, observations, and decision-making.

**Legitimation and Limitations of the Research**

Mixed methodology involves distinctive processes that include iterative, interactive, and dynamic lines of inquiry. Thus, evaluation of its multiple domains
involves a specific framework that seeks to assess the rigor of its various facets (Greene, 2008). Legitimation is the now-accepted term representing the credibility, trustworthiness, dependability, transferability, and confirmability of findings in mixed methods research (Onwuegbuzie & Johnson, 2006). It is consistent with Teddlie and Tashakkori’s (2006) notions surrounding the evaluation of design and inference quality of social science research. Onwuegbuzie and Johnson (2006) identified nine types of legitimation important in the evaluation of mixed methods research: (a) sample integration, (b) inside-outside, (c) weakness minimization, (d) sequential, (e) conversion, (f) paradigmatic mixing, (g) commensurability, (h) multiple validities, and (i) political. As recommended by Onwuegbuzie and Johnson (2006), ways in which this study meets criteria of legitimation along with limitations of the study are discussed in relation to the conceptual domains of social science research inquiry defined by Greene’s (2008): philosophical assumptions and stances, inquiry logics and guidelines for research practice, and sociopolitical commitments.

**Philosophical assumptions and stances.** Onwuegbuzie and Johnson (2006) suggest the consideration of inside-outside, paradigmatic-mixing, and commensurability legitimation in relation to the philosophical assumptions and stances of the research. Inside-outside legitimation represents the extent to which the researcher adequately and accurately incorporates emic and etic perspectives throughout the research, and the ways in which the meta-inferences made during the mixing of sets of inferences combine to represent a coherent picture. Paradigmatic-mixing is the extent to which one makes explicit one’s own philosophical positions. Finally, commensurability represents the extent to which research utilizes qualitative and quantitative stances switching between
the two and combining as appropriate to make conclusions that yield greater understanding than either qualitative or quantitative approaches could have afforded alone.

Certain philosophical assumptions and stances have guided the inquiry of this work and provided theoretical justification for questions, observations, and interpretation. Most importantly this study utilized participatory action research frameworks (i.e., PCSIM; Nastasi et al., 2004) that necessitated the forging of strong relationships between the researcher and the partnering school. These relationships resulted in various immediate tangible outcomes (e.g., professional development seminars, screening protocols and procedures, etc.) while aiming at two larger goals: firstly, to enhance the ability of school-wise systems to promote student well-being; and secondly, to serve as a model that other schools may turn to in efforts to establish or improve systems designed to enhance the well-being of their student population. As such, the author presents information based on both an insider view afforded by this long-standing relationship and an outsider’s view (Onwuegbuzie & Johnson, 2006) based on established theoretical leanings, which have been developed and honed through years of research and training in developmental psychology and education on ways to best establish and maintain systems that can support the positive development of youth. The researcher has maintained a strong working relationship with the school and its leadership for three years. During that time, the researcher has led professional development sessions for teachers, met bi-monthly with school staff to help maintain the ongoing implementation of the screening initiative, facilitated universal screening data collection with teachers, guided staff on use of the data, and collected narrative data related to perceptions of psychological well-
being from parents, staff, and students. These experiences have established strong bonds between the researcher and the school, which have, in turn aided in the researcher’s ability to reflect an insider’s view throughout the work. However, the researcher is also grounded in a dynamic systems and phenomenologically variant (PVES) interpretation of the bioecological developmental model (Bronfenbrenner & Ceci, 1994; Granic & Patterson, 2006; Masten et al., 2008; Spencer, Dupree, & Hartman, 1997). This perspective incorporates the understanding that multiple factors (proximal and distal) affect outcomes. Furthermore, it recognizes that those factors not only interact constantly with individuals but with each other in culturally specific ways. Factors are ever changing and shifts in relationships and outcomes also change. Meaning-making arises from these dynamic, phenomenologically-specific processes. Therefore, this study serves to represent the school, school community, and use of the DESSA-mini at a certain point in time and considers the multiple factors possibly impacting the fidelity of implementation, uses of data, and perceived effectiveness. Throughout this study the researcher has attempted to be transparent about personal views toward universal screening in schools (i.e., that it is has the potential to help schools better serve the needs of their student body). While the researcher holds these views, there is also an underlying commitment to culture-specific implementation processes that understand and respect that not every screener, practice, or protocol is necessarily right for each and every locale or context (Nastasi & Hitchcock, 2016). This paradigmatic mixing and the researcher’s efforts on behalf of transparency underlie the mixed method approach to inquiry, which starts with by the presumption that quantitative or qualitative approaches alone would be less likely to represent the fullest picture and would have resulted in
limited applicability of findings. Instead the convergent QUAL+QUANT approach afforded the researcher and the school to make meta-inferences regarding the effectiveness of the DESSA-mini that represented the complexity that is part of the implementation of evidence-based practices in the real world—a dynamic, diverse, and constantly shifting place.

**Inquiry logics and guidelines for research practice.** Guidelines for research practice represent the specific strategies used throughout the inquiry and the assumptions, stances, and logics of inquiry that underlie specific research procedures (Greene, 2008). These are reflected in the methodology section of this text. Inquiry logics pertain most readily to the strength of the separate methodologies as well as to minimization of weaknesses of each through the use of the other (Onwuegbuzie & Johnson, 2006). Throughout this study, best practices for quantitative and qualitative research were utilized. Specifically, caution was taken that quantitative assumptions were met for statistical analysis and the initial interpretation of results stayed close to results of data analysis and maintained standards of reporting (Field, 2013). However, the researcher recognizes limitations of the study that result from the methodological design and sampling procedures. For example, this study utilized school-based data as a primary source. Therefore, even though checked for accuracy, such data are subject to human error that can occur at various points of collection and entry, and chances of human error may be increased within the context of the school environment where multiple parties with many important demands manage data. Nonetheless, decision-making at the participating school is reliant on sound data collection, and consequently, the school-based quantitative data is considered accurate to an acceptable degree that is realistic.
within the framework of its collection. While all data were reviewed carefully and crosschecked by research assistants, some level of error is expected. Additionally, all participants were samples of convenience, and therefore outcomes of the study may be affected by unmeasured and/or nested qualities of the selected sample. Nonetheless, the researcher employed techniques to ensure that interpretations of quantitative data were accurate and that qualitative data were representative of the larger school population.

With regards to qualitative data, throughout data collection and analysis a myriad of checks was put into place throughout data collection and analysis to ensure valid and reliable interpretations. This check and balance system, outlined by Saldaña (2016) and described throughout this text, followed best practices for ensuring high quality qualitative analysis. For example, analytic memos were maintained to encourage a reflexive process throughout the coding stage. Memos and reflections were discussed weekly during coding consensus meetings at which time coding partners and teams worked to gain consensus, share reflections, and make decisions about next steps in the coding and analysis process. Member checking also occurred at several stages and provided opportunities for teachers to give feedback on the interpretation of valued competencies and the researcher to triangulate data and hone understanding. Each aspect of the coding process helped develop an audit trail, which represents the iterative process by which the coding and analysis morphed holistically and materialized into analytic interpretation that illustrates the process by which inferences were achieved. These steps ensure that results are trustworthy and, most importantly, representative of the views of participants (Saldaña, 2016).

Because the researcher was situated both inside and outside this study, serving in a consultative capacity while conducting research in and on the processes involved in the
consultation effort (PCSIM; Nastasi et al., 2004), maintaining the integrity and usefulness of findings was deemed paramount. The researcher’s views were also no doubt impacted by adherence to the culture-specific nature of the PCSIM model, especially in the researcher’s desire to represent the community as accurately and sensitively as an inside-outside view allows. Finally, this study’s use of a convergent mixed methods design (Creswell, 2009) allowed for a more comprehensive understanding of the effectiveness of the DESSA-mini in context of its application and results. Further use of mixed methods has potential to guide both research and practice. For instance, greater understanding of ODR patterns served to provide explanation for statistical findings related to the associations between the DESSA-mini and ODR and will therefore lead to further inquiry at the school and university levels. In sum, the mixed method framework enhanced understanding of patterns revealed in quantitative and qualitative results. Consequently, utilization of both quantitative and qualitative lines of inquiry served to address shortcomings of a single approach and thus strengthened overall findings and inferences.

**Sociopolitical commitments.** Sociopolitical commitments represent the political nature of the inquiry and the interests being served (Greene, 2008). In understanding sociopolitical factors, consideration must be given to the ways research contributes to collective theoretical knowledge, informs policy and government decision-making, and/or serves some other purpose (Onwuegbuzie & Johnson, 2006). Guided by PCSIM, this study served several purposes. First and foremost, the study aimed to serve as an evaluation of the DESSA-mini for use as a universal screening instrument in the context of the participating school and within its newly established multi-tiered system of SEB intervention. Associated with this primary goal was a secondary and more widely generalizable aim to demonstrate a framework for the comprehensive evaluation of such
a screening process and illustrate ways in which inferences made from school-based data can inform and support the psychological well-being of children who are a part of a community. Commitment to early intervention and the establishment of public health models of student support informed the original implementation, the goals of the researcher, and the desires of the partnering school to support the evaluation (Hess et al., 2013). The study can therefore serve as model of future evaluation efforts and consumers of the research (e.g., school stakeholders) can look to the meta-inferences stemming from both the quantitative and qualitative components of study to guide future decision-making. Researchers, educators, and policy-makers can utilize the framework of the study as well as findings (e.g., ODR patterns) to guide inquiry and decision-making on a number of topics including the purpose of universal screening, school-related developmental competencies valued by adults, and associations between behavioral expectations and discipline practices. Therefore, the study has both culture-specific uses and applicability to a larger audience.

Additionally, as described earlier the school serves an economically under-resourced African American community. Awareness of unique vulnerabilities associated with the school population informed the consultation relationship and decision-making throughout the process of implementation of the screening instrument and evaluation of its effectiveness. The researcher is aware of the importance of protecting the welfare of all subjects and representing their perspectives with respect and sensitivity. As explained by Spencer and colleagues (1997), an individual’s perceptions of the self in that moment may influence responses, affect whether one highlights certain attributes or downplays others, and draws attention to certain traits or situations and suppresses others. To that end, the researcher recognizes that the dialectical engagement between researcher and participants may have
been shaped by perceptions of and from both sides and may have thusly affected the meaning-making process. And yet also, as recommended by Spencer et al. (1997), the voices of participants were not only studied but also included. When possible, participants played a role meaning-making, specifically the interpretation of valued competencies. Participants did not play a role in the coding or analysis of ODR data, and as such inferences arise from the understanding and interpretations of the researcher alone, although guided by current research (e.g., Kauffman et al., 2010; Lane et al., 2006; Putnam et al., 2003). Therefore, the researcher recognized, as both a strength and limitation, that culture, identity, and experience may have influenced the coding process and thus shaped outcomes of the study. Nonetheless, the researcher aimed to represent the school community in a dignified manner that reflected the community’s holistic commitment to supporting the well-being of children.

**Additional limitations.** Two additional limitations should be mentioned. First, rollout of the screening initiative took place in stages. Over the first school year of implementation (2013-14), teachers from grades 1 and 2 completed the DESSA-mini in November and May. Feedback from that implementation indicated that data could be used to inform the tiered support system that was being established. The original team developed a manual that described the decision-making process and provided a protocol for screening and data use. In the second year of implementation (2014-15), teachers in grades K-4 participated in the screening effort. Data was collected at two time points (fall and spring). DESSA-mini screening results from the fall data collection were used in this study. However, between year one and year two of implementation, the school leadership and universal screening implementation team changed. A new school-based mental health professional joined the school, a new special education coordinator was hired, and a new school psychology extern joined the consultation effort. The former
social worker, assistant principal, and two school psychology externs (founding members of the team) moved on to other positions. The author of this study remained with the project. The new team members were new to the school, were not familiar with the DESSA-mini and were new to using universal screening data for school wide decision-making. Nonetheless, consistent with the evaluation of appropriateness, the new team agreed upon the importance of data-based decision making and the value that a screener such as the DESSA-mini could bring to that process. The new team members were verbally committed to pursuing the initiative and worked closely with the researcher to formulate plans to continue the initiative to its fullest. The researcher recognizes, however, that communication about the measure and use of data may have differed from one team to the other. While the researcher does not think these changes affected overall study results, ways in which these changes may have affected implementation and usage of the screener were not overtly measured.

Secondly, screening data from the fall DESSA-mini administration, which took place in September, were used to predict year-end academic and behavioral outcomes. The level to which teachers utilized screening data across the school year may have affected year-end outcomes of students and was not measured. For instance, teachers may have been able to address successfully the SEB weaknesses certain children were demonstrating and thusly change student outcomes. Additionally, since teachers based SEB ratings on beginning of the year behaviors, certain problematic behavioral patterns (e.g., noncompliance and behavioral escalation) may not have been as apparent at the beginning of the year as compared to several months into the school year when
behavioral patterns (e.g., ways in which students respond to correction) may be more established.

Conclusion

Schools should consider universal social, emotional, and behavioral (SEB) screening of students while implementing multi-tiered systems of support. Even though effective screening requires thoughtful planning and detailed implementation, benefits can be significant for students and schools. This study illustrates ways in which the DESSA-mini (Naglieri et al., 2011) could be used to determine whether particular students, classrooms, or grade-levels demonstrate higher SEB needs. Additionally, the study illustrates how coded Office Discipline Referrals (ODRs) can be incorporated into school data review practices to further understand classroom and school climate, thereby aiding in the tracking of intervention, prevention, and promotion efforts (e.g., Irvin et al., 2006; Kaufman, et al., 2010). Moreover, the study illustrates the importance of understanding the local context within which screening initiatives are employed and how mixed methodology can be used to enhance the cultural relevancy of research (Nastasi & Hitchcock, 2016).
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quantitative research in developmental science: Uses and methodological choices.

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Appendix A

**Table 20**

*Omnibus Correlation Results*

<table>
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<tr>
<th>Variables</th>
<th>1</th>
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<th>3</th>
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<th>6</th>
<th>7</th>
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</thead>
<tbody>
<tr>
<td>1. Student Gender</td>
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<tr>
<td>2. Student Age in Years</td>
<td>.028</td>
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<tr>
<td>3. Student Grade Level</td>
<td>.038</td>
<td>.936**</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. DESSA-mini (TeacherRpt) fall 14-15</td>
<td>.038</td>
<td>.098*</td>
<td>.120**</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>5. Attendance Total Absences 14-15</td>
<td>-.019</td>
<td>-.060</td>
<td>-.101*</td>
<td>-.076</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>6. Office Discipline Referrals Total 14-15</td>
<td>-.144**</td>
<td>.238**</td>
<td>.209**</td>
<td>.012</td>
<td>.063</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>7. Suspensions Total 14-15</td>
<td>-.083</td>
<td>.107*</td>
<td>.087*</td>
<td>.035</td>
<td>.063</td>
<td>.312**</td>
<td></td>
<td></td>
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<tr>
<td>8. Standardized Math MAP Score Spring 2015</td>
<td>-.003</td>
<td>.722**</td>
<td>.794**</td>
<td>.193**</td>
<td>-.136**</td>
<td>.152**</td>
<td>.129**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Standardized ELA MAP Score Spring 2015</td>
<td>.061</td>
<td>.595**</td>
<td>.684**</td>
<td>.115*</td>
<td>-.265**</td>
<td>.067</td>
<td>.016</td>
<td>.795**</td>
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</tbody>
</table>

*Note.* *p* = .05 **p* < .001. Gender variables were dummy coded with Males = 0 and Females = 1. MAP = Measures of Academic Progress (Northwest Evaluation Association; NWEA, 2005). DESSA-mini = Devereux Student Strength Assessment-mini (Naglieri et al., 2011).
Appendix B
Estimated Mean Office Discipline Referrals

Table 2

Estimated Mean Office Discipline Referrals by DESSA-mini Rating

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Low DESSA-mini Rating (10)</th>
<th>Medial DESSA-mini Rating (20)</th>
<th>High DESSA-mini Rating (30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.72</td>
<td>1.32</td>
<td>2.43</td>
</tr>
<tr>
<td>2</td>
<td>0.46</td>
<td>1.00</td>
<td>2.14</td>
</tr>
<tr>
<td>3</td>
<td>1.05</td>
<td>1.63</td>
<td>2.54</td>
</tr>
<tr>
<td>4</td>
<td>0.02</td>
<td>0.17</td>
<td>1.91</td>
</tr>
<tr>
<td>5</td>
<td>6.01</td>
<td>2.04</td>
<td>0.69</td>
</tr>
<tr>
<td>6</td>
<td>1.77</td>
<td>1.91</td>
<td>2.06</td>
</tr>
<tr>
<td>7</td>
<td>4.88</td>
<td>2.19</td>
<td>0.98</td>
</tr>
<tr>
<td>8</td>
<td>0.57</td>
<td>0.90</td>
<td>1.44</td>
</tr>
<tr>
<td>9</td>
<td>6.45</td>
<td>1.38</td>
<td>0.30</td>
</tr>
<tr>
<td>10</td>
<td>0.81</td>
<td>2.07</td>
<td>5.33</td>
</tr>
<tr>
<td>11</td>
<td>34.22</td>
<td>3.60</td>
<td>0.38</td>
</tr>
<tr>
<td>12</td>
<td>0.68</td>
<td>1.46</td>
<td>3.16</td>
</tr>
<tr>
<td>13</td>
<td>0.26</td>
<td>0.66</td>
<td>1.68</td>
</tr>
<tr>
<td>14</td>
<td>0.12</td>
<td>0.32</td>
<td>0.85</td>
</tr>
<tr>
<td>15</td>
<td>0.01</td>
<td>0.10</td>
<td>1.48</td>
</tr>
<tr>
<td>16</td>
<td>0.67</td>
<td>2.18</td>
<td>7.04</td>
</tr>
<tr>
<td>17</td>
<td>18.85</td>
<td>10.41</td>
<td>5.75</td>
</tr>
<tr>
<td>18</td>
<td>8.56</td>
<td>2.86</td>
<td>0.95</td>
</tr>
<tr>
<td>19</td>
<td>5.31</td>
<td>2.75</td>
<td>1.43</td>
</tr>
<tr>
<td>20</td>
<td>15.01</td>
<td>4.05</td>
<td>1.10</td>
</tr>
</tbody>
</table>

Note. (DESSA)-mini = Devereux Student Strength Assessment (Naglieri, LeBuffe, & Shapiro, 2011). Estimated mean ODRs for individual Teacher/Classrooms are based on low, medial, and high ratings of student SEB competency on the DESSA-mini
Figure 10. Estimated mean Office Discipline Referrals (ODRs) by DESSA-mini ratings. These trend lines represent estimated mean ODRs for individual Teacher/Classrooms based on low, medial, and high ratings of student SEB competency on the DESSA-mini (Naglieri et al., 2011).
Biography

Jorge Verlenden received her Bachelor of Science in Marketing from Louisiana State University and her Masters of Education in Elementary Education and Reading from Loyola University of New Orleans. She is currently a doctoral candidate in Developmental Psychology at Tulane University. Through school and community partnerships, she explores ways to promote psychological well-being of children through the implementation of effective, evidence-based school programming. Her work is grounded in a participatory, culture-specific research and consultation approach. She has particular interest and experience with the implementation of models for early intervention to be used with children at risk for emotional, behavioral, and academic difficulties. Jorge is also interested in the intersection between school, children, and the family and in implementation of support structures that foster healthy relationships within this network. For nearly 10 years, Jorge worked in Cairo, Egypt as an intervention specialist for students with specific learning disabilities and conducted outcomes-based research on an education development project funded by the United States Agency for International Development (USAID). She is also active in the promotion of child rights and social justice. As a member of the Tulane University Child Rights Team, she helped design and launch an online learning module to help school psychologists utilize the United Nations Convention on the Rights of the Child in school consultation practice. In September 2016, Jorge will begin her post-doctoral fellowship training at Morehouse School of Medicine where she will join the Satcher Health Leadership Institute and the Georgia Leadership & Education in Neurodevelopmental Disabilities (GaLEND) program as a health policy leadership fellow.