

**THE ROLE OF LANGUAGE STATUS AND SCHOOL-BASED  
RELATIONSHIPS IN PREDICTING STUDENT ENGAGEMENT**

by

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A dissertation submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Education

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## **ABSTRACT**

The purpose of this exploratory study was to investigate the association of language status and school-based relationships (e.g., teacher-student relationships, student-student relationships, and teacher-home communications) on parent perceptions of their students' engagement. Additionally, the relationship between student and school demographic factors and student engagement was explored. The study also investigated the moderating effects of language status and grade level on the association between parent perceptions of teacher-student relationships and student engagement, student-student relationships and student engagement, and teacher-home communications and student engagement. Data were gathered from parents of public-school students from preschool through fifth grade in the state of Delaware. Data were gathered from 17,229 parents in 103 public schools, including 2,245 self-identified Spanish speakers. Differential identification of Spanish-speaking linguistically diverse youth by their language ability in English and Spanish was utilized. Consistent with engagement literature and factor analysis results, engagement was measured as an overall factor, including behavioral- cognitive and emotional engagement.

Results of hierarchical linear analysis indicated that school demographics, teacher-student relationship quality, and teacher-home communication quality were predictors of student engagement. Further, results indicated different ratings of engagement between linguistic groups. Findings of this exploratory study highlight the importance of parent perceptions of school-based relationships in developing student engagement for all students. Through examining schoolwide factors that contribute to

linguistically diverse students' engagement, the results may guide the work of teachers, administrators, and policymakers on which programs have the potential to yield the best success for engagement in schools with a high proportion of linguistically diverse students. Future research utilizing both longitudinal and quasi-experimental design is needed to understand the impact of school-level factors on student engagement for linguistically diverse students. Further, future research may include district level services impacting linguistically diverse student engagement.

## Chapter 1

### INTRODUCTION

#### 1.1 Student Engagement: Importance

While student engagement has been a focus of educational research for decades (Finn, 1993; Jimerson, Campos, & Greif, 2003; Shernoff, Csikszentmihalyi, Schneider & Steele-Shernoff, 2003; Skinner & Belmont, 1993), there has been a recent increased interest in how to foster engagement (Konold, Cornell, Shukla, & Huang, 2017; Chong & Liem, 2017; Macfarlane & Tomlinson, 2017; Quin, 2017; Unger & Liebenberg, 2013; Yang, Bear, & May, 2018). The increased research focus is substantiated by the myriad of positive student outcomes linked with stronger student engagement. These outcomes include lower risk of school drop-out or increased school completion, increased academic achievement across subjects, decreased behavior problems, and increased social-emotional wellbeing.

Researchers have found that increased student engagement is associated with a lower risk of dropping-out of school (Doll & Hess, 2001; Freeman & Simonsen, 2015; Jimerson et al., 2003; Quin, 2017; Rumberger & Rotermund, 2012; Sinclair, Christenson, Lehr & Anderson, 2003). For this reason, school drop-out is identified not as a single event but rather as a long process of student disengagement

(Rumberger, 1987). Therefore, in place of preventing school drop-out, research focuses on identifying factors facilitating student engagement throughout students' educational trajectories with the goal of increasing school completion (Sinclair, et al., 2003).

Student engagement is associated with higher rates of school attendance (Quin, 2017). In a survey of students in the United States, 11% of adolescents reported having skipped school within the past 30 days (Vaughn, Maynard, Sals-Wright, Perron, & Abdon, 2013). In an international survey of 28 countries, including the United States, about 25 percent of students reported having a low sense of belonging in school and about 20 percent of students had low participation (Willms, 2003). While student disengagement is a pervasive international issue, there is substantial variation school by school in student attachment and participation (Willms, 2003).

Similarly, there is variation in student engagement by demographic population. For example, the school dropout rate for Hispanic students born outside the United States was around forty-four percent in 2000 (Educational Demographic Office, 2000). While the school completion rate in California increased steadily from 1992 to 2002, 28 percent of Hispanic youth were not enrolled in school nor had they completed a high school program (National Center of Educational Statistics, 2002). Nationally, the school completion rate for Hispanic students rose from 59 percent to 85 percent from 1990 to 2013 and the completion rate for white students remained relatively consistent, increasing from 90 percent to 94 percent in those years (Musu-Gillete et al., 2016). In conjunction with the increased focus on student engagement,

there has been an overall increase in school completion in the past 20 years (National Center for Education Statistics, 2012). Student engagement is linked to higher rates of school completion; but there is substantial variation between schools and demographic populations in school completion and student engagement which warrants further exploration.

In addition to school completion, student engagement is positively related to academic achievement across subject areas. Students who were more engaged with school had lower rates of course failures (Roodra, Jak, Zee, Oort, & Koomen, 2017; Sinclair & Kaibel, 2002) and higher grades across subject areas (Chase, Hillard, Geldhof, Warren, & Lerner, 2014; Sanders et al., 2018; Quin, 2017). One study found that seventh grade students in an urban California school with meaningful participation in school, a term often used interchangeably with school engagement, had higher grade point averages (Jennings, 2003). Other studies mirrored this conclusion, finding that positive school association, or emotional engagement, is related to increased academic achievement (Furrer & Skinner, 2003). Shernoff and his colleagues found that “subjective engagement,” or a state of heightened experience of concentration, interest, and enjoyment, has a positive effect on student’s perceived learning (Shernoff, Ruzek, & Sinha, 2017).

The relationship between grade point average (GPA) and school engagement is bidirectional and reciprocal (Chase et al., 2014). Chase and his colleagues found, using confirmatory factor analysis, that within this relationship behavioral engagement was the strongest predictor for GPA amongst students in grades 10-12 (Chase et al.,

2014). Student engagement has also been shown in the literature to mediate the relationship between environmental factors and academic achievement. For example, “subjective engagement” was found to mediate the effect of environmental support and positive relationships on academic achievement (Shernoff et al., 2017). Similarly, in a meta-analysis of research on academic achievement and school climate, Roodra and his colleagues found this relationship between teacher-student relationships and academic achievement is mediated by student engagement at the primary and secondary school level (Roodra et al., 2017). Berkowitz and his colleagues’ research synthesis also emphasized student engagement as the mediator in the relationship between socioeconomic background and academic achievement (Berkowitz, Moore, Astor, & Benbenishty, 2017). In a randomized controlled study, specific interventions aimed to increase emotional engagement for minority-background students caused increased grade point averages immediately and one-year post-intervention (Borman, Grigg, Rozek, Hanselman, & Dewey, 2018). Overall, research overwhelmingly supports the link between student engagement and academic achievement with the nature of this relationship being both bidirectional and reciprocal. Further, student engagement serves as a mediator between environmental factors and student achievement.

Student engagement also serves to prevent behavior problems in school. Fostering engagement is considered an integral part of classroom management and of teaching self-discipline by creating an environment that emphasizes cooperation rather than compliance (Osher, Bear, Sprague, & Doyle, 2010; Rumberger & Rotermund,

2012). Specifically, student engagement is linked to lower rates of out-of-school suspensions (Sinclair & Kaibel, 2002). Relatedly, school safety is a pressing concern for many high school students and can be positively associated with student engagement. For example, in a cross-sectional nationwide sample of public and private schools in 2017, 6.7 % of high school students did not go to school on at least one day during that month because they were concerned about safety at school. The prevalence of avoiding school due to safety concerns was highest among black (9.0%) and Hispanic (9.4%) students as compared to white (4.9%) students (Kann et al., 2018). In 2017 3.8% of students carried a weapon on school property, 6% of students had been threatened or injured with a weapon on school property, and 8.5% of students were in a physical fight on school property. Further, 19% of students had been electronically bullied and 20.2% of students were bullied on school property (Kann et al., 2018). Student engagement and sense of community is associated with student's perceived school safety (Lenzi et al., 2018). Research supports that student engagement plays an integral role in mitigating threats to school safety.

Finally, there is evidence that efforts to foster student engagement also serve to improve social emotional competencies and wellbeing. Researchers found that student engagement is linked to stronger social skills (Karchur, 2002; Sinclair et al., 2003), better general social emotional development (Pietarinen, Soini, & Pyhalto, 2014), and better social emotional adjustment to school (Murray & Greenberg, 2001). Promoting behavioral engagement in the classroom is linked to student behavioral competence and behavioral learning in early education settings (McLeod et al., 2017). Student

reports of their behavioral-cognitive and emotional engagement are also positively associated with their perceptions of school-level peer relationships and student-teacher relationships across grade levels (Yang et al., 2018). Outside of school, student engagement is considered a key protective factor in avoiding later unemployment (Abbott- Chapman, Ollington, Venn, Dwyer, & Gall, 2013; Henry, Knight, & Thornberry, 2012), substance abuse (Hawkins, Guo, Hill, Battin-Pearson, & Abbot, 2001; Henry et al., 2012), delinquency (Cernkovich & Giordano, 1992; Henry et al., 2012), and early sexual activity (Hawkins et al., 2001). Overall, research supports that greater sense of student engagement is linked to better social emotional outcomes and lower risk of negative behavioral outcomes for students both in and out of school.

Student engagement is linked to lower levels of school drop-out and positively related to school completion, greater academic achievement, prevention of behavior problems in and out of school, and greater social emotional outcomes. Despite the consensus of the importance of student engagement, individual schools differ greatly on their overall level of student engagement (Willms, 2003). The differential ability to foster student engagement across school contexts demonstrates an imperative to explore resources that are both malleable and naturally available in the schools. Through exploring malleable and naturally occurring school resources it is possible to identify interventions that are feasible within school contexts. Further, there is evidence that different populations may vary in level of student engagement (Livingston & Writ, 2003; Misu-Gillete et al., 2017; Willms, 2003). Research also provides evidence that students from minority backgrounds benefit from different

services than their white peers to succeed in school (Borman et al., 2018; Konold, et al., 2017; Shernoff & Schmidt, 2008). For example, Borman and his colleagues (2018) found that a self-affirmation intervention improved academic outcomes for seventh grade black and Hispanic public-school students experiencing stereotype threat, while the intervention was ineffective for their Asian and white peers. Therefore, in order to improve student engagement for all students, there is an imperative to explore malleable and naturally-existing factors in schools that are associated with higher levels of student engagement for the more vulnerable populations.

## **1.2 Student Engagement: A Definition**

For decades research has supported the positive relationship between engagement and student outcomes but has not come to a consensus on a definition of student engagement. In their critique of research on student engagement, Macfarlane and Tomlinson (2017) described engagement as a “nebulous overused term”. Literature on student engagement has used varied terminology such as “school bonding” (Eggert, Thompson, Herting, Nicholas, & Dicker, 1994; Peguero, Bondy, & Hong, 2017; Voisin, Kim, & Hong, 2018;), “connectedness” (Berkowitz et al., 2017), “participation” (Finn, 1993), and “attachment” (O’Farrell & Morrison, 2003), to describe similar behaviors and feelings. Jimerson, Campos, and Graff (2003) surveyed forty-five peer reviewed articles of student engagement; they found only fourteen of these articles delineated an explicit definition of engagement. Further confusing the

definition of the construct, there was a difference in the source of student engagement data (i.e., from students, teachers, or school records) and the format by which it was obtained (i.e., school records, survey, questionnaires) which influenced how authors defined their constructs. Historically, student engagement has been an important but vaguely defined construct.

While student engagement literature has not provided a consistent definition, it is widely-accepted that student engagement is multidimensional. Fredricks, Blumfeld, and Paris (2004) provided a comprehensive and often-utilized definition of student engagement as a multidimensional construct encompassing student behavior, emotional attachment, and cognitions related to school. Through this lens, engagement was viewed as a meta-construct incorporating three separate and dynamically interrelated factors related to meaningful participation in school. Many scholars included an additional fourth factor of student engagement consisting of academic engagement (Christenson & Thurlow, 2004; Quin, 2017; Reschly, Appleton, & Pohl, 2014; Wang & Eccles, 2013). Academic engagement included participation in activities directly related to schoolwork (e.g., time spent completing homework, credit hours earned, extracurricular participation).

In contrast, Shernoff offered a two-factor model of student engagement, including “subjective engagement” to describe the simultaneous experience of concentration, enjoyment, and interest in schoolwork (Shernoff et al., 2003; Shernoff et al., 2017). Subjective engagement was distinguishable from the second factor of “procedural engagement,” or doing what is expected in school (Nystrand & Gamoran,

1991; Shernoff et al., 2017). Shernoff proposed that subjective engagement is the dynamic interplay of different engagement factors, which are challenging to measure in isolation.

Consistent with the above definitions, student engagement has been understood as a meta construct with overall engagement including at least two factors (Archambault & Dupéré, 2017; Wang & Eccles, 2013; Yang et al., 2018). Student engagement has often measured by observable behaviors such as participation in school-related activities, grades, amount of time on homework, and rate of homework completion (Cernovich & Giodano, 1992; Jimerson et al., 2003). Given the difficulty of isolating cognitions from their corresponding behaviors, a bifactor model of a collapsed behavioral-cognitive engagement factor and emotional engagement factor has often been utilized in place of the three-factor model proposed by Fredricks and his colleagues (Konold et al., 2017; Li & Lerner, 2011; Yang et al., 2018). Further, it has been difficult for others (i.e., parents or teachers) to accurately measure cognitions of their students without their corresponding behaviors; for example, it is difficult for a parent to assess a student's motivation to spend more time on schoolwork from the hours they spend on homework.

There is substantial overlap in the dimensions of engagement and their influence on student outcomes. Many studies acknowledge the multifactorial nature of student engagement theoretically, but few measure these factors distinctly and either combine conceptually different engagement measures or test only one component (Li & Lerner, 2011). Given the nuanced nature of student engagement, measuring only

one facet of student engagement fails to reveal its complexity and the factors contributing to engagement (Li & Lerner, 2011; Wang & Eccles, 2012). Consistent with this literature imperative, the current study focuses on student engagement as an overarching construct consisting of two distinct factors: behavioral-cognitive engagement and emotional engagement.

### **1.2.1 Behavioral-Cognitive Student Engagement**

Behavioral-cognitive student engagement refers to the thoughts and corresponding behaviors related to positive school involvement (Finn & Voelkl, 1993; Furlong et al., 2003). This factor includes motivation and effort in learning as well as behaviors that reflect these beliefs such as paying attention in class, time spent on homework, and trying one's best (Fredricks, Blumenfeld, & Paris, 2004; Li & Lerner, 2011; McLeod et al., 2017). The cognitive aspect of this dimension includes beliefs, assessments, appraisals, and perceptions of the link between the individual student and the school (i.e., self, school, teachers, and peers). These perceptions and beliefs are related to motivation, aspirations, and expectations (Jimerson et al., 2003). These perceptions are also related to strategic thinking, self-esteem, and psychological investment in school (Furlong, You, Renshaw, Smith, & O'Malley, 2014; Jimerson et al., 2003). The cognitive component of behavioral-cognitive engagement includes student self-efficacy, the student's confidence in his/her ability to succeed at the academic task-at-hand (Furlong et al., 2014). Cognitive engagement literature utilizes

many of the same constructs as literature on motivation, including intrinsic motivation to learn and sustained mental effort (Fredricks et al., 2004). As evidenced above, cognitive engagement is internal, including motivation, sense of self, and expectations. These cognitions are often measured by behaviors consistent with performing well in school.

Finn (1989; Finn & Rock, 1997) performed an extensive literature review on behavioral engagement; he argued that there are three levels of student behavioral engagement. The first level includes conformity with rules and attention in the classroom; the second level includes student initiative, enthusiasm, and extra time spent on school work; and the third level includes involvement in school-related extracurricular activities and social activities. Finn and others (Finn, 1989; Finn & Rock, 1997) attest that behaviors at these three levels represent qualitatively different levels of student effort at school and attachment to school. The distinction between levels of behavioral engagement is consistent with Shernoff's bimodal categorization of engagement, which includes procedural engagement and subjective engagement (Shernoff et al., 2003; Shernoff et al. 2017). Generally, studies do not distinguish between these levels of behavioral engagement and identify behavioral-cognitive engagement as an overarching concept reflecting motivation and observable participation in school related activities (Konold et al., 2017; Li & Lerner, 2011). The present study considers behavioral-cognitive engagement as one construct under the umbrella of school engagement.

### **1.2.2 Emotional Engagement**

Emotional school engagement refers to how students feel about school, teachers and/or their peers (Li & Lerner, 2011; Jimerson et al., 2003). In the engagement literature, emotional school engagement is sometimes termed “affective engagement” (Furlong et al., 2003; Quin, 2017), “school belonging” (Finn & Rock, 1997; Johnson, Crosnoe & Elder, 2001), school “identification” (Finn & Voelkl, 1993), or “school attachment” (Chung, Hill, Hawkins, Gilchrist, & Nagin, 2002). Scholars characterize emotional school engagement by feelings of connectedness to school or community, feelings of inclusion, and support within the social environment (Jimerson et al., 2003; Johnson, Crosnoe & Elder, 2001). Studies typically use student self-report to measure emotional engagement assessing values and satisfaction with school (Fredrickson, 2004) as well as how much students feel cared for and cared about the school (Li & Lerner, 2011). Emotional engagement is linked to school completion as students are more likely to continue attending school if they feel they belong to and share common values with the school (Sinclair et al., 2003). Emotional engagement is also linked to academic achievement (Finn & Rock, 1997).

The literature reviewed here demonstrates the multidimensional nature of school engagement which incorporates behaviors, cognitions, and emotions. The two factors within the overall engagement construct are dynamically interrelated and therefore difficult to measure discretely. Tools to assess behavioral-cognitive engagement often utilize self-report on behaviors, direct observation, and teacher

reports on behaviors related to school. In contrast, measures of emotional engagement typically utilize student self-report feelings related to identification and attachment to school. Overall, research emphasizes the importance of utilizing the correct informant and survey measures to effectively assess the full breadth of student engagement.

### **1.3 Addressing the Needs of Linguistically Diverse Students: An Educational Imperative**

Addressing the specific needs of linguistically diverse students is a research and practical imperative in the United States educational system. In the current political climate national attention is focused on the outcomes of our culturally and linguistically diverse population, especially those of Hispanic origin. Demographic trends point to the dramatic increase in first and second-generation American children in the school system. For a decade, linguistically diverse youth have been the fastest growing demographic in the U.S. education system (NCLR, 2015; Romo, Thomas, & García, 2018; Suárez-Orozco & Carhill, 2008). In 2014, there were approximately 4.7 million English language learners (ELs) in the American public schools, with Spanish-speaking ELs making up the majority (78 percent) of this group (Musu-Gillete et al., 2017). The population of ELs is growing so dramatically that it was projected by 2030 ELs will comprise forty percent of the school-age population (Thomas & Collier, 2002). It has also been projected that Hispanic students will account for nearly 30% of total enrollments in the American schools by 2023 (NCLR, 2015). Linguistic minorities and immigrant students need different supports than those provided their

monolingual peers in order to thrive in the American school system and to later be prepared to succeed in American society (de Jong & Harper, 2005; NCLR, 2015; Suárez-Orozco, Suárez-Orozco, & Todorova, 2008). Within research, policy, and practice, many educational initiatives have aimed to ensure linguistically diverse students, especially ELs, have equal access to education. Increasingly, equal access includes both academic and socioemotional growth opportunities as well as the resources to engage with the school system to fully utilize these opportunities.

Trends point to a gap in school completion between linguistically diverse students and their monolingual peers. Spanish speaking immigrant youth, the largest subset of the linguistically diverse population, are more likely than native-born youth to drop out of high school (Behnke, Gonzalez, & Cox, 2010; Misu-Gillete et al., 2017). The school dropout rate has steadily declined from 1990 to 2014 for all populations; however, dropout rates still remain higher for Hispanic youth (10.6 percent) than for their white counterparts (5.2 percent; Musu-Gellete et al., 2017; Synder, de Brey, & Dillow, 2016). With educational accountability as the norm and the population of culturally and linguistically diverse students growing in numbers, the success of Spanish speaking students is not just important for the individual student but also for the general achievement of schools that host a large population of linguistically diverse students.

In addition to a gap in school completion, there is an achievement gap between linguistically diverse students and their monolingual peers. Linguistically diverse children from all ethnic backgrounds show lower academic achievement and score

lower on tests of reading and math proficiency than their peers (Abedi & Gándara, 2006; Niehaus & Adelson, 2014; OECD, 2006). For example, in 2006 the California Department of Education found that 79% of ELs tested in California did not meet proficiency standards across academic subjects. Of the ELs with disabilities, 83% of students were considered not proficient (California Department of Education, 2006). While achievement differences between racial groups have been narrowing over time, the gap perpetuates for ELs and their English-speaking peers (Carnoy & García, 2017). Subsequent to lower test scores, linguistically diverse students are often placed in remedial and low-level instruction which exacerbates the existing achievement gaps (Heubert, 2000). Further, high stakes testing, negatively associated with academic achievement, is most likely to occur in populations with high EL populations (Nichols, Glass, & Berliner, 2005). Within the population of linguistically diverse students, immigrant children who do not receive appropriate supports within school are more likely to underperform or have declining academic performance (Suárez-Orozco et al., 2008).

There is significant evidence that academic achievement is related to socio-emotional wellbeing (Furlong et. al, 2014; Splett, Fowler, Weist, & McDaniel, 2013). The population of linguistically diverse students is also at risk for increased social-emotional-behavioral problems, as linguistically diverse youth report more internalizing and externalizing behaviors compared to their monolingual peers and lower levels of self-efficacy (Niehaus & Adelson, 2014). Issues with mental health in early childhood are persistent and predictive of later issues (Splett et. al, 2013). In

order to avoid further issues of mental health or risk behaviors, focus on social-emotional wellbeing in K-12 education may be an appropriate point of intervention. Linguistically diverse students may require different resources from school in order to thrive both academically and socio-emotionally. Therefore, it is imperative for schools to foster the appropriate school climate that fosters a positive socio-emotional wellbeing for linguistically diverse students.

The gap in school completion, achievement, and social-emotional wellbeing for students from linguistically diverse backgrounds can be attributed in part to the unique barriers they must overcome in education. Often linguistically diverse students find themselves navigating a language barrier, cultural differences, and lower socioeconomic status, which require additional school supports (Niehaus & Adelson, 2014; Suárez-Orozco et al., 2008). Research shows that immigrant youth have difficulties with the complex level of English that one needs to perform well on the high-stakes tests instituted by the various education reform acts (Suárez- Orozco, Onaga, & Lardemelle, 2010). In addition, linguistically diverse students are more likely to be taught by teachers without appropriate credentials and with less classroom experience than other students (Gándara, Rumberger, Maxwell & Callahan, 2003; Rumberger & Gándara, 2004). Fortunately, professional development targeting teacher preparedness to teach ELs has increased teacher knowledge and student outcomes (Babinski, Amendum, Knotek, Sánchez, & Malone, 2018). Given the significant rise in linguistically diverse youth in American schools, it is an educational

imperative to understand and address the unique resources and needs of linguistically diverse students.

#### **1.4 Identifying English Learners (ELs) and Linguistically Diverse Population**

The segment of linguistically diverse students identified most commonly in literature includes only those who need additional supports due to their limited knowledge of the English language. This characterization of students who do not speak English at home holds the potential to reinforce a deficit model for the population of linguistically diverse students by only attending to the limits of their knowledge (Gutiérrez & Orellano, 2006). In order to further the understanding of this population, the current project includes a wide range of linguistically diverse students instead of only identifying English Learners (ELs). However, the majority of literature and legislation on identifying this heterogeneous group is designed to understand and create interventions for ELs. The literature that follows includes state and organizational definitions of ELs.

Organizations and states differ on their criteria for identifying ELs. School data are generally insufficient for classifying students of varying levels of EL (Linquinti & Cook, 2013). The Elementary and Secondary Education Act defines an EL as a student in elementary or secondary school whose difficulties in speaking, reading, writing or understanding the English language may be sufficient to deny the individual (a) the ability to meet the state's proficient level of achievement on state assessments; (b) the

ability to successfully achieve in classrooms where the language of instruction is English; or (c) the opportunity to participate fully in society. Accordingly, ELs do not necessarily need to be proficient in English or fully participating in society but rather need the “ability” or “opportunity” to do so. The nuances in terminology of the federal law identifying ELs makes a common definition of English Learners unobtainable. Other pertinent federal legislation aimed to define and appropriately serve ELs is reviewed in the subsequent section.

While many states send home language surveys to determine the need for EL services, the variability between these surveys makes cross-state comparisons and classification tools difficult to interpret and to compare findings (López, Pooler, & Linqanti, 2016; NRC, 2011). Improper identification and classification of linguistically diverse students, or any students, may exclude students from necessary services to help achieve high academic standards and academic potential. Given the variability in assessment measures, the Department of Education and Department of Justice published consolidated guidelines for utilizing home language surveys (DOE & DOJ, 2015) and the Department of Education’s Office of English Language Acquisition published an English Learner Toolkit (DOE, 2017). Generally, schools utilize home language surveys to identify students in need of further assessment for EL services and an English Language Proficiency test to identify EL status (López et al., 2016). The most widely utilized measure of English language proficiency is the World-Class Instructional Design and Assessment – Wide Access Placement Test (W-APT). However, researchers point out that it is an understudied measure that does not

adequately differentiate across students with greatly varied literacy skills and experiences in school (King & Bigelow, 2018). Despite these guidelines for home language surveys and English language proficiency assessments, variability and difficulties identifying ELs persist.

Home Language Surveys were created in large part to gather information about limited English proficient students' functional language needs and not social-emotional needs or competencies. Federal law requires states to assess ELs in reading, writing, listening, and speaking annually and to their monitor progress (ESEA Section 111(b)(7)). These assessments provide practical language categorization but do not look at the environmental and contextual factors surrounding being an EL. The Council of the Chief State School Officers (Linguisti & Cook, 2013) calls on researchers to conduct studies to assess how and why ELs may not be fulfilling their "ability to succeed in the classroom" or "participate fully in society." The council calls on researchers to assess resources that are in place schoolwide to help ELs thrive (Linguisti & Cook, 2013). The potential of linguistically diverse students is documented. A study of Spanish speaking dual language learners reveals that while English literacy skills lagged behind monolingual peers, emerging bilingual students demonstrated stronger emerging cognitive, physical and social-emotional abilities than their monolingual peers (Kim, Lambert, & Burts, 2018). Holistic understanding of linguistically diverse students' abilities as they relate to school functioning beyond English proficiency is important to understand student engagement. In order to

conduct research on this matter, a consensus on the definition and identification of linguistically diverse students and ELs must first be reached.

#### **1.4.1 A Review of Policy on Identifying English Learners (ELs)**

The methods for identifying English learners (ELs) arose predominately due to policy initiatives and efforts to promote diversity of learners and identify barriers to education. Students from language minority backgrounds were first included in legislation in 1964. Specifically, Title VI of the Civil Rights Act declared that no student in the United States be “excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.” (Civil Rights Act, 1964 Sec 601). Minority language student rights in education were made explicit 10 years later by the Equal Educational Opportunities Act of 1974, which required states to take “appropriate action to overcome language barriers and ensure equal participation by its students” (Equal Educational Opportunities Act, 1974). Subsequent United States Supreme Court cases defined the rights of students with limited English proficiency. Specifically, the Court mandated that schools provide English language development instruction to those who did not already reach English proficiency (Linguisti & Cook, 2013). It is from these policies and Supreme Court cases that schools began to be responsible for identifying and serving students who were unable to benefit from instruction in English.

Recently, legislation has been more specific about the rights of language-minority students. In the Elementary and Secondary Education Act (ESEA) of 1978 and later in No Child Left Behind (2001), policy outlined specifics to schools on the credentials of “Limited English Proficient” students. The law specifies that students whose proficiency in English denies them the ability to meet standards on state assessments, to successfully achieve in the classroom, or to participate fully in society are classified as “Limited English Proficient” (No Child Left Behind, 2001). With this new legislation a level of ambiguity and responsibility was added to the states and schools interpreting the law on who qualifies as having a language barrier that denies access to participate fully in society. Latent in the description of a Limited English Proficient student is the idea that participation in society (i.e., school engagement in educational sectors) is a right for all students. As a result of the various legislative efforts from 1974 to 2015 (Every Student Succeeds Act- ESSA of 2015), schools began identifying students in need of English second learner services. However, research shows that identifying those in need of additional English instruction only represents one facet of the continuum of English Learners (Gánarda, 2015; Linqanti & Cook, 2013; Luk & Lin, 2015). Given the ambiguity, the Department of Education and the Department of Justice established the aforementioned descriptive guidelines and Toolkit to identify EL students and effectively work with them in school (DOE & DOJ, 2015; DOE, 2017). However, there are currently no national or Delaware-state empirically based standards for placing linguistically diverse students in the appropriate learning setting or understanding how EL student engagement differs from

that of the native-born population in K-12 education (Padilla, 1990; Russakoff, 2011; Suárez-Orozco et al., 2008).

#### **1.4.2 Differentiation of Language Status: A Review of Literature**

Identifying those who are “limited English proficiency” or in need of additional English instruction is not sufficient to adhere to policy requirements of providing linguistically diverse students with equal educational opportunities. One of the shortcomings of identifying students solely on their linguistic need is the potential for attributing diversity of learning to language exposure. Early in their educational trajectory, linguistically diverse students are unlikely to be identified as needing special education services due to the inability to disentangle pure language disabilities from limited English exposure (Chamberlain, 2005; Morgan et al., 2015). In practice, there is an underidentification of linguistically diverse students in special education in early education years, followed by an overidentification in later years, generally increasing dramatically in fifth grade (Artiles, Rueda, Salazar, & Higuera, 2002; Counts, Katsiyannis, & Whitford, 2018; Morgan et al., 2015; Samson & Lesaux, 2009). Overrepresentation of linguistic groups in special education is problematic because the specialized instruction provided may not fit the learner’s profile or barriers. Further, overrepresentation of non-English speaking students in special education can perpetuate stereotypes about members of these linguistic groups (Chamberlain, 2012; Morgan et al., 2015). Research shows that it takes between four

and seven years to become fully proficient in a second language; however, many ELs are moved out of the classification before they achieve full English proficiency (Cummins, 1979; Thompson, 2015). In these cases, narrowing linguistically diverse characteristics solely down to English exposure or ability leads to a lack of services specialized to the needs of ELs.

In addition to potentially overlooking students in need of specialized instruction, limiting the definitions of those qualifying for English Second Language (ESL) services may also overlook linguistically diverse students who need additional services that fall outside the domain of special education and ESL services. According to the Delaware Department of Education, only 6.4% of students were classified as having ESL services in the 2015-2016 school year (<http://profiles.doe.k12.de.us/SchoolProfiles/State/Student.aspx>); however, it is estimated that 20% of students speak a language other than English at home (Ryan, 2013). Scholars estimate that about half of the students speaking other languages at home have not yet reached proficiency in English (Boyle, Taylor, Hurlburt, & Soga, 2010). The discrepancy indicates that there are many students not receiving the services they need to be successful within the United States education system due to a lack of identification.

Given the variability within the linguistically diverse population, it is important to distinguish between groups of linguistically diverse students. These classifications can allow for an understanding of differential outcomes and differential intervention decisions. There are additional stressors and needs for support for

students who have limited English proficiency that are not pertinent for bilingual students (Abedi, 2008; Bailey & Kelley, 2012; Linqinti & Cook, 2013). At the same time, bilingual students may experience additional contextual factors that are not relevant to the general population (Hill & Torres, 2010). The present study utilizes an inclusive definition of linguistically diverse students, including school age children who speak Spanish at home or in their communities, regardless of English proficiency. Within this larger group of linguistically diverse students, the present study seeks to further classify students by their language ability in both English and Spanish to determine the influence of school and individual factors in these subsets on the outcome of student engagement.

The previous literature demonstrates the overwhelmingly positive relationship between student engagement with student outcomes for the general population. It is important to understand student engagement for diverse populations as well. Specifically, in the increasingly multicultural society, there is a need for exploratory research on the nuanced relationship between language status and student engagement. The present study serves to fill that gap by exploring the role of language status in student engagement.

## **1.5 Study Purpose**

The current study investigated the association of language status and parent ratings of their students' engagement. Thus, the primary goal of the current study was

to explore the role of language status in predicting student engagement. Consistent with the research (detailed in this chapter and in the subsequent chapter), differential identification of linguistically diverse students by their language ability in both English and Spanish was utilized. The project also investigated the influence of school relationships on student engagement and the interaction between these relationships and language status. Thus, a secondary goal of the project was to explore which malleable, naturally occurring factors in the school, contribute most to strong student engagement. The association of teacher-student relationship quality, student-student relationship quality, home-school communication quality, and grade level on student engagement for monolingual English-speaking students, bilingual students, and monolingual Spanish speaking students was also explored. By examining current schoolwide practices, the study aimed to aid administrators in building on existing resources and protective factors for this specific population within their schools.

## **Chapter 2**

### **LITERATURE REVIEW**

#### **2.1 Language Status and Education: A Review of Literature**

Identifying and serving linguistically diverse students has arisen as a critical and complex responsibility for educators and policymakers alike. Legislation and research emphasize the imperative to identify the specific needs of linguistically diverse students, including English Learners, and ensure they have equal access to education. As previously indicated, the motivation to identify and support linguistically diverse students is threefold. First, there is an increase in the number of students who speak a language other than English at home within the United States education system. The U.S. Census Bureau reports that in the last 30 years, the number of speakers of languages other than English has gone from 23 million to more than 60 million (Ryan, 2013). Second, there is a gap between educational attainment for linguistically diverse students and their monolingual peers, which leads to higher dropout rates and lower school completion rates for English learners. Third, there is a gap between English learners and their peers in academic achievement as demonstrated through test scores.

Often linguistically diverse students find themselves navigating stressors of cultural barriers, immigration, and lower socioeconomic status (Niehaus & Adelson, 2014; Suárez-Orozco et al., 2008). It follows that students with these additional stressors, in addition to the stressor of language acquisition, interact with their school environment differently than their monolingual peers. In expanding the criteria for identifying linguistically diverse students, it is important to distinguish those who are English learners from those who are truly bilingual. Literature shows that speaking a language other than English at home can be either a risk or a protective factor in terms of better social emotional and academic outcomes (Bialystok, 2015; Gánarda, 2015). Identifying those proficient in both Spanish and English separately from English learners is important for identification of students in need of educational services.

### **2.1.1 Literature on Bilingualism**

In popular culture and opinion, there is a bias towards bilingualism and multilingualism for its potential cognitive gains. While many assume that a bilingual student is equally proficient to the point of fluency in English and another language, bilingual individuals may have varied proficiency in both languages. Valdés and Figueroa (1994) define a bilingual individual as someone with more than one language competence. This broad definition includes a continuum of varying proficiencies in receptive and expressive language skills for both languages spoken; the proficiencies

depend on various factors including: modalities (oral or written language), topic, interlocutor, and the nature of the conversation (Valdés & Figueroa, 1994).

Valdés and Figueroa (1994) also identify differences in elective bilingualism and circumstantial bilingualism. Instead of choosing to learn a second language, circumstantial bilinguals learn a language out of necessity. ELs are typically circumstantial bilinguals with varying abilities in both languages; they learn English or a home language out of necessity for communication at school and/or at home. For decades, scholars on student bilingualism identified a difference between basic interpersonal communication skills and cognitive academic language proficiency (Cummins, 1979). Second language acquisition literature continues to distinguish conversational and academic language (Huerta, Irby, Lara-Alecio, & Tong, 2016; Khatib & Taie, 2016). Given the context-dependent variation in language abilities in both languages, research on second language acquisition demonstrates the heterogenous nature of the population of linguistically diverse students.

According to some scholars, there are cognitive advantages to bilingualism. For example, Gánarda (2015) writes that language diversity is an immense asset to the nation and schools need to focus on bilingualism in education. He argues that bilingualism is good for the economy and for the individual student's planning and organization skills. In fact, many scholars theorize that bilingualism is an asset for developing executive functions (skills utilized to set and achieve goals) within developing minds (Bialystok & Grundy, 2018; Gánarda, 2015). Specifically, bilingual brains are thought to demonstrate greater flexibility and discrimination of competing

stimuli as a result of consistently needing to distinguish between two or more languages in everyday (Bialystok & Grundy, 2018). However, it is important to keep in mind that these literature reviews do not identify between the types of bilingualism or quantify the degree to bilingualism described above. Since these theories do not identify type of bilingualism or level of proficiency in either language, the positive implications for linguistically diverse students is not apparent and further research is needed to identify the benefits of bilingualism at varying proficiencies.

There is increasing literature suggesting that comfort in first language is beneficial for ELs as it strengthens English abilities and academic motivation (Hopp, Vogelbacher, Kieseier, & Thoma, 2019; Lee, 2008; Panter-Brck & Eggerman, 2012; Theron et al., 2011; Wright and Taylor, 1995). For this reason, bilingual immersion classrooms utilizing native language instruction have received increasing attention (see subsequent section on linguistically diverse students and engagement for further details). Despite the enthusiasm for bilingualism and consequently immersion classrooms, Bruin and her colleagues (2014) claim there are mixed results on the bilingual advantage. She attests that the popular notion that bilingualism yields a cognitive advantage is due to publication bias favoring publishing positive results of bilingualism (Bruin, Treccani, & Sala, 2014). In a study of bilingual students in Spain, Medvedva & Portes (2017) found that there while there were no additional educational costs associated with bilingualism in this population, there was also no apparent evidence of a bilingual advantage on discrete outcome measures of achievement or social-emotional wellbeing. However, the authors conclude that “the risks of

bilingualism are worth their cost” due to the later trajectory outcomes associated with youth bilingualism (Mededva & Portes, 2017, p. 661). Studies conducted on adolescents in the United States mirror these results, finding that bilinguals outperformed limited English proficient students (EL classified students) but bilingual adolescents were on par with their monolingual English counterparts academically and in terms of social-emotional wellbeing (Huang, Davis, & Ngamsomjan, 2017). This study, however, noted limited variability in its sample in terms of student socioeconomic status, age, or grade level. Despite some research evidence of a bilingual advantage in terms of executive functioning and later outcomes, research has not come to a consensus on whether bilingualism is an academic risk or protective factor.

While the studies reviewed above suggest that bilingual students perform as well or better than their monolingual peers, there are additional stressors to students coming from language diverse backgrounds compared to their monolingual peers. It is difficult to examine the influence of culture and cultural stressors associated with language diversity on learning because of the substantial within group variation of linguistically diverse students (Chamberlain, 2012). Literature suggests, however, that students who are stronger in Spanish than in English are at a disadvantage academically as compared to their monolingual, and presumably fully proficient bilingual peers (Abedi & Gándara, 2006; Behnke et al., 2010; Niehaus & Adelson, 2014; OECD, 2006). In addition to the conflicting evidence on bilingual advantage,

researchers note an abundance of literature on English Learners and a gap in literature on bilingual students (Huang, Davis, & Ngamsomjan, 2017). The current study served to fill the gap by highlighting the relationship between bilingualism (across the bilingual continuum) and student engagement as well as its mediating factors. In the current study, students with knowledge of Spanish and English will be identified across the bilingual continuum. Students' language status includes bilingual students with greater proficiency in both languages ("bilingual" in the current study) and weaker proficiencies in English ("monolingual Spanish" in the current study).

### **2.1.2 Defining Language Status: Classification of ELs and Former ELs**

Some researchers suggest a reclassification of ELs who have met English proficiency standards but no longer need specialized linguistic support. The reclassification would allow educators and policymakers to monitor linguistically diverse students' progress and their future need for supports (Bedore et al., 2012; Linqanti & Cook, 2013; Saunders & Marcelletti, 2013; Thompson, 2015).

Questionnaires aimed at gathering language status stress the importance of asking the parent the following: age of arrival to the U.S., extended stay in non-English speaking country, languages spoken at home by family members, age of exposure to English, and languages spoken to child by caretakers, other adults, or peers (CECER-DLL Webinar, March 2014). Quantifying the level of language status or bilingualism is a necessary next step in serving linguistically diverse students for several reasons. First,

operationalizing language status allows researchers to compare findings across studies, allowing for progress in research on best practices with linguistically diverse students. Second, quantifying the level of language status or bilingualism is a step towards building the knowledge of bilingual language development, bilingual cognitive development, and educational outcomes (Bedore et al., 2012). Third, quantifying EL status is a necessary step in understanding and serving EL specific needs (Linguanti & Cook, 2014). Last, some researchers argue that excluding “former ELs” who were previously limited English proficient from the EL classification contributes to inhibiting linguistically diverse student access to education in the following ways: by underestimating former EL students’ academic skills, by overestimating achievement gaps between ELs and former ELs, and by decreasing the likelihood of successfully progress monitoring of former ELs (Saunders & Marcelletti, 2013).

Despite the aforementioned need for a consensus on language status, there is great variability between states and within states on how to identify ELs (Motamedi, Singh, & Thompson, 2016; U.S. DOE, 2017; Working Group on EL Policy, 2011). In fact, only nine states have specific practices for identifying ELs in their state laws and 24 states have specific practice guidelines (Abedi, 2008); the remaining 17 do not have written policies for identifying ELs. In order to assess language status, researchers recommend that states develop a process to identify potential ELs, establish initial EL classifications, and then define an English proficiency standard versus a former EL standard (Linguanti & Cook, 2014). In the current study, the overall student population’s language status is designed to fall into three groups

including: monolingual English speakers, bilingual student with fluency in English, and limited English proficiency ELs.

By identifying students on a continuum of language status, educators can better account for the developmental nature of language; however, this does not assume to infer bilingual language development. Bilingual language experience is heterogeneous and highly environmentally and situationally dependent (Abedi, 2008; Luk & Lin, 2015; Motamedi et al., 2016; Valdés & Figueroa, 1994; Working Group on EL Policy, 2011). For example, the grade at which students enter the United States education system, gender of the individual, and level of entering English proficiency are all associated with differential educational outcomes (Motamedi et al., 2016). Factors related to student engagement may also influence language acquisition and EL status. Specifically, opportunities to learn and practice English at school and in society lead to differential outcomes for linguistically diverse students (Abedi, 2008). Therefore, school context and opportunities for student engagement contribute to linguistically diverse students' later success.

The literature demonstrates the complexity and importance of correctly identifying linguistically diverse students. Educational policies typically rely on limited English proficiency to identify students in need of additional language instruction. Researchers focusing on linguistically diverse students' academic trajectory identify a need for a more developmentally appropriate means for identifying the EL population. Specifically, utilizing comprehensive home language surveys to identify ELs whose language status is in flux. Research points to the need

to support ELs as they navigate additional stressors beyond limited English instruction. These specific needs do not appear to extend to bilingual students. While many find limited English proficiency to be a risk factor for later academic and behavioral outcomes, there appear to be more positive outcomes for bilingual students comparatively. Further research is needed on appropriate ways to identify and monitor linguistically diverse students. Through this research, educators can identify the correct supports to foster engagement and therefore, better outcomes for linguistically diverse students.

## **2.2 Validity of Parent Report**

The current study utilizes parent report of language status, student engagement, and school-based relationships. As discussed in Chapter 3, the study population includes students as young as pre-kindergarten age and therefore, student report on school experience is not feasible. There is extensive research on the validity of parent report for their children's language; however, there is not currently research on the validity of parent report on student engagement. Relevant research is detailed below.

### **2.2.1 Validity of Parent Report of Language Status**

Parents are valid reporters of their children's language abilities and often tasked with reporting about their children's language in education practices and in research (Bornstein et al., 2004; Fenson, 2007; Prado et al., 2018). Parents are often tasked with reporting their children's language abilities to school districts due to the wide age range of students within a school district, including those too young to self-

report, students' varying language abilities, and the inability to test all students' language abilities. Parent report is often used to identify student language through state or district administration of home language surveys. Home language surveys are the recommended practice for identifying students who may need English Learner (EL) services by the United States Department of Education (OELA, 2017). The purpose of the parent-reported home language survey is to help identify students who may qualify for additional help in developing the English language skills necessary for the classroom (OSPI, 2014). Best practices for home language survey administration include asking the parents to report on the language their student understands, speaks, and hears in the home (Bailey & Kelley, 2012; Bailey & Reynolds, 2010; López et al., 2016; OELA, 2017). While home language surveys are used inconsistently to identify potential ELs and survey instruments vary between districts and states (Linguisti & Cook, 2013; López et al., 2016; OLEA, 2017), all home language surveys utilize parent report on their students' linguistic abilities in English and their home language. Parents are often given the option of completing home language surveys in their home language in place of English. Similar to the use of home language surveys to identify students with limited English who may benefit from EL services, research studies utilize parent report of their children's language abilities, especially for younger children.

For decades, scholars utilized language inventories to report on the language use of typically developing young children. The Early Language Inventory, developed in 1984, asked parents to indicate words that they heard their infants (8-18 months old)

or toddlers (16-30 months old) say spontaneously in order to measure emergent literacy skills (Bates et al., 1984). The inventory has since been expanded to the MacArthur- Bates Communicative Development Inventory (CDI) Second Edition (Fenson, 2007) and the instrument has been adapted into multiple languages (Dale & Penfold, 2011). Studies utilizing the language adaptations of the MacArthur-Bates CDI found that parents are reliable reporters of their children's emergent linguistic skills across languages (Bornstein et al., 2004; Prado et al., 2018). Research on a new measure of a variety of emergent literacy skills (i.e., print awareness, oral language, letter knowledge, phonological awareness, and beginning writing), found that parent report of early childhood language and literacy skills is reliable (Bailet, Zettler-Greeley, & Lewis, 2018). Research demonstrates that parent-report inventories of preschooler language are a reliable measure of emergent linguistic abilities, regardless of language.

In addition to parent-reported language inventories, research on early language acquisition relies on parent report Likert-type ratings. In fact, due to inter individual variation in early language development, direct child assessments of language skills are less stable than utilizing parent questionnaires for toddlers and preschool aged children (Camaioni, Longobardi, & Volterra, 1991). Ronski and his colleagues created and utilized a parent perception of language development measure, consisting of a five-point Likert-type scale to identify the utility of a parent-coaching language intervention on toddlers at risk for speech and language impairment (Ronski et al., 2009). In addition to assessing early language acquisition, Likert-type scales are also

used to measure parent perceptions of emergent language in dual language learners. In a study of 70 kindergarten aged children in Southern California, child bilingual status was established by parent and teacher reports on a five-point Likert-type scale ranging from no language use (0) to native proficiency (5). The parent questionnaire measured exposure to and use of each language at home and percentage of day spent in each language to establish language abilities (Gutiérrez-Clellen, Simon-Cerejido, & Wagner, 2008). Consistent with previous research, the current study utilizes parent-report Likert-type scales to identify preschool and kindergarten- aged children's language.

Research on older elementary-school-aged and adolescent students utilizes both student-report of language and parent-report of language ability. Research on language abilities in adolescents typically relies on student report. In a study on language fluency and school effort, adolescent-report of language ability in English and in heritage language, utilizing a five-point Likert-type scale is shown to have high concurrent validity with interview ratings of language ability (Portes & Hao, 2002). For elementary school aged students, research on language ability typically relies on parent report of their students' language ability. In one study on a population of third and fourth graders, parents are found to have a reliable understanding of their children's skills related to reading abilities (Halle, Kurtz-Costes, & Mahoney, 1997). Similarly, for preschool through second grade students, Goldberg, Paradis, & Crago (2006) utilize a five-point Likert type scale to assess language use at home. Overall, research on monolingual language and bilingual abilities utilizes parent measures.

There is substantial evidence to support parents are accurate reporters of younger children's language abilities and research precedent for utilizing Likert-type parent-report questions to assess language abilities in older elementary students.

### **2.2.2 Validity of Parent Report on Student Engagement**

There is a scarcity of literature on the validity of parent report of student engagement; however, there is evidence of the validity of parent report on other aspects of their children's life. As previously discussed, parents are accurate reporters of their children's language abilities (Bornstein et al., 2004; Camaioni et al., 1991; Fenson, 2007; Portes & Hao, 2002; Prado et al., 2018) and of their students' scholastic abilities (Bailet, Zettler-Greeley, & Lewis, 2018). In addition to linguistic and achievement measures, parents are often tasked with reporting on their children's quality of life. Specifically, in the medical field the Pediatric Quality of Life measure (PedsQL 4.0) is utilized to assess children's physical, social, and school functioning. This 13-item Likert-type scale has a parent and child version with high intercorrelations and concurrent reliability (Varni, Burwinkle, Seid, & Skarr, 2003). The current study has a population of students from preschool to upper elementary school; given the younger age of students, student report on engagement is unfeasible. Further, there is some evidence of the validity of parent survey report of children's school experiences.

## **2.3 Theoretical Framework**

In order to explain the variables associated with linguistically diverse student engagement, the current study drew from two theoretical frameworks: acculturation theory and phenomenological variant of ecological systems theory (PVEST). The two theories are described in detail below.

### **2.3.1 Acculturation Theory**

Acculturation theory helps to explain the relationship between language status and student engagement. Acculturation refers to the process of an individual or group of individuals entering a new culture and therefore adapting to new patterns of behavior (Berry, 1997; Redfield, Lington, & Herskovitz, 1936). Acculturation is an umbrella term for any cultural changes, in either group, as a reaction to the new contact between two cultural groups. However, acculturation typically induces more change in one of the groups, which in the case of immigration is the arriving group (Berry, 1997). The United States is considered a plural society in that it houses many cultural groups that live together in a diverse society. Within this society, one group is seen as “mainstream” and has dominant power while the other groups are “minority” or non-dominant. These power dynamics have little to do with demographics and more represent a psychological divide between a dominant and non-dominant culture. For example, it is projected that by 2050, 50% of the United States population will be

comprised of people of color and/or immigrant groups (Passel, 2011); however, despite demographics white individuals will likely remain “the majority” due to their power and privilege.

Acculturation is the process necessary for adaptation, or changes in response to environmental demands (Berry, 1997). According to acculturation theory, individual factors, group factors, moderating factors, and events are dynamically related and lead to a long-term outcome of adaptation. Specific individual pre-acculturation process variables include age, gender, education level, expectations, personality factors, and cultural distance (in terms of language, religion, etc.). Important moderating factors during acculturation include attitudes and behaviors, coping strategies, social support, and societal attitudes. Acculturation theory highlights the importance of context of the host society as a key determinant of how well or not well an individual adapts (Berry, 1997). In the context of the current study, school climate represents the context of the receiving society. Additionally, relationships with friends and mentors are identified as moderating the relationship between individual factors and school of acculturation (Berry, 1997; Kim, Han, Shin, Kim, & Lee, 2005; Suárez-Orozco et al., 2008).

### **2.3.2 Phenomenological Variant of Ecological Systems Theory (PVEST)**

A second theory to explain linguistically diverse student engagement in schools, is phenomenological variant ecological systems theory (PVEST), which explains the intersection between individual and environmental factors influencing the experiences of minority youth. PVEST is an extension of Bronfenbrenner’s original ecological theory of human development (1979) which posits that human development

is a result of the interaction between an individual and his/her context. According to ecological theory, the interactions between the developing child and his/her context are dynamic between changing individual factors and contextual structures. The individual is nested within a microsystem of people and structures s/he interacts with regularly (including family, peers and school). Relationships in the individual child's microsystem are bidirectional and have the greatest impact on development. The interactions between structures in the microsystem makes up the mesosystem (for example, peer group, home-school communication, etc.). The microsystem and mesosystem are further nested into the ecosystem which typically includes society, the media, local policies, and neighbors. Finally, the above systems are nested within a macrosystem, which Bronfenbrenner describes as "societal blueprints" (Bronfenbrenner, 1979, p.515), including overall societal and cultural attitudes (Bronfenbrenner, 1979).

Spencer (1995, 1997) extends this model to include theories of identity development focused on a cultural ecological perspective (Spencer, 1995; Spencer, Dupree, & Hartman, 1997). Specifically, Spencer utilizes intersubjective experiences or individual perceptions of experiences in different contexts to explain identity development. According to PVEST, self-perceptions temporarily influence interactions between the ecological systems; however, overtime, these responses influence how one will adapt to the same cultural contexts across the life course. In Spencer's model, self-perceptions, not the microsystem, are the most influential part of a child's development because they organize an individual's behaviors and thoughts

(Spencer et al., 1997). Further, self-perceptions capture the individual's ability to understand societal expectations and respond to stereotypes and biases. Swanson and colleagues performed extensive research on the psychosocial development in racially, linguistically, and ethnically diverse youth (Swanson et al., 2003). Swanson uses Spencer's phonological variant of ecological systems theory (PVEST), as a framework for understanding identity development in our dynamic multicultural society. PVEST looks at the multiple domains that interact during the course of youth and adult development. These domains include social, historical, and cultural contexts. Youth development is a result of net vulnerability, net stress engagement, reactive coping methods, emergent identities, and life stage specific coping outcomes (Spencer, 1995). Each of these categories is nuanced and has a series of interrelated factors that shape youth identity development.

Swanson extends Spencer's work to the current generation of racially and ethnically diverse youth. Net vulnerability level is described as the contexts and characteristics that pose challenges to development; it is the balance between risk and protective factors (Swanson et al., 2003). Bronfenbrenner later extends his own research to the bioecological model (Bronfenbrenner & Morris, 2006), which includes process, person, context, and time to account for individual variables (i.e., dispositions, resources, and levels of demand) across time. However, PVEST best explains the influence of societal expectations on self-perceptions for minority youth as well as the importance of net vulnerability, net stress engagement, reactive coping methods, and emergent identities across the life span which frames identity

development as an accumulative dynamic experience. Within this theoretical framework, the current study seeks to identify protective factors in the school that positively influence engagement for linguistically diverse students within the greater context of parent perceptions of their students' environment mediating interactions between ecological contexts.

Acculturation theory (Berry, 1997) and Phenomenological Variant of Ecological Systems Theory (PVEST; Swanson et al., 2003) are utilized as the framework to understand linguistically diverse student engagement and the associated variables. Specific to linguistically diverse student engagement, acculturation theory posits that interaction between minority and majority immigrant groups create an acculturative change in both groups. Acculturation dictates how immigrant students will interact with society and adaptation is influenced by context, which in the current study is observed through school variables school. One of the many individual acculturation factors influencing student engagement is language status. Within the theoretical framework of ecological systems theory and specifically PVEST (Swanson et al., 2003), the phenomenological experience of minority student experience is understood by the relationships and interactions between different systems. For student engagement, the mesosystem interactions that are important include peer group interactions (i.e., student-student relationship quality), teacher-student interactions, and home-school communication. Further, PVEST stresses the importance of the perceptions of these relationships, not just the relationships

themselves, as moderating minority student experience. The current study utilizes both these theories as the framework to understand perceptions of linguistically diverse students' engagement with school and the moderating effects of student-student relationship quality, teacher-student relationship quality, and home-school communication quality.

#### **2.4 Linguistically Diverse Student Engagement**

As stated previously, the purpose of the current study was to explore the relationship between language status and school-based relationships with student engagement. Despite the growing language diversity in the United States education system and the aforementioned benefits of student engagement, there is limited knowledge on how students from linguistically diverse backgrounds engage with their school settings. Studies on populations with of language minority students, such as racial/ethnic minorities (African Americans and Hispanic/Latino students) and student engagement provide insight on how students from diverse backgrounds engage with their schools. Research studies on racial/ethnic minorities show the potential influence of factors other than language, exo- and macrosystemic contextual factors such as racism, socioeconomic status, and parent education on student engagement. Finally, studies on immigrant groups and the “immigrant paradox” help to highlight potential significant relationships between language status and engagement as well.

Research focusing on student engagement for diverse populations predominately examines African American students and Hispanic/ Latino immigrant students. While these populations do not represent language minorities but rather racial/ethnic minorities, the relationship between minority status and student engagement is explored and relevant to the current study. There is evidence that Black youth in high school perceive less school support, related to lower levels of engagement than their white counterparts (Bottiani, Bradshaw, Mendelson, 2016). In a study of ethnically and racially diverse high school students, Shernoff and Schmidt (2008) found evidence that the relationship between student engagement and academic achievement may be moderated by ethnicity/race. Interestingly, the researchers found consistency between the positive relationship between student engagement and academic achievement for different ethnic minorities, with the exception of African American students (Shernoff & Schmidt, 2008). The study found that student engagement negatively related to academic achievement in their population of African American high school students after controlling for both individual and community socioeconomic status. Shernoff and Schmidt (2008) utilized a composite self-rating of engagement that included concentration, interest, and enjoyment. A longitudinal study with a population of white and African American eighth graders differentiated between the two types of engagement (i.e., emotional and behavioral-cognitive) and found that visible minority students, especially African Americans, show lower rates of behavioral-cognitive engagement and higher rates of emotional engagement than their white peers (Voelkl, 1997). In this study, emotional engagement was measured

through self-report of sense of belonging at school while behavioral-cognitive engagement was measured by self-report of activities at school (Voelkl, 1997).

For kindergarten and elementary school minority students, there is evidence that school climate and school factors, distinct from those of majority students, influence student engagement (Bryce et al, 2018; Jagers, Lozada, Rivas-Drake, & Guillaume, 2017; Williams & Hamm, 2017; Williams & Hamm, 2017). The above studies provide evidence of differential types of engagement for visible minority (i.e., African American) adolescent students. The results of these studies may be extended to the linguistically diverse student population, as 80% of immigrant students and English Learners are students of color (Suárez-Orozco, Pimentel, & Martin, 2009). Overall, research shows student race/ethnicity may moderate how students engage with their schools and their engagement patterns may differ from majority status peers. Additional research is needed to clarify the relationship between language status and student engagement for younger students.

Literature also points to the moderating effects of socioeconomic status and school relationships for minority student engagement. The majority of ELs and students of color also come from low socioeconomic status neighborhoods, making ELs more likely to experience “triple discrimination” due to race/ethnicity, socioeconomic status, and linguistic diversity (Sattin-Bajaj, 2009). In fact, coming from a low socioeconomic status community is negatively related to academic achievement, self-esteem, intrinsic motivation, and student engagement (Shernoff & Schmidt, 2008; Stull, 2015). In a meta-analysis of the relationship between

socioeconomic status and academic achievement, Sirin (2005) found that community socioeconomic status is a greater predictor of academic achievement than individual student socioeconomic status across K-12 grade levels (Sirin, 2005). The high proportion of linguistically diverse students in low socioeconomic status neighborhoods and schools makes isolating the relationship between language status and student engagement difficult across studies of varying SES (Gándara, 2017). Unlike previous studies, the current study seeks to understand the relationship of language status independent of community SES.

Studies on immigrant students provide pertinent information on the influence of language status on student engagement. Research focused on immigrant students points to an “immigrant paradox,” a phenomenon of an inverse relationship between years in the United States with positive school outcomes, such as academic achievement, motivation, and school engagement (Gándara, 2015; Hill & Torres, 2010; Suárez-Orozco et al., 2009). Upon entering school, immigrant students tend to be both optimistic about their future in the United States and actively engaged in learning; however, upon spending more time in school some immigrant students’ attitudes and performance decline (Suárez-Orozco, Pimentel, & Martin, 2009; Hill & Torres, 2010). This is true across generations as well, Gándara (2017) notes the underperformance of second- and third- generation Latino students is a result of motivation, not language, after facing the realities of the barriers to their own socio-economic mobility. Literature examining “the immigrant paradox” identifies student engagement as a moderating factor between immigrant status and resilience. A

definition of resilience is the “manifested competence in the context of significant challenges to adaptation or development” (Masten & Coatsworth, 1998). In other words, fostering engagement means providing students with enough positive experiences, relationships, and protective factors or supports to counteract potential risks to their socio-emotional and academic wellbeing (Fuchs & Stecker, 2013). Individual factors associated with greater immigrant student resiliency include proficiency in English, literacy in native language (i.e., language status), and higher self-efficacy (i.e., behavioral-cognitive engagement; Suárez-Orozco et al., 2009).

In addition to moderating resilience, engagement appeared to moderate immigrant student wellbeing. In a study of Korean adult immigrants in the Midwest, social connectedness mediated the relationship between the stresses of immigration and the participants’ subjective wellbeing (Yoon, Lee, & Goh, 2008). The population of immigrant adults is not explored in the present study; however, the results have implications for the importance of relationships and emotional engagement to positive social-emotional outcomes. While the “immigrant paradox” appears to occur across immigrant groups, it appears that engagement may mitigate the inverse relationship between time in the United States and academic achievement. In a mixed-methods study, Suárez-Orozco and her colleagues (2008; 2009) found that behavioral-cognitive engagement was the greatest predictor of academic achievement in newly arrived immigrant high school students. Suárez-Orozco found that self-efficacy specifically, played a critical role in student engagement. In this study, the greatest predictor of behavioral and cognitive engagement was supportive relationships. Positive

relationships in the school included cultural liaisons (a faculty member that spoke the student's home language in the school), the presence of native English-speaking friends, membership to afterschool clubs and activities, tutors, and peer mentors (Suárez-Orozco et al., 2008; Suárez-Orozco et al., 2009).

Literature on minority student engagement is limited to those of ethnic/racial minority background and immigrant students. Literature points to different mediators of engagement for minority students than their white counterparts including race, socioeconomic status, and relationships in school. The literature also provided evidence of differential impact of the type of engagement on academic achievement and socioemotional wellbeing. As stated previously, the purpose of the current study was to explore the relationship between language status and school-based relationships with student engagement. Despite the growing language diversity in the United States education system and the aforementioned benefits of student engagement, there is limited knowledge on how students from linguistically diverse backgrounds engage with their school settings. Studies on populations with of language minority students, such as racial/ethnic minorities (African Americans and Hispanic/Latino students) and student engagement provide insight on how students from diverse backgrounds engage with their schools. Research studies on racial/ethnic minorities show the potential influence of factors other than language, exo- and macrosystemic contextual factors such as racism, socioeconomic status, and parent education on student engagement. Finally, studies on immigrant groups and the “immigrant paradox” help to highlight potential significant relationships between language status and engagement as well.

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Literature on minority student engagement is limited to those of ethnic/racial minority background and immigrant students. However, for these groups engagement is one of the key predictors of student academic success and social-emotional wellbeing. Literature points to different mediators of engagement for minority students than their white counterparts including race and socioeconomic status. Relationships with peers and teachers at school serve as mediators between minority status and student engagement.

## **2.5 Gaps in Literature on Linguistically Diverse Student Engagement**

Literature demonstrates the complex relationship between student engagement and diversity. Consistent with engagement literature on the general population, minority student engagement is positively associated with academic achievement. For linguistic minority students, relationships play a role in mediating the association between minority status and engagement. While many studies have explored minority student engagement in school (Shernoff & Schmidt, 2008; Suárez-Orozco & Carhill, 2008; Suárez-Orozco, 2008; Voelkl, 1997) the research is inconclusive about how student engagement patterns differ for diverse elementary school students. There is also a lack of research on the influence of language status on student engagement. The

population of students explored in the research literature does include linguistically diverse students; however, there are few studies on linguistically diverse student engagement specifically. The studies on linguistically diverse students are comprised of case studies (e.g., Bower & Griffin, 2011; Snell, 2018), longitudinal studies (e.g., Bryce et al., 2018; Jagers et al., 2017; Matsungaga, Hecht, Elek, & Ndiaye, 2010; Niehaus & Adelson, 2014; Suárez-Orozco et al., 2008), and mixed methods studies (e.g., Huerta, Irby, Lara-Alecio, & Tong, 2016; Suárez-Orozco et al., 2009). Further, studies utilizing large data sets to examine language status only differentiate between students receiving ESL services and the general population (e.g., Sanders et al., 2018; Niehaus & Adleson, 2014). To this date there have been no studies utilizing state level data to examine the relationship between language status and student engagement. Since students are clustered within schools, research needs to account for school-level factors when assessing the relationship between language status and student engagement.

There are few studies utilizing hierarchical linear modeling with the linguistically diverse population to account for the nested nature of students in schools. Literature points to the following immutable variables in relation to linguistically diverse student engagement: race/ethnicity and community socioeconomic status. The following malleable variables are related to EL engagement: language status, peer relationships and teacher-student relationships. Since the current study aims to explore naturally occurring school-wide factors, race/ethnicity and school level SES will be controlled for in the current study. The remaining malleable factors of relationships in the school and language status are predictors, explained in more detail below.

## 2.6 Teacher-Student Relationships

Teacher-student relationships refer to the quality of communications and interactions between teachers in the school with their students. Research shows that students feel most comfortable in schools where teachers are perceived as caring, respectful, and supportive (Hughes, 2012). Higher quality teacher-student relationships are linked to lower levels of student delinquency (Wang & Fredricks, 2014), increased academic achievement in math and reading (Mason, Hajovsky, McCune, & Turek, 2017), lower emotional distress (Resnick, 1997), emotional adjustment (Roeser, Eccles, & Sameroff, 1998; Wentzel, 1998), development of communication skills (Frymier & Houser, 2000), relationships with peers (Hendrickx, Mainhard, Boor-Klip, Cillessen, & Brekelmans, 2016), and lower levels of aggression (García- Reid, Peterson, & Reid, 2015; Hughes, Cavell, & Jackson, 1999). Supportive teacher-student relations in the general population are associated with increased overall engagement (Furrer, Skinner, & Pitzer, 2012; Wang & Eccles, 2012; Wang & Fredricks, 2014) as well as specific aspects of engagement including: cognitive engagement (Wang & Eccles, 2012), academic self-esteem (Roeser et al., 1998), motivation (Roeser et al., 1988; Furrer et al., 2012; Wentzel, 1998), school participation (Furrer et al., 2012), emotional engagement (Wang & Eccles, 2012), and placing value on education (Roeser et al., 1988). Research on teacher-student relationships points to the importance of teacher supportiveness and teacher respect for diversity as important indicators of relationship quality (Roeser et al., 1988). For

linguistically diverse students, teacher-student relationships are even more pertinent to their experience at school (Hill & Torres, 2010; Pereira & Oliveira, 2015; Rhodes, 2002; Suárez-Orozco et al., 2009; Suárez-Orozco et al., 2010).

Literature demonstrates the association between teacher-student relationships and a myriad of positive outcomes, including increased school engagement. Literature on linguistically diverse youth points to the importance of teacher-student relationships in mediating at-school difficulty. This is especially true for first and second-generation immigrant students as teachers serve as cultural liaisons in the schools (Rhodes, 2002; Suárez-Orozco et al., 2008). Positive relationships at school are one of the key contributors to EL success in school (Rhodes, 2002; Suárez-Orozco et al., 2008). High quality teacher-student relationships are considered essential in facilitating school engagement (Shernoff & Schmidt, 2008; Suárez-Orozco et al., 2008; Wang & Eccles, 2012; Yoon et al., 2008).

Despite the importance of teacher-student relationships for linguistically diverse students, there are additional barriers for diverse students to establish positive relationships with their teachers at school. Elementary school students from racial minority backgrounds are at risk for conflicted teacher-student relationships (Split & Hughs, 2015). For linguistically diverse children, effective teacher-student relationships have the potential to lessen the gap of ELs and native English speakers in gifted programs (Pereira & Oliveira, 2015). In a survey of teacher perceptions of quality of teacher-student relationships, teachers feel underprepared to work effectively with ELs (Gándara, Maxwell-Jolly, & Drischoll, 2005; Wu, Hughs, &

Kwok, 2010). Teachers with EL students are more likely to feel underprepared, in part because they often are less prepared than teachers working with less diverse populations. For example, ELs are more likely to be taught by teachers without appropriate credentials and less classroom experience than other students (Gándara et al., 2003; Rumberger & Gándara, 2004). At times, teachers inadvertently act in ways that make linguistically diverse students feel less welcome. This is especially true for Hispanic/ Latino students who report teachers use less positive speech and praise, have lower expectations, and penalize them for low English proficiency at a higher rate than white students (Tenenbaum & Ruck, 2007).

In sum, high quality teacher-student relationships are related to a myriad of positive student outcomes, including increased school engagement. Literature points to the increasing importance of teacher-student relationships with linguistically diverse students. Despite the importance, there are various barriers to high quality teacher-student relationships for this population. Addressing the barriers to high quality teacher-student relationships for linguistically diverse students is essential to augmenting their engagement with school. The majority of literature on student engagement focuses on adolescent populations. Therefore, the current study seeks to identify if the positive relationship between teacher-student relationship quality and student engagement applies to younger learners and learners across linguistic groups. The present study hypothesizes that positive teacher-student relationships are

associated with higher levels of student engagement, especially for linguistically diverse students.

## **2.7 Student-Student Relationships**

Literature points to the importance of all relationships at school in contributing to greater linguistically diverse student engagement. Student-student relationships refer to the quality of interactions between students and their peers within the classroom and school. Like teacher-student relationships, student-student relationships depend on peer acceptance and respect for diversity. Studies found that student perceptions of peer warmth were indicative of strong student-student relationships (Furrer et al., 2014). Studies show that students with positive student-student relationships exhibit more behavioral- cognitive, and emotional engagement (Kiefer, Alley, & Ellerbrick, 2015; Wang & Eccles, 2012; Wentzel, 2003). Students who find their peers provide emotional support are more likely to enjoy being at school, participate in school activities, and express motivation to succeed at school (Wang & Eccles, 2012; Wentzel, 2003). One way that classrooms effectively foster student-student relationships is through peer-assisted learning, or cooperative learning interventions between students in the classroom; these academic interactions are associated with improved social competence and self-concept (Ginsburg-Block, Rohrbeck, & Fantuzzo, 2006). Cooperative learning that allows for student interdependence reduces friction between groups of students by providing students with opportunities to establish and maintain friendships with peers (Johnson & Johnson, 1999; Johnson & Johnson, 2008). Cooperative learning is found to benefit

cross-ethnic relationships and communication specifically (Johnson & Johnson, 2008; Sharan, 1980).

Literature suggests the relationships that linguistically diverse students form with peers are critical to their engagement and success at school (Gándara, 2017; Larochette, Murphy, & Craig, 2010; Unger & Liebenberg, 2013; Suárez-Orozco et al., 2009). Within the theoretical framework of acculturation, social support is viewed as one of the greatest protective factors against acculturative stress (Berry, 1997). In fact, Yeh and Inose (2003) found that social connectedness and satisfaction in peer interactions contributed to 18.3% of the total variance in international students' acculturative stress. Other scholars found social support as a moderator between acculturative stress and mental health symptoms (Kim et al., 2005; Thomas & Choi, 2006). Other studies link positive student-student relationships between linguistically diverse students and peers to greater linguistically diverse student academic achievement (Baker, 2017). Positive peer relations provide linguistically diverse students with different opportunities to use English, and therefore to become comfortable utilizing English quicker (Rojas et al., 2016). Immigrant students with at least one native English-speaking friend are able to learn English and adjust to school quicker (Gándara, 2017). Research on first-generation immigrant students emphasizes social capital through positive teacher and peer relationships as a key contributor to academic achievement, school engagement, and better psychological well-being (Suárez-Orozco et al., 2010). Linguistically diverse students rely on peer relationships to help to mitigate potential effects of bullying and victimization (Larochette et al.,

2010; Unger & Liebenberg, 2013). Students from racial minorities who engage positively with their peers are found to have higher levels of school bonding and academic self-esteem (Dotterer, McHale, & Crouter, 2009). Racial bullying and victimization from school contributes to students disengaging from school (Larochette et al., 2010). Fortunately, there are relatively low levels of racial discrimination at school and strong ethnic identification for high school students (Dotterer et al., 2009). Linguistically diverse students who form strong relationships with their peers are often more successful at bridging the gap between home and school, leading to greater academic achievement and psychological wellbeing (Suárez-Orozco et al., 2010).

In sum, high quality student-student relationships are associated with positive student outcomes, including increased school engagement. Literature points to the importance of student-student relationships with linguistically diverse students to foster a sense of belongingness. The majority of the literature on peer relationships focuses on adolescents (middle school and high school age), and not on preschool or elementary school-aged children. The present study hypothesized that parents of younger students would place a similar importance on peer relationships. That is, student-student relationships would be associated with higher levels of school engagement for all students; however, that it will be a more pertinent indicator of the parents of linguistically diverse sense of their students' engagement. The study hypothesizes that this is particularly true for linguistically diverse students' emotional engagement.

## **2.8 Teacher-Home Communication**

Teacher-home communication refers to the quality of the relationships between schools and home, including the degree to which parents are involved in their students' schooling. The benefits of parent involvement of education include an array of positive student outcomes such as higher grades, higher standardized test scores, improved attitudes towards schoolwork, lower drop-out rates, higher self-esteem and a higher probability of avoiding high-risk behavior in adolescence (Bower & Griffin, 2011; Topor, Keane, Shelton, & Calkins, 2010). Additionally, parents report feeling empowered to support their children's educational career after becoming involved in programs at school (Pelletier & Corter, 2005; Rodriguez-Brown, Li, & Albom, 1999). Research suggests that positive congruence in the relationship, where both the parents and teachers perceive the relationship as positive, is related to better behavioral and socioemotional outcomes for the general school population in elementary school (Minke, Sheridan, Kim, Ryoo, & Koziol, 2014). Positive home-school communications are associated with higher levels of school engagement, intrinsic motivation, perceived academic competence, and motivation across all grade levels (Gonzalez-DeHass, Willems, & Holbein, 2005). Interventions aimed at fostering better home-school communications are more effective at the classroom-level than at the school level (Durlak, Weissberg, Dymnicki, Taylor, & Schelinger, 2011).

Often, home-school communication is seen through the theoretical framework of Epstein's Model of Parent Involvement (Epstein, 1995). Epstein's Model of Parent

Involvement splits parental involvement into six categories. These categories include parenting, communicating, volunteering, learning at home, and decision making (Epstein, 1995). Contributors to better quality home-school communications include social capital and parent self-efficacy (Seitsinger, 2007). Since many of the linguistically diverse students are children of immigrants, they do not have the social capital or parent self-efficacy that contributes to better quality home-school communication. For this reason, middle-class Caucasian parents typically have more effective communication, as reported by teachers, with schools than parents of diverse ethnic and socioeconomic backgrounds (Sanders & Harvey, 2000).

There is evidence that diverse families participate in their students' schooling differently than the general population (Bower & Griffin, 2011; López, 2001; Peña, 2000; Snell, 2018). For middle school Latino adolescents, a supportive home-school relationship is positively correlated with student engagement. In fact, García-Reid and colleagues conclude that connections between parents and schools may be more important for recent Latino immigrants than for the general population (García-Reid et al., 2015). Immigrant parents' participation with school does not fit Epstein's model of parent involvement in that it is not always visible to the school, including volunteering at school (López, 2001).

There are many barriers to home-school communications for parents of linguistically diverse students. For example, Peña (2000) conducted a case study of an urban school with a bilingual program that is 95.5% Mexican- American. She found that despite the bilingual program, which intended to foster home-school

communication, Spanish speaking parents were underrepresented in parent input and further alienated from the school community. Despite the overwhelming Spanish-speaking majority, English remained the preferred language for teachers and administration and therefore administration utilized parent advocates from the relatively small group of English-speaking population.

Further, many of the Spanish-speaking mothers stated that they were reluctant to communicate with the school. Cultural attitudes about parent role, language barriers, parent cliques, parent education levels, perceived attitudes of staff, family issues, and parent literacy level reportedly contributed to their reluctance (Peña, 2000). In other studies, parents of EL students reported feeling alienation from the school and teachers reported feeling frustration with parents of EL students due to the cultural disconnect (Bower & Griffin, 2011; Peña, 2000).

In sum, strong home-school communications are associated with positive student outcomes, including increased student engagement. The majority of literature on school engagement focuses on adolescent populations. Therefore, the current study seeks to identify if the positive relationship between teacher-student relationship quality and student engagement applies to younger learners and learners across linguistic groups. The present study hypothesizes that parents of linguistically diverse students in preschool and elementary school will report lower levels of home-school communications than monolingual English students. However, it is hypothesized that

home-school communications are associated with higher levels of student engagement for linguistically diverse students.

## **2.9 Developmental Level**

Developmental level is a proposed moderator of student engagement. Previous research on student engagement reveals different expectations for different developmental levels (measured often through grade level or age). Research shows the relationship between minority status and student engagement differs by grade level (Lee & Smith, 1993; Marks, 2000). For example, minority elementary school students are less engaged than their majority counterparts (Lee & Smith, 1993). At different grade levels, different variables are important for student engagement for language minority students. For example, family involvement in education is beneficial in preschool children's learning (Fantuzzo, McWayne, Perry, & Childs, 2004); however, the influence of family involvement with schools in fostering school engagement diminishes through later years (Suárez-Orozco et al., 2008). There is evidence that as students advance childhood to adolescence, the influence of teacher relationships becomes less important and in place, the relationship between peers becomes increasingly important (Steinberg & Morris, 2001). The research on the interaction between developmental level and school-based relationships focuses predominately on the adolescent population. There is not yet evidence that this relationship extends in the lower grades (i.e., preschool through upper elementary school).

The current study explores whether the interaction of developmental level starts in the transition from lower elementary school to upper elementary school. As detailed in this section, research on the importance of school and home relationships notes a shift in the importance of adult versus peer relationships in adolescence. The current exploratory study sought to identify if the interactions and associations present in adolescence extended to younger students as well. Specifically, it was hypothesized that in preschool and lower elementary school (first and second grade) teacher-student relationships and home-school communication would be a stronger predictor of student engagement. In contrast, it was hypothesized that for the upper elementary school (grades 3-5), student-student relationships would be a stronger predictor of student engagement across language groups.

## **2.10 Demographic Characteristics Linked to Student Engagement**

In addition to teacher-student relationships, student-student relationships and home-school communication as predictors of student engagement, students' gender, students' race/ ethnicity, percentage of ELs in school, school-level SES, and school size are found to influence student engagement. These variables have been shown in the literature on engagement to influence relationships between students with their teachers and peers. Therefore, in order to isolate the influence of school-based relationships they are not used as predictor variables.

### **2.10.1 Influence of Gender on Student Engagement**

In terms of gender, females report higher levels of behavioral-cognitive, and emotional engagement than male students across the general population and in studies of linguistically diverse student engagement (Dion & Dion, 2001; Wang & Fredricks, 2014). Researchers attribute their higher levels of engagement to girls reporting stronger interpersonal relationships in school that bolster their engagement (Suárez-Orozco & Qin-Hilliard, 2004). In linguistically diverse populations, girls tend to outperform boys in terms of academic achievement and student engagement (Qin-Hilliard, 2003; Suárez-Orozco & Qin-Hilliard, 2004). Gender differences in student engagement are most evidence during adolescence. The current study predicted that gender differences in student engagement may be present as early as elementary school. That is, that parents of females in elementary school would report higher rates

of their students' engagement than parents of male elementary school students. Therefore, in order to isolate the differences in student engagement to predictor variables, rather than differences in gender, the current study will control student gender.

### **2.10.2 Influence of Student and School Level Race/ Ethnicity on Student Engagement**

Research is inconsistent on the role of race/ethnicity in student engagement. However, race and language status are overlapping categories since 80% of EL students are students of color (Sattin-Bajaj, 2009; Suárez-Orozco et al., 2009). Literature demonstrates limited English proficient students perform better on measures of reading and mathematics achievement in schools with a higher concentration of ELs than in schools with low populations of ELs (Reid & Heck, 2018). These studies hypothesize that the relationship is related to school resources and funding specifically aimed at linguistic minority students in schools with high concentrations of ELs. It is also possible, that there is a link between student sense of belonging with school composition. A longitudinal study found greater school attachment (emotional engagement) when students attended schools with more students of their own race and/or ethnicity (Johnson et al., 2001).

The current project seeks to explore the relationship between language status and student engagement; therefore, parent reported race/ethnicity, and publicly available demographic information on the percentage ESL at the school are controlled

in the current study in order to isolate the relationship between language status and student engagement.

### **2.10.3 Influence of School Level Socioeconomic Status on Student Engagement**

Socioeconomic status (SES) and race/ethnicity are overlapping demographic indicators. Black and Latino students often come from the low-income communities (Annunziata, Hogue, Faw, & Liddle, 2006; Lindstrom, Ulriksson, Arnegard, & Brenner, 2005). Individual SES is not available in the current study; however, in order to control for school-level SES, a proxy is available. The proxy of percentage of students qualifying for free and reduced-price meals is used to approximate school-population SES. Higher school-level SES is associated with higher academic achievement, higher student engagement, and stronger teacher-student relationships (Owens & Candipan, 2019; Sirin, 2005; Stull, 2015; Suárez-Orozco et al., 2010). Therefore, the current study utilizes a proxy of percentage of students receiving school free and reduced-price lunch to control for school-level SES.

### **2.10.4 Influence of School Size on Student Engagement**

Smaller school and classroom sizes are associated with a myriad of positive outcomes such as achievement, school-based relationships, and engagement for the general population and for linguistically diverse students. Class size is inversely related to academic achievement with students in smaller schools and classrooms

exhibiting higher performance on achievement tests (Stevenson, 2006). In fact, Burch and his colleagues suggest having smaller elementary school sizes may close the achievement gap between EL students and non-ELs (Burch, Theoharis, & Rauscher, 2010). In addition to academic achievement, within smaller classrooms, teachers are able to foster individualized instruction and relationships with their students. Smaller schools are perceived more positively than larger schools for student-student relationships, teacher-student relationships, lower absenteeism, better classroom participation, warmer perceived environment (Finn & Voelkl, 1993). There are less instances of bullying in smaller schools (Klein & Cornell, 2010). For linguistically diverse students, these relationships are especially predictive of lower levels of acculturative stress and stronger student engagement (Suárez-Orozco et al., 2008). For the overall population, school size is negatively related with school connectedness (an important component of emotional engagement) and with overall engagement (McNeely, Nonnemaker, & Blum, 2002; Myhill, 2004; Weiss, Mouttapa, Cen, Johnson, & Unger, 2010). Due to the influence of school size on student engagement, many studies exploring the relationship between language diversity and student engagement control for school size (Bottiani et al., 2017; Konold et al., 2017; Niehaus & Adelson, 2004; Yang et al., 2018).

In sum, smaller school sizes are associated with positive student outcomes, including increased student engagement. The current study controlled for school size

in order to isolate the relationship between language status, school-based relationships, and student engagement.

## **2.11 Research Questions and Hypotheses**

As previously stated, the current study explored malleable and naturally existing factors in schools that are associated with higher levels of student engagement for all populations, including the linguistically diverse. The literature presented was conducted predominately on adolescent populations, the current study sought to explore whether the relationships present in adolescence translated to younger students. Thus, the study was an exploratory study investigating the association between language status, school-based relationships, and interactions in predicting student engagement for students in preschool through upper elementary school. The present study investigated the association of parent reported language status and parent ratings of their students' school engagement. The study explored how language status, parents' perceptions of teacher-student relationship quality, student-student relationship quality, and home-school communication quality are associated with student engagement. The moderating effect of language status in the association between parent perceptions of student-student relationship quality, teacher-student relationship quality, and teacher-home communication was explored. The interactions between grade level and student-student relation quality, teacher-student relation

quality, and home- school communication quality on parent perceptions of student engagement was also explored.

The study controlled for school-level SES, school percentage ESL, school size, and gender. While the study was exploratory, the results have implications for research and policy. By examining current schoolwide practices, the study aimed to aid administrators in building on existing resources and protective factors for this specific population within their schools. The following hypotheses were made:

#### **2.11.1 Research Question 1: Investigating the Role of Language Status in Predicting Students Engagement**

The first research question asked: What is the role of language status in predicting parent perceptions of their students' engagement? Linguistically diverse students were hypothesized to have lower overall engagement than their monolingual peers. Linguistically diverse students included monolingual Spanish speaking students and bilingual English-Spanish speaking students in this study.

#### **2.11.2 Research Question 2: Investigating the Role of School-Based Relationships on Student Engagement**

The second research question asked: What is the influence of parent reported school relationships on parent perceptions of their students' engagement? Specifically, what is the influence of parent perceptions of teacher-student relationship quality on student engagement? What is the influence of parent perceptions of student-student relationship quality on student engagement? And, what is the influence of parent perceptions of teacher-home communication quality on student engagement? Parent perceptions of teacher-student relationship quality, student-student relationship

quality, and home-school communication quality were hypothesized to be positively related to perceptions of student engagement.

### **2.11.3 Research Question 3: Investigating the Moderating Effects of Grade Level and Language Status on the Association between School-Based Relationships on Student Engagement**

The third research question asked the moderating effects of language status and grade level on the association between parent perceptions of school-based relationships (e.g., teacher-student relationship quality, student-student relationship quality, teacher-home relationship quality) and student engagement.

First, what is the interaction between language status in the association between parent perceptions of school-based relationships and their students' engagement? It was hypothesized that there would be an interaction between these relationships and language status with more positive teacher-student relationships, student-student relationships, and home-school communication more predictive of linguistically diverse student engagement in contrast to monolingual-English students across grade levels. In other words, better relationships and communication would be associated with smaller gaps in engagement across language status categories.

A second part of the third research question asked, what is the interaction between grade level in the association between parent perceptions of school-based relationships and their early learners' engagement? In other words, does the research on the interaction between age and school-based relationships in

adolescents extend to the younger population? Grade level was hypothesized to moderate the relationship between teacher-student relationship quality, student-student relationship quality, and home-school communication quality with perceptions of student engagement. Grade level was broken into preschool (preschool-kindergarten), early elementary (first grade-second grade), and late elementary (third grade- fifth grade). It was hypothesized that there would be a stronger association between parent perceptions of teacher-student relationship quality and home-school communication quality with student engagement for students in younger grade levels (preschool and early elementary school). It was also hypothesized that there would be a stronger association between parent perceptions of student-student relationships and parent perceptions of student engagement for upper elementary school students.

## **Chapter 3**

### **METHODS**

The current study examined the role of language status, school-based relationships, and grade level in parents' perceptions of their students' engagement. As previously stated, the study had four primary goals: (1) to explore the role of student language status as reported by parents in predicting parent perceptions of student engagement in preschool and elementary school students; (2) to explore the association of teacher-student relationships, student-student relationships, home-school communication, and grade level with student engagement in preschool and elementary school; (3) to examine if language status moderates the association between teacher-student relationship quality, student-student relationship quality, home-school communication quality, with student engagement; and (4) to examine whether grade level in elementary school moderates the relationships between teacher-student relationships, student-student relationships, and home-school communication. Hierarchical linear modeling (HLM) was used on survey data of parent ratings of their students' experiences in Delaware public schools to examine these differences. Additional information on participants, data collection, and measures is provided in detail below.

### **3.1 Participants**

The original sample of the 2016 Delaware School Climate -Home Survey included 17,229 parents of students in 103 public schools. Included in the 17,229 surveys, 1,328 surveys were taken in Spanish. The survey was also available to parents in Haitian Creole, however, because only 12 participating parents utilized the Haitian Creole language version of the survey, the factor structure of the Haitian Creole version cannot be confirmed. Therefore, responses utilizing this survey were not utilized in the current study. In addition to the 12 participants who were not included in the sample due to utilizing the Haitian Creole language version of the Delaware School Climate Surveys-Home Version, parents reporting that their students speak a language other than English or Spanish at home or in their communities were not included in the current sample. Additionally, due to the limited language variability in older grades, middle school and high school surveys were not utilized in the Hierarchical Linear Modeling (HLM). The following additional criteria were used to select parent responses for the current study: (1) parents of students who were enrolled in a regular public preschool or elementary school (i.e., the school did not exclusively serve a special population such as an alternative school, or school for students with disabilities); (2) parents identified their students' grade and language status on the survey; and, (3) parents responded to the items on the School Engagement Scale. The sample used for the present study includes 10,874 parents of students in 89 public schools.

In both languages, mothers completed the vast majority (79.8%) of surveys while fathers (13.5%), grandparents (4.8%), or other guardians (2.9%) completed the remaining surveys. The first set of analyses, confirming the factor structure and obtaining factor scores of the Student Engagement Scale and of the school relationship quality scales (i.e., student-student relationship quality, teacher-student relationship quality, and home-school communication quality), utilized all grade levels (i.e., preschool, elementary school, middle school, and high school grades) in order to validate the structure across schools. This included the original sample of 17,229 parents of students in 103 public schools. In the second set of analyses, the sample was constricted to only preschool through fifth grade students due to the limited responses and limited language variability in middle and high school. This sample included the 10,586 parents of students in 89 public schools. Additionally, due to small response rates in some schools, some responses were deleted during HLM run-time (see subsequent sections on handling of missing data), creating a sample of 9,692 parents of students in 82 public schools. The final sample includes three different grade level groups (preschool-kindergarten, grades 1-2 lower elementary school, grades 3-5 upper elementary school), seven racial-ethnic groups (American Indian/Alaskan, Asian, Black, Hawaiian, Hispanic/Latino, multiracial, White), and gender. Differential identification of linguistically diverse students by their language ability in both English and Spanish was utilized, and the following subgroups were created: monolingual English speakers, bilingual English and Spanish speakers, and monolingual Spanish speakers (Spanish-speaking ELs).

Specific demographic information about the sample is found in Tables 1-4 below. Table 1 provides information solely on parent reported home/ family language and Table 2 provides information solely on parent reported language status. Additional information on the identification of language status is provided in the subsequent sections and Appendices A and B.

Tables 3 and 4 provide demographic information on language status by grade level. Based on parent report of language status, 79.3% of students were monolingual English, 15.8% were bilingual in English and Spanish, and 4.8% of participants were monolingual Spanish (limited English proficient). Based on parent report of demographic items of the survey, 53.9% of students were female and the remaining 46.1% of students were male. Information about number of male and female students by language spoken at home is provided in Table 4 below. The racial/ethnic composition of the participants included 48.4% Caucasian, 20.9% Black, 18.6% Hispanic/ Latino, 10.6% Multi-racial, 1.0% Asian, 0.4% Native American, and 0.1% Hawaiian. In comparison to the racial/ethnic group composition to those reported by the Delaware Department of Education for the 2015-2016 school year, the majority of the percentages for racial/ethnic groups are consistent with the current study (46% Caucasian, 16% Hispanic, 0.4% Native American, and 0.1% Hawaiian). However, there was a discrepancy in the current population of Black students, Asian students, and multi-racial students. Multiracial students appear to be overrepresented in the study sample (3.2% according to the DDOE); Asian students appear to be underrepresented in the study sample (3.7% according to DDOE); and black students

appear to be underrepresented in the study sample (30.7% according to the DDOE).

Two explanations for the discrepancy are (1) the differences in study samples (the current study utilized only English and Spanish responses, and (2) the language in the demographic questions between the Department of Education and School Climate Scale-Home Version vary and therefore elicit diverse responses.

Table 1: Language Status of Sample

Family Language	Frequency	Percent
Monolingual English	8629	79.4
Bilingual English and Spanish	1720	15.8
Monolingual Spanish	525	4.8
Total	10874	100

Note: Full sample of 10,874 parents of English or Spanish speaking students in 89 public schools included

Table 2: Language Status of Sample by Grade Level

Grade Level	Language Status			Total (Column percent)
	Monolingual English (Column percent)	Bilingual Spanish English (Column percent)	Monolingual Spanish (Column percent)	
PreK-	1688	243	147	2078
Kindergarten	(81.2%)	(11.7%)	(7.1%)	(19.1%)
Grade 1-	4119	878	269	5266
Grade 2	(78.2%)	(16.7%)	(5.1%)	(48.4%)
Grade 3-	2822	599	109	3530
Grade 5	(79.9%)	(17.0%)	(3.1%)	(32.4%)
Total	8629	1720	525	10874
(row percent)	(79.4%)	(15.8%)	(4.8%)	(100%)

Note: Full sample of 10,874 parents of English or Spanish speaking students in 89 public schools included

Table 3: Language Status of Sample by Gender

Language Status	Gender		Total (Column percent)
	Male (Column percent)	Female (Column percent)	
Monolingual English	3914	4665	8579
Bilingual Spanish English	(78.9%)	(80.4%)	(79.7%)
Monolingual Spanish	793	886	1679
Bilingual Spanish English	(16.0%)	(15.3%)	(15.6%)
Monolingual Spanish	258	253	511
Bilingual Spanish English	(5.2%)	(4.4%)	(4.7%)
Total	4965	5804	10769
(row percent)	(46.1%)	(53.9%)	(100%)

Note: Table 3 sample includes parents who indicated student gender. The 105 parents that did not indicate a gender are included in the hierarchical analysis but are not presented in Table 3; during HLM analysis, student gender was statistically estimated via restricted maximum likelihood.

Table 4 Language Status of Sample by Race/ Ethnicity

Race/Ethnicity	Language Status			Total (Column percent)
	Monolingual English (Column percent)	Bilingual Spanish English (Column percent)	Monolingual Spanish (Column percent)	
American	38	6	2	46
Indian/ Alaskan	(0.4%)	(0.4%)	(0.4%)	(0.4%)
Asian	105 (1.3%)	0 (0.0%)	0 (0.0%)	105 (1.0%)
Black	2168 (25.8%)	23 (1.4%)	1 (0.2%)	2192 (20.9%)
Hawaiian	10 (0.1%)	2 (1.2%)	0 (0.0%)	12 (.1%)
Hispanic/Latino	119 (1.4%)	1362 (84.5%)	470 (95.5%)	1951 (18.6%)
Multiracial	958 (11.4%)	154 (9.6%)	4 (0.8%)	1116 (10.6%)
White	5002 (59.5%)	65 (4.0%)	15 (3.0%)	5082 (48.4%)
Total (row percent)	8400 (80.0%)	1612 (15.3%)	492 (4.7%)	10504 (100%)

Note: Table 4 includes the sample of parent responses that also indicated their students' race/ ethnicity. The 370 parents that did not indicate students' race/ethnicity are included in the hierarchical analysis but are not presented in Table 4; during HLM analysis, student gender was statistically estimated via restricted maximum likelihood

### **3.2 Measures**

The current study utilized the Delaware School Climate Surveys- Home Version (DSS-H). The Delaware School Climate Surveys (including student, teacher, and home versions of the survey) were created as a collaboration between the University of Delaware Center for Positive Behavior Supports (DE-PBS), Delaware Department of Education (DDOE) and the University of Delaware's Center for Disability Studies.

While the versions of the survey have been administered to schools throughout the state of Delaware for over a decade, questions about language status were only asked on the 2015-2016 DSS-H Scale. The Delaware Department of Education added questions of language status to the 2016 survey due to the importance of assessing and serving the growing population of linguistically diverse students. Since its creation, the Delaware School Surveys have been revised to fit the current needs of the educational system in Delaware and the results of studies of the survey's psychometric properties. The survey was offered in a paper format and an online format using Qualtrics survey software. For parents utilizing Qualtrics, the skip logic function was utilized which changed the survey questions available based on responses. Language Status questions are available in Appendix A and the determination of language status composite variable is indicated in Appendix B.

The survey was provided in English and Spanish versions for parents speaking those corresponding languages. The same items were used across grade levels and completed via computer or hard copy. All surveys were available publicly on the website and the home version of the surveys was distributed and collected from each student, guardian, and staff member in participating schools. Parents of students in grades PreK-12 were invited to participate. A copy of the English language version of the DSCS-H School Engagement Scale is provided in Appendix C and a copy of the Spanish version of the DSCS-H School Engagement Scale is provided in Appendix D.

The following scales and subscales from the Delaware School Survey- Home Version (DSS-H) were used in the study: the Teacher–Student Relations subscale, Student–Student Relations subscale, and the Teacher Home Communication subscale of the Delaware School Climate Scale; the Cognitive Engagement, Behavioral Engagement, and Emotional Engagement subscales of the Delaware Student Engagement Scale. Specific DSCS-H subscales utilized for this study are in Appendix E. The scale and subscale scores used in this study represent average item scores. Parents’ responded to items on a 4-point Likert scale, with 1 = *Disagree a Lot*, 2 = *Disagree*, 3 = *Agree*, and 4 = *Agree a Lot*. Higher scores indicated more positive perceptions.

### 3.2.1 Language Status

To identify linguistically diverse students, a series of questions identifying student home language were asked through survey format. The study sample was divided into three groups, monolingual English (i.e., general population), bilingual (comfortable in English and Spanish), and limited English proficiency (strong Spanish and relatively weaker English skills). The demographic portion of the DSCS-H included a series of questions about language status (see Appendix E, items 6-11 for specific items) in order to reclassify linguistically diverse students by their language ability and status. The survey asked parents to indicate their student's first language, the language spoken by family members in the home, and the language most often spoken by the student. Parents who responded with "English" to all three survey questions were asked not to complete the remainder of the language status questions. Once these questions are recoded into a variable, these students fell into the category of "monolingual English." Parents were then asked to rate their student's ability to speak the language most often spoken and their abilities to speak English on a 4-point Likert scale, with 1= *Poor*, 2= *Fair*, 3= *Good*, and 4= *Excellent*. Finally, parents were asked if their student receives ELL services. The number of parents reporting that their students receive ELL/ ESL services in the current survey was consistent with the public data from the DDOE website with 7.6% of parents reporting their child receives ESL services in the current sample and 6.4% of students receiving ELL/ ESL services

on the DDOE website. In the current study, a new variable was coded which reflects language status based on these questions. Given the limited language variability in middle school and high school grade levels, the sample was limited to preschool-kindergarten, lower elementary school (grades 1-2), and upper elementary school (grades 3-5). Table 5 below provides additional information on language status, as reported by parents, by grade level in the original sample of 2016 Delaware School Climate Survey- Home Version.

Table 5: Demographic Information of the Original Sample by Grade Level (PreK-High School)

Grade Level	Language Status			Total (Column percent)
	Monolingual English (Column percent)	Bilingual Spanish English (Column percent)	Monolingual Spanish (Column percent)	
PreK-	1688	243	147	2078
Kindergarten	(81.2%)	(11.7%)	(7.1%)	(14.03%)
Grade 1-	4119	878	269	5266
Grade 2	(78.2%)	(16.7%)	(5.1%)	(35.6%)
Grade 3-	2822	599	109	3530
Grade 5	(79.9%)	(17.0%)	(3.1%)	(23.9%)
Grade 6-	2544	427	66	3037
Grade 8	(83.7%)	(14.1%)	(2.2%)	(20.6%)
Grade 9-	737	101	29	867
Grade 12	(85.0%)	(11.6%)	(3.3%)	(5.9%)
Total (row percent)	11910 (80.5%)	2248 (15.2%)	620 (4.2%)	14778 (100%)

### 3.2.2 Student Engagement

The School Engagement Scale included twelve items consisting of 4-point Likert scale questions. The response options were: 1 = *Disagree a Lot*, 2 = *Disagree*, 3 = *Agree*, and 4 = *Agree a Lot*, with higher scores indicating more positive perceptions. The scale outlined three domains within the engagement construct; behavioral, cognitive and emotional engagement (Bear et al., 2016; Finn & Voelkl, 1993; Furlong et al., 2003). A confirmatory factor analysis (CFA) was conducted on the DSS-H School Engagement Scale 2014-2015 version of the DSS-H (Bear et al., 2016) confirming a second-order three factor structure of Student Engagement. Confirmatory Factor Analysis (CFA) was conducted on student engagement, the outcome variable, and a series of Exploratory Factor Analyses (EFAs) was conducted on the Teacher-Student Relationship subscale, the Student-Student Relationship scale, and the Teacher-Home Communication subscale on the DSCS- H. The current study utilized R Studio to conduct a CFA on the 2016 DSS-H School Engagement Scale for the overall study sample, DSS-H School Engagement Scale-English and DSCS-H School Engagement Form-Spanish. A CFA was conducted to obtain factor scores for the outcome variable (student engagement) and to confirm the factor structure was the same on both forms of the 2016 Delaware School Survey-Home version.

### **3.2.2.1 Student Engagement: Exploratory Factor Analysis (EFA)**

Using IBM SPSS Statistics, an initial exploratory factor analysis (EFA) utilizing the 12 indicators of Student Engagement from the DSCS-H measure was run to identify the number of factors underlying Student Engagement. The sample included in this analysis included parents of students from preschool through grade 12 in 103 public schools (17,229 participants total). Principal axis factor analysis was employed due to its tolerance of multivariate non-normality and greater recovery of weak factors (Briggs & MacCallum, 2003; Cudeck, 2000; Fabrigar, Wegener, MacCallum, & Strahan, 1999). Communalities were estimated through squared multiple correlations and were iterated to produce final communality estimates (Gorsuch, 2003). For both theoretical and empirical reasons, it was assumed that retained factors would be correlated. Consequently, a Promax rotation was employed (Tataryn, Wood, & Gorsuch, 1999).

The EFA model was evaluated against the following five rules: (a) eigenvalues greater than 1.0 (Kaiser, 1960); (b) scree (Cattell, 1966), (c) Glorfeld's (1995) extension of parallel analysis (PA; Horn, 1965), (d) minimum average parcels (MAP; Velicer, 1976), and (e) interpretability (Fabrigar et al., 1999; Gorsuch, 1983). In order to determine the correct number of factors to retain and rotate, factors were retained when eigenvalues were  $\geq 1.0$  (Fabrigar et al.; Tabachnick & Fidell, 1996). In place of the the hypothesis of a three-factor model for student engagement (Bear et al., 2016),

the two-factor solution satisfied requirements for simple structure in that all variables showed appreciable factor loadings and each variable loaded on only one factor (Field, 2013; Tabachnick & Fidell, 2007). The two factors loaded as cognitive-behavioral engagement and emotional engagement. However, both the results and student engagement theory (see Chapter 1) suggested a higher-order factor may exist.

### **3.2.2.2 Student Engagement: Final Confirmatory Factor Analysis (CFA)**

A confirmatory second-order factor analysis (CFA) was used to confirm the initial factor model as well as to identify a higher-order factor that provided a measure for overall engagement, representing indicators from both engagement factors. The intraclass correlation (ICC), which represents the ratio of between cluster variance to total variance (Skinner et al., 1989; Koch, 1983), indicated that 3.3% of the variance in cognitive-behavioral engagement and 10.7% of the variance in emotional engagement was due to variation in overall engagement. When group clustering is ignored in nested data, model fit deteriorates (Pornprasertamanit, Lee, & Preacher, 2014). Running a CFA to confirm second-order group level fit is further substantiated by a design effect, which accounts for ICC and cluster size of  $\leq 2.0$  (Muthén & Satorra, 1995). The design effect was measured as 1.43 for behavioral-cognitive engagement and 2.39 for emotional engagement.

Utilizing R Studio (RStudio Team, 2016), a series of CFAs were tested on the overall sample as well as the English version and Spanish version of the School

Engagement Scale-Home. A series of tests of model fit were run to determine the appropriate model and compare them with hypothesized models. These tests include the chi-square, the Comparative Fit Index (CFI), the Root Mean-Square Error of Approximation (RMSEA), and the Standardized Root Mean-Square Residual (SRMR). The chi-square assesses the overall model fit; models with adequate fit have a  $p$ -value  $> 0.05$ . The CFI measures the model fit compared to the null model. The RMSEA is a measure of error of approximation taking into account sample size. Finally, the SRMR indicates the measure of fit defined by the standardized difference between the observed correlation and the predicted correlation. Models with adequate fit generally have CFI values  $\leq 0.95$ , SRMR values  $\geq 0.08$ , and RMSEA values  $\geq 0.06$  (Hooper et al., 2008; Hu & Bentler, 1998; Kline, 2005). Factor loadings from the twelve items of the Student Engagement Scale were generated with all factors loading onto one factor exclusively. While there are differences in opinion on factor loading cut-offs before eliminating survey items, a factor loading of  $\geq 0.50$  was utilized (Bollen, 2002; DiStefano, Zhu, Mîndrila, & 2009; Stevens, 1992; Yong & Pearce, 2013). A summary of fit indices for the models considered is provided in Table 6 below and a diagram of the model structure is provided in Figure 1.

Table 6: Fit Statistics for Models Considered

Model	Fit Statistics				
	$\chi^2$	<i>Df</i>	CFI	SRMR	RMSEA
Second Order Two Factor (group centered) *	1261.795	52	0.966	0.031	0.065
Two Factor (group centered) *	1286.06	53	0.966	0.033	0.065
Two Factor *	1326.516	53	0.966	0.031	0.065
Three Factor (group centered) *	1247.973	51	0.967	0.033	0.066
Three Factor *	1290.595	51	0.967	0.033	0.066
Second Order Three Factor (group centered)			<i>failed to converge</i>		
(English only) Second Order Three Factor (group centered) *	2548.262	52	0.955	0.036	0.083
(Spanish Only) Second Order Three Factor (group centered)			<i>failed to converge</i>		
(English only) Second Order Two Factor (group centered) *	2630.58	52	0.953	0.036	0.085
(Spanish only) Second Order Two Factor (group centered) *	155.077	52	0.972	0.028	0.061

Note: N for overall sample =14950, cluster N for overall and English samples=131. English Survey Version n=12846. Spanish Survey Version n=1331 with cluster n=71

\* $p \leq 0.01$

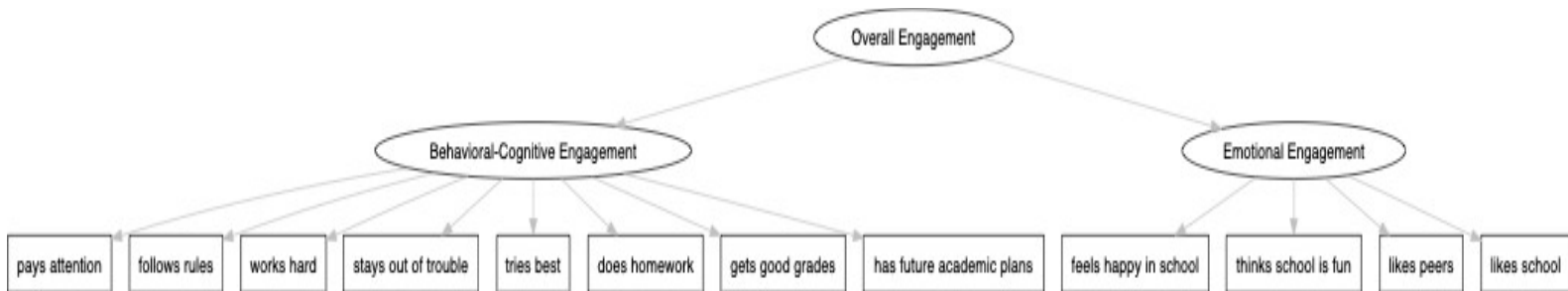


Figure 1: Student Engagement Scale Model from DSCS-H

The group-centered second-order two-factor model (i.e., overall engagement with a behavioral-cognitive and emotional engagement component that took into consideration the clustered nature of the sample) for the overall sample across grade levels (PreK- Grade 12) was ultimately selected based on the aforementioned criteria and fit with student engagement theory. Models were run with the overall sample, the English language version of the School Engagement Scale-Home version, and the Spanish language version of the School Engagement Scale-Home version. Determination of which parents received Spanish or English versions of the survey was done by the individual schools, and therefore was not systematic. Given the group-centered second-order two-factor model was an adequate fit for both language versions and there was no substantial difference between participants receiving either survey, the factor scores from the overall sample were utilized as the outcome variable in the present study. Results of the confirmatory factor analysis (CFA) on the 2015-2016 Delaware School Climate Scales-Home Version School Engagement Scale confirm a second-order model fit the data with a two-factor (behavioral-cognitive and emotional engagement) and a higher factor of overall engagement [CFI=0.966, SRMR=0.031, and RMSEA= 0.065]. A summary of the fit statistics for the group-centered second-order two-factor model with the full sample of students PreK-Grade 12 is presented in Table 7.

Table 7: Confirmatory Factor Analysis of group-centered Second-Order Two-Factor Model of the DSCS-HSchool Engagement Scale

Item	Loading	SE	z
<b>Second-Order: Factor School Engagement</b>			
Behavioral-Cognitive Engagement	0.823	0.032	45.853
Emotional Engagement	0.829	0.080	18.636
<b>First Order Factor 1: Behavioral-Cognitive Engagement</b>			
1. My child pays attention in class.	0.754	0.006	49.225
2. My child follows the rules at school.	0.778	0.006	50.428
4. My child follows the rules at school.	0.778	0.006	50.428
5. My child turns in his/her homework on time.	0.713	0.008	35.011
7. When my child doesn't do well, he/she works harder.	0.730	0.005	59.207
8. My child gets good grades in school.	0.729	0.007	40.774
10. My child stays out of trouble at school.	0.717	0.006	48.500
11. My child has plans for more school or training after high school.	0.592	0.005	47.484
<b>First Order Factor 2: Emotional Engagement</b>			
3. My child feels happy in school.	0.843	0.016	21.599
6. My child thinks that his/her school is a fun place to be.	0.831	0.018	20.315
9. My child likes students who go to this school.	0.731	0.012	23.656
12. My child likes this school.	0.817	0.018	19.170

Note. Loading= standard factor loading; SE=standard error; z= z score.

### **3.2.3 Student Demographic Information**

Student variables in this study were reported by parents via responses on the DSCS-H surveys. Students' grade, gender, and race/ethnicity were captured on the DSCS-H. Grade level was captured on the DSCS-H. Grade level was separated into PreK-K, Early Elementary (grade 1- grade 2), and Late Elementary (grade 3- grade 5). See Table 2 and Table 5 for participant distribution by grade level. Grade level was utilized as both a predictor of student engagement and as a moderator of the relationship between teacher-student relationship quality, student-student relationship quality, and home-school relationship quality and student engagement, as described in the subsequent sections. Grade level was included as two dummy coded variables in the study. Parent-reported student gender was included as a control in the model because girls typically demonstrate stronger student engagement than their male counterparts (Dion & Dion, 2001; Wang & Fredricks, 2014). Gender was controlled in order to examine differences in student engagement to language status and school-based relationships and to not attribute gender differences to the predictors. Gender was dummy coded in the current study. See Table 3 for the participant distribution by gender. Student race/ethnicity was not utilized in this study as a control due to the collinearity of language diversity and student engagement. The majority of parents in this study who identified their children as bilingual or EL also identified as Hispanic/Latino (see Table 5). This distribution was consistent with literature cited in

Chapter 2, indicating that 80% of immigrant students and English Learners are students of color (Suárez-Orozco et al., 2009).

### **3.2.4 School Demographics**

As previously mentioned, a goal of the current study was to examine which malleable and naturally occurring school-based factors predict student engagement. For this reason, school-level SES, percentage of students who are ELs at the school, and school size were included in the model. School level predictors were captured from the 2015-2016 Delaware Department of Education School Profile website (<https://www.doe.k12.de.us/Domain/39>). School-level SES was controlled for with the proxy of percentage of students receiving free and reduced-price lunch.

### **3.2.5 Delaware School Climate Scale: Home Version**

As previously mentioned, a goal of the current study was to examine which malleable and naturally occurring school-based factors predict student engagement. For this reason, school-level SES, percentage of students who are ELs at the school, and school size were included in the model. School level predictors were captured from the 2015-2016 Delaware Department of Education School Profile website (<https://www.doe.k12.de.us/Domain/39>). School-level SES was controlled for with the proxy of percentage of students receiving free and reduced-price lunch.

### **3.2.5.1 Teacher-Student Relationships: Exploratory Factor Analysis (EFA)**

The five-item Teacher-Student Relation subscale of the DSCS-H assessed parent perceptions of the quality of relationships between their students and teachers. Specific items asked the degree to which parents agreed that teachers treat students with respect, care about their students, listen to students, and like their students. Using IBM SPSS Statistics, an initial exploratory factor analysis (EFA) utilizing the five indicators of Teacher-Student Relationships from the DSCS-H measure was run to confirm and identify the number of factors and obtain factor scores for the underlying teacher-student relationship quality. There were no qualitative differences in the sample of participants taking the English and Spanish version of the DSCS- H; that is parents were not systematically provided with either language based on distinguishing characteristics. Therefore, consistent with the School Engagement Scale preliminary EFAs and final CFA, the English and Spanish versions of the DSCS-H were run in the EFA together for the overall sample across grade levels.

Results from Bartlett's Test of Sphericity (Bartlett, 1954) indicated that the correlation matrix was not random ( $\chi^2 = 50,063.546$ ;  $df = 10$ ;  $p \leq 0.001$ ). The Kaiser-Meyer-Olkin (KMO; Kaiser, 1974) statistic was .895 and it was well above the .60 minimum suggested by Kline (1994). The one-factor solution satisfied requirements for simple structure in that all variables showed appreciable factor loadings and each variable loaded on only one factor (Field, 2013; Tabachnick & Fidell, 2007). Factor

loadings ranged from 0.837 to 0.886; Table 8 presents the rotated pattern matrix for the one-factor solution.

### **3.2.5.2 Student-Student Relationships: Exploratory Factor Analysis (EFA)**

The five-item Student-Student Relations subscale of the Delaware School Climate Scale-Home Version assessed parent perceptions of the quality of relationships between their students with peers. Specific items asked the degree to which parents agree that students are friendly, get along, care, and respect each other. Using IBM SPSS Statistics, an initial exploratory factor analysis (EFA) utilizing the five indicators of Student-Student Relationships from the DSCS-H measure was run to confirm and identify the number of factors and obtain factor scores for the underlying teacher-student relationship quality. As described previously, there were no qualitative differences in the sample of participants taking the English and Spanish version of the DSCS- H. Therefore, consistent with the School Engagement Scale CFA, the English and Spanish versions of the DSCS-H were included in the EFA together.

Results from Bartlett's Test of Sphericity (Bartlett, 1954) indicated that the correlation matrix was not random ( $\chi^2 = 65636.883$ ;  $df = 10$ ;  $p \leq 0.001$ ). The Kaiser-Meyer-Olkin (KMO; Kaiser, 1974) statistic was .879 and it was well above the .60 minimum suggested by Kline (1994). The one-factor solution satisfied requirements for simple structure in that all variables showed appreciable factor loadings and each variable loaded on only one factor (Field, 2013; Tabachnick & Fidell, 2007). Factor

loadings ranged from 0.853 to 0.913; Table 8 presents the rotated pattern matrix for the one-factor solution.

### **3.2.5.3 Teacher-Home Communication: Exploratory Factor Analysis (EFA)**

The four-item Teacher-Home Communications subscale of the DSCS-H assessed the parent perception of the quality of relationships between their students with peers. Specific items asked to the degree to which teachers communicate with parents, demonstrate respect to parents, and listen to parents. Using IBM SPSS Statistics, an initial exploratory factor analysis (EFA) utilizing the five indicators of Teacher-Student Relationships from the DSCS-H measure was run to confirm and identify the number of factors and obtain factor scores for the underlying teacher-student relationship quality. As previously described, there were no qualitative differences in the sample of participants taking the English and Spanish version of the DSCS- H. Therefore, consistent with the School Engagement Scale CFA, the English and Spanish versions of the DSCS-H were included in the EFA together.

Results from Bartlett's Test of Sphericity (Bartlett, 1954) indicated that the correlation matrix was not random ( $\chi^2 = 38519.823$ ;  $df = 6$ ;  $p \leq 0.001$ ). The Kaiser-Meyer-Olkin (KMO; Kaiser, 1974) statistic was .833 and it was well above the .60 minimum suggested by Kline (1994). The one-factor solution satisfied requirements for simple structure in that all variables showed appreciable factor loadings and each variable loaded on only one factor (Field, 2013; Tabachnick & Fidell, 2007). Factor

loadings ranged from 0.846 to 0.915; Table 8 presents the rotated pattern matrix for the one-factor solution.

Table 8: Pattern Matrix of Included Relationship-Quality Predictors from DSCS-H

Items	Component Loading
<b>Teacher-Student Relationship Quality</b>	
2. Teachers treat students of all races with respect.	0.837
7. Teachers care about their students.	0.886
17. Teachers listen to students when they have problems.	0.853
22. Adults who work there care about the students.	0.882
27. Teachers like their students.	0.822
<b>Student-Student Relationship Quality</b>	
11. Students are friendly with each other.	0.909
12. Students get along with each other.	0.913
16. Students care about each other.	0.900
21. Students respect others who are different.	0.853
<b>Teacher-Home Communication Quality</b>	
1. Teachers listen to the concerns of parents.	0.843
23. Teachers show respect toward parents.	0.875
24. Teachers work closely with parents to help students when they have problems	0.915
25. Teachers do a good job communicating with parents.	0.893

### 3.3 Procedures for Statistical Analysis

The following procedures for statistical analysis were employed to achieve two goals: 1) to explore the role of parent reported language status, the quality of school-based relationships, and grade level in predicting parent perceptions of student

engagement in preschool, kindergarten, and elementary school students, and 2) to examine whether grade level and language status moderate these relationships. A CFA confirmed the group-centered, second-order two-factor structure of the dependent variable, student engagement. EFAs on the relationship quality items revealed a single factor for each relationship quality variable: teacher-student relationship quality, student-student relationship quality, and teacher-home communication quality. Factor scores were obtained for these variables as well and were included in the subsequent analysis. Correlational analysis utilized the sample of parents indicating their students spoke English and/or Spanish and their students' were in preschool or elementary school (10,586 parents of students in 89 public schools). The next set of analyses are detailed below, including: (1) correlational analyses on continuous variables with the dependent variable in order to assess risk for multicollinearity, (2) centering variables in the model and interactions, and (3) hierarchical linear modeling.

### **3.3.1 Correlational Analysis: Assessing for Multicollinearity**

Pearson correlational analyses were completed to understand the relationships among the continuous independent variables (i.e., teacher-student relationship quality, student-student relationship quality, and teacher-home communication quality; all represented by factor scores) and to assess the risk for multicollinearity. As expected, parent report of the quality of their students' school-based relationships was positively and significantly correlated with parent reports of student engagement. These relationships represented small correlations for teacher-student relationship quality ( $r=0.096$ ), student-student relationship quality ( $r=0.082$ ), and teacher-home

communication quality ( $r=0.088$ ). The association between these variables was unsurprising, as literature demonstrates the importance of teacher-student relationships, student relationships, and home-school communication in contributing to student engagement. However, the small correlations were different from expectations and warranted further exploration of the role of language status, grade level, and their interactions in predicting student engagement. Exploration of school-specific factors also warranted further exploration.

Correlations were also run between continuous independent variables and the dependent variable, student engagement, in order to assess for multicollinearity. Multicollinearity is a problem with the correlation matrix which occurs when variables are too highly correlated (Tabachnik & Fidell, 2007). Risk for multicollinearity was determined by evaluating the (1) magnitude of the correlation ( $r$ ), (2) the Variation Inflation Factor (VIF should be  $\leq 10$ ), and (3) the Conditioning Index (the Conditioning Index should be  $\leq 30$ ). Multicollinearity was not a threat in the current study given the small effect size of the correlation coefficient ( $r= 0.082-0.096$ ), the appropriate Variance Inflation Factor (VIFs =1.909- 4.656), and Conditioning Index (Conditioning Indexes= 1.467-4.361). Further, the variables used in the hierarchical linear models were centered on the grand means which also reduces the threat of multicollinearity (Raudenbush & Bryk, 2002).

### **3.3.2 Centering Model Variables**

All predictors and controls included in the study were subsequently centered. Relationship quality factor scores (i.e., parent perceptions of student-student relationship quality, student-student relationship quality, home-school communication quality) were centered on the grand mean. Centering continuous variables around the grand mean allows for the interpretation of the slope and intercept compared with the average student (Rudenshush & Byrk, 2002). Language status was dummy coded with the monolingual English group as the reference group and then centered on the grand mean. Gender was dummy coded, with male as the reference group, and centered around the grand mean. Finally, grade level was dummy coded, with the early elementary school group as the reference group due to its relative size, and then centered on the grand mean. Centering dummy coded variables around the grand mean allows for the interpretation of the slope and intercept of the variable to be the score for the reference group (Rudenshush & Byrk, 2002). All continuous school level predictors (i.e., school size, school SES, and school percentage ESL) were also centered around the grand mean. Grand mean centering was utilized because the present study focused on parents' perceptions of language status, school-based relationship quality, and grade level predicted student engagement for all students.

### 3.3.3 Calculating Interactions

Interaction terms were then calculated to investigate the moderating effects of dummy coded language status and grade level variables on the relationship quality predictors. Utilizing IBM SPSS Software (2015), relationship quality factor scores were first grand centered and interaction terms were calculated. Specifically, interaction terms were calculated to explore moderation of language status on the association between parent perceptions of teacher-student relationship quality (i.e., Teacher-Student Relationship Quality  $\times$  Monolingual Spanish and Teacher- Student Relationship Quality  $\times$  Bilingual Status), student-student relationship quality (i.e., Student-Student Relationship Quality  $\times$  Monolingual Spanish and Student- Student Relationship Quality  $\times$  Bilingual Status), and home-school communication quality (i.e., Home-School Communication Quality  $\times$  Monolingual Spanish and Home-School Communication Quality  $\times$  Bilingual Status) on the outcome of parent reported student engagement. Additionally, the moderating effect of grade level on relationship quality predictors were calculated. Specifically, interaction terms were calculated to explore moderation of grade level on the association between parent perceptions of Teacher- Student Relationship quality (i.e., Teacher-Student Relationship quality  $\times$  PreK-K and Teacher-Student Relationship quality  $\times$  Grades 3-5), Student- Student Relationship quality (i.e., Student-Student Relationship Quality  $\times$  PreK-K and

Student-Student Relationship quality  $\times$  Grades 3-5), and Teacher-Home Communication quality (i.e., Teacher-Home Communication quality  $\times$  PreK-K and Teacher-Home Communication  $\times$  Grades 3-5).

### **3.3.4 Hierarchical Linear Analysis**

A series of hierarchical linear models were run utilizing HLM 7.03 (Raudenbush, Bryk, Cheong, Congdon, & du Toit, 2011) to address the research questions. Hierarchical linear modeling was utilized in order to account for school-level variables such as school size, school SES, and school percentage ESL. Also, hierarchical linear modeling accounts for the clustered nature of the data set, which includes students in schools. There was an inherent dependency in the data set as parents of students within a particular school are likely have responses of their students' engagement and relationships that are more similar compared to students of the same school. In addition, since the study aimed to build upon current school resources to compare parent reported student engagement, hierarchical linear modeling is required to understand how much variance could be explained at the school level and potential contextual effect of school level on language level. The study utilized a two level HLM model with the continuous outcome variable of student engagement factor scores. The first level of the model represents student-level variables including: gender, language status, grade level, parent report of teacher-student relationship quality, student-student relationship quality, teacher-home

communication quality; and interactions between language status and relationship quality variables, and grade level and relationship quality variables. The second level of the model represented school-level variables including: percentage free and reduced-price lunch (school level SES proxy), school size, and percentage ESLs at the school. Random effects were not included in the model due insufficient sample size and addition of multiple variables at the first and second level. However, robust standard errors are reported to guard against the possibility of model over simplicity from not including random effects. Due to small sample size, some responses were deleted. Therefore, the sample of 10,586 parents of students in 89 public schools was truncated to 9,692 parents in 82 public schools.

In order to confirm the use of HLM with the present data set, the proportion of variance in engagement explained by grouping structure of the model was calculated from the unconditional model (Model 1). The intraclass correlation (ICC) represents the ratio of group level error variance by total error variance and an ICC of  $\geq 0.01$  is justification to proceed with an HLM Model (Rudenbush & Byrk, 2002). Model 1 is presented below (with corresponding notation following all models).

**Model 1 (Unconditional Model):**

**Level 1 (student level):**       $SE_{ij} = \beta_{0j} + e_{ij}$

**Level 2 (school level):**       $\beta_{0j} = \gamma_{00} + u_{0j}$

Model 2 was run to assess the influence of student and school level demographics on parent reported student engagement. Model 3 was run to assess the influence of parent reported language status on parent perceptions of student engagement. Model 4 was run to assess the influence of parent perceptions of teacher-student relationship quality on student engagement. Model 5 was run to assess the influence of parent perceptions of student-student relationship quality on student engagement. Model 6 was run to assess the influence of parent perceptions of teacher-home communication quality on student engagement. Models 7-9 were run to assess the interaction between language status and relationship quality predictors on parent perceptions of their students' engagement. Models 10-12 were run to assess the interaction between grade level and relationship quality predictors on parent perceptions of their students' engagement. Variables and interactions included in each model are found in Table 9. Research questions and hypotheses are indicated below with the corresponding models.

**Model 2:**

**Level 1 (student level):**  $SE_{ij} = \beta_{0j} + \beta_1(\text{Gender}_{ij}) + e_{ij}$

**Level 2 (school level):**  $\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{SES}_j) + \gamma_{02}(\text{Size}_j) + \gamma_{03}(\text{PercentEL}_j) + u_{0j}$

**Where:**

- $SE_{ij}$  represents the outcome variable of student engagement for student  $i$  in school  $j$ ;
- $\beta_{0j}$  represents school intercept, the mean student engagement for school  $j$ .

- $\beta_1$  represents the fixed effect slope for the control variable of student gender with male students as the reference group.
- $\gamma_{00}$  represents mean engagement score across all students and schools when all level-2 predictors are equal to zero.
- $\gamma_{01}$  represents slope at the school level for school SES- the change in the school engagement associated with a 1-unit increase in school-level SES (percentage free and reduced-price lunch).
- $SES_j$  represents predictor of school level SES (percentage of students receiving free and reduced-price lunch);
- $\gamma_{02}$  represents the slope at the school level for school size or in other words the change in school engagement associated with a 1-unit increase in school size.
- $Size_j$  represents school size.
- $\gamma_{03}$  represents the slope at the school level for percentage ESL in population; the change in school engagement associated with a 1-unit increase in percentage ESL;
- $u_{0j}$  represents the random intercept for school j

Research Question 1: What is the role of language status in predicting parent perceptions of their students' engagement?

Hypothesis: Linguistically diverse students were hypothesized to have lower overall engagement than their monolingual peers.

### **Model 3:**

**Level 1 (student level):**  $SE_{ij} = \beta_{0j} + \beta_1(\text{Gender}) + \beta_2(\text{EL}) + \beta_3(\text{BL}) + e_{ij}$

Where:

- $SE_{ij}$  represents the outcome variable of student engagement for student i in school j;
- $\beta_{0j}$  represents school intercept, the mean student engagement for school j.
- $\beta_1$  (Gender) represents the control variable of student gender with male students as the reference group.
- $\beta_2$  (EL) represents the grand mean centered predictor of ELL.
- $\beta_3$  (BL) represents the grand mean centered predictor of bilingual students.

- $e_{ij}$  represents the error term for student  $i$  in school  $j$ .

**Level 2 (school level):** *Same as Model 2*

Research Question 2: What is the influence of school relationships on student engagement?

Hypothesis: Parent perceptions of teacher-student relationships, student-student relationships, and home-school communication were hypothesized to be positively related to perceptions of student engagement.

**Model 4:**

**Level 1 (student level):**  $SE_{ij} = \beta_{0j} + \beta_1(\text{Gender}) + \beta_2(\text{EL}) + \beta_3(\text{BL}) + \beta_4(\text{TS}_{ij}) + e_{ij}$

**Level 2 (school level):** *Same as Model 2*

Where:

- $SE_{ij}$  represents the outcome variable of student engagement for student  $i$  in school  $j$ ;
- $\beta_{0j}$  represents school intercept, the mean student engagement for school  $j$ .
- $\beta_1(\text{Gender})$  represents the control variable of student gender with male students as the reference group.
- $\beta_2(\text{EL})$  represents the grand mean centered predictor of EL.
- $\beta_3(\text{BL})$  represents the grand mean centered predictor of bilingual students.
- $\beta_4(\text{TS}_{ij})$  represents the slope for the grand mean centered predictor of teacher-student relationship quality.
- $e_{ij}$  represents the error term for student  $i$  in school  $j$ .

**Model 5:**

**Level 1 (student level):**  $SE_{ij} = \beta_{0j} + \beta_1(\text{Gender}) + \beta_2(\text{EL}) + \beta_3(\text{BL}) + \beta_4(\text{SS}_{ij}) + e_{ij}$

**Level 2 (school level):** *Same as Model 2*

Where:

- $SE_{ij}$  represents the outcome variable of student engagement for student  $i$  in school  $j$ ;
- $\beta_{0j}$  represents school intercept, the mean student engagement for school  $j$ .
- $\beta_1(\text{Gender})$  represents the control variable of student gender with male students as the reference group.
- $\beta_2(\text{EL})$  represents the grand mean centered predictor of EL.
- $\beta_3(\text{BL})$  represents the grand mean centered predictor of bilingual students.
- $\beta_4(SS_{ij})$  represents the slope for the grand mean centered predictor of student-student relationship quality.
- $e_{ij}$  represents the error term for student  $i$  in school  $j$ .

**Model 6:**

**Level 1 (student level):**  $SE_{ij} = \beta_{0j} + \beta_1(\text{Gender}) + \beta_2(\text{EL}) + \beta_3(\text{BL}) + \beta_4(\text{TH}_{ij}) + e_{ij}$

**Level 2 (school level):** *Same as Model 2*

Where:

- $SE_{ij}$  represents the outcome variable of student engagement for student  $i$  in school  $j$ ;
- $\beta_{0j}$  represents school intercept, the mean student engagement for school  $j$ .
- $\beta_1(\text{Gender})$  represents the control variable of student gender with male students as the reference group.
- $\beta_2(\text{EL})$  represents the grand mean centered predictor of EL.
- $\beta_3(\text{BL})$  represents the grand mean centered predictor of bilingual students.
- $\beta_4(\text{TH}_{ij})$  represents the slope for the grand mean centered predictor of teacher-home communication quality.
- $e_{ij}$  represents the error term for student  $i$  in school  $j$ .

Research Question 3a: What is the interaction between school-based relationships and language status?

Hypothesis: It was hypothesized that there would be an interaction between these relationships and language status with more positive teacher-student relationship quality, student-student relationship quality, and home-school communication quality more predictive of linguistically diverse student engagement in contrast to monolingual-English students. In other words, better relationships and communication were hypothesized to be associated with smaller gaps in engagement across language status categories.

**Model 7:**

**Level 1 (student level):**  $SE_{ij} = \beta_{0j} + \beta_1(\text{Gender}) + \beta_2(\text{EL}) + \beta_3(\text{BL}) + \beta_4(\text{TS}_{ij})$   
 $+ \beta_5(\text{EL}_{ij} \times \text{TS}_{ij}) + \beta_6(\text{BL}_{ij} \times \text{TS}_{ij}) + e_{ij}$

**Level 2 (school level):** *Same as Model 2*

Where:

- $SE_{ij}$  represents the outcome variable of student engagement for student  $i$  in school  $j$ ;
- $\beta_{0j}$  represents school intercept, the mean student engagement for school  $j$ .
- $\beta_1(\text{Gender})$  represents the control variable of student gender with male students as the reference group.
- $\beta_2(\text{EL})$  represents the grand mean centered predictor of EL.
- $\beta_3(\text{BL})$  represents the grand mean centered predictor of bilingual students.
- $\beta_4$  represents the slope for teacher-student relationship quality.
- $\text{TS}_{ij}$  represents the grand mean centered predictor of teacher-student relationship quality.
- $\beta_5$  represents the slope of the interaction between EL and teacher-student relationship quality.

- $EL_{ij} \times TS_{ij}$  represents the interaction between EL and teacher-student relationship quality.
- $\beta_6$  represents the slope of the interaction between bilingualness and teacher-student relationship quality.
- $BL_{ij} \times TS_{ij}$  represents the interaction between bilingualness and teacher-student relationship quality.
- $e_{ij}$  represents the error term for student  $i$  in school  $j$ .

**Model 8:**

**Level 1 (student level):**  $SE_{ij} = \beta_{0j} + \beta_1(\text{Gender}) + \beta_2(\text{EL}) + \beta_3(\text{BL}) + \beta_4(\text{SS}_{ij})$   
 $+ \beta_5(\text{EL}_{ij} \times \text{SS}_{ij}) + \beta_6(\text{BL}_{ij} \times \text{SS}_{ij}) + e_{ij}$

**Level 2 (school level):** *Same as Model 2*

Where:

- $SE_{ij}$  represents the outcome variable of student engagement for student  $i$  in school  $j$ ;
- $\beta_{0j}$  represents school intercept, the mean student engagement for school  $j$ .
- $\beta_1(\text{Gender})$  represents the control variable of student gender with male students as the reference group.
- $\beta_2(\text{EL})$  represents the grand mean centered predictor of EL.
- $\beta_3(\text{BL})$  represents the grand mean centered predictor of bilingual students.
- $\beta_4$  represents the slope for student-student relationship quality.
- $SS_{ij}$  represents the grand mean centered predictor of student-student relationship quality.
- $\beta_5$  represents the slope of the interaction between EL and student-student relationship quality.
- $EL_{ij} \times SS_{ij}$  represents the interaction between EL and student-student relationship quality.
- $\beta_6$  represents the slope of the interaction between bilingualness and student-student relationship quality.
- $BL_{ij} \times SS_{ij}$  represents the interaction between bilingualness and student-student relationship quality.
- $e_{ij}$  represents the error term for student  $i$  in school  $j$ .

### **Model 9:**

**Level 1 (student level):**  $SE_{ij} = \beta_{0j} + \beta_1(\text{Gender}) + \beta_2(\text{EL}) + \beta_3(\text{BL}) + \beta_4(\text{TH}_{ij})$   
 $+ \beta_5(\text{EL}_{ij} \times \text{TH}_{ij}) + \beta_6(\text{BL}_{ij} \times \text{TH}_{ij}) + e_{ij}$

**Level 2 (school level):** *Same as Model 2*

Where:

- $SE_{ij}$  represents the outcome variable of student engagement for student  $i$  in school  $j$ ;
- $\beta_{0j}$  represents school intercept, the mean student engagement for school  $j$ .
- $\beta_1(\text{Gender})$  represents the control variable of student gender with male students as the reference group.
- $\beta_2(\text{EL})$  represents the grand mean centered predictor of EL.
- $\beta_3(\text{BL})$  represents the grand mean centered predictor of bilingual students.
- $\beta_4$  represents the slope for teacher-home communication quality.
- $\text{TH}_{ij}$  represents the grand mean centered predictor of teacher-home communication quality.
- $\beta_5$  represents the slope of the interaction between EL and teacher-home communication quality.
- $\text{EL}_{ij} \times \text{TH}_{ij}$  represents the interaction between EL and teacher-home communication quality.
- $\beta_6$  represents the slope of the interaction between bilingualness and teacher-home communication quality.
- $\text{BL}_{ij} \times \text{TH}_{ij}$  represents the interaction between bilingualness and teacher-home communication quality.
- $e_{ij}$  represents the error term for student  $i$  in school  $j$ .

**Research Question 3b:** What is the interaction between school-based relationships and grade level on student engagement?

**Hypothesis:** Grade level was hypothesized to moderate the relationship between teacher-student relationships, student-student relationships, and home-school communications with perceptions of engagement. Grade level was broken into preK-K

(preschool-kindergarten), early elementary school (first grade-second grade), and late elementary school (third grade- fifth grade). It was hypothesized that there would be a stronger association between teacher-student relationships and home-school communication with engagement for younger students (preschool, kindergarten, and early elementary school) compared with older students (upper elementary school). It was hypothesized that there would be a stronger association between student-student relationships and parent perceptions of student engagement for upper elementary school students compared with their younger peers.

**Model 10:**

**Level 1 (student level):**  $SE_{ij} = \beta_{0j} + \beta_1(\text{Gender}) + \beta_2(\text{TS}_{ij}) + \beta_3(\text{PreK-K})$   
 $+ \beta_4(\text{GD3-5}) + \beta_5(\text{TS}_{ij} \times \text{PreK-K}) + \beta_6(\text{TS}_{ij} \times \text{GD3-5}) + \epsilon$

**Level 2 (school level):** *Same as Model 2*

Where:

- $SE_{ij}$  represents the outcome variable of student engagement for student  $i$  in school  $j$ ;
- $\beta_{0j}$  represents school intercept, the mean student engagement for school  $j$ .
- $\beta_1(\text{Gender})$  represents the control variable of student gender with male students as the reference group.
- $\beta_2$  represents the slope for teacher-student relationship quality.
- $\text{TS}_{ij}$  represents the grand mean centered predictor of teacher-student relationship quality.
- $\beta_3$  represents the slope for preschool-kindergarten grade level.
- $\text{PreK-K}$  represents the grand mean centered predictor of preschool-kindergarten.

- $\beta_4$  represents the slope for the grades 3-5 (upper elementary school) grade level.
- $\beta_5$  represents the slope of the interaction between PreK-K grade level and teacher-student relationship quality.
- $TS_{ij} \times \text{PreK-K}$  represents the interaction between PreK-K grade level and teacher-student relationship quality
- $\beta_6$  represents the slope of the interaction between grades 3-5 (upper elementary school) and teacher-student relationship quality.
- $TS_{ij} \times \text{GD3-5}$  represents the interaction between grades 3-5 (upper elementary school) and teacher-student relationship quality
- $e_{ij}$  represents the error term for student  $i$  in school  $j$ .

**Model 11:**

**Level 1 (student level):**  $SE_{ij} = \beta_{0j} + \beta_1(\text{Gender}) + \beta_2(SS_{ij}) + \beta_3(\text{PreK-K})$   
 $+ \beta_4(\text{GD3-5}) + \beta_5(SS_{ij} \times \text{PreK-K}) + \beta_6(SS_{ij} \times \text{GD3-5}) + e_{ij}$

**Level 2 (school level):** *Same as Model 2*

Where:

- $SE_{ij}$  represents the outcome variable of student engagement for student  $i$  in school  $j$ ;
- $\beta_{0j}$  represents school intercept, the mean student engagement for school  $j$ .
- $\beta_1(\text{Gender})$  represents the control variable of student gender with male students as the reference group.
- $\beta_2$  represents the slope for student-student relationship quality.
- $SS_{ij}$  represents the grand mean centered predictor of student-student relationship quality.
- $\beta_3$  represents the slope for preschool-kindergarten grade level.
- $\text{PreK-K}$  represents the grand mean centered predictor of preschool-kindergarten.
- $\beta_4$  represents the slope for the grades 3-5 (upper elementary school) grade level.

- $\beta_5$  represents the slope of the interaction between PreK-K grade level and student-student relationship quality.
- $SS_{ij} \times \text{PreK-K}$  represents the interaction between PreK-K grade level and student-student relationship quality
- $\beta_6$  represents the slope of the interaction between grades 3-5 (upper elementary school) and student-student relationship quality.
- $SS_{ij} \times \text{GD3-5}$  represents the interaction between grades 3-5 (upper elementary school) and student-student relationship quality
- $e_{ij}$  represents the error term for student  $i$  in school  $j$ .

**Model 12:**

**Level 1 (student level):**  $SE_{ij} = \beta_{0j} + \beta_1(\text{Gender}) + \beta_2(\text{TH}_{ij}) + \beta_3(\text{PreK-K})$   
 $+ \beta_4(\text{GD3-5}) + \beta_5(\text{TH}_{ij} \times \text{PreK-K}) + \beta_6(\text{TH}_{ij} \times \text{GD3-5}) + \epsilon$

**Level 2 (school level):** *Same as Model 2*

Where:

- $SE_{ij}$  represents the outcome variable of student engagement for student  $i$  in school  $j$ ;
- $\beta_{0j}$  represents school intercept, the mean student engagement for school  $j$ .
- $\beta_1(\text{Gender})$  represents the control variable of student gender with male students as the reference group.
- $\beta_2$  represents the slope for teacher-student relationship quality.
- $TS_{ij}$  represents the grand mean centered predictor of teacher-home communication quality.
- $\beta_3$  represents the slope for preschool-kindergarten grade level.
- $\text{PreK-K}$  represents the grand mean centered predictor of preschool-kindergarten.
- $\beta_4$  represents the slope for the grades 3-5 (upper elementary school) grade level.
- $\beta_5$  represents the slope of the interaction between PreK-K grade level and teacher-home communication quality.

- $TH_{ij} \times \text{PreK-K}$  represents the interaction between PreK-K grade level and teacher-home communication quality
- $\beta_6$  represents the slope of the interaction between grades 3-5 (upper elementary school) and teacher-home communication quality.
- $TS_{ij} \times \text{GD3-5}$  represents the interaction between grades 3-5 (upper elementary school) and teacher-home communication quality
- $e_{ij}$  represents the error term for student  $i$  in school  $j$ .

Table 9: Variables Included in Each of the Hierarchical Linear Models

Variable	Models											
	1	2	3	4	5	6	7	8	9	10	11	12
<b>Intercept of Student Engagement Outcome</b>	X	X	X	X	X	X	X	X	X	X	X	X
<b>Student-Level Main Effects</b>												
Gender		X	X	X	X	X	X	X	X	X	X	X
Monolingual Spanish status (EL)			X	X	X	X	X	X	X			
Bilingual status (BL)			X	X	X	X	X	X	X			
Teacher-Student Relationship Quality (TS)				X			X			X		
Student-Student Relationship Quality (SS)					X			X			X	
Teacher-Home Communication Quality (TH)						X			X			X
Grade Level PreK-K (PreK-K)										X	X	X
Upper Elementary Grade Level (GD 3-5)										X	X	X
<b>Student-Level Moderation Effects</b>												
EL X TS & BL X TS							X					
EL X SS & BL X SS								X				
EL X TH & BL X TH									X			
PreK-K X TS & GD 3-5 X TS										X		
PreK-K X SS & GD 3-5 X SS											X	
PreK-K X TH & GD 3-5 X TH												X
<b>School- Level Main Effects</b>												
School FRPL		X	X	X	X	X	X	X	X	X	X	X
School Size		X	X	X	X	X	X	X	X	X	X	X
Percentage ESL		X	X	X	X	X	X	X	X	X	X	X

## **Chapter 4**

### **RESULTS**

A series of hierarchical linear models were run to assess the role of language status, school-based relationships, and grade level, and their interactions on parent report of student engagement. Models were run utilizing HLM 7.03 software (Raudenbush, Bryk, Cheong, Congdon, & du Toit, 2011). In the following sections, results of Model 1 are first presented while discussing the intraclass correlation coefficient (ICC) and its implications. Model 2, including student and school-level demographics is included. Then, the results of Model 3 are presented to answer the first research question regarding the main effects of parent reported language status on parent perceptions of student engagement. The results of Models 4-6 are presented to answer the second research question regarding the main effects of parent perceptions of school-based relationships on parent perceptions of student engagement. Model 3 explores the influence of language status (monolingual Spanish speaking EL and Bilingual English and Spanish speaking student; EL and BL) and teacher-student relationship quality (TS). Model 4 explores language status (EL and BL) and student-student relationship quality (SS). Model 5 explores the influence of language status (EL and BL) and teacher-home communication quality (TH). Models 6-12 are presented to answer the third research question of the interaction between language status and grade level with school-based relationships on student engagement. Specifically, Models 7-9 explore the interaction between language status and teacher-student relationship quality (LS X T-S), student-student relationship quality (LS X S-

S), and teacher- home communication (LS X T-H) on student engagement. Finally, results of Models 10-12 are presented to explore the main effect of grade level (PreK-K and Grade 3-5) on parent perceptions of school-based relationships (Grade X T-S, Grade X S-S, and Grade X T-H) on parent perceptions of student engagement.

#### **4.1 Unconditional Model**

Following the analytic procedure delineated in Chapter 3, Model 1 was first run utilizing HLM 7.03 to determine if continuing with a multi-level model was appropriate to answer the three research questions. Model 1 is an unconditional model with no predictors and parent perceptions of student engagement as the outcome. The model explains the amount of variance in parent reported student engagement that is accounted for at the school level and student level, respectively. An ICC of  $\geq 0.01$  is justification to proceed with an HLM Model (Rudensh & Byrk, 2002). The ICC was calculated as 0.089 (8.988%), revealing that nine percent of the variance can be explained by school level factors with the remaining 91% at the student level. Use of a hierarchical linear model was further substantiated by the significant variance in school engagement explained by school groupings [ $\chi^2 = 749.796, p < 0.001$ ].

#### **4.2 Main Effects of School- and Student-Level Demographics**

The effects of students' gender and school level predictors on parent reported student engagement were statistically controlled. These effects were tested in Model 2. Including demographic predictors in the model accounted for 0.9% of the variance in

parent report of student engagement and the student level and 0.003% of the variance at the school level. As shown in Table 10, parent report of student engagement did not differ by student gender ( $b = -0.012, p = 0.347, ES = -0.015$ ). Females did not demonstrate different levels of parent reported student engagement than their male counterparts. As described in Chapter 3, parent reported student race/ethnicity was not included in the current model due to overlap with the language status predictor.

School level factors of school percentage ESL, school-level SES, and school size on parent reported student engagement were statistically controlled and reported in Model 2. Parent report of student engagement did not differ by school percentage ESL ( $b = -0.004, p = 0.167, ES = -0.015$ ) or school-level SES ( $b = 0.001, p = 0.637, ES = 0.014$ ). Parent report of student engagement differed by school size. In contrast with research, parents of students in larger schools reported higher levels of engagement ( $b = 0.0004, p < 0.05, ES = 0.001$ ). Among the student-level and school-level demographic factors examined in model, the only significant predictor of student engagement was school size; however, the effect size was very small.

### **4.3 Research Question 1: Main Effect of Language Status**

To investigate the first research question, the association between language status and parent reported student engagement, the main effect of language status was tested with Model 3 with the previous demographics as covariates. It was hypothesized that parent reported student engagement would be lower for

linguistically diverse students. The results of Model 3 are presented in Table 10. The effects are also presented in Figure 2. In order to explore the unique contribution of language status, the bilingual and monolingual Spanish variables were included in the model without the demographic predictors. Language status was dummy coded with the monolingual English-speaking group (the largest group) as the reference category. The addition of these variables accounted for 2.07% of the variance in parent reported student engagement at the student level. Parent report of student engagement did not differ significantly for bilingual students ( $b= 0.001, p =0.976, ES= 0.013$ ). In this model, there is significant variability in slopes for bilingual students ( $p < 0.05$ ) indicating significant variability between schools for student engagement between bilingual students compared to non-bilingual students. Therefore, while parent report of bilingual students' student engagement did not significantly differ from that of the general school population, results indicated that a significant amount of the variance in student engagement can be accounted for by student bilingualness ( $p < 0.05$ ), warranting further exploration. Parents of monolingual Spanish students reported their students had lower engagement than those of monolingual English students. This represented a medium effect size ( $b= -0.071, p \leq 0.05, ES=-1.096$ ). Students who are not proficient in English are reported by their parents to experience 0.1-unit lower overall engagement than their English-speaking counterparts. This finding is consistent with the study's hypothesis, suggesting that parents of limited proficiency English students report lower levels of student engagement.

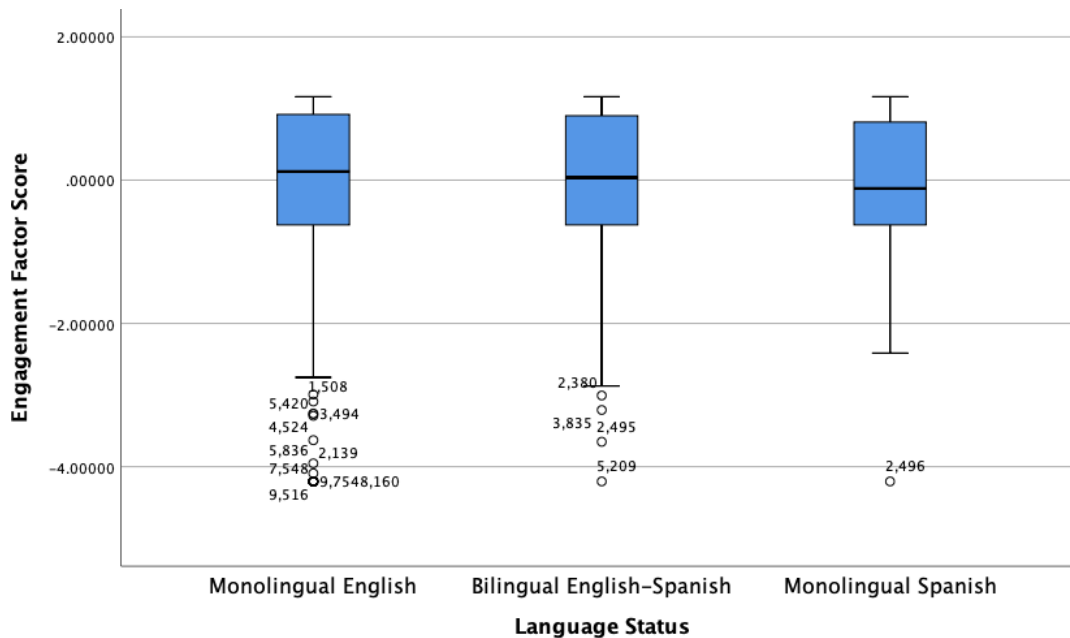


Figure 2: Effect of Parent Reported Student Language Status on Overall Student Engagement Factor Scores

#### 4.4 Research Question 2: Main Effect of Teacher-Student Relationship Quality, Student-Student Relationship Quality, and Teacher-Home Communication Quality

To investigate the second research question, the association between parent perceptions of school-based relationships and parent perceptions of student engagement was examined. It was hypothesized that parent perceptions of teacher-student relationship quality, student-student relationship quality, and home-school communication quality would be positively related to perceptions of student engagement. In order to explore the unique effects of each school-based relationship,

each relationship variable was analyzed in separate models (Models 4-6). Consistent with the language status variables, the effect of relationship quality variables was initially examined without additional predictors to examine the unique influence of parent reported teacher-student relationship quality on parent reported student engagement. Each variable was then incrementally added to the model with demographic and language status predictors.

#### **4.4.1 Parent Perceptions of Teacher-Student Relationship Quality**

To investigate the association between teacher-student relationship quality and student engagement, the main effect of this variable was tested. Addition of only the teacher-student relationship quality variable accounted for 7.2% of the variance in parent perceptions of student engagement at the student level. In Model 4, teacher-student relationship quality was included while controlling for demographic variables and language status. After accounting for language status, addition of teacher-student relationship quality accounted for 1.07% of the variance in parent reported student engagement at the student level. Teacher-student relationship quality was consistently predictive of student engagement ( $b = 0.033, p \leq 0.05, ES = 0.507$ ). For each one-unit increase in teacher-student relationship quality, there is an average of a 0.5 unit increase in the parent reported student engagement factor.

#### **4.4.2 Parent Perceptions of Student-Student Relationship Quality**

To investigate the association between student-student relationship quality and student engagement, the main effect of this variable was tested. Addition of only the student-student relationship quality variable accounted for 4.9% of the variance in parent perceptions of their students' engagement at the student level. In Model 5, student-student relationship quality was included while controlling for demographic variables and language status. After accounting for language status, addition of student-student relationship quality accounted for 0.308% of the variance in parent reported student engagement at the student level. Parent report of student-student relationship quality was not related to parent perception of student engagement ( $b=0.024$ ,  $p= 0.33$ ,  $ES= 0.348$ ). These results are different from the student engagement literature and the study's hypothesis, predicting a positive relationship between student-student relationship quality and student engagement. The results warrant further exploration of predictors moderating the relationship between student-student relationships and student engagement.

#### **4.4.3 Parent Perceptions of Teacher-Home Communication Quality**

To investigate the association between teacher-home communication quality and student engagement, the main effect of this variable was tested. Addition of only the teacher-communication quality variable accounted for 6.7% of the variance in parent perceptions of their students' engagement at the student level. In Model 6, teacher-home communication quality was included while controlling for demographic variables and language status. After accounting for language status and demographic variables, addition of teacher-home communication quality accounted for 0.76% of the

variance in parent reported student engagement at the student level. As hypothesized, there was a consistent and positive relationship between parent report of teacher-home communication quality and parent perceptions of student engagement ( $b= 0.030$ ,  $p < 0.05$ ). However, the effect size was small ( $ES= 0.046$ ). In other words, for each one-unit increase in teacher-student relationship quality, there is an average of a 0.03 unit increase in the parent reported student engagement factor. There is significant variability in the slopes for teacher-home communication quality ( $p < 0.001$ ), indicating significant variability between schools on parent reported student engagement by the quality of teacher-home communication.

Table 10: Statistical Estimates of Main Effects of Student-Level Demographic Factor, School Level Demographic Factors, Language Status, Teacher-Student Relationship Quality, Student-Student Relationship Quality, Teacher-Home Communication, and Grade Level on Student Engagement (Models 1-6)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Co.	ES	Co.	ES	Co.	ES	Co.	ES	Co.	ES	Co.	ES
<b>Intercept</b>	0.109*		0.109*		0.109*		0.107*		0.107*		0.110*	
<b>Student Level Main Effects</b>												
Gender			-0.012	-0.02	-0.012	-0.184	-0.200	-0.001	-0.007	-0.104	-0.012	-0.019
Language Status												
Bilingual					0.001	0.013	0.037	0.003	-0.005	-0.071	-0.007	-0.010
Monolingual Spanish					-0.071*	1.096*	-1.145	-0.087	-0.075	-1.070*	-0.068	-0.105
T-S							0.507*	0.064*				
S-S									-0.024	0.348		
T-H											0.030*	0.046*
<b>School Level Main Effects</b>												
School EL			-0.004	-0.02	-0.003	-0.054	-0.060	-0.016	-0.004	-0.057	-0.003	-0.005
School FRPL			0.001	0.014	0.001	0.0113	0.009	0.003	0.001	0.084	0.001	0.001
School Size			0.0004*	0.001*	0.0003*	0.005*	0.005	0.002*	0.001*	0.049*	0.001	0.001

Note. Co= Coefficient (b), ES= effect size, T-S= Teacher-Student Relationship Quality, S-S= Student- Student Relationship Quality, T-H Teacher-Home Relationship Quality. Effect size calculated as the coefficient of current model/ the coefficient of the unconditional model.

\* $p \leq 0.05$ , statistically significant finding

Table 11: Proportion of Variance Explained at the Student and School Levels (Models 1-6)

Note: Proportion of variance explained calculated as follows: (Coefficient of previous model- Coefficient of current model)/

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Student-level Variance Component Estimate ( $\sigma^2$ )	0.656	0.650	0.654	0.648	0.649	0.609
School-level Variance Components Estimate ( $\tau_{00}$ )	0.065	0.065	0.065	0.070	0.070	0.068
Proportion of Variance Explained at Student Level by the Addition of Predictor(s)		0.014%	0.014%	1.073%	0.308%	0.759%
Proportion of Variance Explained at School Level by the Addition of Predictor(s)		0.003%				
Coefficient of previous model. Proportion of variance explained only reported if variables changed across levels.						

#### **4.5 Research Question 3: Moderation Effects of Language Status and Grade Level**

A series of models (Models 7-12) were run to investigate the third research question, which explored the interaction between school-based relationships and student engagement. Specifically, the interactions of language status and school-based relationships and of grade level and school-based relationships were explored. In other words, this set of models explored whether language status and grade level moderated the relationship between student engagement and school-based relationships (i.e., teacher-student relationship quality, student-student relationship quality, home-school communication). Consistent with exploration of the first two research questions, each school-based relationship interaction was analyzed in separate models. The results of these models are presented in Tables 12-14 and described in detail in the subsequent sections.

##### **4.5.1 Interaction of Language Status and Relationship Quality Predictors**

The interaction of language status and teacher-student relationship quality was tested in Model 7, where it was predicted that language status would moderate the association between teacher-student relationship quality and student engagement with greater teacher-student relationship quality being more predictive of greater levels of student engagement for linguistically diverse students. Adding this interaction accounted for 2.10% of the additional variance in student engagement at the student

level. Language status did not significantly moderate the association between parent perception of teacher-student relationship quality and parent perceptions of student engagement for bilingual students ( $b= 0.019$ ;  $p = 0.436$ ,  $ES= 0.284$ ) or monolingual Spanish speaking students ( $b= -0.002$ ;  $p= 0.968$ ,  $ES= -0.029$ ).

In Model 8, the moderation effect of language status in the association between student-student relationship quality and student engagement was added. Adding this interaction accounted for 2.02% of the variance in student engagement at the student level. It was hypothesized that parent perceptions of student-student relationship quality would be especially predictive of parent perceptions of student engagement for linguistically diverse students. Language status did not serve as a significant moderator in the comparison between monolingual Spanish speaking students and the general monolingual English-speaking student body ( $b= 0.020$ ,  $p=0.394$ ,  $ES= 0.525$ ). Language status did not serve as a significant moderator in the comparison between bilingual students and the general monolingual English-speaking student body ( $b= 0.038$ ,  $p= 0.510$ ,  $ES= 0.586$ ); however, the relationship approached significance, warranting further exploration.

In Model 9, the moderation effect of language status in the association between teacher-home communication quality and student engagement was explored. Adding this interaction accounted for 1.99% of the variance in student engagement at the student level. It was hypothesized that parent perceptions of teacher-home communication would be especially predictive of parent perceptions of student engagement for linguistically diverse students. Language status did not serve as a

significant moderator in the comparison between monolingual English-speaking students with bilingual students ( $b = 0.025, p = 0.322, ES = 0.386$ ) or monolingual Spanish speaking students ( $b = -0.034, p = 0.492, ES = -0.525$ ). There was no moderating effect of language status on the association between teacher-home communication quality and student engagement. Across parent reported school-based relationship predictors, language status did not moderate the relationship between school-based relationships and parent perceptions of student engagement.

Table 12: Statistical Estimates of Main Effects of the Moderation of Language Status on Relationship Quality Predictors and Student Engagement (Models 7-9)

	Model 7		Model 8		Model 9	
	Co.	ES	Co.	ES	Co.	ES
<b>Intercept</b>	0.113*		0.113*		0.112*	
<b>Student Level Main Effects</b>						
Gender	-0.010	-0.151	-0.009	-0.137	-0.009	-0.139
Language Status						
Bilingual	-0.002	-0.023	-0.006	-0.094	-0.006	-0.093
Monolingual Spanish	-0.068	-1.49	-0.073	-1.111	-0.070	-1.08
T-S	0.034*	0.523*				
S-S			0.020	0.309		
T-H					0.030*	0.463*
<b>Student Level Interactions</b>						
T-S						
BL X T-S	0.019	0.283				
EL X T-S	-0.002	-0.029				
S-S						
BL X S-S			0.034	0.525		
			0.038	0.586		
T-H						
BL X T-H					0.025	0.386
EL X T-H					-0.034	-0.525
<b>School Level Main Effects</b>						
School Percentage ESL	-0.004	-0.060	-0.004	-0.059	-0.004	-0.060
School FRPL	-0.001	-0.004	-0.001	-0.003	-0.001	-0.063
School Size	0.001	0.004	0.001	0.004	0.001	0.046

Note. Co= Coefficient (b), ES= effect size, T-S= Teacher-Student Relationship Quality, S-S= Student- Student Relationship Quality, BL = Bilingual, EL= Monolingual Spanish

\*p<0.05, statistically significant finding. Effect size was calculated as the coefficient/ the coefficient of the unconditional model

#### 4.5.2 Interaction of Grade Level and Relationship Quality Predictors

In Models 10-12, grade level was added as a moderation effect in the association between relationship quality predictors and parent reported student engagement. The proportions of variance at the student level for the moderation effects of language status and grade level are presented in Table 13. The statistical estimates of the main effects of the moderation of grade level on relationship quality predictors and student engagement is presented in Table 14. In Model 10, grade level was added as a moderation effect in the association between teacher-student relationship quality and student engagement. Adding this interaction accounted for 6.32% of the variance in student engagement at the student level. Grade level did not serve as a significant moderator in the comparison between preschool-kindergarten students and lower elementary school (grades 1-2) students ( $b = -0.003$ ,  $p = 0.907$ ,  $ES = 0.045$ ). Grade level did not serve as a significant moderator in the comparison between upper elementary school students (grades 3-5) and lower elementary school students either ( $b = -0.013$ ,  $p = 0.516$ ,  $ES = -0.201$ ). In this model, teacher-student relationship quality was predictive of student engagement ( $b = 0.041$ ,  $p < 0.05$ ) representing a medium effect size ( $ES = 0.633$ ). This was consistent with the hypothesized relationship for the second research question but was not found when including language status in the model.

In Model 11, grade level was added as a moderation effect in the association between parent perceptions of student-student relationship quality and parent perceptions of student engagement. Adding this interaction accounted for 2.0% of the variance in student engagement at the student level. Grade level did not serve as a moderator in the comparison between preschool-kindergarten students and lower elementary school (grades 1-2) students ( $b = -0.001, p = 0.975, ES = -0.154$ ). Grade level did not serve as a significant moderator in the comparison between upper elementary school students (grades 3-5) and lower elementary school students either ( $b = -0.011, p = 0.644, ES = -0.170$ ). The finding that there is no difference in association between student-student relationship quality and student engagement between grade levels diverges from both predictions and the literature on student-student relationships which suggest that student-student relationships would be stronger for older students.

Finally, in Model 12, grade level was added as a moderation effect in the association between parent perceptions of teacher-home communication quality and parent perceptions of student engagement. Adding this interaction accounted for 2.05% of the variance in student engagement at the student level. Grade level did not serve as a significant moderator in the comparison between preschool-kindergarten students and lower elementary school (Grades 1-2) students ( $b = -0.018, p = 0.628, ES = -0.277$ ). Grade level did not serve as a significant moderator in the comparison between upper elementary school students (grades 3-5) and lower elementary school students either ( $b = 0.011, p = 0.641, ES = 0.170$ ). The finding that there is no

difference in association between teacher-home communication quality and student engagement between grade levels did not confirm a priori hypothesis or literature which suggest that the influence of teacher-home communication quality on student engagement would be stronger for younger students. However, it is possible that the relationship would resemble literature more closely if including middle and high school grade levels. In this model, teacher-student relationship quality was predictive of student engagement ( $b=0.041, p<0.05$ ) representing a medium effect size ( $ES=0.633$ ). This was consistent with the hypothesized relationship for the second research question but was not found when including language status in the model. Across school-based relationship predictors, grade level did not moderate the relationship between parent perceptions of school-based relationships and parent perceptions of their student engagement. However, in these models, parent perceptions of stronger teacher-student relationship quality and stronger teacher-home communication quality were predictive of higher levels of student engagement. Implications for the study's results are described in Chapter 5.

Table 13: Proportion of Variance Explained at the Student Level (Models 7-12)

	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
New Variable Added	LS x TS	LS x SS	LS x TH	Grade x TS	Grade x SS	Grade x TH
Student-level Variance Component Estimate ( $\sigma^2$ )	0.640	0.641	0.641	0.640	0.641	0.641
Proportion of Variance Explained at Student Level by the Addition of Predictor(s)	2.10%	2.018%	1.99%	6.323%	1.988%	2.050%

Note: Proportion of variance explained calculated as follows: (Coefficient of Previous Model- Current Model)/ Previous Model

Proportion of variance explained only presented if variables changed across models/ levels

LS X TS = interaction between language status and teacher student relationship quality, LS X SS= interaction between language status and student- student relationship quality, LS X TH = interaction between language status and teacher home communication quality

Table 14: Statistical Estimates of Main Effects of Moderation of Grade Level on Relationship Quality Predictors and Student Engagement (Models 10-12)

	Model 10		Model 11		Model 12	
	Co.	ES	Co.	ES	Co.	ES
<b>Intercept</b>	0.112*		0.112*		0.112*	
<b>Student Level Main Effects</b>						
Gender	-0.008	-0.130	-0.008	-1.171		
T-S	0.041*	0.633*				
S-S			0.030	0.471		
T-H					0.025	0.383
<b>Student Level Interactions</b>						
T-S						
PreK-K X T-S	-0.003	-0.045				
Grade3-5 X T-S	-0.013	-0.201				
S-S						
PreK-K X S-S			-0.001	-0.154		
Grade 3-5 X S-S			-0.001	-0.170		
T-H						
PreK-K X T-H					0.018	0.277
Grade3-5 X T-H					0.011	0.170
<b>School Level Main Effects</b>						
School Percentage ESL	-0.004	-0.058	-0.004	-0.057	-0.004	-0.057
School FRPL	0.001	0.003	-0.001	-0.001	-0.001	-0.002
School Size	0.001*	0.003*	0.001	0.004	0.001	0.004

Note. Co= Coefficient (b), ES= effect size, T-S= Teacher-Student Relationship Quality, S-S= Student- Student Relationship Quality, PreK-K = Grades PreK-K, Grade3-5 = Grades 3- Grade 5

\*p< 0.05, statistically significant finding

Effect size was calculated as the coefficient/ the coefficient of the unconditional model

## **Chapter 5**

### **DISCUSSION**

The purpose of this exploratory study was to investigate the association of parent perceptions of their students' language status, school-based relationships, and grade level on parent perceptions of student engagement for early learners (preschool to fifth grade students). The study also investigated the effects of the interactions between language status and school-based relationships and between grade level and school-based relationships on parent reported student engagement. In other words, the study aimed to explore which malleable, naturally occurring variables in school are related to higher levels of student engagement for all young learners and for the linguistically diverse population specifically. The study found that student engagement was represented by two factors, behavioral-cognitive engagement and emotional engagement, and an overall engagement factor. The present study investigated overall engagement; investigation of the individual factors of student engagement (e.g., behavioral-cognitive engagement and emotional engagement) was outside the scope of this project.

In summary, the study found that parent perceptions of their students' school engagement are positively related to teacher-student relationship quality and teacher-home communication quality. Student engagement was also positively related to

school demographic characteristics of school size and the percentage of the students in the school receiving ESL services. The difference in student engagement between monolingual Spanish speaking students (EL) and monolingual English was significant, while there was no reported difference in student engagement between bilingual students and monolingual English-speaking students. Parent perceptions of student-student relationship quality and grade level were not related to parent perceptions of student engagement. Further, there was no moderating effect of language status or grade level on the association of parent perceptions of school-based relationships (e.g., teacher-student relationship quality, student-student relationship quality, and teacher-home communication) and parent perceptions of student engagement. These findings and their relationship to previous research are discussed in the following sections in the order in which the analysis was conducted. Discussion of the practical implications, limitations, and directions for future research follows.

## **5.1 Review of the Psychometric Properties of Home Versions of the Student Engagement Scale and School Based Relationship Quality Subscales of the DSCS-H**

### **5.1.1 Psychometric Properties of the Student Engagement Scale**

Student engagement is linked to a myriad of positive school outcomes, which research suggests may be especially true for linguistic minority students. Few studies have utilized state data to explore the predictors of student engagement for linguistically diverse students that are malleable and naturally occurring within a

school. The current study sought to close this gap by exploring the association between language status, school-based relationships, grade level, and student- and school-level demographics on parent perceptions of student engagement. Thus, student engagement, as measured by parent survey, was the outcome variable in the current study.

While there is no research consensus on the definition of student engagement (see reviews: Macfarlane & Tomlinson, 2017; Jimerson et al., 2003), one conclusion that can be drawn from the literature is that student engagement is multidimensional. Across the literature, student engagement is characterized by a second-order engagement factor and two (Konold et al., 2017; Shernoff et al., 2003; Shernoff et al., 2017;), three (Bear et al., 2016; Fredricks, et al., 2004), or four (Christenson & Thurlow, 2004; Quin, 2017; Wang & Eccles, 2013;) interrelated factors. The study found a two-factor model, in contrast to the original assumed three-factor model, was reliable (as indicated by appreciable factor loadings and satisfying requirements for simple structure). The factors of behavioral engagement and cognitive engagement loaded onto one factor. These results are not surprising given the survey is parent report and internal cognitions are observed through student behavior. Perhaps, asking questions that relate to another's internal characteristic contributed to the inability to separate the two factors. For example, it is likely difficult for a parent to identify the internal cognition of motivation to do well in school (cognitive engagement) from the behavior of paying attention in class (behavioral engagement). Further, for this population there is likely an increased inability to identify cognitions from their

corresponding behaviors because students' ages ranged from three to ten years old. In other measures of child experiences, the concurrent validity between parent and child report increases with age (Varni et al., 2003).

In addition to the exploratory factor analysis, a series of confirmatory factor analyses (CFA) were conducted to determine the student engagement model fit and obtain factor scores. Student engagement theory indicated the likelihood of a second-order student engagement factor, that is, an overarching engagement construct which included the two indicators (e.g., behavioral-cognitive engagement and emotional engagement). Ultimately it was determined that the group clustered second-order two-factor structure yielded an adequate fit and was most consistent with student engagement theory. Previous factor analysis on this set of data confirmed a second-order three-factor structure with the subfactors of behavioral engagement, cognitive engagement, and emotional engagement (see Bear et al., 2016). The two-factor model was chosen for theoretical reasons given the study's sample of parents of linguistically diverse young learners and due to stronger fit. One explanation for the difference in survey structure is that the current study utilized a combined CFA on all the English and Spanish versions of the School Engagement Scale-Home, while previous studies conducted a CFA for each language separately.

In addition to the tested models for the overall population, the same model was run on the English surveys and Spanish surveys separately in the current study to confirm the same structure across languages. This second set of analyses was conducted because research demonstrates that translated surveys occasionally yield

different response patterns (Arian et al., 2008; Jurado et al., 2006). The CFA was not run on each language model to confirm the two-factor model yielded the best fit, but rather adequate fit to ensure they were the same survey measurements in both languages. Due to the non-systematic distribution of Spanish surveys (described in more detail in this chapter), the analysis was conducted with the factor scores from the overall population. Literature points to student engagement as an overarching construct consisting of multiple dynamically interrelated factors (Fredricks et al., 2004). Consistent with engagement theory, these results confirm that that student engagement is second order (overarching construct of overall student engagement) and multidimensional with two interrelated factors of behavioral-cognitive engagement and emotional engagement.

### **5.1.2 Psychometric Properties of the School Climate Scale Relationship Subscales: Teacher Student Relationship Quality, Student-Student Relationship Quality, and Home-School Communication Quality**

The purpose of the current study was to explore the school-based relationships that predict linguistically diverse student engagement. School-based relationships were found in the research literature to be positively related to student engagement for the general population and the linguistically diverse population (García-Reid et al., 2015; Gonzalez-DeHass et al., 2005; Kiefer et al, 2015; Shernoff & Schmidt, 2008; Suárez-Orozco et al., 2008; Yoon et al., 2008; Wang & Eccles, 2012; Wentzel, 2003). Factor scores were obtained from the relationship subscales of the Delaware School Climate

Scales (DSCS) -Home Version (e.g., student-student relationship quality, teacher-student relationship quality, and home-school communication). Results were unsurprising and consistent with the work of Bear and colleagues (Bear et al., 2016) with each relationship subscale loading onto one factor and being associated positively with student engagement. While not surprising, the factor analyses confirmed each relationship variable as independently one construct (e.g., teacher student relationships, peer relationships, and teacher-home communication) and the positive correlations between relationships and student engagement confirm research linking student engagement and school-based relationships (Furrer et al., 2012; Gonzalez-DeHass et al., 2005; Kiefer et al., 2015; Wang & Eccles, 2014, Wang & Fredricks, 2014; Wentzel, 2003).

## **5.2 Identifying Language Status**

A primary goal of this exploratory study was to understand how language status acts as a predictor and moderator of student engagement. The study relied on parent report of their students' language abilities through a series of questions to create the language status variable. Parent report of student language is the norm within educational research through use of home language surveys (CCSCO, 2013; Lopez, Pooler, & Linqanti, 2016; NRC, 2011; OELA, 2017) and language inventories (Dale & Penfold, 2011; Fenson, 2007). Within this sample of young learners, parent report

of language is justified because parents are accurate reporters of their students' language (Bailet, Zettler-Greeley, & Lewis, 2018; Camaioni et al., 1991). Valdés and Figueroa's (1994) definition of bilingualism served as the theoretical framework for identifying linguistically diverse students in this study. According to this framework, bilingualism is a continuum of varying proficiencies in receptive and expressive language skills for both languages spoken (Valdés & Figueroa, 1994). Literature on linguistically diverse students focuses almost exclusively on limited proficiency students receiving ESL services and not on the wide spectrum of linguistically diverse students (Gánarda, 2015, Huang et al., 2017; Luk & Lin, 2015; Linqunti & Cook, 2013). The present study served to close the gap in the literature on linguistically diverse students across the language continuum by including bilingual students and monolingual Spanish speaking students.

In order to identify language status, parents were asked a series of Likert type questions about student language. Likert-type scales have been shown to have high concurrent validity with interview ratings of language ability (Portes & Hao, 2002). Within this study, linguistically diverse students included multiple access points on Valdés and Figueroa (1994) bilingual spectrum. In this study, parents of linguistically diverse students rated their Spanish abilities as on par with their English abilities (bilingual group) or better than their English abilities (monolingual English). These questions seemed to successfully identify the linguistically diverse population. Utilizing the survey questions, 19% of parents identified their student as monolingual Spanish or bilingual, which is comparable to the 20-22% national average (NCLR,

2015; Ryan, 2013). According to the Delaware Department of Education, only 6.4% of students were classified as having ESL services in the 2015-2016 school year, the current study estimated 4.7% of students as monolingual Spanish. In order to create a more robust system for identifying language status, future studies should investigate the concurrent validity of the current questions on language status with another measure (i.e., student interview, assessment, or parent language inventories). Further, there is some literature evidence that within the bilingual category it is important to distinguish English or Spanish dominant. Distinguishing language status is an important direction to understand the relationship between language status and academic outcomes, including student engagement.

### **5.3 Interpretation of Findings**

#### **5.3.1 Main Effects of Demographics on Parent Perceptions of Student Engagement**

The study statistically examined the effects of students' gender, schools' percentage of students receiving free and reduced-price lunch (i.e., school-level SES proxy), school percentage of students receiving ESL services, and school size due to literature suggesting their relationship with student engagement. According to the results of hierarchical linear analysis, school size and school percent EL was found significant in some models. Inconsistent with literature (Dion & Dion, 2001; Owens & Candipan, 2019; Sirin, 2005; Stull, 2015; Wang & Fredricks, 2014), student gender and school percentage of students receiving free and reduced-price lunch were not found significantly related to student engagement. The association between student and school-level demographics and parent perceptions of student engagement is interpreted individually with a discussion of previous research and theory.

##### **5.3.1.1 Gender**

The study statistically controlled for gender because in literature on student engagement, females are found to demonstrate higher levels of student engagement than males. In the current study, parents did not report their female students' engagement as different than their male counterparts. This finding is inconsistent with

literature on adolescent populations, which finds that females report higher levels of behavioral-cognitive, and emotional engagement than male students (Dion & Dion, 2001; Lietaert, Roorda, Laevers, Verschueren, & De Fraine, 2015; Wang & Fredricks, 2014). In linguistically diverse populations, girls outperform boys on measures of student engagement (Suárez-Orozco & Qin-Hilliard, 2004; Qin-Hilliard, 2003).

It is important to note that literature on gender differences in engagement focus primarily on middle and high school populations. It is feasible that gender differences in student engagement do not emerge until adolescence, a population that was outside the scope of the current study. Due to the younger population, the current study utilized parent report of student engagement. Thus, another explanation for the study's results differing from the expected outcome is that literature predominately utilizes student report or observation of engagement, not parent report. Therefore, instead of demonstrating that girls and boys do not differ in their school engagement, the results of this study show that parents do not differ in their report of their students' engagement by gender.

A third explanation is that the current study only looks at overall engagement. A longitudinal study of bilingual Head Start students' transitioning from preschool to kindergarten found that engagement and temperament found that gender was significantly associated with emotional engagement but not with behavioral engagement (Bryce et al., 2018). The current study looked at the second-order factor of overall engagement and not the engagement factors. It is possible there is a more nuanced relationship between student gender and engagement which would be

uncovered through exploration of the individual engagement factors (e.g., behavioral-cognitive engagement and emotional engagement) or through a different informant (teacher or student report). This study extends literature in understanding gender differences in parent perceptions of student engagement for younger students. For the study population, parents of males and females rated comparably high levels of student engagement.

### **5.3.1.2 Student Race/Ethnicity**

While student race and ethnicity were not examined in the current study; the population of linguistically diverse students includes predominately students of color (Sattin-Bajaj, 2009; Suárez-Orozco et al., 2009). The study's sample matches both Delaware and national averages in terms of the percentage of students that identify as Hispanic/Latino (19% in current study, national average of 22%; NCLR, 2015). Of the 19% that identify as Hispanic/Latino, 94% of parents indicated their student was either bilingual Spanish-English or Spanish-only speaking. Given the distinct overlap, student race/ethnicity was not included in the model. The decision to exclude race/ethnicity from the hierarchical linear analysis was also theoretical as the study aim was to explore the predictors of student engagement for linguistically diverse students, it was not aimed at isolating language status from other characteristics of linguistically diverse students other than gender.

### **5.3.1.3 School EL Composition**

While race/ethnicity was not statistically controlled at the student level, the study found some evidence that having a “critical mass” of non-English speaking students at school may be related to student engagement. In the current study, percentage of students receiving ESL service was obtained by the Delaware Department of Education public profiles. In most models, the percent of students receiving ESL services did not relate to parent perceptions of student engagement. In these models, percentage ESL showed a non-significant negative relationship with overall student engagement. However, this association changed when the interaction between student-student relationship quality and language status was included in the model (Model 8). In other words, school percentage of ESLs is significant only when accounting for linguistically diverse student-student relationship quality. This finding is consistent with research that at the school level, school linguistic composition is associated with student engagement (Johnson et al., 2001). Consistent with the study’s population, the majority of ELs at the national level are in schools with a higher concentration of other EL students (Reid & Heck, 2018). Research shows that ELL students tend to perform better on measures of academic achievement with larger proportions of their co-ethnic peers (Coestino de Cohen, Deterding, & Chu Clewell, 2005; Portes & Hao, 2004; Reid & Heck, 2018). Thus, significant difference in student engagement across schools with different EL compositions may be attributed to linguistically diverse students improved peer relationship quality in schools with a

similar linguistic composition. In the current sample, school percentage of students in ESL ranged from 0% to 55% across schools. While percentage of students receiving ESL services was available from Delaware school profiles, the study had a slightly differing version of ELs (e.g., students who were parent rated to have weak English skills and stronger Spanish skills). For future studies, it may be interesting to explore the idea of a “critical mass” with an aggregate predictor of percentage of students who are linguistically diverse as reported by their parents in place of percentage of students receiving ESL services. Information about country of origin was not available for the current study. Further, the study sample did not include non-Spanish speaking linguistically diverse students. While the association of these characteristics with student engagement was outside the scope of the study, it may be an interesting avenue to explore in future studies.

#### **5.3.1.4 School Level SES**

Schools’ percentage of students receiving free-and-reduced-price meals was not significantly related to student engagement. Literature finds that higher school-level SES is associated with higher academic achievement, student engagement, and stronger teacher-student relationships (Owens & Candipan, 2019; Sirin, 2005; Stull, 2015; Suárez-Orozco et al., 2010). The lack of statistical significance is likely due to school level ELL being controlled in this model. School SES and race/ethnicity are overlapping categories (Annunziata et al., 2006; Lindstrom et al., 2005). The majority

of low English proficient students are in schools with a concentration of EL students of 23.5% or greater and these schools typically receive Title I federal funding (Reid & Heck, 2018). For this sample, 42.9% of parent reported monolingual Spanish students and 63.3% of parent reported bilingual students in schools with 23.5% of students in ESL. Future studies should examine cross level interactions between language status and school-SES on perceptions of student engagement to understand the nuanced experience of linguistically diverse students in schools with different community incomes.

#### **5.3.1.5 School Size**

School size was positively related to parent perceptions of student engagement across the majority of models, representing a small effect size. The results of the study did not confirm the study's hypothesis. The study predicted that school size would be inversely related to student engagement. Smaller classroom sizes are related to higher student engagement (McNeely et al., 2002; Myhill, 2004; Weiss et al., 2010). Smaller classroom sizes are also related to covariates of engagement including: better academic performance (Stevenson, 2006), school-based relationships, lower absenteeism (Finn & Voelkl, 1993), and lower instances of bullying (Klein & Cornell, 2010) in the general population. Research finds smaller class sizes are especially beneficial for linguistic minority students in terms of academic performance, lower levels of acculturative stress, and stronger student engagement (Burch et al., 2010;

Suárez-Orozco et al., 2001). However, some research finds the optimal school size for outcomes differs based on demographic characteristics with larger schools being positively related to student outcomes for affluent student body, while the inverse is true for less affluent communities (Hattie, 2005)

One explanation for the result is that the study controlled for school size, and not classroom size. This decision to control for school size was two-fold. Firstly, information about classroom size was not available. Second, statistically controlling for classroom size is consistent with previous research on linguistically diverse student experience (Bottiani et al., 2017; Konold et al., 2017; Niehaus & Adelson, 2004; Yang et al., 2018). While in the literature small classroom size consistently predicts stronger student engagement for the general population and the linguistically diverse student population, there is less research on the effects of school size for young learners (Burch et al., 2010). It is likely that the current results, demonstrating larger school sizes as associated with better parent reported student engagement, is indicative of the availability of school resources, which is influenced by the number of students served in the school. For this sample of younger learners, it is likely that classroom size would be more relevant than school size. Future research may wish to explore the relationship between class size and student engagement as well as the interaction between language status and class size on student engagement. Interestingly, school size was a significant predictor for nine of the 11 models included. For the remaining two, school size not a significant predictor of student engagement in models that include teacher-home communication quality. It is possible that teacher-home

communication quality moderates the relationship between school size and student engagement. Future research should investigate cross-level interactions between school size and teacher-home communication quality on student engagement.

### **5.3.2 Main Effect of Language Status on Parent Perceptions of Student Engagement**

The difference in student engagement for monolingual Spanish speaking students with their English-speaking counterparts was significant ( $p \leq 0.05$ ), with parents of Spanish speaking students rating lower student engagement than parents of English speakers. This association represented a medium effect size (-1.096). These results are consistent with literature, suggesting a difference in student engagement for English-speaking and non-English speaking students (Bryce et al, 2018; Jagers et al., 2017; Split & Hughs, 2015; Williams & Hamm, 2017). One explanation for the non-significant finding and small effect size is the smaller number of monolingual Spanish speaking students, compared with the other two groups. Another explanation for these results is that presumably the parents of students with Spanish dominance may also have limited English proficiency. While the survey was administered in either English or Spanish, it is possible that some parents did not receive the correct language version and that there were cultural differences in interpretation.

It is important to note that while the population of monolingual-Spanish speaking students overlap with those who are identified as receiving ESL services, they are not the same group. Future research may wish to explore language status and ELL classification as separate variables. There is evidence that the EL/ESL classification, and not English or Spanish proficiency, drives differences in student outcomes. Linguistically diverse students with the EL/ESL classification report more

negative experiences in school than those students who are not classified (Gutiérrez & Orellano, 2006). However, studies have mixed results with one study finding that EL/ESL classification is a protective factor (Shin, 2017) and another finding there are negative academic outcomes related to the classification (Umansky, 2016). Given the substantial variation of EL/ESL classification across states and districts, research on language status is more generalizable than research on EL/ESL classification.

Parents of bilingual students reported comparable student engagement to English-speaking counterparts. The study hypothesized that linguistically diverse students would have lower student engagement than monolingual English-speaking students. An aforementioned goal of the study was to explore the influence language status (with a wider net of bilingual students) has on student engagement. Literature is mixed on the influence of bilingualism on student outcomes. While Spanish-dominant students have the added acculturative stressor of language, bilingual students also find themselves navigating stressors of cultural barriers, immigration, and lower socioeconomic status (Suárez-Orozco et al., 2008; Niehaus & Adelson, 2014). Further, research focused on immigrant students points to an “immigrant paradox,” a phenomenon of an inverse relationship between years in the United States with positive school outcomes, such as academic achievement, motivation, and student engagement (Gándara, 2015; Hill & Torres, 2010; Suárez-Orozco et al., 2009;). The study hypothesized that bilingual students would have greater acculturation and less engagement, the results indicate that bilingual status is not a predictor of student engagement for this sample of learners PreK through fifth grade.

Although this result was different to the study's hypothesis, the results are consistent with literature on bilingualism. Literature shows that speaking a language other than English at home yields mixed academic and social-emotional outcomes (Bialystok & Grundy, 2018; Gánarda, 2015; Medvedva & Portes, 2017). There are several potential explanations for parents of bilingual students and monolingual-English speaking parents to report similar patterns of student engagement. Firstly, the group of bilingual students includes all students whose parents ranked their English proficiency as good as their Spanish proficiency. Results may have revealed a more nuanced pattern if the bilingual group was separated into English-dominant bilingual and Spanish-dominant bilingual. Secondly, school-based relationships are documented predictors of student engagement (described in detail in subsequent sections), bilingual students have the linguistic ability to engage in positive school relationships in the same way as monolingual English students. Limited English proficiency students, in contrast, have additional linguistic barriers to these relationships, which may explain the engagement patterns across the three groups.

### **5.3.3 Main Effects of Parent Perceptions of School-Based Relationships on Student Engagement**

This exploratory study was designed to investigate the relationship between parent perceptions of school-based relationships and parent perceptions of student engagement. Parent reported teacher-student relationship quality, student-student relationship quality, and teacher-home communication quality were included in the

model independently. Results of hierarchical linear analysis revealed a significant positive relationship between parent perceptions of teacher-student relationship quality and teacher-home communication quality with parent perceptions of student engagement. Parent perceptions of student-student relationship quality was not a significant predictor of student engagement. The association between parent perceptions of both school-based relationships and student engagement is interpreted individually with a discussion of previous research and theory in the order in which the model was run.

#### **5.3.3.1 Main Effect of Parent Reported Teacher-Student Relationship Quality on Parent Perceptions of Student Engagement**

As predicted, a significant and positive association was found between parents' perceptions of teacher-student relationship quality and parent perceptions of student engagement. That is, parents who rated that teachers and students had positive interactions in their child's school also reported greater student engagement. This relationship was represented by a small effect size. The relationship was significant and positive when controlling for demographics, language status, and grade level interactions. However, the relationship was not significant when including language status interactions. These results indicate that parents' perceptions of teacher-student relationship quality explain variance in parent perceptions of their students' engagement beyond what is explained by gender, school demographics, language status, and grade level.

These results are unsurprising, as literature shows that supportive teacher-student relationships are associated with increased engagement (Furrer et al., 2012; Wang & Eccles, 2012; Wang & Fredricks, 2014). Specifically, teacher-student relationship quality is associated with the factors of behavioral-cognitive engagement such as: academic self-esteem (Roeser et al., 1998), motivation (Furrer et al., 2012; Roeser et al., 1998; Wentzel, 1998), school participation (Furrer et al., 2012). Teacher-student relationship quality is also associated with emotional engagement (Wang & Eccles, 2012) and placing value on education (Roeser et al., 1988).

The link between teacher-student relationships and student engagement can be explained in several ways. First, research shows students feel most comfortable in schools where teachers are perceived as caring, respectful, and supportive (Hughes, 2012; Moos, 1991). This phenomenon can be explained by the theoretical framework of Attachment Theory (Ainsworth et al., 1978) and its applications within the classroom (Pianta, Stuhlman, & Hamre, 2002; Lynch & Chittetti, 1992), which posits that when adults provide a safe, supportive, and consistent environment that students are able to take risks as they explore learning. The attachment process is directly related to student self-determination and academic self-efficacy, which serve as indicators of behavioral-cognitive engagement. It follows that students are most able to meaningfully participate when they feel comfortable in the school; especially for younger students due to their developmental level. Second, teacher-student engagement is linked to lower levels of student delinquency (Wang & Fredricks, 2014) and lower levels of aggression (García- Reid et al., 2015; Hughes et al., 1999).

Students who are well-behaved in class are able to invest more energy into engaging with the lessons. Teacher-student relationship is also linked to development of communication skills (Frymier & Houser, 2000) and relationships with peers (Hendrickx et al., 2016), which allows for students to engage with their peers and create other meaningful relationships at school and continue to engage.

Finally, literature has found that supportiveness and teacher respect for diversity are important indicators of relationship quality (Roeser et al., 1988). Consequently, the results of this model demonstrate that parent perceptions of teacher-student relationship quality are predictive of parent perceptions of their students' engagement for all students, including linguistically diverse students. Parent perceptions of teacher-student relationship quality are correlated with stronger engagement, even when controlling for school SES and school percentage students receiving ESL services, indicating teacher-student relationship quality is a point of intervention for all schools of varying compositions.

#### **5.3.3.2 Main Effects of Parent Reported Student-Student Relationship Quality on Parent Perceptions of Student Engagement**

Parent perceptions of student-student relationship quality were not a significant predictor of parent perceptions of student engagement. This result did not confirm the literature, which has found that students with positive student-student relationships exhibit more overall engagement as well as behavioral- cognitive, and emotional engagement (Kiefer et al., 2015; Wang & Eccles, 2012; Wentzel, 2003). Specifically,

students who find their peers provide emotional support are more likely to enjoy being at school, participate in school activities, and express motivation to succeed at school (Wang & Eccles, 2012; Wentzel, 2003). Literature finds peer relations especially important for linguistically diverse students as peers serve as a moderator between acculturative stress and school adjustment (Gándara, 2017; Rojas et al., 2016; Yeh & Inose, 2003). An explanation for this finding is that the majority of literature on peer relationships comes from adolescent populations. There is not information on the influence of peer relationships for

### **5.3.3.3 Main Effect of Parent Reported Teacher-Home Communication Quality on Parent Perceptions of Student Engagement**

As predicted, parents' perceptions of the communication between home and teachers in their students' schools were positively related to their perceptions of their students' engagement. When included in the model with gender, language status, and school-level demographics, and grade-level interactions, teacher-home communication quality was the only significant predictor of student engagement. This finding demonstrates that the quality of home-school communications explains variance in parent perceptions of their students' engagement over and above what is explained by demographics, grade level, and language status.

In early education, home-school communication is critical to a students' comfort in school and academic success. The importance of home-school communication can be explained by attachment theory (Ainsworth et al., 1978) and

social learning theory (Bandura, 1977) in that children who see their parents interacting positively with teachers will feel comfortable interacting with their schools in a similar way. In addition to student engagement, positive teacher- student communication quality is related to intrinsic motivation, perceived academic competence, and motivation across all grade levels (Gonzalez-DeHass et al., 2005). Higher levels teacher-home communication includes the degree to which parents are involved in their children's schooling and feel heard by teachers. It is not just positive interactions, but congruence in the relationship, where both the parents and teachers perceive the relationship as positive, that is related to better behavioral and socioemotional outcomes in elementary school (Minke et al., 2014). The results of the current study confirm that parents who feel positively about their interactions with their students' teachers report more positive student engagement and that this accounts for 7% of the variance in overall student engagement.

It is important to note that this result finds teacher-home communication quality positively related to student engagement for all students, not just the majority students. In fact, when teacher-home communication quality was included in the models, language status did not significantly predict parent perceptions of their students' engagement. In other words, parents who perceive their relationship with their students' teachers as positive were more likely to rate their students as more engaged in school, regardless of language status. Given the additional barriers to family participation for diverse and immigrant parents, the results reflect positively on the relationships fostered between Delaware school teachers and Delaware parents.

#### **5.3.4 The Validity of Parent Report**

The study fills a gap in literature on the validity of utilizing parent report for young learners' school experiences, suggesting that parents are valid reporters of their students' engagement, teacher-student relationship quality, and teacher-home communication quality. The use of student or teacher report for this sample was not available because language questions were only asked on the Home version of the DSCS; therefore, all predictors represented parent perceptions. As discussed in chapter two, there is a scarcity of research on parent report of student experiences beyond that of their linguistic abilities. Results of the current study have implications for utilizing parent perceptions as indicators of school-based relationships and student engagement. Specifically, consistent with hypothesis and literature, parent perceptions of teacher-student relationship quality and teacher-home relationship quality were positively and significantly related to their perceptions of student engagement (Furrer et al., 2012; Gonzaaez-DeHass et al., 2005; Wang & Eccles, 2012; Wang & Fredricks, 2014).

In contrast, parent perceptions of student-student relationships were not related to parent perceptions of their students' engagement. These results are different from literature on peer relationships and student engagement for adolescents (Kiefer et al., 2015; Wang & Eccles, 2012; Wentzel, 2003). As detailed in previous sections, the literature on the importance of peer relationships indicates the importance of these

relationships for adolescents and not for elementary school aged children. This unexpected outcome adds to literature on the validity of parent report for peer relationships. That is, for peer relationships, parents are dependent on their students for information about their relationships with peers, while they are dependent on their own experiences or teacher report to assess teacher-student relationships and teacher-home relationships. This study includes young children from ages three to eleven with varying linguistic abilities to relay their experiences back to their parents. One validated measure of parent report of child experience is the Pediatric Quality of Life measure (Peds QL 4.0) which assesses children's physical, social, and school functioning (Varni et al., 2003). This 13-item Likert-type scale has a parent and child version with high intercorrelations and concurrent reliability; however, correlations are lower for younger children and in the school functioning domain.

Despite the non-significant result, the current study contributes to the research on parent report and student experiences. While student perceptions of their peer relationships are shown in literature to positively relate to student engagement in adolescents, there are no studies of parent report of peer relationship quality or studies for young children. Future studies are needed to corroborate parent and student report of school experiences in order to find an accurate measure of peer relationships for young students who are unable to complete questionnaires or relay daily experiences to their family.

### **5.3.5 Moderation Effect of Language Status and Grade Level**

The current exploratory study aimed to investigate the relationship between language status and school-based relationships (e.g., teacher-student relationship quality, student-student relationship quality, and teacher-home communication quality) on parent perceptions of student engagement. In addition to analyzing the main effect of language status and school-based relationships on parent perceptions of student engagement, the moderation effects of language status and grade level on parent perceptions of student engagement were also explored (Research Question 3). The results of these moderation effects are discussed in detail in the subsequent sections.

#### **5.3.5.1 Moderation Effect of Language Status in the Association Between School-Based Relationship Quality and Student Engagement**

Language status did not serve as a significant moderator in the association between the three school-based relationship quality indicators and parent perceptions of student engagement and these relationships represented only small effect sizes. In contrast, the hypothesized result for this study was that better teacher-student relationship quality, student-student relationship quality, and teacher-home communication were predicted to be better predictors of student engagement for linguistically diverse students. Further investigation into these interactions revealed that when the interaction of language status and student-student relationships (Model

8) was included in the model, the demographic variable of percentage of students receiving ESL services was significant and positive. The study's results illuminate the importance of continued quantitative and mixed methods research to understand the nuanced relationship between student relationships and student engagement for linguistically diverse students within their school contexts.

Research and theory on linguistically diverse student experiences in school point to the importance of school-based relationships. While positive relationships are beneficial for all students, literature suggests they are particularly important for the success of the linguistically diverse. Acculturation theory (Berry, 1997) posits that moderating factors for healthy acculturation, the process necessary for adaptation in response to environmental change, include social support. Within this support, relationships with friends (student-student relationships) and mentors (teacher-student relationships) are identified as moderating the relationship between individual factors and school acculturation (Berry, 1997; Kim et al., 2005; Suárez-Orozco et al., & Todorova, 2001). Within the theoretical framework of ecological systems theory and specifically PVEST (Swanson et al., 2003), the phenomenological experience of minority students is best understood through the perceptions of peer group interactions (i.e., student-student relationship quality), teacher-student interactions, and home-school communication.

There are a few potential explanations for the non-significant moderating effect of language status on the association of school-based relationships and student engagement, including social desirability. As previously mentioned, the study does not

identify student engagement but rather parent perceptions of student engagement (and likewise parent perceptions of teacher- student relationship quality, student-student relationship quality, and teacher-home communication quality). Parent ratings are dependent on the information that students share with them, which may not be substantial for younger students. An additional explanation is the social desirability bias (Fisher, 1995; Miller, Doob, Butler, & Marlowe, 1965) for both the parents on survey items and the students in conversations with parents. Social desirability bias is the pervasive tendency for individuals to present themselves favorably, especially on survey data, which may suppress moderation of relationships between predictors (Ganster, Hennessey, & Luthans, 1983). For parents of young learners, it is likely that they responded in ways that were favorable to their students' school. The social desirability may be especially pertinent for Spanish-speaking parents, who have been found to place a high value of children's education (Hill & Torres, 2011; Reese, Balza, Gallimore, & Goldenberg, 1995). As previously discussed, parent perceptions of school-based relationships are dependent on their students' report of daily experiences. Students may also have a predilection to speak positively of their relationships in school, especially those of diverse backgrounds who have parents with additional stressors related to acculturation. Continued research from multiple modalities (i.e., survey data, experimental design, case studies, etc..) is needed to further understand if there is an interaction between language status and school-based relationships (teacher-student, student-student, and teacher-home) on student engagement.

### **5.3.5.2 Moderation Effect of Grade Level on the Association Between School-Based Relationship Quality and Student Engagement**

Grade level did not serve as a significant moderator in the association between the three school-based relationship quality indicators and parent perceptions of student engagement and represented small effect sizes. In other words, the relationship between school-based relationships (including teacher-student relationship quality, student-student relationship quality, and teacher-home communications) did not differ between preschool-kindergarten, lower elementary school (Grades 1-2), and upper elementary school (Grades 3-5). This result is divergent to the hypothesized effect where better teacher-student relationship quality and student-student relationship quality were predicted to be better indicators of student engagement for younger students (preschool-lower elementary school students) and student-student relationship quality to be a better indicator of student engagement for older students (upper elementary school students).

While the non-significant finding did not confirm the a priori hypothesis, the results are not surprising in the context of student engagement literature. Firstly, literature points to the importance of teacher relationships, peer relationships, and home communication in fostering student engagement across all grade levels (Furrer, et al., 2012; Gonzaaalez-DeHass, Willems, & Holbein, 2005; Kiefer et al., 2015; Roeser et al., 1998; Wang & Eccles, 2012; Wang & Fredricks, 2014; Wentzel, 2003). For preschool years, research has found that parent school communication is

beneficial in student learning (Fantuzzo et al., 2004). This finding was corroborated in the current study, which found that teacher-home communication was a significant predictor of student engagement even when including grade level interactions.

Second, the literature highlights the importance of peer influences in replacing parent and teacher influences as students advance from elementary school through adolescence (Steinberg & Morris, 2001). The study predicted that this relationship would be apparent in pre-adolescents in this sample (upper elementary school students); however, these findings suggest the interaction between grade level and relationships on student engagement is not apparent until middle and high school years. Further, the sample only included three grade levels of young students, it is likely that including additional grade level variables with older students would yield a significant interaction.

Despite the interactions between grade levels and school-based relationships on student engagement being not significant, there were significant positive associations between parent perceptions of teachers' relationships with students and their families. The aforementioned significant finding validates existing literature in that it finds relationships between teachers and families (both parents and students) as an important predictor of student engagement across preschool throughout elementary school years, regardless of age level. Further, this study adds to existing literature by confirming that parent perceptions of teacher-student relationships and teacher-home communication in their child's school are positively associated with their perceptions of student engagement for all preschool through elementary school students.

## **5.4 Practical Implications**

Although literature has linked student engagement with positive school and long-term outcomes for decades (Chase et al., 2015; Finn, 1993; Quin, 2017; Roodra et al., 2017; Sanders et al., 2018; Sinclair & Kaibel, 2002; Skinner & Belmont, 1993), little is known about which school factors are associated with higher levels of engagement for young linguistically diverse students. Further, since most research identifies linguistically diverse students by ELL/ESL status, there is little known about the broader group of bilingual students (Bedore et al., 2012; Linqanti & Cook, 2013; Saunders & Marcelletti, 2013; Thompson, 2015). The results of the current study have a number of positive implications. Firstly, bilingual students exhibit similar patterns of student engagement as the overall population, while limited English proficient students may demonstrate lower levels of engagement. Thus, results of the study have implications for the general population and linguistically diverse students. Second, it is important to note that overall parents reported high levels of engagement and school-based relationships across language status groups. That is, parents are overwhelmingly satisfied with the schools their students are attending. Finally, results pointed to an association between increased school size and student engagement. While it is not feasible to change school-size based on one research finding, the positive association between school size and student engagement suggests that fostering relationships in schools with a large teacher to student ratio is possible. Further investigation into

programming and practices that are successful in fostering elementary school student engagement is recommended.

The study's main goal was to explore the predictors of student engagement, especially those which can be targeted as points of intervention, for the linguistically diverse population and the general population. In exploring the malleable school-based relationships and school demographic factors that are associated with student engagement, as well as their interaction with language status, schools can make intentional decisions on how to foster student engagement based on their unique school composition. As discussed above, the quality of the relationships between teachers and students and teachers and parents are significant predictors of student engagement. Focusing on teacher-student relationships and teacher-home communication, may aid student engagement for all students. Further, for schools with larger populations of ELs, there is evidence that a focus on student-student relationships may benefit the overall population. As previously noted, the results of this study reflect parent perceptions and not necessarily student engagement or their predictors. However, findings still illuminate relevant points of intervention due to the strong impact of family participation in education on student outcomes (Bower & Griffin, 2011; Fantuzzo et al., 2004).

In order to foster greater student engagement, all schools would benefit from targeting teacher-student relationships and teacher-home communication. For schools with larger populations of ELs, schools may benefit from focusing on peer relationships as well. There are increasing demands and stress on teachers and parents

alike, which make improving school-based relationships difficult. For example, increased teacher demands interfere with their ability to invest in high quality relationships in the classroom. These stressors include increased teacher evaluation through high-stakes testing (Goldhaber & Hansen, 2010; von der Embse et al., 2015; von der Embse, Schoemann, Kilgus, Wicoff, & Bowler, 2017), challenging behaviors in classrooms (Gastaldi, Pasta, Longobardi, Prino, & Quaglia, 2014; Geving, 2007), and administrative burdens (Moriarty, Edmonds, Blatchford, & Martin, 2001).

Similarly, there are a variety of parent barriers that interfere with high quality parent teacher communication. Some of the barriers that interfere with parent involvement in school include economic barriers, absence of guidelines for parent involvement (Hornby & Lafaele, 2011), perceptions of school openness (Minke & Anderson, 2007; Murray, McFarland-Piazza, & Harrison, 2015), parent self-efficacy (Fantuzzo, Tighe, & Childs, 2000; Minke & Anderson, 2007), and lack of transportation (Alexander, Cox, Behnke, & Larzele, 2017). While the current study did not find language status as a significant moderator between school-based relationships and engagement, literature points to various teacher and parent barriers to high quality relationships when working with linguistically diverse students, which will be discussed below. Strategies for fostering student engagement through effective school relationships in the general population and for those working with linguistically diverse students is briefly discussed below.

#### **5.4.1 Strategies to Foster Positive Teacher-Student Relationships**

Teacher student relationships are associated with a myriad of positive outcomes, including but not limited to student engagement. Students who feel supported are more likely to report meaningful participation in school (Hughs, 2012; Moos, 1991; Roeser et al., 1988), likewise, the current study found that parents who perceived teachers in their school supportive of all students reported improved student engagement. In addition to the aforementioned teacher stressors, teachers of linguistically diverse students have additional barriers to building positive relationships with their students (Split & Hughs, 2015). These stressors include lack of teacher efficacy in working with linguistic minorities (Gándara, et al., 2005; Wu et al., 2010) and training specific to linguistically diverse students (Gándara et al., 2003; Rumberger & Gándara, 2004). These barriers are particularly concerning because literature shows teacher-student relationships are especially important for linguistically diverse student engagement and academic outcomes (Pereira & Oliveira, 2015; Rhodes, 2002; Split & Hughs, 2015; Suárez-Orozco et al., 2008). At a global scale, pre-teacher training and professional development efforts should include working with linguistically diverse students to increase teacher preparedness and efficacy.

One method to foster positive teacher-student relationships is to implement authoritative classroom management. Research shows that teachers and students

with chaotic interactions feel mutually burnt out and disengage from the learning environment (Furrer et al., 2014). Teachers who emphasize both support and structure, maintaining fair and firm expectations, are likely to have fewer behavioral problems in their classroom (Bear, 2015; Konold et al., 2014; Walker, 2009). An authoritative classroom management style allows students to feel simultaneously supported and independent, which promotes positive behavior and prevents negative behavior (Dunbar, 2004). The structure and support provided in an authoritative classroom may be especially beneficial for linguistically diverse students who will learn through consistent classroom rules the expectation of the school environment. Some strategies for effective classroom management through a culturally responsive authoritative approach include: clear expectations, consistency, engaging curriculum, positive reinforcement, collaboration with families and other school professionals, and frequent progress monitoring and communication of problematic behaviors (Hess, Perjic, & Castejon, 2014; Vaugh & Bos, 2012).

A second method for positive teacher-student relationships is to teach young learners the tenements of effective relationships through social emotional learning. Social emotional learning refers to responsible decision making, relationship skills, self-management, social awareness, and self-awareness (CASEL, 2012; Weisberg et al., 2015). In order to improve relationships in the classroom, including teacher student and peer relationships, teachers can explicitly teach the skills needed for effective communication and collaborative behaviors (CASEL, 2012; Weissberg et al., 2015). Specifically, there are a number of prepackaged programs that are shown

to improve to teach students social emotional learning (see review: Durlak et al., 2011). In addition to packaged curriculums, social emotional learning is effectively taught through clear behavioral expectations which are explicitly taught, reinforce social emotional skills in the curriculum and during extracurriculars, promote family school partnerships, and include cooperative learning opportunities in the curriculum (Bear et al, 2016; Weissberg, Domitrovich, & Durlak, 2016; Zins & Elias, 2007). Even at the preschool level, placing an emphasis on student development of skills related communication, is shown to improve student perceptions of their relationships with their teachers (Poulou, 2016). Explicitly teaching social emotional learning skills to all students, including linguistically diverse students, is shown to improve teacher-student relationships and thus student engagement. The Delaware School Climate Scales measure social-emotional learning and can be used to assess the levels of these approaches in school as well as their relationship to student outcomes.

Another strategy to improve teacher-student relationships is emphasizing students' individuality. It is suggested that teachers spend time with their students individually and not just as a classroom group, to the extent possible. Spending time with students is linked to the development of higher quality teacher-student relationships (Driscoll & Pianta, 2010). In order to emphasize students' individuality, teachers can give students a classroom purpose by providing them with special roles in the classroom (Furrer et al., 2014). Given the demands on teacher time, teachers may wish to utilize peer groups and student-student

relationships to foster a positive classroom climate. For bilingual students, positive peer relationships provide opportunities to learn English, mitigate potential effects of bullying, and improve academic self-esteem (Dotterer et al., 2009; Gándara, 2017; Larochette, Murphy, & Craig, 2010; Rojas et al., 2016). In order to facilitate better teacher-student and peer relationships, teachers should ensure they treat all students equally (Tenenbaum & Ruck, 2007). Teachers may also wish to utilize cooperative learning strategies, which have been shown to provide students with opportunities to establish and maintain friendships with peers (Ginsburg-Block et al., 2006; Johnson & Johnson, 2008; Sharan, 1980). When students appear to socialize with disengaged peers, providing meaningful collaboration on learning tasks can provide all students with more access to their engaged classmates as well (Furrer et al., 2014; Jennings, 2003). Through classroom management, explicit teaching of social emotional learning, emphasizing student individuality, and fostering peer relationships through collaborative learning, teachers can effectively improve their relationships with all students, including linguistically diverse students, thus improving student engagement.

#### **5.4.2 Strategies to Foster Teacher-Home Communication**

Home school collaboration was a significant predictor of parent perceptions of student engagement and is found in literature to relate to a myriad of positive student outcomes for all students. For linguistically diverse students, there are additional barriers to parent-teacher communication including cultural attitudes

about parent role, language barriers, parent education levels, and perceived attitudes of staff (Bower & Griffin, 2011; Peña, 2000; Soutullo, Smith-Bonahu, Sanders-Smith, & Navia, 2016). Further, Latino immigrant parents have less experience navigating the U.S. educational system and may therefore be more hesitant to reach out to schools (Pew Hispanic Center, 2004). In the case of Spanish speaking families, fostering effective parent-teacher communication is especially beneficial to student outcomes (García-Reid et al., 2015; Kingston, Huang, Calzado, Dawson-McClure, & Brotman, 2013). Specific strategies for teachers to employ to increase home-school collaboration, including teacher outreach and increasing parent self-efficacy, are discussed below.

Teacher outreach has the potential to foster greater home school collaboration, especially for linguistically diverse students. Unfortunately, many parents, especially diverse parents, report that their child's school is not receptive to parent engagement (He, Bettez, & Levin, 2015; Minke & Anderson, 2007; Murray et al., 2015; Soutullo et al., 2016; Patrikakou & Weissberg, 2000). In order to mitigate parent disillusionment, teachers and school personnel need to reach out frequently to parents with the intention of a true partnership (Smith, Smith-Bonahue, & Soutullo, 2014; Smolkin, 1999). A true partnership is defined as a relationship between home and school that is bidirectional in that families learn from teacher's experiences with the student and teachers benefit from perspectives provided by families (Christenson & Thurlow, 2004; Epstein, Galindo, & Sheldon, 2011). Some strategies for increased communication frequency include using all potential opportunities for communication,

including drop-off, pick-up, parent-teacher conferences, or over the phone (Knopf & Swick, 2008). One-way communication through parent letters, student journals, websites, and classroom newsletters can also help keep busy parents involved in school (Soutullo et al., 2016). For schools with high populations of ELs, teacher outreach should address linguistic barriers to the extent possible. In settings where English is the primary language, parents who do not speak English as their first language communicate less frequently (Dyson, 2001). In order to address these concerns, teachers can translate written communication and establish bilingual parent liaisons to help broker the linguistic and cultural divide between home and school. Finally, teachers would benefit from progress monitoring; that is, keeping logs of their efforts for parent outreach and responses in order to maximize effectiveness of their outreach (Reynolds et al., 2017).

An additional barrier to teacher-parent collaborations is parent beliefs about their roles and abilities as educators, which is especially difficult for parents with an additional language or cultural barrier (Fantuzzo et al., 2000; Minke & Anderson, 2002). Since many of the linguistically diverse students are children of immigrants, they may not have the social capital or parent self-efficacy that contributes to better quality home-school communication. In order to build on parent self-efficacy, it is important to identify and utilize the current talent of the parent and their child in communications (Knopf & Swick, 2007). Helping parents identify resources within the community, such as community centers and libraries, for afterschool learning can arm parents with additional social capital and confidence in their roles as educators.

Research shows that parents who prioritized education at home were more engaged with the school as well (Murray et al., 2014). Some home learning activities include reading at home, singing, visiting museums, and having opportunities to interact with peers (Sylva, Melhuish, Sammons, Siraj-Blatchford, & Taggart, 2004). For linguistically diverse parents, educators should encourage parents to read to children in whichever language is most comfortable, as both native language and English reading are equally advantageous to learning. Incorporating parent partnerships into the classroom increases teacher-home collaboration and in turn, student engagement. For linguistically diverse families, there are additional barriers to bidirectional partnerships with schools that teachers should consider for effective partnerships.

## **5.5 Limitations and Directions for Future Research**

While this study adds to gaps in literature about parent perceptions of the role of language status and school-based relationships on their students' engagement, numerous limitations are noted. First, as previously noted, this study utilizes parent report of student outcomes. In utilizing parent report, the results of the study can only be extended to parent perceptions of language status, school-based relationships, and student engagement and not to these constructs specifically. For example, the results show the importance of parent perceptions of teacher-student relationships and home-school communication in predicting parent reported student engagement; the results do not demonstrate that teacher-student relationships and home-school

communications are direct predictors of student engagement. Research shows that self-report provides valuable insight because self-report has a stronger link to behaviors than third-person observation (Clarkson, Hirt, Jia, & Alexander, 2010). Parent and self-report measures differ greatly, including the age at which self-report is valid (around third grade). There is no current research on the validity of parent report of student relationships or student engagement. Future studies may wish to measure concurrent validity of student engagement as measured through parent-report and student-report, or concurrent validity with parent report and other indicators of engagement. As detailed in the discussion, validated survey measures of parent report on children's school functioning exist only in the medical field with the Pediatric Quality of Life measure (PedsQL 4.0). The PedsQL 4.0 is utilized to assess children's physical, social, and school functioning. This 13-item Likert-type scale has a parent and child version with high intercorrelations and concurrent reliability (Varni, Burwinkle, Seid, & Skarr, 2003). However, reliability between parent and child report increase with age. The population of this study was between ages 3-11. Further, while intercorrelations and concurrent reliability are still valid, scores are lowest for the school functioning realm.

Finally, because the survey is parent-report, there is a concern of the social desirability bias (Miller et al., 1965), that is, parents rating their students' experiences in favorable manners. Indicating favorable responses on survey measures may suppress moderation of relationships between predictors (Ganster et al., 1983). Relatedly, parent-reported data of student engagement and school-based relationships

(across language status and demographic variables) skewed positively. As with any positively skewed data, there is a risk for ceiling effects interfering with proper measurement of parent reported student engagement. By way of explanation, because parents rated their students favorably (at the maximum of the four-point Likert scale), the survey could not capture the full range of responses for the construct of student engagement or school-based relationships. Despite the limitations of parent report, the current study adds to literature in student engagement as it is a large-scale data analysis to link language status and school-based relationships with student engagement. Furthermore, it is one of the only studies that utilizes parent data, which allows for a younger subset of population.

A second limitation is that the distribution of language versions of the survey was not systematic. The Delaware Department of Education provided surveys to schools which then distributed the surveys to students, staff, and parents. It was determined by the individual school which students should bring Spanish language surveys home. Due to the potential limited English proficiency of parents completing the DSS-H survey, it cannot be assumed that each parent received surveys in their appropriate language. Data were cleaned so that responses that reflected limited understand of survey items were coded as missing; however, it cannot be assumed that each parent shared the same understanding of the survey items. While the survey is at a basic reading level, those with weaker English skills may not have been able to respond to the survey to the same degree as parents who speak English. Additionally, a confirmatory factor analysis was also conducted in each language individually to

ensure that the responses in English and Spanish identified the same constructs. Despite these measures, the study was not able to completely control the English or Spanish proficiency of the parent responding to the survey. For future studies, survey distribution should be systematic to the extent possible.

Additionally, the current study did not utilize district information. It is acknowledged that individuals are nested in schools, which are then nested in districts. At the district level resources and EL populations may vary; therefore, a three-level model may be more appropriate to explain the data. For ease of interpretation, the current study utilized a two-level hierarchical linear modeling with students at the first level and schools at the second level. Future studies can be conducted utilizing district, school, and student information to explore district resources on student engagement for the general population and the linguistically diverse. Future research may also wish to identify cross-level interactions (such as the moderating effect of student-student relationships on the association between school percent EL and student engagement). Exploring district variables and cross-level interactions may lend a more nuanced understanding of the factors associated with linguistically diverse student engagement.

An additional limitation is in the sample of students utilized. First, participation in the Delaware School Climate Surveys was voluntary. Given the susceptibility to response bias, the current sample cannot be generalized to all parents or schools in Delaware. Additionally, the study does not identify all linguistically diverse students but only Spanish speaking students and can therefore not be generalized to bilingual students of another language. The current study does not

capture bilingual experience but rather parent perceptions of student engagement for English and Spanish-speaking students. An additional limitation to the study sample is that there is substantial variation within the Spanish-speaking school community that was not accounted for since country of origin information was not available (Kim et al., 2018). Additionally, in identifying the group of linguistically diverse students, only two broad groups were identified (bilingual students and ELs) on the bilingual spectrum. Future research should explore how to identify additional subsets of linguistically diverse students by their language dominance patterns (i.e., bilingual with stronger English or bilingual with stronger Spanish).

The study was also not longitudinal in nature and therefore tracking acculturation was outside the scope of the current study. Future experimental and quasi-experimental research on student engagement interventions may be useful to identify gaps in understanding student engagement. For the linguistically diverse population, additional longitudinal studies, case studies, and other qualitative measures are beneficial to gain a full understanding of linguistically diverse student engagement. Future research may also wish to explore the more nuanced nature of engagement, by including both indicators of behavioral-cognitive engagement and emotional engagement.

Finally, and most notably, the current study was an exploratory study on linguistically diverse student engagement which used a cross-sectional and correlational design. As such, causal relationships cannot be inferred. For example, while teacher-student and teacher-home relationship quality were positively associated

with student engagement, it is feasible that student engagement causes better relationships at school or vice versa. Further, it is possible and plausible that school climate mediates school-based relationships and student engagement. Therefore, the positive relationships that are seen across language status are due to school climate and not to the hypothesized predictors.

## **5.6 Conclusion**

Student engagement is linked to various positive academic outcomes for all students, including those who are linguistically diverse. Research on linguistically diverse student engagement focuses predominately on ELs and not the overall spectrum of bilingualism. Further, little is known about parent perceptions of their children's school experiences. To address this concern, the current study utilized differential identification of language status, creating bilingual and monolingual Spanish variables. The main effects of parent perceptions of student language status, teacher-student relationships, student-student relationships, and teacher-home communication on parent perceptions of student engagement were explored. The influence of gender and school demographics were also investigated.

Results suggest that student engagement for all students is not only influenced by school demographic characteristics (school size and school percent ELL), but also by school-based relationships. These results are important because school-based

relationships are malleable factors that teachers and schools can work to improve in order to improve student engagement. The pertinent school-based relationship predictors were teacher-student relationship quality and teacher-home relationship quality. Results also suggest that parents perceive comparable levels of student engagement for bilingual students with evidence that monolingual Spanish speaking students exhibit lower levels of student engagement. As a result, teachers are encouraged to focus on teacher-student relationships and teacher-home relationships for all students, including those who are linguistically diverse. It is important to note that the results also overwhelmingly demonstrate that parents are satisfied with the schools their children attend, across linguistic groups. Schools are encouraged to continue their practices of fostering positive school-based relationships.

This study provides meaningful implications regarding linguistically diverse student engagement for both research and practice. Practically, teachers looking to improve student engagement have points of intervention in their relationships with students and parents. For professionals working with monolingual Spanish students, there is evidence that current efforts to foster culturally competent student engagement that transcends language status have been generally successful. That is, there was no interaction between language status and school-based relationships with student engagement. From the parent perspective, schools were fostering effective relationships with parents. The study also suggests that there is no added social cost to being bilingual; that is, students who are reported as bilingual exhibit equal, and not lower, levels of student engagement. In terms of research, the study validates that

parent perceptions of teacher-student relationships and teacher-home communication are indicators of parent perceptions of student engagement. While previous studies have connected these relationships to student engagement, this is the first study to utilize parent perceptions. Parent involvement in early elementary education, and therefore parent perceptions of school relationships and student engagement, are integral to the continued success of students across language status. Gathering information on student engagement using parent perceptions is an efficient way to gather information on young populations who are not able to self-report. The current study is the first to use large scale data analysis at the early elementary level to identify the association between school-based factors that are known to be linked with student engagement in adolescents. The study provides evidence of the importance of teacher-student relationships and teacher-home communication that is consistent with literature on young learners and adolescents. This study provides additional evidence that gender differences in student engagement and the importance of peer relationships do not emerge until adolescence. Finally, this was the first study to utilize large scale second-hand data to identify the predictors of student engagement for the general population and linguistically diverse population. The current study can be used as a foundational start to understand the malleable school, district, and classroom factors that influence linguistically diverse student engagement and therefore additional points for intervention.

## REFERENCES

- Abedi, J. (2008). Classification system for English language learners: Issues and recommendations. *Educational Measurement: Issues and Practice*, 27(3), 17-31. doi:10.1111/j.1745-3992.2008.00125
- Abedi, J., & Gándara, P. (2006). Performance of English language learners as a subgroup in large-scale assessment: *Interaction of research and policy*. *Educational Measurement: Issues and Practice*, 25(4), 36-46. doi: 10.1111/j.1745-3992.2006.00077
- Abbot-Chapman, J., Martin, K., Ollington, N., Venn, A., Dwyer, T., & Gall, S. (2013). The longitudinal association of childhood school engagement with adult educational and occupational achievement: Findings from an Australian national study. *British Educational Research* 40(1). doi: 10.1002/berj.3031
- Act, C. R. (1964). Civil Rights Act of 1964. *Title VII, Equal Employment Opportunities*.
- Ainsworth, M. S. (1979). Infant–mother attachment. *American psychologist*, 34(10), 932. doi: 10.1037/0003-066X.34.10.932
- Alexander, J. D., Cox Jr, R. B., Behnke, A., & Larzelere, R. E. (2017). Is all parental “noninvolvement” equal? Barriers to involvement and their relationship to Latino academic achievement. *Hispanic Journal of Behavioral Sciences*, 39(2), 169-179. doi: 10.1177/0739986317700837

- Anderson, K. J., & Minke, K. M. (2007). Parent involvement in education: Toward an understanding of parents' decision making. *The Journal of Educational Research, 100*(5), 311-323. doi: 10.3200/JOER.100.5.311-323
- Annunziata, D., Hogue, A., Faw, L., & Liddle, H. A. (2006). Family functioning and school success in at-risk, inner-city adolescents. *Journal of Youth and Adolescence, 35*(1), 100-108. doi: 10.1007/s10964-005-9016-3
- Archambault, I., & Dupéré, V. (2017). Joint trajectories of behavioral, affective, and cognitive engagement in elementary school. *The Journal of Educational Research, 110*(2), 188-198. doi: 10.1080/00220671.2015.1060931
- Artiles, A. J., Rueda, R., Salazar, J. J., & Higareda, I. (2002). English-language learner representation in special education in California urban school districts. *Racial inequity in special education, 117-136*. doi: 10.5590/JERAP.2011.01.1.06
- Babinski, L. M., Amendum, S. J., Knotek, S. E., Sánchez, M., & Malone, P. (2018). Improving Young English Learners' Language and Literacy Skills Through Teacher Professional Development: A Randomized Controlled Trial. *American Educational Research Journal, 55*(1), 117-143 doi: 10.3102/0002831217732335

- Bailet, L. L., Zettler-Greeley, C., & Lewis, K. (2018). Psychometric profile of an experimental Emergent Literacy Screener for preschoolers. *School Psychology Quarterly*, 33(1), 120. doi: 10.1037/spq0000222
- Bailey, A. L., & Kelly, K. R. (2013). Home language survey practices in the initial identification of English learners in the United States. *Educational Policy*, 27(5), 770-804. doi: 10.1177/0895904811432137
- Bailey, A. L. & Reynolds Kelly, K. (2010). *The Use and Validity of Home Language Surveys in State English Language Proficiency Assessment Systems: A Review and Issues Perspective*. Enhanced Assessment Grant US Department of Education, *Evaluating the Validity of English Assessments (EVEA)* Project deliverable. Retrieved from:  
<http://www.eveaproject.com/doc/HLS%20White%20Paper%202010.pdf>
- Baker, L. L. (2017). What it takes to succeed: The importance of social support for academically successful middle school English learners. *Youth & Society*, 49(5), 658-678. doi: 10.1177/0044118X14553581
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological review*, 84(2), 191. doi:10.1037/0033-295X.84.2.191
- Bartlett, M. S. (1954). A note on the multiplying factors for various  $\chi^2$  approximations. *Journal of the Royal Statistical Society. Series B (Methodological)*, 296-298. Retrieved from:  
[https://www.jstor.org/stable/2984057?seq=1#page\\_scan\\_tab\\_contents](https://www.jstor.org/stable/2984057?seq=1#page_scan_tab_contents)

Bates, E., Beeghly, M., Bretherton, I., McNew, S., O'Connell, B., Reznick, J. S., et al. (1984). Early Language Inventory. Unpublished manuscript, Center for Research on Language, University of California, San Diego. doi: 0009-3920/2004/7504-0010

Bear, G. G. (2015). Preventive classroom management. In E.T. Emmer & E. J. Sabornie (Eds.), *Handbook of classroom management* (2nd edition) (pp. 15-39). New York, NY: Routledge. doi: 10.4324/9780203074114.ch3

Bear, G. G., Yang, C., Harris, A., Mantz, L., Hearn, S., & Boyer, D. (2016). Technical manual for 2016 Delaware School Survey: Scales of school climate; bullying victimization; student engagement; positive, punitive, and social emotional learning techniques; and the Delaware social and emotional competencies scale. Newark, DE: University of Delaware, Center for Disabilities Studies, Positive Behavioral Supports and School Climate Project.

Bedore, L. M., Peña, E. D., Summers, C. L., Boerger, K. M., Resendiz, M. D., Greene, K., Bohman, T.M. & Gillam, R. B. (2012). The measure matters: Language dominance profiles across measures in Spanish–English bilingual children. *Bilingualism: Language and Cognition*, 15(3), 616-629. doi: 10.1017/S1366728912000090

- Behnke, A. O., Gonzalez, L. M., & Cox, R. B. (2010). Latino students in new arrival states: Factors and services to prevent youth from dropping out. *Hispanic Journal of Behavioral Sciences*, 32(3), 385-409. doi: 10.1177/0739986310374025
- Berkowitz, R., Moore, H., Astor, R. A., & Benbenishty, R. (2017). A research synthesis of the associations between socioeconomic background, inequality, school climate, and academic achievement. *Review of Educational Research*, 87(2), 425-469. doi: 10.3102/0034654316669821
- Berry, J. W. (1997). Immigration, acculturation, and adaptation. *Applied Psychology*, 46(1), 5-34. doi: 10.1111/j.1464-0597.1997.tb01087.x
- Bialystok, E. (2015). Bilingualism and the development of executive function: The role of attention. *Child Development Perspectives*, 9(2), 117-121. doi: 10.1111/cdep.12116
- Bialystok, E., & Grundy, J. G. (2018). Science does not disengage. *Cognition*, 170, 330-333. doi: 10.1016/j.cognition.2017.10.019
- Bollen, K. A. (2002). Latent variables in psychology and the social sciences. *Annual Review of Psychology*, 53(1), 605-634. doi: 10.1146/annurev.psych.53.100901.135239
- Borman, G. D., Grigg, J., Rozek, C. S., Hanselman, P., & Dewey, N. A. (2018). Self-affirmation effects are produced by school context, student engagement with the

intervention, and time: Lessons from a district-wide implementation. *Psychological science*, 29(11), 1773-1784. doi: 10.1177/0956797618784016

Bornstein, M. H., Cole, L.R., Maital, S., Painter, K., Park. S., Pascual, L., Pêcheux, M., Ruel, J. Venuti, P., & Vyt, A. (2004). Cross-linguistic analysis of vocabulary in young children: Spanish, Dutch, French, Hebrew, Italian, Korean, and American English. *Child Development*, 75(4), 1115-1139. doi: 10.1111/j.1467-8624.2004.00729.x

Bottiani, J. H., Bradshaw, C. P., & Mendelson, T. (2017). A multilevel examination of racial disparities in high school discipline: Black and white adolescents' perceived equity, school belonging, and adjustment problems. *Journal of Educational Psychology*, 109(4), 532. doi: 10.1037/edu000155.

Bower, H. A., & Griffin, D. (2011). Can the Epstein model of parental involvement work in a high-minority, high-poverty elementary school? A case study. *Professional School Counseling*, 15(2).

Boyle, A., Soga, K., Hurlburt, S., & Taylor, J. (2010). *Title III Accountability: Behind the Numbers. ESEA Evaluation Brief: The English Language Acquisition, Language Enhancement, and Academic Achievement Act.*

Briggs, N. E., & MacCallum, R. C. (2003). Recovery of weak common factors by maximum likelihood and ordinary least squares estimation. *Multivariate Behavioral Research*, 38(1), 25-56. Doi: 10.1207/S15327906MBR3801\_2

- Bronfenbrenner, U. (1979). *The ecology of human development*. Harvard university press.
- Bronfenbrenner, U. & Morris, P. A. (2006). The bioecological model of human development. In R. M. Lerner & W. Damon (Eds.), *Handbook of child psychology* (6th ed., pp. 793-828). Hoboken, NJ, US: John Wiley & Sons Inc.
- De Bruin, A., Treccani, B., & Della Sala, S. (2015). Cognitive advantage in bilingualism: An example of publication bias?. *Psychological science*, 26(1), 99-107. doi: 10.1177/0956797614557866.
- Bryce, C. I., Goble, P., Swanson, J., Fabes, R. A., Hanish, L. D., & Martin, C. L. (2018). Kindergarten school engagement: Linking early temperament and academic achievement at the transition to school. *Early education and development*, 29(5), 780-796. doi: 10.1080/10409289.2017.1404275
- Burch, P., Theoharis, G., & Rauscher, E. (2010). Class size reduction in practice: Investigating the influence of the elementary school principal. *Educational Policy*, 24(2), 330-358. doi: 10.1177/0895904808330168
- California Department of Education (2006). State AYP report. Retrieved from: [www.ayp.cde.gov/reports](http://www.ayp.cde.gov/reports).
-

Camaioni, L., Castelli, M. C., Longobardi, E., & Volterra, V. (1991). A parent report instrument for early language assessment. *First language, 11*(33), 345-358.  
doi: 10.1177/014272379101103303

Carnoy, M., & García, E. (2017). Five Key Trends in US Student Performance: Progress by Blacks and Hispanics, the Takeoff of Asians, the Stall of Non-English Speakers, the Persistence of Socioeconomic Gaps, and the Damaging Effect of Highly Segregated Schools. *Economic Policy Institute*. Retrieved from: <https://www.epi.org/publication/five-key-trends-in-u-s-student-performance-progress-by-blacks-and-hispanics-the-takeoff-of-asians-the-stall-of-non-english-speakers-the-persistence-of-socioeconomic-gaps-and-the-damaging-effect/>

CASEL (2012). CASEL Guide: Effective social and emotional learning programs: Preschool and elementary school edition. *Collaborative for Academic Social and Emotional Learning*. Retrieved from: <https://casel.org/preschool-and-elementary-edition-casel-guide/>

Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate behavioral research, 1*(2), 245-276. doi: 10.1207/s15327906mbr0102\_10

Cernkovich, S. A., & Giordano, P. C. (1992). School bonding, race, and delinquency. *Criminology, 30*(2), 261-291. doi: 10.1111/j.1745-9125.1992.tb01105.x

- Chamberlain, S. P. (2005). Recognizing and responding to cultural differences in the education of culturally and linguistically diverse learners. *Intervention in School and Clinic*, 40(4), 195-211. doi: 10.1177/10534512050400040101
- Chase, P. A., Hilliard, L. J., Geldhof, G. J., Warren, D. J., & Lerner, R. M. (2014). Academic achievement in the high school years: The changing role of school engagement. *Journal of Youth and Adolescence*, 43(6), 884-896. doi: 10.1007/s10964-013-0085-4
- Chong, W. H., Kit, P. L., Liem, G. A. D., Ang, R. P. H., & Huan, V. S. L. (2017). Promoting student engagement: Interplay of perceived self-beliefs and teacher support in fostering positive youth development. Retrieved from: <https://repository.nie.edu.sg/bitstream/10497/18968/1/RPIC-2017-ChongWH.pdf>
- Christenson, S. L., & Thurlow, M. L. (2004). School dropouts: Prevention considerations, interventions, and challenges. *Current Directions in Psychological Science*, 13(1), 36-39. doi: 10.1111/j.0963-7214.2004.01301010.x
- Chung, I. J., Hawkins, J. D., Gilchrist, L. D., Hill, K. G., & Nagin, D. S. (2002). Identifying and predicting offending trajectories among poor children. *Social Service Review*, 76(4), 663-685. doi: 10.1086/342999
- Cosentino de Cohen, C., Deterding, N., & Clewell, B. C. (2005). Who's Left Behind? Immigrant Children in High and Low LEP Schools. *Urban Institute (NJ3)*. doi: 10.1037/a0038050

- Counts, J., Katsiyannis, A., & Whitford, D. K. (2018). Culturally and Linguistically Diverse Learners in Special Education: English Learners. *NASSP Bulletin*, 102(1), 5-21. doi: 10.1177/0192636518755945
- Cudeck, R. (2000). Exploratory factor analysis. In *Handbook of applied multivariate statistics and mathematical modeling* (pp. 265-296). Academic Press. doi: 10.1016/B978-012601360-6/50011-2
- Cummins, J. (2000). Bics and calp. *Encyclopedia of language teaching and learning*, 76-79. doi: 10.17507/jltr.0702.19
- Dale, P. S., & Penfold, M. (2011). Adaptations of the MacArthur-Bates CDI into non-US English languages. Accessed: < <http://mb-cdi.stanford.edu/documents/AdaptationsSurveyWeb.pdf>>
- De Jong, E. J., & Harper, C. A. (2005). Preparing mainstream teachers for English-language learners: Is being a good teacher good enough?. *Teacher Education Quarterly*, 32(2), 101-124. doi: EJ795308
- Dion, K. K., & Dion, K. L. (2001). Gender and cultural adaptation in immigrant families. *Journal of Social Issues*, 57(3), 511-521. doi: 10.1111/0022-4537.00226
- DiStefano, C., Zhu, M., & Mindrila, D. (2009). Understanding and using factor scores: Considerations for the applied researcher. *Practical Assessment, Research and Evaluation*, 14 (20), 1-1. Retrieved from <http://pareonline.net/pdf/v14n20.pdf>

- Doll, B., & Hess, R. S. (2001). Through a new lens: Contemporary psychological perspectives on school completion and dropping out of high school. *School Psychology Quarterly, 16*(4), 351. doi: 10.1521/scpq.16.4.351.19895
- Dotterer, A. M., McHale, S. M., & Crouter, A. C. (2009). The development and correlates of academic interests from childhood through adolescence. *Journal of Educational Psychology, 101*(2), 509. doi: 10.1037/a0013987
- Driscoll, K. C., & Pianta, R. C. (2010). Banking time in head start: Early efficacy of an intervention designed to promote supportive teacher–child relationships. *Early Education and Development, 21*(1), 38-64. doi: 10.1080/10409280802657449
- Dunbar, C. (2004). Best practices in classroom management. *Michigan State University*, 1-32. Retrieved from: <https://msu.edu/~dunbarc/dunbar3.pdf>
- Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child development, 82*(1), 405-432. Retrieved from: <https://casel.org/wp-content/uploads/2016/01/meta-analysis-child-development-1.pdf>
- Dyson, L. L. (2001). Home–school communication and expectations of recent Chinese immigrants. *Canadian Journal of Education, 26*, 455–476. doi: 10.2307/1602177

- Educational Demographic Office. (2002). Dropout rates in California public schools, by ethnic group, 1985-86 through 2000-01. Retrieved from [www.cde.ca.gov/demographics/reports/statewide/ethdrop](http://www.cde.ca.gov/demographics/reports/statewide/ethdrop).
- Eggert, L. L., Thompson, E. A., Herting, J. R., Nicholas, L. J., & Dicker, B. G. (1994). Preventing adolescent drug abuse and high school dropout through an intensive school- based social network development program. *American Journal of Health Promotion*, 8, 202-215. doi: 10.4278/0890-1171-8.3.202
- Epstein, J. L. (1995). School/family/community partnerships. *Phi Delta Kappan*, 76(9), 701. Retrieved from: <https://jreadingclass.files.wordpress.com/2014/08/school-family-community-partnerships.pdf>
- Epstein, J. L., Galindo, C. L., & Sheldon, S. B. (2011). Levels of leadership: Effects of district and school leaders on the quality of school programs of family and community involvement. *Educational Administration Quarterly*, 47(3), 462-495. doi: 10.1177/0013161X10396929
- Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological methods*, 4(3), 272. doi: 10.1037/1082-989X.4.3.272
- Fantuzzo, J., McWayne, C. M., Perry, M. A., & Childs, S. (2004). Multiple dimensions of family involvement and their relations to behavioral and learning competencies for urban, low-income children. *School Psychology Review*, 33(4), 467. doi: GALEIA127624317

- Fantuzzo, J., Tighe, E., & Childs, S. (2000). Family Involvement Questionnaire: A multivariate assessment of family participation in early childhood education. *Journal of Educational Psychology, 92*(2), 367. doi: 10.1037/0022-0663.92.2.367
- Fenson, L. (2007). *MacArthur-Bates communicative development inventories*. Baltimore, MD: Paul H. Brookes Publishing Company.
- Field, A. (2013). *Discovering statistics* (4th ed.). London: Sage.
- Finn, J. D. (1989). Withdrawing from school. *Review of educational research, 59*(2), 117-142. doi: 10.3102/00346543059002117
- Finn, J. D. (1993). School Engagement & Students at Risk. *National Center for Education Statistics* (93) 470. 117. doi: ED362322
- Finn, J. D., & Voelkl, K. E. (1993). School characteristics related to student engagement. *The Journal of Negro Education, 62*(3), 249-268. doi: EJ473817
- Freeman, J., & Simonsen, B. (2015). Examining the impact of policy and practice interventions on high school dropout and school completion rates: A systematic review of the literature. *Review of Educational Research, 85*(2), 205-248. doi: 10.3102/0034654314554431
- Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of educational research, 74*(1), 59-109. doi: 10.3102/00346543074001059

- Fredrickson, B. L. (2004). The broaden-and-build theory of positive emotions. *Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences*, 359(1449), 1367-1377. doi: 10.1098/rstb.2004.1512
- Fuchs, D. & Stecker, P. (2013). The “blurring” of special education in a new continuum of general education placements and services. *Exceptional Children*, (76), No. 3. pp. 301- 323. Horner, R. Sugai, G., Anderson. doi: 10.1177/001440291007600304
- Furlong, M. J., You, S., Renshaw, T. L., Smith, D. C., & O’Malley, M. D. (2014). Preliminary development and validation of the social and emotional health survey for secondary school students. *Social Indicators Research*, 117(3), 1011-1032. doi: 10.1007/s11205-013-0373-0
- Furlong, M. J., Whipple, A. D., Jean, G. S., Simental, J., Soliz, A., & Punthuna, S. (2003). Multiple contexts of school engagement: Moving toward a unifying framework for educational research and practice. *The California School Psychologist*, 8(1), 99-113.
- Furrer, C., & Skinner, E. (2003). Sense of relatedness as a factor in children's academic engagement and performance. *Journal of educational psychology*, 95(1), 148. doi: 10.1037/0022-00663.95.1.148
- Furrer, C., Skinner, E. A., & Pitzer, J. R. (2012). Developmental dynamics of student engagement, coping, and everyday resilience. In Handbook of research on student engagement (pp. 21-44). Springer, Boston, MA. doi: 10.1007/978-1-4614-2018-7\_2

- Frymier, A. B., & Houser, M. L. (2000). The teacher-student relationship as an interpersonal relationship. *Communication education, 49*(3), 207-219. doi: 10.1080/03634520009379209.
- Gándara (2015). Fulfilling America's future Latinas in the U.S., 2015. White House Initiative on Educational Excellence for Hispanics. Retrieved from: <https://escholarship.org/uc/item/6bt1m260>
- Gándara, P., Maxwell-Jolly, J., & Driscoll, A. (2005). Listening to Teachers of English Language Learners: A Survey of California Teachers' Challenges, Experiences, and Professional Development Needs. Policy Analysis for California Education, PACE (NJ1).
- Gándara, P., Rumberger, R., Maxwell-Jolly, J., & Callahan, R. (2003). English Learners in California Schools: Unequal resources, 'Unequal outcomes. *education policy analysis archives, 11*, 36. ISSN: 1068-2341
- Ganster, D. C., Hennessey, H. W., & Luthans, F. (1983). Social desirability response effects: Three alternative models. *Academy of Management Journal, 26*(2), 321-331. doi: 10.2307/255979
- García-Reid, P., Peterson, C. H., & Reid, R. J. (2015). Parent and teacher support among Latino immigrant youth: Effects on school engagement and school trouble avoidance. *Education and Urban Society, 47*(3), 328-343. doi: 10.1177/001312513495278

- Gastaldi, F. G., Pasta, T., Longobardi, C., Prino, L.E., & Quaglia, R. (2014).  
Measuring the influence of stress and burnout in teacher-child relationship.  
*European Journal of Education and Psychology* (7) 1. 17-28.
- Geving, A. M. (2007). Identifying the types of student and teacher behaviours  
associated with teacher stress. *Teaching and Teacher Education*, 23(5), 624-  
640. doi: 10.1016
- Ginsburg-Block, M. D., Rohrbeck, C. A., & Fantuzzo, J. W. (2006). A meta-analytic  
review of social, self-concept, and behavioral outcomes of peer-assisted  
learning. *Journal of Educational Psychology*, 98(4), 732. doi: 10.1037/0022-  
00663.98.4.732
- Goldberg, H., Paradis, J., & Crago, M. (2008). Lexical acquisition over time in  
minority L1 children learning English as L2. *Applied Psycholinguistics*, 29, 1–  
25. doi: 10.1017/S014271640808003X
- Goldhaber, D., & Hansen, M. (2010). Using performance on the job to inform teacher  
tenure decisions. *American Economic Review*, 100(2), 250-55. doi:  
10.1257/aer.100.2.250
- Gonzalez-DeHass, A. R., Willems, P. P., & Holbein, M. F. D. (2005). Examining the  
relationship between parental involvement and student  
motivation. *Educational psychology review*, 17(2), 99-123. doi:  
10.1007/s10648-005-3949-7
- Glorfeld, L. W. (1995). An improvement on Horn's parallel analysis methodology for  
selecting the correct number of factors to retain. *Educational and*

*psychological measurement*, 55(3), 377-393. doi:

10.1177/0013164495055003002

Gorsuch, R. L. (2003). Factor analysis. In J. A. Shinka & F. Velicer (Eds.), *Handbook of psychology: Vol. 2. Research methods in psychology* (pp. 143-164).

Hoboken, NJ: John Wiley. doi:

Greenberg Motamedi, J., Singh, M., & Thompson, K. D. (2016). English learner student characteristics and time to reclassification: An example from Washington state (REL 2016–128). Washington, DC: US Department of Education, Institute of Education Sciences. *National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Northwest*. Retrieved from <http://ies.ed.gov/ncee/edlabs>.

Gutiérrez, K. D., & Orellana, M. F. (2006). At last: The "problem" of English learners: Constructing genres of difference. *Research in the Teaching of English*, 40(4), 502-507.

Gutiérrez-Clellen, V. F., Simon-Cerejido, G., & Wagner, C. (2008). Bilingual children with language impairment: A comparison with monolinguals and second language learners. *Applied psycholinguistics*, 29(1), 3-19.

Halle, T. G., Kurtz-Costes, B., & Mahoney, J. L. (1997). Family influences on school achievement in low-income, African American children. *Journal of Educational Psychology*, 89(3), 527. doi: 10.1037/0022-0663.89.3.527

Hattie, J. (2005). The paradox of reducing class size and improving learning outcomes. *International journal of educational research*, 43(6), 387-425.

- Hawkins, J. D., Guo, J., Hill, K. G., Battin-Pearson, S., & Abbott, R. D. (2001). Long-term effects of the Seattle Social Development Intervention on school bonding trajectories. *Applied developmental science, 5*(4), 225-236. doi: 10.1016/j.ijer.2006.07.002
- He, Y., Bettez, S. C., & Levin, B. B. (2017). Imagined community of education: Voices from refugees and immigrants. *Urban Education, 52*(8), 957-985.
- Hendrickx, M.H.G., Mainhard, M.T., Boor-Klip, H.J., Cillessen, A.H.M, & Brekelmans (2016) Dynamics in the classroom: Teacher support and conflict and the peer ecology. *Teaching and Teacher Education (53)*. 30-40. doi: 10.1016/j.tate.2015.10.004
- Henry, K. L., Knight, K. E., & Thornberry, T. P. (2012). School disengagement as a predictor of dropout, delinquency, and problem substance use during adolescence and early adulthood. *Journal of youth and adolescence, 41*(2), 156-166. doi: 10.1007/s10964-011-9665-3
- Hess, R. S., Pejic, V., & Castejon, K. S. (2014). Best practices in delivering culturally responsive, tiered-level supports for youth with behavioral challenges. *Best practices in school psychology: Student-level services*, 321-334.
- Heubert, J. P. (Ed.). (2000). *Law and school reform: Six strategies for promoting educational equity*. Yale University Press.
- Hill, N. E., & Torres, K. (2010). Negotiating the American dream: The paradox of aspirations and achievement among Latino students and engagement between

- their families and schools. *Journal of Social Issues*, 66(1), 95-112. doi: 10.1111/j.1540-4560.2009.01635.x
- Hu, L. T., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological methods*, 3(4), 424. doi: 10.1037/1082-989X.3.4.424
- Huerta, M., Irby, B. J., Lara-Alecio, R., & Tong, F. (2016). Relationship between language and concept science notebook scores of English language learners and/or economically disadvantaged students. *International Journal of Science and Mathematics Education*, 14(2), 269-285. doi: 10.1007/s10763-015-9640-7
- Hopp, H., Vogelbacher, M., Kieseier, T., & Thoma, D. (2019). Bilingual advantages in early foreign language learning: Effects of the minority and the majority language. *Learning and Instruction*, 61, 99-110. doi: 10.1016/j.learninstruc.2019. 02.001
- Hooper, D., Coughlan, J., & Mullen, M. (2008). Structural equation modelling: Guidelines for determining model fit. *Articles*, 2. Available online at: [www.ejbrm.com](http://www.ejbrm.com)
- Horn, J. L. (1965). A rationale and test for the number of factors in factor analysis. *Psychometrika*, 30(2), 179-185. doi: 10.1007/BF02289447
- Hornby, G., & Lafaele, R. (2011). Barriers to parental involvement in education: An explanatory model. *Educational review*, 63(1), 37-52. doi: 10.1080/00131911.2010.488049

- Huang, B. H., Davis, D. S., & Ngamsomjan, J. R. (2017). Keeping up and forging ahead: English language outcomes of proficient bilingual adolescents in the United States. *System*, 67, 12-24. doi: 10.1016/j.system.2017.04.002
- Huerta, M., Irby, B. J., Lara-Alecio, R., & Tong, F. (2016). Relationship between language and concept science notebook scores of English language learners and/or economically disadvantaged students. *International Journal of Science and Mathematics Education*, 14(2), 269-285. doi: 10.1007/s10763-015-9640-7
- Hughes, J. N., Cavell, T. A., & Jackson, T. (1999). Influence of teacher-student relationships on aggressive children's development: A prospective study. *Journal of Clinical Child Psychology*, 28(2), 173-184.
- Jagers, R. J., Lozada, F. T., Rivas-Drake, D., & Guillaume, C. (2017). Classroom and school predictors of civic engagement among Black and Latino middle school youth. *Child development*, 88(4), 1125-1138. doi: 10.1111/cdev.12871
- Jennings, G. (2003). An exploration of meaningful participation and caring relationships as contexts for school engagement. *The California School Psychologist*, 8(1), 43-51.
- Jimerson, S. R., Campos, E., & Greif, J. L. (2003). Toward an understanding of definitions and measures of school engagement and related terms. *The California School Psychologist*, 8(1), 7-27.
- Johnson, M. K., Crosnoe, R., & Elder Jr, G. H. (2001). Students' attachment and academic engagement: The role of race and ethnicity. *Sociology of education*, 318-340.

- Johnson, D. W., & Johnson, R. T. (1999). Making cooperative learning work. *Theory into practice*, 38(2), 67-73. doi: 10.1080/00405849909543834
- Johnson, D. W., & Johnson, R. T. (2008). Social interdependence theory and cooperative learning: The teacher's role. In *The teacher's role in implementing cooperative learning in the classroom* (pp. 9-37). Springer, Boston, MA.
- Kaiser, H. F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement*, 20, 141-151. doi: 10.1177/001316446002000116
- Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39, 31-36. doi: 10.1007/BF02291575
- Kann, L., McManus, T, Harris, W.A., Shanklin, S.L., Flint, K. H., Hawkins, J., Queen, B., Lowry, R, Olsen, E.O., Chyen, D., Whittle, L., Thornton, J., Lim, C., Yamakawa, Y., Brener, N., & Zaza, S (2016). Youth risk behavior surveillance- United States, 2015. *MMWR Surveillance Summaries*, 65 (6), 1–174. doi: 10. 15585/mmwr.ss6708a1
- Karchur, M. J. (2002). The cycle of violence and disconnection among rural middle school students: Teacher disconnection as a consequence of violence. *Journal of School Violence*, 1, 35–51. doi: 10.1300/J202v01n01\_03
- Khatib, M., & Taie, M. (2016). BICS and CALP: Implications for SLA. *Journal of Language Teaching and Research*, 7(2), 382-388.

- Kiefer, S. M., Alley, K. M., & Ellerbrock, C. R. (2015). Teacher and peer support for young adolescents' motivation, engagement, and school belonging. *Rmle Online*, 38(8), 1-18. doi: 10.1080/19404476.2015.11641184
- Kim, M. T., Han, H. R., Shin, H. S., Kim, K. B., & Lee, H. B. (2005). Factors associated with depression experience of immigrant populations: A study of Korean immigrants. *Archives of Psychiatric Nursing*, 19(5), 217-225. doi: 10.1016/j.aprnu.2005.07.004
- Kim, D. H., Lambert, R. G., & Burts, D. C. (2018). Are young dual language learners homogeneous? Identifying subgroups using latent class analysis. *The Journal of Educational Research*, 111(1), 43-57. doi: 10.1080/00220671.2016.1190912
- Kingston, S., Huang, K. Y., Calzada, E., Dawson- McClure, S., & Brotman, L. (2013). Parent involvement in education as a moderator of family and neighborhood socioeconomic context on school readiness among young children. *Journal of Community Psychology*, 41, 265–276. <http://dx.doi.org/10.1002/jcop.21528>
- Klein, J., & Cornell, D. (2010). Is the link between large high schools and student victimization an illusion?. *Journal of Educational Psychology*, 102(4), 933. doi: 10.1037/a0019896
- Kline, P. (1994). *An easy guide to factor analysis*. New York: Routledge.
- Knopf, H. T., & Swick, K. J. (2008). Using our understanding of families to strengthen family involvement. *Early Childhood Education Journal*, 35(5), 419-427. doi: 10.007/s10643-007-198-z

- Konold, T., Cornell, D., Huang, F., Meyer, P., Lacey, A., Nekvasil, E., Heilbrun, A., Shukla, K. (2014). Multilevel multi-informant structure of authoritative school climate survey. *School Psychology Quarterly*, 29 (3), 238-255.  
doi:10.1037/spq0000062
- Konold, T., Cornell, D., Shukla, K., & Huang, F. (2017). Racial/ethnic differences in perceptions of school climate and its association with student engagement and peer aggression. *Journal of youth and adolescence*, 46(6), 1289-1303.  
Retrieved from:  
<https://pdfs.semanticscholar.org/552a/7369b665c8779b41d7277ee4e03d25542138.pdf>
- Larochette, A. C., Murphy, A. N., & Craig, W. M. (2010). Racial bullying and victimization in Canadian school-aged children: Individual and school level effects. *School Psychology International*, 31(4), 389-408. doi:  
10.1177/0143034310377150
- Lee, K. R., & Oxford, R. (2008). Understanding EFL learners' strategy use and strategy awareness. *Asian EFL Journal*, 10(1), 7-32.
- Lee, V. E., & Smith, J. B. (1993). Effects of school restructuring on the achievement and engagement of middle-grade students. *Sociology of Education*, 164-187.
- Lenzi, M., Sharkey, J., Vieno, A., Mayworm, A., Dougherty, D., & Nylund-Gibson, K. (2015). Adolescent gang involvement: The role of individual, family, peer, and school factors in a multilevel perspective. *Aggressive behavior*, 41(4), 386-397. doi: 10.1002/ab.21562

- Li, Y., & Lerner, R. M. (2011). Trajectories of school engagement during adolescence: implications for grades, depression, delinquency, and substance use. *Developmental psychology, 47*(1), 233. doi: 10.1037/a0021307
- Lindstrom, L., Ulriksson, L., Arnegard, J., & Brenner, S. O. (2005). Experience and achievement in secondary schools: An experience sampling method and interview study (pp. 46).
- Lietaert, S., Roorda, D., Laevers, F., Verschueren, K., & De Fraine, B. (2015). The gender gap in student engagement: The role of teachers' autonomy support, structure, and involvement. *British Journal of Educational Psychology, 85*(4), 498-518. doi: 10.1111/bjep.12095
- Linquanti, R., Cook, H. G., Bailey, A. L., & MacDonald, R. (2016). Moving toward a More Common Definition of English Learner: Collected Guidance for States and Multi-State Assessment Consortia. Washington DC: Council of Chief State School Officers.
- Livingston, A., & Wirt, J. (2003). The Condition of Education 2003 in Brief. NCES 2003- 068. National Center for Education Statistics. Retrieved from: <https://nces.ed.gov/pubs2003/2003067.pdf>
- López, G. (2001). The value of hard work: Lessons on parent involvement from an (im)migrant household. *Harvard educational review, 71*(3), 416-438. doi: 10.17763/haer.71.3.43x7k542x023767u

- Lopez, A. A., Pooler, E., & Linqanti, R. (2016). Key issues and opportunities in the initial identification and classification of English learners. *ETS Research Report Series*, 2016(1), 1-10. doi: 10.1002/ets2.12090
- Larochette, A. C., Murphy, A. N., & Craig, W. M. (2010). Racial bullying and victimization in Canadian school-aged children: Individual and school level effects. *School Psychology International*, 31(4), 389-408. doi: 10.1177/0143034310377150
- Luk, J., & Lin, A. (2015). Voices without words: Doing critical literate talk in English as a second language. *TESOL Quarterly*, 49(1), 67-91. doi: 10.1002/tesq.161
- Lynch, M., & Cicchetti, D. (1992). Maltreated children's reports of relatedness to their teachers. *New directions for child and adolescent development*, 1992(57), 81-107. doi: 10.1002/cd.23219925707
- Macfarlane, B., & Tomlinson, M. (2017). Critiques of student engagement. *Higher Education Policy*, 30(1), 5-21. doi: 10.1057/s41307-016-0027-3
- Marks, H. M. (2000). Student engagement in instructional activity: Patterns in the elementary, middle, and high school years. *American educational research journal*, 37(1), 153-184. doi: 10.3102/00028312037001153
- Mason, B. A., Hajovsky, D. B., McCune, L. A., & Turek, J. J. (2017). Conflict, Closeness, and Academic Skills: A Longitudinal Examination of the Teacher–Student Relationship. *School Psychology Review*, 46(2), 177-189. doi: 10.17105/SPR-2017-0020.V46-2

- Masten, A. S., & Coatsworth, J. D. (1998). The development of competence in favorable and unfavorable environments: Lessons from research on successful children. *American Psychologist*, 53, 205–220. doi: 0003-066X/98
- Matsunaga, M., Hecht, M.L., Elek, E., & Ndiaye, K. (2010). Ethnic identity development and acculturation: A longitudinal analysis of Mexican-heritage youth in the southwest United States. *Journal of Cross-Cultural Psychology*. 41(3)410-427. doi: 10.1177/0022022109359689
- McLeod, B. D., Sutherland, K. S., Martinez, R. G., Conroy, M. A., Snyder, P. A., & Southam-Gerow, M. A. (2017). Identifying common practice elements to improve social, emotional, and behavioral outcomes of young children in early childhood classrooms. *Prevention Science*, 18(2), 204-213. doi: 10.1007/s11121-016-0703-y
- McNeely, C. A., Nonnemaker, J. M., & Blum, R. W. (2002). Promoting school connectedness: Evidence from the national longitudinal study of adolescent health. *Journal of school health*, 72(4), 138-146. doi: 10.1111/j.1746-1561.2002.tb06533.x
- Medvedeva, M., & Portes, A. (2017). Immigrant Bilingualism in Spain: An Asset or a Liability?. *International Migration Review*, 51(3), 632-666. doi: 10.1111/imre.12243
- Miller, N., Doob, A., Butler, D., & Marlowe, D. (1965). The tendency to agree: Situational determinants and social desirability. *Journal of Experimental Research in Personality*.

- Minke, K. M., Sheridan, S. M., Kim, E. M., Ryoo, J. H., & Koziol, N. A. (2014). Congruence in parent-teacher relationships: The role of shared perceptions. *the elementary school journal*, 114(4), 527-546. doi: 10.1086/675637
- Morgan, P. L., Farkas, G., Hillemeier, M. M., Mattison, R., Maczuga, S., Li, H., & Cook, M. (2015). Minorities are disproportionately underrepresented in special education: Longitudinal evidence across five disability conditions. *Educational Researcher*, 44(5), 278-292. doi: 10.3102/0013189X15591157
- Moriarty, V., Edmonds, S., Blatchford, P., & Martin, C. (2001). Teaching young children: Perceived satisfaction and stress. *Educational Research*, 43(1), 33-46. doi: 10.1080/00131880010021276
- Murray, C., & Greenberg, M. T. (2001). Relationships with teachers and bonds with school: Social emotional adjustment correlates for children with and without disabilities. *Psychology in the Schools*, 38, 25-41. doi: 10.1002/1520-6807(20101)38:1
- Murray, E., McFarland-Piazza, L., & Harrison, L. J. (2015). Changing patterns of parent-teacher communication and parent involvement from preschool to school. *Early child development and care*, 185(7), 1031-1052. doi: 10.1080/03004430.2014.975223
- Musu-Gillette, L., de Brey, C., McFarland, J., Hussar, W., Sonnenberg, W., and Wilkinson-Flicker, S. (2017). *Status and Trends in the Education of Racial and Ethnic Groups 2017* (NCES 2017-051). U.S. Department of Education,

National Center for Education Statistics. Washington, DC. Retrieved from <http://nces.ed.gov/pubsearch>. Retrieved from <http://nces.ed.gov/pubsearch>.

Myhill, M.N (2004). The state of public education and the needs of English language learners in the era of No Child Left Behind, *8 J. Gender Race & Just.* 393

National Research Council (NRC). 2000. *Inquiry and the national science education standards*. Washington, DC: National Academies Press. doi: 10.17226/9596

NCLR (2015) Latinos in new spaces: Emerging trends & implications for federal education policy. *National Council of La Raza Research Policy Brief*.

Retrieved from:

<https://www.unidosus.org/Assets/uploads/Publications/education/Latinos-in-New-Spaces.pdf>

Nichols, S. L., Glass, G. V., & Berliner, D. C. (2005). High-Stakes Testing and Student Achievement: Problems for the No Child Left Behind Act. Appendices. *Education Policy Research Unit*.

Niehaus, K., & Adelson, J. L. (2014). School support, parental involvement, and academic and social-emotional outcomes for English language learners. *American Educational Research Journal*, 51(4), 810-844. doi: 10.3102/0002831214531323

No Child Left Behind Act of 2001, P.L. 107-110, 20 U.S.C. § 6319 (2002).

- Nystrand, M., & Gamoran, A. (1991). Instructional discourse, student engagement, and literature achievement. *Research in the Teaching of English*, 261-290.
- O'Farrell, S. L., & Morrison, G. M. (2003). A factor analysis exploring school bonding and related constructs among upper elementary students. *The California School Psychologist*, 8(1), 53-72. doi: 10.1007/BF03340896
- Osher, D., Bear, G. G., Sprague, J. R., & Doyle, W. (2010). How can we improve school discipline? *Educational Researcher*, 39(1), 48-58. doi: 10.3102/001389X09357618
- Owens, A., & Candipan, J. (2019). Social and spatial inequalities of educational opportunity: A portrait of schools serving high-and low-income neighbourhoods in US metropolitan areas. *Urban Studies*, 0042098018815049. doi: 10.1177/0042098018815049
- Padilla, A. M. (1990). *Bilingual Education: Issues and Strategies*. Sage Publications/Corwin Press, 2455 Teller Road, Newbury Park, CA 91320.
- Panter-Brick, C., & Eggerman, M. (2012). Understanding culture, resilience, and mental health: The production of hope. In *The social ecology of resilience* (pp. 369-386). Springer, New York, NY. doi: 10.1007/978-1-4614-0586-3\_29
- Patrikakou, E. N., & Weissberg, R. P. (2000). Parents' perceptions of teacher outreach and parent involvement in children's education. *Journal of Prevention & Intervention in the Community*, 20(1-2), 103-119. doi: 10.1300/J005v20n01\_08

- Passel, J. S., & D'Vera Cohn, S. W. (2011). Unauthorized immigrant population: National and state trends, 2010 (p. 31). Washington, DC: Pew Hispanic Center.
- Peguro, A. A., Bondy, J. M., & Hong, J. S. (2017). Social bonds across immigrant generations: Bonding to school and examining the relevance of assimilation. *Youth & Society, 49*(6), 733-754. doi: 10.1177/004118X14560335
- Pelletier, J., & Corter, C. (2005). Toronto First Duty: Integrating Kindergarten, Childcare, and Parenting Support to Help Diverse Families Connect to Schools. *Multicultural Education, 13*(2), 30-37.
- Peña, D. C. (2000). Parent involvement: Influencing factors and implications. *The Journal of Educational Research, 94*, 42-58.
- Pereira, N., & de Oliveira, L. C. (2015). Meeting the linguistic needs of high-potential English language learners: What teachers need to know. *Teaching Exceptional Children, 47*(4), 208-215. doi: 10.1177/0040059915567362
- Pew Hispanic Center (2004). *Latino teens staying in high school: A challenge for all generations. Pew Hispanic Center Fact Sheet*. ERIC Clearinghouse.
- Pianta, R. C., Stuhlman, M. W., & Hamre, B. K. (2002). How schools can do better: Fostering stronger connections between teachers and students. *New Directions for Youth Development, 2002*(93), 91-107. doi: 10.1002/yd.23320029307
- Pietarinen, J., Soini, T., & Pyhältö, K. (2014). Students' emotional and cognitive engagement as the determinants of well-being and achievement in school.

International Journal of Educational Research, 67, 40-51. doi:  
10.1016/j.ijer.2014.05.001

- Pornprasertmanit, S., Lee, J., & Preacher, K. J. (2014). Ignoring clustering in confirmatory factor analysis: Some consequences for model fit and standardized parameter estimates. *Multivariate Behavioral Research, 49*(6), 518-543. doi: 10.1080/00273171.2014.933762
- Portes, A., & Hao, L. (2002). The price of uniformity: Language, family and personality adjustment in the immigrant second generation. *Ethnic and Racial Studies, 25*, 893. doi: 10.1080/014198702200009368
- Poulou, M. S. (2017). Social and emotional learning and teacher–student relationships: Preschool teachers’ and students’ perceptions. *Early Childhood Education Journal, 45*(3), 427-435.
- Prado, E. L., Phuka, J., Ocansey, E., Maleta, K., Ashorn, P., Ashorn, U., & Dewey, K. G. (2018). A method to develop vocabulary checklists in new languages and their validity to assess early language development. *Journal of Health, Population and Nutrition, 37*(1), 13. doi: 10.11/86/s41043-018-0145-1
- Qin-Hilliard, D. B. (2003). Gendered expectations and gendered experiences: Immigrant students' adaptation in schools. *New directions for youth development, 2003*(100), 91-109. doi: 10.1002/yd.65
- Quin, D. (2017). Longitudinal and contextual associations between teacher–student relationships and student engagement: A systematic review. *Review of Educational Research, 87*(2), 345-387. doi: 10.3102/0034654316669434

- Raudenbush, S. W. Bryk, A. S. (2002). Hierarchical linear models: Applications and data analysis methods (2nd edition). Newbury Park, CA : Sage.
- Redfield, R., Linton, R., & Herskovitz, M. J. (1936). Memorandum for the study of acculturation. *American Anthropologist*, 38, 149-152.
- Reese, L., Balzano, S., Gallimore, R., & Goldenberg, C. (1995). The concept of educación: Latino family values and American schooling. *International Journal of Educational Research*, 23(1), 57-81. doi: 10.1177/0022057418800945
- Reid, T., & Heck, R. H. (2018). Examining Variability in Language Minority Students' Reading Achievement: The Influence of School and Ethnic Background Macro Contexts. *Journal of Education*, 198(1), 78-94. doi: 10.1177/0022057418800945
- Reschly, A. L., Appleton, J. J., & Pohl, A. (2014). Best practices in fostering student engagement. *Best practices in school psychology: Student level services (6th ed., pp. 37-50)*. Bethesda, MD: National Association of School Psychologists.
- Resnick, M. D., Bearman, P. S., Blum, R. W., Bauman, K. E., Harris, K. M., Jones, J., & Ireland, M. (1997). Protecting adolescents from harm: findings from the National Longitudinal Study on Adolescent Health. *Jama*, 278(10), 823-832.
- Reynolds, A. D., & Crea, T. M. (2017). The integration of immigrant youth in schools and friendship networks. *Population Research and Policy Review*, 36(4), 501-529. doi: 10.1007/s11113-017-943-4-4

- Rhodes, J. E. (2005). A model of youth mentoring. *Handbook of youth mentoring*, 30-43.
- Rodriguez-Brown, F. V., Li, R. F., & Albom, J. B. (1999). Hispanic Parents' Awareness and Use of Literacy-Rich Environments at Home and in the Community. *Education and Urban Society*, 32(1), 41-57. doi: 10.1177/0013124599032001003
- Roeser, R. W., Eccles, J. S., & Sameroff, A. J. (1998). Academic and emotional functioning in early adolescence: Longitudinal relations, patterns, and prediction by experience in middle school. *Development and psychopathology*, 10(2), 321-352.
- Rojas, R., Iglesias, A., Bunta, F., Goldstein, B., Goldenberg, C., & Reese, L. (2016). Interlocutor differential effects on the expressive language skills of Spanish-speaking English learners. *International Journal of Speech-Language Pathology*, 18(2), 166-177. doi: 10.3109/17549507.2015.1081290
- Romo, H. D., Thomas, K. J., & García, E. E. (2018). Changing Demographics of Dual Language Learners and English Learners: Implications for School Success. *Social Policy Report*, 31(2).
- Roorda, D. L., Jak, S., Zee, M., Oort, F. J., & Koomen, H. M. (2017). Affective Teacher–Student Relationships and Students' Engagement and Achievement: A Meta-Analytic Update and Test of the Mediating Role of Engagement. *School Psychology Review*, 46(3), 239-261. doi: 10.17105/SPR-2017-0035.V46-3

- Rumberger, R. W. (1987). High school dropouts: A review of issues and evidence. *Review of educational research*, 57(2), 101-121.
- Rumberger, R. W., & Gándara, P. (2004). Seeking equity in the education of California's English learners. *Teachers College Record*, 106(10), 2032-2056. doi: 10.1111/j.1467-9620.2004.004.00426.x
- Russakoff, D. (2011). PreK-3rd: Raising the Educational Performance of English Language Learners (ELLs). PreK-3rd Policy to Action Brief. No. Six. Foundation for Child Development.
- RStudio Team (2016). RStudio: Integrated Development for R. RStudio, Inc., Boston, MA URL <http://www.rstudio.com/>.
- Ryan, C. (2013). Language use in the United States: 2011. American community survey reports, 22, 1-16. Retrieved from: [http://curry.virginia.edu/uploads/resourceLibrary/American\\_Community\\_Survey\\_Language\\_Report.pdf](http://curry.virginia.edu/uploads/resourceLibrary/American_Community_Survey_Language_Report.pdf)
- Samson, J. F., & Lesaux, N. K. (2009). Language-minority learners in special education: Rates and predictors of identification for services. *Journal of learning disabilities*, 42(2), 148-162. doi: 10.1177/0022219408326221
- Sanders, S. M., Durbin, J. M., Anderson, B. G., Fogarty, L. M., Giraldo-Garcia, R. J., & Voight, A. (2018). Does a rising school climate lift all boats? Differential associations of perceived climate and achievement for students with disabilities and limited English proficiency. *School Psychology International*, 39(6), 646-662. doi: 10.1177/0143034318810319

- Sanders, M. G., & Harvey, A. (2000). Developing comprehensive programs of school, family, and community partnerships: The community perspective. In *annual meeting of the American Educational Research Association, New Orleans, LA*.
- Sattin-Bajaj, C. (2009). Informing Immigrant Families about High School Choice in New York City: Challenges and Possibilities. *National Center on School Choice, Vanderbilt University (NJ1)*. Retrieved from: [www.vanderbilt.edu/schoolchoice/](http://www.vanderbilt.edu/schoolchoice/).
- Saunders, W. M., & Marcelletti, D. J. (2013). The gap that can't go away: The catch-22 of reclassification in monitoring the progress of English learners. *Educational Evaluation and Policy Analysis, 35*(2), 139-156. doi: 10.3102/016237373712461849
- Schleicher, A. (2006). Where immigrant students succeed: a comparative review of performance and engagement in PISA 2003: OECD 2006. *Intercultural Education, 17*(5), 507-516. doi: 10.1080/14675980601063900
- Seitsinger, A. M., Felner, R. D., Brand, S., & Burns, A. (2008). A large-scale examination of the nature and efficacy of teachers' practices to engage parents: Assessment, parental contact, and student-level impact. *Journal of School Psychology, 46*(4), 477-505. doi: 10.1016/j.jsp.2007.11.001
- Schiller, J. S., Lucas, J. W., & Peregoy, J. A. (2012). Summary health statistics for US adults: national health interview survey, 2011.

- Sharan, S. (1980). Cooperative learning in small groups: Recent methods and effects on achievement, attitudes, and ethnic relations. *Review of educational research*, 50(2), 241- 271.
- Shernoff, D. J., Csikszentmihalyi, M., Schneider, B., & Shernoff, E. S. (2014). Student engagement in high school classrooms from the perspective of flow theory. In *Applications of flow in human development and education* (pp. 475-494). Springer, Dordrecht. doi: 10.1007/978-94-017-9094-9\_24
- Shernoff, D. J., Ruzek, E. A., & Sinha, S. (2017). The influence of the high school classroom environment on learning as mediated by student engagement. *School Psychology International*, 38(2), 201-218. doi: 10.1177/0143034316666413
- Shernoff, D. J., & Schmidt, J. A. (2008). Further evidence of an engagement–achievement paradox among US high school students. *Journal of Youth and Adolescence*, 37(5), 564-580. doi: 10.1007/s10964-007-9241-z
- Sinclair, M. F., Christenson, S. L., Lehr, C. A., & Anderson, A. R. (2003). Facilitating student engagement: Lessons learned from Check & Connect longitudinal studies. *The California School Psychologist*, 8(1), 29-41.
- Sinclair, M., & Kaibel, C. (2002). Dakota County: School success Check and Connect program evaluation, 2002 final summary report. doi: 10.1007/BF03340894
- Sirin, S. R. (2005). Socioeconomic status and academic achievement: A meta-analytic review of research. *Review of educational research*, 75(3), 417-453. doi: 10.3102/00346543075003417

- Skinner, C. J., Holt, D., & Smith, T. F. (1989). *Analysis of complex surveys*. John Wiley & Sons.
- Skinner, E. A., & Belmont, M. J. (1993). Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. *Journal of educational psychology, 85*(4), 571. doi: 0022-0663/93
- Smith, S. C., Smith-Bonahue, T. M., & Soutullo, O. R. (2014). " My assumptions were wrong": Exploring teachers' constructions of self and biases towards diverse families. *Journal of Family Diversity in Education, 1*(2), 24-46.
- Smolkin, L. B. (1999). The practice of effective transitions: Players who make a winning team. In R. C. Pianta & M. J. Cox (Eds.), *The transition to kindergarten* (pp. 325–349). Baltimore, MD: Brooks.
- Snell, A. M. S. (2018). Parent-School Engagement in a Public Elementary School in Southern Arizona: Immigrant and Refugee Parent Perspectives. *School Community Journal, 28*(2), 113-138. Available at:  
<http://www.schoolcommunitynetwork.org/SCJ.aspx>
- Soutullo, O. R., Smith-Bonahue, T. M., Sanders-Smith, S. C., & Navia, L. E. (2016). Discouraging partnerships? Teachers' perspectives on immigration-related barriers to family-school collaboration. *School Psychology Quarterly, 31*(2), 226. doi: 10.1037/spq0000148
- Spencer, M. B. (1995). Old issues and new theorizing for health, achievement, neighborhood, growth, and about African American youth: A

- phenomenological variant of ecological systems theory. Black youth: Perspectives on their status in the United States, 37-69.
- Spencer, M. B., Dupree, D., & Hartmann, T. (1997). A phenomenological variant of ecological systems theory (PVEST): A self-organization perspective in context. *Development and Psychopathology*, 9(4), 817-833. Retrieved from [http://repository.upenn.edu/gse\\_pubs/4](http://repository.upenn.edu/gse_pubs/4)
- Splett, J. W., Fowler, J., Weist, M. D., McDaniel, H., & Dvorsky, M. (2013). The critical role of school psychology in the school mental health movement. *Psychology in the Schools*, 50(3), 245-258. doi: 10.1002/pits.21677
- Steinberg, L., & Morris, A. S. (2001). Adolescent development. *Annual review of psychology*, 52(1), 83-110. doi: 10.1146/annurev.psych.52.1.83
- Stevenson, K. R. (2006). *School size and its relationship to student outcomes and school climate: A review and analysis of eight South Carolina*. Retrieved from: [http://www.ncef.org/pubs/size\\_outcomes.pdf](http://www.ncef.org/pubs/size_outcomes.pdf)
- Suárez-Orozco, C., & Carhill, A. (2008). Afterword: New directions in research with immigrant families and their children. *New directions for child and adolescent development*, 2008(121), 87-104. doi: 1002/cd.224
- Suárez-Orozco, C., Todorova, I., & Louie, J. (2001). The Transnationalization of Families: Immigrant Separations & Reunifications.
- Suárez-Orozco, C., Suárez-Orozco, M., & Todorova, I. (2008). *Learning a new land: Immigrant students in American society*. Cambridge MA: The Belknap Press of Harvard University Press.

- Suárez-Orozco, C., Pimentel, A., & Martin, M. (2009). The significance of relationships: Academic engagement and achievement among newcomer immigrant youth. *Teachers College Record*, 111(3), 712-749. doi: 0161-4681
- Suárez-Orozco, C., Onaga, M., & Lardemelle, C. (2010). Promoting academic engagement among immigrant adolescents through school-family-community collaboration. *Professional School Counseling*, 14(1), 15-26. doi: 10.1177/2156759X1001400103
- Suárez-Orozco, M. Qin-Hillard, D. (2004). *Globalization and education in the new millennium*. University of California Press.
- Swanson, D. P., Spencer, M. B., Harpalani, V., Dupree, D., Noll, E., Ginzburg, S., & Seaton, G. (2003). Psychosocial development in racially and ethnically diverse youth: Conceptual and methodological challenges in the 21<sup>st</sup> century. *Development and Psychopathology*, 15(3), 743-771. Retrieved from: [http://repository.upenn.edu/gse\\_pubs/2](http://repository.upenn.edu/gse_pubs/2)
- Sylva, K., Melhuish, E., Sammons, P., Siraj-Blatchford, I., & Taggart, B. (2004). The effective provision of pre-school education (EPPE) project technical paper 12: The final report-effective pre-school education.
- Snyder, T. D., de Brey, C., & Dillow, S. A. (2016). *Digest of Education Statistics 2014*, (NCES 2016-006). National Center for Education Statistics. Institute of Education Sciences, U.S. Department of Education.

- Tabachnick, B. G., & Fidell, L. S. (1996). *SPSS for Windows workbook to accompany large sample examples of using multivariate statistics*. HarperCollins College Publishers.
- Tabachnick, B. G., Fidell, L. S., & Ullman, J. B. (2007). *Using multivariate statistics* (Vol. 5). Boston, MA: Pearson.
- Tataryn, D. J., Wood, J. M., & Gorsuch, R. L. (1999). Setting the value of k in promax: A Monte Carlo study. *Educational and Psychological Measurement, 59*(3), 384-391.
- Tenenbaum, H. R., & Ruck, M. D. (2007). Are teachers' expectations different for racial minority than for European American students? A meta-analysis. *Journal of Educational Psychology, 99*(2), 253. doi: 10.1037/002-0063.99.2.253
- Theron, L., Ann Cameron, C., Didkowsky, N., Lau, C., Liebenberg, L., & Ungar, M. (2011). A “day in the lives” of four resilient youths: Cultural roots of resilience. *Youth & Society, 43*(3), 799-818. doi: 10.1177/0044118X11402853
- Thomas, M., & Baek Choi, J. (2006). Acculturative stress and social support among Korean and Indian immigrant adolescents in the United States. *Journal of Sociology & Social Welfare, 33*, 123.
- Thomas, W. P., & Collier, V. P. (2002). A national study of school effectiveness for language minority students' long-term academic achievement. *Center for Research on Education, Diversity & Excellence*. retrieved from: [http://www.crede.ucsc.edu/research/llaa/1.1\\_final.html](http://www.crede.ucsc.edu/research/llaa/1.1_final.html)

- Thompson, K. D. (2015). Questioning the Long-Term English Learner Label: How Categorization Can Blind Us to Students' Abilities. *Teachers College Record*, 117(12), n12. doi: 18152
- Umansky, I. M. (2016). To be or not to be EL: An examination of the impact of classifying students as English learners. *Educational Evaluation and Policy Analysis*, 38(4), 714-737. doi: 10.3102/0162373716664802
- Ungar, M., & Liebenberg, L. (2013). Ethnocultural factors, resilience, and school engagement. *School Psychology International*, 34(5), 514-526. doi: 10.1177/0143034312472761
- United States., & United States. (1966). *Profile of ESEA: The elementary and secondary education act of 1965. Titles I, II, III, IV and V*. Washington: U.S. Dept. of Health, Education and Welfare.
- U.S. Department of Education, Office for Civil Rights, and U.S. Department of Justice (DOJ). (2015, January). *Dear colleague letter: English learner students and limited English proficient parents*. Retrieved from <https://www2.ed.gov/about/offices/list/ocr/letters/colleague-el-201501.pdf>
- U.S. Department of Education, Office of English Language Acquisition. (2017). *English Learner Tool Kit* (2nd Rev. ed.). Washington, DC: Author.

- U.S. Department of Education. (2002). *Digest of Educational Statistics, 2001*.  
Washington, DC: U.S. Department of Education, National Center for  
Education Statistics. Retrieved from <http://nces.ed.gov/pubs2002/digest2001/>
- Valdés, G., & Figueroa, R. A. (1994). *Bilingualism and testing: A special case of bias*.  
Ablex Publishing.
- Varni, J. W., Burwinkle, T. M., Seid, M., & Skarr, D. (2003). The PedsQL™\* 4.0 as a  
pediatric population health measure: feasibility, reliability, and  
validity. *Ambulatory pediatrics, 3*(6), 329-341.
- Vaughn, S., & Bos, C. S. (Eds.). (2012). *Research issues in learning disabilities:  
Theory, methodology, assessment, and ethics*. Springer Science & Business  
Media.
- Vaughn, M. G., Maynard, B. R., Salas-Wright, C. P., Perron, B. E., & Abdon, A.  
(2013). Prevalence and correlates of truancy in the US: Results from a national  
sample. *Journal of adolescence, 36*(4), 767-776. doi:  
10.1016.j.adolescence.2013.03.2015
- Velicer, W. F. (1976). Determining the number of components from the matrix of  
partial correlations. *Psychometrika, 41*(3), 321-327. doi: 10.1007/BF02293557
- Voelkl, K. E. (1997). Identification with school. *American Journal of Education,*  
105(3), 294-318. doi: 10.1086/444158
- Voisin, D. R., Kim, D. H., & Hong, J. S. (2018). A closer look at school bonding  
among African American adolescents in low-income communities: A latent

- class analysis. *Journal of health psychology*, 23(11), 1424-1437. doi:  
10.1177/1359105316658970
- von der Embse, N. P., Schultz, B. K., & Draughn, J. D. (2015). Readyng students to  
test: The influence of fear and efficacy appeals on anxiety and test  
performance. *School Psychology International*, 36(6), 620-637. doi:  
10.1177/0143034315609094
- Von der Embse, N. P., Schoemann, A. M., Kilgus, S. P., Wicoff, M., & Bowler, M.  
(2017). The influence of test-based accountability policies on teacher stress  
and instructional practices: a moderated mediation model. *Educational  
Psychology*, 37(3), 312-331.
- Walker-Dalhouse, D., & Dalhouse, A. D. (2009). When two elephants fight the grass  
suffers: Parents and teachers working together to support the literacy  
development of Sudanese youth. *Teaching and Teacher Education*, 25(2), 328-  
335. doi: 10.1080/01443410.2016.1183766
- Wang, M. T., & Eccles, J. S. (2012). Social support matters: Longitudinal effects of  
social support on three dimensions of school engagement from middle to high  
school. *Child Development*, 83(3), 877-895. doi: 10.1111/j.1467
- Wang, M. T., & Fredricks, J. A. (2014). The reciprocal links between school  
engagement, youth problem behaviors, and school dropout during adolescence.  
*Child development*, 85(2), 722-737. doi: 10.1111/cdev.12138

Weissberg, R. P., Durlak, J. A., Domitrovich, C. E., & Gullotta, T. P. (2015). Social and emotional learning: Past, present, and future. In J. A. Durlak, C. E. Domitrovich, R. P. Weissberg, & T. P. Gullotta (Eds.), *Handbook for social and emotional learning: Research and practice* (pp. 3– 19). New York, NY: Guilford.

Weiss, J. W., Mouttapa, M., Cen, S., Johnson, C. A., & Unger, J. (2011). Longitudinal effects of hostility, depression, and bullying on adolescent smoking initiation. *Journal of Adolescent Health, 48*(6), 591-596. doi: 10.1016/j.jadohealth.2010.09.012

Wentzel, K. R. (1998). Social relationships and motivation in middle school: The role of parents, teachers, and peers. *Journal of Educational Psychology, 90*(2), 202. doi: 10.1037/0022-0063.09.2.202

Wentzel, K. R. (2003). Sociometric status and adjustment in middle school: A longitudinal study. *The Journal of Early Adolescence, 23*(1), 5-28. doi: 10.1177/0272431602239128

Willms, J.D. (2003). Student engagement at school. *A Sense of Belonging and Participation*. Organization for Economic Co-Operation and Development (OECD).

Working Group on ELL Policy (2011). Improving educational outcomes for English language learners: Recommendations for the Reauthorization of the

Elementary and Secondary Education Act. Retrieved from:

<http://ellpolicy.org/esea>

- Wright, S. C., & Taylor, D. M. (1995). Identity and the language of the classroom: Investigating the impact of heritage versus second language instruction on personal and collective self-esteem. *Journal of educational psychology*, 87(2), 241. doi: 10.1037/0022-0663.87.2.241
- Wu, J. Y., Hughes, J. N., & Kwok, O. M. (2010). Teacher–student relationship quality type in elementary grades: Effects on trajectories for achievement and engagement. *Journal of School Psychology*, 48(5), 357-387. doi: 10.1016/j.jsp.2010.06.004
- Yang, C., Bear, G. G., & May, H. (2018). Multilevel Associations Between School-Wide Social–Emotional Learning Approach and Student Engagement Across Elementary, Middle, and High Schools. *School Psychology Review*, 47(1), 45-61. doi: 10.17105/SPR-2017-0003.V47-1
- Yeh, C. J., & Inose, M. (2003). International students' reported English fluency, social support satisfaction, and social connectedness as predictors of acculturative stress. *Counselling Psychology Quarterly*, 16(1), 15-28. doi: 10.1080/095150703000114058
- Yong, A. G., & Pearce, S. (2013). A beginner's guide to factor analysis: Focusing on exploratory factor analysis. *Tutorials in quantitative methods for psychology*, 9(2), 79-94.

Zehler, A. M., Fleischman, H. L., Hopstock, P. J., Stephenson, T. G., Pendzick, M. L., & Sapru, S. (2003). Descriptive study of services to LEP students and LEP students with disabilities. Washington, DC: Department of Education.

Retrieved from: [https://ncela.ed.gov/files/rcd/BE021199/special\\_ed4.pdf](https://ncela.ed.gov/files/rcd/BE021199/special_ed4.pdf)

Zins, J. E., & Elias, M. J. (2007). Social and emotional learning: Promoting the development of all students. *Journal of Educational and Psychological Consultation*, 17(2-3), 233-255. doi: 10.80/10474410701413152



## Spanish Survey Questions

6. ¿Cuál fue el primer idioma que habló el/la estudiante?

Inglés       español       Creole       Otro

7. ¿Qué enunciado mejor describe el idioma hablado por los miembros de la familia de su hogar?

Sólo Inglés       Sólo español       Sólo creole  
 Un Idioma que no es inglés, español o creole       Español e inglés  
 Creole e inglés       Inglés y un idioma que no es español o creole

8. ¿Cuál es el idioma que el/la estudiante habla más frecuentemente?

Inglés       Español       Creole       Otro

SI RESPONDIÓ "INGLÉS" A CADA UNO DE LAS TRES PREGUNTAS ANTERIORES, POR FAVOR NO COMPLETE LAS NÚMERO 9, 10 y 11 QUE SIGUEN A CONTINUACIÓN Y PASAR A AL NÚMERO 12.

9. ¿Cómo describiría la habilidad del/la estudiante de hablar el idioma que más frecuentemente habla (pregunta 8)?

Pobre       Justo       Bueno       Excelente

10. ¿Cómo describiría usted la habilidad del/la estudiante de hablar el idioma inglés?

Pobre       Justo       Bueno       Excelente

11. ¿Está el/la estudiante recibiendo actualmente clases en la escuela para aprender a hablar inglés, tales como clases bilingües, clases para estudiantes de Inglés como Segundo Lengua (ELL por sus siglas en inglés), o lecciones de Inglés como Segundo Idioma (ESL por sus siglas en Inglés)?

Si       No       No lo sé

## Appendix B

### CHART OF LANGUAGE QUESTIONS RECODING INTO COMPOSITE LANGUAGE STATUS VARIABLE

Survey Questions	Survey Responses		
<b>Q6.</b> What best describes the <b>first language</b> spoken by the student?	1 (English) 2 (Spanish)	1 (English) 2 (Spanish)	1 (English) 2 (Spanish)
<b>Q7.</b> What best describes the language spoken by <b>family</b> in your home?	1 (English only) 4 (English and Spanish)	4 (English and Spanish)	2 (Spanish Only) 4 (English and Spanish)
<b>Q8.</b> What is the <b>language most often spoken</b> by the student?	1 (English)	1 (English) 2 (Spanish)	2 (Spanish )
Note: parents that responded “English” to each of the three questions were instructed not to answer the next two questions.			
<b>Q9.</b> How would you describe the student’s <b>ability to speak the language</b> most often spoken?	System missing	(If English or Spanish)  3 (good) 4 (excellent)	(If Spanish)  3 (good) 4 (excellent)
<b>Q10.</b> How would you describe the student’s ability to <b>speak English</b> ?	System missing 3 (good) 4 (excellent)	3 (good) 4 (excellent)	1 (poor) 2 (fair)
<b>Recode:</b>	<b>Monolingual English</b> <i>(n=11,404)</i>	<b>Bilingual</b> <i>(n=2,070)</i>	<b>Monolingual Spanish</b> <i>(n=566)</i>

Please Note: All responses were recoded, with judgment utilized for recoding difficult responses. The rationale of recoding the variable is as follows: If English and Spanish were rated as equal then the child is bilingual (despite languages at home). English ability was rated as higher than Spanish and child speaks English more often, despite both languages being spoken at home- the child was monolingual English speaking. If Spanish was ranked as better than English, despite language at home then monolingual Spanish. If parents report that only Spanish is spoken at home -child is automatically decided to be bilingual or monolingual Spanish.

### Appendix C

#### STUDENT ENGAGEMENT SCALE -ENGLISH AND SPANISH VERSIONS

(see: Bear et al., 2016)

<b>PART III: Student Engagement Scale</b> <b>Please read each statement and mark the response</b> <b>that best shows how much you agree.</b>	<b>Disagree</b> <b>A LOT</b>	<b>Disagree</b>	<b>Agree</b>	<b>Agree</b> <b>A LOT</b>
1. My child pays attention in class.				
2. My child tries his/her best in school.				
3. My child feels happy in school.				
4. My child follows the rules at school.				
5. My child turns in his/her homework on time.				
6. My child thinks that his/her school is a fun place to be.				
7. When my child doesn't do well, he/she works harder.				
8. My child gets good grades in school.				
9. My child likes students who go to this school.				
10. My child stays out of trouble at school.				
11. My child has plans for more school or training after high school.				
12. My child likes this school.				

<b>PARTE III: Escala de Participación del Estudiante</b> <b>Por favor lea cada frase y marque la respuesta que mejor indique cuánto está de acuerdo.</b>	<b>Muy en desacuerdo</b>	<b>Desacuerdo</b>	<b>De Acuerdo</b>	<b>Muy de Acuerdo</b>
1. Mi hijo/a presta atención cuando está en clase.				
2. Mi hijo/a trata lo mejor de sí en la escuela.				
3. Mi hijo/a se siente contento/a en la escuela.				
4. Mi hijo/a sigue las reglas en la escuela.				
5. Mi hijo/a entrega su tarea escolar a tiempo.				
6. Mi hijo/a piensa que su escuela es un lugar divertido para estar.				
7. Cuando mi hijo/a no hace un buen trabajo, trabaja más duro para mejorar.				
8. Mi hijo/a obtiene buenas calificaciones en la escuela.				
9. A mi hijo/a le gustan los/as estudiantes que vienen a esta escuela.				
10. Mi hijo/a no se mete en problemas en la escuela.				
11. Mi hijo/a tiene planes de seguir sus estudios o tener más entrenamiento después de la escuela secundaria.				
12. Mi hijo/a gusta de esta escuela.				

## Appendix D

### SCALES, SUBSCALES, AND ITEMS UTILIZED FROM DELAWARE SCHOOL CLIMATE SURVEYS -HOME VERSION, 2015-2016 (see: Bear et al., 2016)

<b>School Climate Scale</b>	<b>Home Version Item</b>
Teacher –Student Relations	2. Teachers treat students of all races with respect. 7. Teachers care about their students. 17. Teachers listen to students when they have problems 22. Adults who work there care about the students. 27. Teachers like their students.
Student-Student Relations	11. Students are friendly with each other. 12. Students get along with each other. 16. Students care about each other. 21. Students respect others who are different. 26. Students treat each other with respect.
Teacher-Home Communications	1. Teachers listen to the concerns of parents. 23. Teachers show respect toward parents. 24. Teachers work closely with parents to help students when they have problems. 25. Teachers do a good job communicating with parents.
<b>Student Engagement Scale</b>	
Behavioral-Cognitive Engagement	1. My child pays attention in class. 2. My child tries his/her best in school. 4. My child follows the rules at school. 5. My child turns in his/her homework on time. 7. When my child doesn't do well, he/she works harder.

- 8. My child gets good grades in school.
- 10. My child stays out of trouble at school.

- 11. My child has plans for more school or training after high school.

Emotional Engagement

- 3. My child feels happy in school.
- 6. My child thinks that his/her school is a fun place to be.
- 9. My child likes students who go to this school.
- 12. My child likes this school.

## Appendix E

### APPROVAL LETTER FROM THE UNIVERSITY'S INSTITUTIONAL REVIEW BOARD



RESEARCH OFFICE

210 Halliher Hall  
University of Delaware  
Newark, Delaware 19716-1551  
Ph: 302/831-2136  
Fax: 302/831-2828

DATE: March 4, 2019

TO: George Bear, Ph.D.  
FROM: University of Delaware IRB

STUDY TITLE: [161809-6] School Climate in Delaware Public Schools

SUBMISSION TYPE: Continuing Review/Progress Report

ACTION: DETERMINATION OF EXEMPT STATUS  
DECISION DATE: March 4, 2019

REVIEW CATEGORY: Exemption category # (4)

Thank you for your submission of Continuing Review/Progress Report materials for this research study. The University of Delaware IRB has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

We will put a copy of this correspondence on file in our office. Please remember to notify us if you make any substantial changes to the project.

If you have any questions, please contact Renee Stewart at (302) 831-2137 or [stewartr@udel.edu](mailto:stewartr@udel.edu). Please include your study title and reference number in all correspondence with this office.

cc: