MEASUREMENT OF TEACHERS' SOCIAL-EMOTIONAL

COMPETENCE: DEVELOPMENT OF THE SOCIAL-EMOTIONAL

COMPETENCE TEACHER RATING SCALE

by

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DISSERTATION ABSTRACT

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Title: Measurement of Teachers' Social-Emotional Competence: Development of the
Social-Emotional Competence Teacher Rating Scale

The significant role that teacher social-emotional competence (SEC) may play in the classroom environment through classroom management, forming positive teacher-student relationships, and implementation of social-emotional learning (SEL) curricula, as well as the influence SEC may have on teachers' overall well-being, requires an assessment that is able to reliably measure this construct in a manner that is valid for research and applied purposes. This study investigated the development of a scale measuring teacher SEC, the Social-Emotional Competence Teacher Rating Scale (SECTRS). The SECTRS was created and evaluated by an expert panel. Following the content validation process and follow-up revisions, the scale was administered to a sample of teachers ($N = 302$) and the scale's factor structure was explored, along with basic elements of the scale's reliability and validity. Finally, demographic characteristics were assessed to determine if relationships to SEC scores existed across these characteristics.

Results of the factor analysis revealed a four-factor solution that explained 37.93% of the variance. The four factors identified measured aspects of teacher-student relationships, emotion regulation, social-awareness, and interpersonal-relationships. Internal consistency reliability estimates ranged from .69 to .88. Convergent validity

results revealed that the SECTRS factor and total scores had significant, positive correlations (.44 to .65) with a scale measuring emotional intelligence and low, negative correlations with a scale measuring teacher burnout (.01 to -.34). Teacher ratings on the SECTRS did not demonstrate differences across gender, ethnicity, and community setting. Teacher ratings on the SECTRS differed based upon years of teaching experience, age, teacher setting, and grade-level. Finally, the SECTRS was found to have significant, positive correlations with perceptions of teacher-student relationships (.40 to .64), controlling behavior management styles (.17 to .22), as well as positive school climate. The SECTRS had significant, negative correlations with authoritative instructional styles (-.31 to -.55). Overall, results suggest that the SECTRS has adequate psychometric properties and provides an initial version of a scale that measures teacher SEC; however, the results of the factor analysis are far from conclusive and additional research is required to refine and validate the SECTRS tool before it is used in research and practice.

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CHAPTER I

INTRODUCTION

Educators are increasingly recognizing that student success in life requires more than simply passing standardized tests and acquiring academic knowledge. Education must also encompass social and emotional skills that will allow students to effectively deal with the challenges that life brings them (Buchanan, Gueldner, Tran, & Merrell, 2009). Wang, Haertel, and Walberg (1997) examined instructional variables and their effect on student learning and found that some of the most influential learning factors were social and emotional factors, such as motivation, the ability to self-regulate, and application of self-control strategies. Other important factors related to social-emotional adjustment were the quality of teacher and student interactions and the classroom environment. Likewise, the National Center for Education Statistics (2002) found that some of the reasons students reported dropping out of school were related to social-emotional factors, including not getting along with teachers or peers, feeling left out, and not feeling safe in school. Schools are increasingly emphasizing mental health promotion given that lifelong mental disorders begin as early as age 14 and affect roughly 7.5 million children (Greenberg et al., 2003). Thus, schools may take on the responsibility of providing mental health services regardless of whether they have sufficient resources to do so.

It is common for schools across the United States to have some mental health services available for children, such as a social skill group or a school counselor (Hoagwood et al., 2007). School systems are uniquely poised to promote mental health given that they can target young children when prevention efforts are most successful

(e.g., Merrell, 2010). Furthermore, schools can reach a large population of children who may be at-risk for developing future mental health disorders. Unfortunately several problems exist with current mental health services in the schools. First, schools tend to be reactive because they frequently do not provide services until children have been identified for special education services or been through juvenile court (Greenberg et al., 2003). Second, schools are limited in their resources to meet the needs of all the students that may need mental health services (Greenberg et al, 2003). Third, school services may not be well coordinated, with services existing in isolation, or are episodic in their delivery (Farmer & Farmer, 1999; Greenberg et al., 2003). Lastly, there is very little information on types of treatments administered in schools and they often vary from general education consultation to interventions carried out by counselors, school psychologists, and social workers. These types of interventions are usually not linked to other outcomes that are meaningful to the school (i.e. academics), resulting in a lack of accountability (Greenberg et al., 2003).

To address these limitations many schools are starting to adopt social and emotional learning (SEL) as a means to link prevention efforts with school-based interventions (Merrell, 2010). SEL has been defined by the Collaborative for Academic, Social, and Emotional Learning (CASEL) group as "the process of acquiring and effectively applying the knowledge, attitudes, and skills necessary to recognize and manage emotions; developing caring and concern for others; making responsible decisions; establishing positive relationship; and handling challenging situations capably" (p. 1, Zins & Elias, 2006).

Positive outcomes from SEL can be categorized into three main areas: attitudes, behavior, and performance (Zins, Payton, Weissberg, & O'Brian, 2007). Changes in student attitudes include improvement in students' motivation and commitment toward school and stronger feelings of belongingness and safety in the school and community (Zins et al., 2007). Student participation in SEL programs may also have positive effects on student behavior, including reductions of internalizing problems (e.g., anxiety and depression; Merrell, 2010) and reductions in externalizing problems (e.g., aggression and student interpersonal violence; Grossman et al., 1997). Other positive changes in behaviors include increases in communication skills and fewer absences and school dropouts (Zins, Bloodworth, Weissberg, & Walberg, 2004; Zins et al., 2007). Student performance outcomes include academic outcomes such as higher grades and gains in standardized academic measures (Elias, 2006; Hoagwood et al, 2007) that may be the result of linking SEL skills such as problem solving and goal setting and applying these skills to academic endeavors (Zins et al., 2004). Students participating in SEL programs also display large increases in social-emotional knowledge (e.g., Merrell, 2010). These positive school outcomes are important and illustrate the need to educate students beyond academic skills. Ample evidence suggests that social and emotional factors have clear benefits that reduce barriers to accessing education and promote skills that allow students to engage in academic and social activities.

State and national policy makers are also beginning to recognize the benefits of incorporating SEL programs into the larger framework of schools and are taking action to ensure that schools are teaching social-emotional skills. Illinois was one of the first states to pass comprehensive legislation for this purpose, with the Illinois Children Mental

Health Act in 2003. This legislation required schools in the state to incorporate SEL into their school mission and take definitive steps toward developing the social and emotional competencies of their students (O'Brien & Resnik, 2009). More recently the Academic, Social and Emotional Learning Act of 2011 (HR 2437) was proposed to Congress, and if passed, will allow the Secretary of Education to award funding toward creating a National Technical Assistance and Training Center that will provide training and support to states and local educational agencies that want to adopt and promote evidence-based SEL learning as well as create social and emotional learning standards and programs.

These new developments are paving the way for SEL implementation in schools. It is now essential that research focus on the finer details of effective implementation that will allow schools to adopt SEL practices successfully. One overlooked area that may affect the implementation of SEL programs is the social-emotional competence (SEC) of teachers. Teachers' SEC influences important components of SEL program delivery such as teachers' ability to implement behavior management strategies, encourage problem solving and cooperation among students, design appropriate instruction, and develop supportive and encouraging relationships with their students (Jennings & Greenberg, 2009). Understanding the relationship between teacher SEC and SEL programming will become important as more states start following Illinois' lead and begin mandating SEL programs in schools.

Jennings and Greenberg (2009) highlighted the importance of teacher SEC by presenting a model of a prosocial classroom environment. They proposed that teacher SEC was related to teacher-student relationships, effective classroom management, and successful SEL implementation. Jennings and Greenberg argue that the relationship

between high teacher SEC on these three variables may contribute to a positive classroom climate, which in turn results in greater student social, emotional, and academic outcomes.

Social-emotional competence is a broad construct that is typically understood as being the equivalent of the desired outcome of SEL programs. Therefore, teachers who are socially and emotionally competent will exhibit the core competencies outlined by the CASEL group: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making with the added ability to apply these skills in the school setting (Jennings & Greenberg, 2009). It is often assumed that teachers have social-emotional skills upon entering the teaching profession. As a result of this assumption, many teachers do not receive the type of social and emotional support and strategies to help them cope and manage their emotions in effective ways. Therefore, Jennings and Greenberg proposed that deficits in SEC or lack of appropriate social-emotional supports may contribute to the high burnout and attrition rate seen in the teaching profession. Teachers are constantly exposed to emotionally provocative situations but have limited options for self-regulation when situations cause strong emotional reactions (Jennings & Greenberg, 2009). This constant exposure to negative emotionally charged events might reduce a teacher's intrinsic motivation and feelings of self-efficacy leading to high rates of teacher burnout (Jennings & Greenberg, 2009).

An added burden on teachers is readying their students to meet the increased academic standards introduced with the passing of the No Child Left Behind Act of 2001. As teacher demands increase, so does the need for additional social-emotional support to help teachers manage and cope with these additional responsibilities. Therefore, social

and emotional competencies may serve as a buffer for teachers and enable them to successfully navigate raised expectations through finding effective ways to regulate their emotions and prevent feelings of low self-efficacy and motivation.

Teacher SEC not only affects teachers' well-being, but also may play a critical role in student outcomes. There is considerable literature to support the importance in the quality of the relationship and interaction between students and teachers to student outcomes (e.g., Wang et al., 1997). A teacher's ability to listen and support students' feelings and ideas has been shown to have an impact on student attention, learning, and brain development (Kusche & Greenberg, 2006). A supportive teacher-student relationship is also important because having more positive social interactions creates a learning environment that facilitates student displays of appropriate behaviors in the classroom and allows for better acquisition of academic concepts (Merrell, 2010).

Teacher SEC can have a large impact in creating a warm, nurturing environment not only through building supportive interpersonal relationships, but also in teachers' abilities to manage a classroom. Jennings and Greenberg (2009) hypothesized that socially-emotionally competent teachers are able to manage classrooms through motivating students intrinsically rather than through the use external rewards and punishments to control behavior. In addition, teachers with high SEC are hypothesized to create community classrooms that are oriented toward cooperation and emphasize perspective taking. These types of classrooms have been related to student feelings of school connectedness, self-reports of academic engagement, and positive interpersonal relationships. Jennings and Greenberg hypothesized that teachers who are social-

emotionally competent would foster these types of social and emotional skills and thereby create positive classroom climates.

Finally, teacher SEC may also influence the implementation of SEL programs. When schools adopt an SEL program, teachers seldom receive the pre-service training that is necessary to implement the SEL program. Many teachers report lack of pre-service training as a barrier to SEL implementation (Buchanan et al., 2009). When teachers do receive pre-service training, activities primarily focus on familiarizing teachers with the SEL program and key components of SEL program delivery (Buchanan et al., 2009). Seldom does training address the SEC of teachers, which may be an important factor in SEL implementation.

Specifically teacher SEC may affect three critical implementation components of SEL programs: delivery of SEL, role modeling of concepts, and active reinforcement of skills throughout the day. The quality of teacher implementation of SEL program delivery (engaging and modeling) has been related to greater changes in classroom aggression above and beyond the number of lessons taught (Conduct Problems Prevention Research Group, 1999). Teachers are role models for SEL skills through daily demonstrations pro-social behaviors such as effective coping, problem solving, and decision-making processes in the classroom (Jennings & Greenberg, 2009). Teachers with high SEC have a greater awareness of their emotions and provide a good role model to students on appropriate social-emotional skills. The ability to demonstrate these skills has been shown to relate to implementation quality of SEL programs (Buss, 2007). Teachers also play a critical component in generalizing the SEL skills learned by reinforcing and applying SEL skills when conflicts arise or students express anger,

frustration, or sadness in the classroom (Jennings & Greenberg, 2009). Teachers who are socially-emotionally competent will have an easier time recognizing these situations and understanding how to apply appropriate SEL techniques to resolve problems.

Arguably, teacher-student relationships and classroom management also influence teachers' ability to adequately implement a SEL programs. In their book, *Social and Emotional Learning in the Classroom,* Merrell and Gueldner (2010) noted the importance of both teacher-student relationships and behavior management in successful implementation of SEL programs. The relationship between teacher SEC and teacher-student relationships, classroom management, and SEL implementation may all be interrelated, rather than being thought of as separate outcomes of teacher SEC.

The assumption that teachers possess adequate SEC skills upon entering the teaching profession may in many cases be incorrect, and may have negative consequences for both teachers and students. Supporting teacher well-being and expanding our knowledge base on teacher SEC is an important next step for SEL programming and student outcomes. By understanding the teacher SEC we can better examine its relation to teacher burnout, teacher-student relationships, classroom management, and ultimately implementation of SEL programs.

As researchers begin studying teacher SEC, it is important for measurement methods in this field to follow. Currently there are *no known assessment tools that are specifically designed to addresses the social and emotional competence of teachers*. Measures in previous studies often examined constructs such as psychological coping, burnout, stress, cognitive appraisals of classroom demands and school resources, self-efficacy, self-critical attitudes, and emotional intelligence. Although all these factors are

important in understanding the mental health of teachers, they are limited in their scope and design to address all the social and emotional factors that may be specific to teachers.

Based on the importance of understanding whether teachers possess adequate social and emotional competence, and to begin analyzing the effects that SEC may have on teachers, students, and class climate, new measures are needed that are capable of reliably and efficiently assessing teacher SEC. Such new measures should ideally incorporate the core components of a SEC teacher and also be specific to the teaching profession and context. This study was aimed at addressing these needs by establishing a teacher self-report scale to measure teacher SEC.

Research Questions:

1. What are important teacher SEC domains that would make up a teacher self-report scale of teacher SEC?

2. What potential items would be appropriate representations of these SEC domains?

3. Using an exploratory factor analysis technique with a national sample, what is the likely underlying factor structure of the social-emotional competence teacher rating scale (SECTRS)?

4. Using Cronbach's alpha, what is the internal consistency reliability of the SECTRS on a large sample of teacher self-report ratings?

5. What is the convergent validity between the SECTRS and other similar rating scales?

6. Are there differences in SEC based upon teachers demographic characteristics such as gender, classroom setting (general education vs. special education,

elementary school vs. middle school vs. high school), and years of teaching experience?

7. Is there a relationship between teacher SEC and teacher perceptions of teacher-student relationship, classroom management, and school climate?

CHAPTER II

LITERATURE REVIEW

This brief review focuses on topics relating to the influence of teacher SEC on various personal and academic outcomes. Prevalence rates, costs of mental health disease in the United States, and the recognition that schools have the unique ability to implement low-cost SEL programs as primary prevention efforts are reviewed first. Literature on SEL programming is summarized to reveal the positive effects that these programs have on students' academic, behavioral, and emotional outcomes. The critical role of teachers as implementers of SEL programs is then described and how the quality of SEL implementation by teachers is related to positive outcomes. Studies are then summarized that highlight how teacher SEC may be related to classroom climate and student outcomes through teacher-student relationships and classroom management. Finally, the rationale for the development of a teacher SEC self-report measure is discussed as a way to further explore whether teacher SEC is the underlying construct across these instructional factors and how a measure may also be useful in teacher training programs. Books, articles, and book chapters for this brief literature review were retrieved from PsycINFO, Google Scholar, the CASEL website, and through the University of Oregon library catalogue system.

Mental Health Statistics

It is estimated that one in four individuals worldwide will develop a mental or behavioral disorder throughout their lifetime and the cost of mental health disorders in the United States alone is around 75 billion dollars (Greenberg et al., 2003, World Health

Organization [WHO], 2004). The prevalence and cost of mental health disorders, both on society and to the people that suffer from the debilitating nature of these disorders, merit research in the area of prevention and early intervention of mental health disorders. Many mental health symptoms present themselves during childhood and adolescence, but less than a quarter of children receive appropriate, targeted interventions that address these manifestations when they arise (Greenberg et al., 2001; Greenberg et al., 2003).

Merrell (2008) contended that the prevalence of externalizing disorders such as Attention Deficit Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder (ODD), and Conduct Disorder (CD) vary, but are quite common in children and adolescents. The American Psychiatric Association (APA, 2000; *DSM-IV-TR*) estimates that ADHD occurs in 3% to 5% of school age children; ODD occurs in 2% to 16% of school age children; and CD occurs in 6% to 16% of boys and 2 – 9% of girls. Merrell (2008) stated that prevalence rates for internalizing disorders, such as anxiety and depression, are difficult to compute because these disorders, unlike externalizing disorders, are not as readily identifiable. Merrell and Gueldner (2010) estimated that the prevalence rates for internalizing disorders may be as high as 4% to 6% of school-age children.

These statistics reveal that many mental health disorders appear at a very early age, and the reported prevalence rates might be a conservative approximation of the actual number of children who may be experiencing a mental health disorder. Both externalizing and internalizing disorders have the best prognosis if children are identified early and receive appropriate interventions (Merrell, 2008). However, the problem with the current mental health system is that it is primarily reactive, waiting until the

individual has suffered a magnitude of problems, including school dropout, incarceration,

job loss, and relationship difficulties, before receiving any type of support. Therefore,

the key to addressing mental health disorders must be through preventative efforts that

respond to individuals' needs before severe symptoms are present (Greenberg,

Domitrovich, & Bumbarger, 2001; WHO, 2004).

Schooling as a Center for Preventative Interventions

The movement toward addressing student mental health through prevention

efforts is starting to take place at schools. School systems are moving toward building the

capacity to support prevention efforts through the adaptation of the public health model

(Merrell & Buchanan, 2006) in academics, behavior, and mental health. This model has

been represented through a three-tiered model of support that divides prevention efforts

into three different levels: primary, secondary, and tertiary (Merrell & Buchanan, 2006).

This model unifies the efforts through a seamless coordination of interventions that match

the intensity of the intervention to the severity of the child's need, as displayed in Figure

1.

At the primary level, all children receive a general mental health intervention with the

goal being to prevent the development of mental health problems and exacerbation of

existing problems (Greenberg et al., 2001). At the secondary level, children requiring

additional services due to higher risk and failure to respond to primary prevention efforts,

receive additional interventions in smaller groups that are targeted at their needs

(Greenberg et al., 2001). At the tertiary level, service is targeted to children who are

identified as displaying early signs of mental health disorders and who have not

responded to primary and secondary levels (Greenberg et al., 2001). These children

receive individualized interventions provided by the school or community-based mental health providers (Merrell & Gueldner, 2010). Adelman and Taylor (2000) noted that a tiered system of coordinated service delivery is essential in decreasing the fragmentation that currently plagues many mental health initiatives and primary prevention efforts.

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                        Tertiary Level
                     (about 5% of students)
               1. Individual treatment
               2. Special education services
               3. Referral to and collaboration with
                  community-based mental health


                       Secondary Level
                   (15% - 20% of students)
               1. Targeted SEL programming
               2. Small group counseling and skills
                  training
               3. Evidence-based group interventions


                        Primary Level
                       (all students)
            1. Structured SEL curricula
            2. Effective school policies (e.g.,
               Positive Behavior Supports)
            3. Effective classroom routines
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Figure 1. Three-tiered model of systematic coordination of mental health prevention interventions. Adapted from *Preventive Interventions for Students with Internalizing Disorders: Effective Strategies for Promoting Mental Health in Schools*, by K.W. Merrell and B.A. Gueldner. Copyright 2010 by National Association of School Psychologists.

In regard to promoting mental health in schools, Merrell and Gueldner (2010) suggested that SEL programs may be conceptualized as efforts at the primary prevention level, noting, "mental health promotion is focused on a common goal – the well-being of children" (p. 804). SEL programs focus on meeting the mental health needs of children

and adolescents by teaching emotional knowledge and skills to effectively manage their emotions, create meaningful relationships, and apply problem-solving skills.

SEL focuses on five core competencies: *self-awareness, self-management, social awareness, relationship skills,* and *responsible decision-making* (CASEL, 2011). Self-awareness is defined as the ability to recognize one's feelings, thoughts, and emotions, as well as the ability to identify one's strengths and the strengths in others. Self-awareness also includes having an appropriate level of self-confidence. Self-management includes the ability to manage one's emotions, deal with stressful situations, and effectively set and work towards established goals. Social awareness is defined as the ability to take other people's perspective, empathize, and having respect for individual differences. Relationship skills involve the ability to cooperate with others and establish healthy, meaningful relationships. Finally, responsible decision-making is the process of accurately assessing and evaluating social and academic situations and coming to decisions that are ethical and appropriate.

Therefore, at the primary prevention level, proponents of SEL programs emphasize weaving these core values and competencies of SEL curricula into the broader mission of the school. One way that SEL supporters conceptualize doing this is through teaching SEL programs in general education classrooms. By integrating SEL programs into general education, coordination of mental health programs increases through unifying SEL learning and academic learning (Merrell & Gueldner, 2010).

SEL and Positive Student Outcomes

Schools may be reluctant to take on SEL initiatives when many schools today are facing the pressure of improving students' academic scores. However, research studies

support incorporating SEL curricula in schools to aide in student achievement. Brackett et al. (2009) asserted that schools that have seen decreases in problem behavior, increases in academic achievement, and increases in quality relationships have also been promoting SEL. Findings also suggest that children and adolescents who have social and emotional skills typically have more "positive relationships, are less likely to engage in risk-taking behaviors such as using drugs and alcohol, and experience fewer emotional symptoms, and perform better academically" (p. 335, Brackett et al., 2009). Furthermore, teachers perceive socially-emotionally competent students more positively socially, behaviorally, and emotionally with fewer anxious and depressive symptoms. Likewise, many of these social-emotional factors are barriers for many students to adequately access education successfully.

Durlak and Wells (1997) conducted a meta-analysis of 177 primary prevention, social-emotional learning curricula and found that programs implemented in the schools had positive outcomes, such as significantly reducing behavior problems and increasing social-emotional competencies. Specifically, reductions in externalizing and internalizing symptoms were found in many of these programs as well as increases in academic performance (e.g., grades and achievement tests), with results maintaining in follow up studies. Significant positive effects were found (effect sizes ranging from .24 to .93) and follow up analyses across all dependent measures revealed that students participating in primary prevention program surpassed students in the control group by 59 – 82%.

The Conduct Problems Prevention Research Group (2010) studied the effects of a multiyear primary prevention social-emotional learning program and found reductions in aggression and increases in prosocial behavior as reported by teachers and peers, as well

as improved academic engagement. The study followed 2,937 students from grades 1 through 3 and concluded that, when implemented well, a multi-year SEL program prevented rates of aggression, increased social competence, and increased academic engagement in the elementary years. During the third year of implementation, students in the intervention group had significantly lower problem behaviors than children in the control group ($p < .001$). The results also revealed that students who started the intervention with higher initial aggressive and oppositional behavior demonstrated more robust treatment effects ($p < .001$, *ES* = .24). Peer sociometric nominations revealed that boys in the control group received significantly higher ratings of aggressive ($p < .001$, *ES* = .20) and hyperactive ($p < .05$, *ES* = .12) behaviors.

In a more recent meta-analysis, Durlak, Weissberg, Dymnicki, Taylor, and Schellinger (2011) investigated the effects of school-based primary prevention social-emotional learning programs on a broad range of student outcomes. The researchers were particularly interested in six student outcomes: social and emotional skills, attitudes toward self and others, positive social behaviors, conduct problems, emotional distress, and academic performance. Studies from January 1, 1970 to December 31, 2007 were included, with a final sample of 213 studies involving 270,034 students. Results suggested that student outcomes across all six categories improved. Students displayed an increase in their social and emotional skills (*ES* = .57), improved attitudes towards themselves and others (*ES* = .23), demonstrated positive social behaviors (*ES* = .24), lower levels of conduct problems (*ES* = .22) and emotional distress (*ES* = .24), and higher academic scores (*ES* = .27), compared to students who did not participate in an SEL program. Fifteen percent of the studies collected follow up data an average of 92 weeks

later and found that effect sizes remained significant across all student outcomes. Another important finding from this meta-analysis is the superior implementation of SEL programs by school personnel as compared to non-school personnel. SEL interventions implemented by school personnel resulted in positive effects across all six student outcomes, whereas interventions implemented by non-school personnel only had positive effects across three student outcomes (i.e., SEL skills, prosocial attitudes, and reduced conduct problems). The results suggested that schools at all levels (i.e., elementary, middle, and high school) are capable of implementing SEL programs without having to hire outside personnel, and that the added benefit of using school personnel may be seen in improved student attitudes about themselves, lower emotional distress, and higher academic scores.

SEL is not only important for students' academic success in school, but also has benefits in preparing students for the future by providing them with skills that will enable them to be successful in the workforce and in society. To that end, Cherniss and Goleman (2006) found that many of the skills that employers were looking for included the ability to create and work toward goals, the ability to adapt and overcome obstacles, personal self-management, interpersonal skills, cooperation, and problem-solving with the most desirable skills being communication skills, interpersonal skills, and initiative. This finding clearly displays the importance of instilling in children social and emotional competencies in addition to academic knowledge.

Teachers and SEL Outcomes

Teachers are a critical component to SEL outcomes because they are the primary implementers of SEL curricula (Elbertson, Brackett, & Weissberg, 2010). In a survey

conducted by Buchanan et al. (2009), about 67.4% of surveyed teachers were the primary

implementers of the SEL curriculum. Jennings and Greenberg (2009) hypothesized that

teacher SEC may influence the implementation of SEL programs. These authors defined

teacher SEC as the ability to exhibit core SEL competencies with the application of these

skills to the school setting. For example, Jennings and Greenberg suggest that teachers

who are self-aware will be able to recognize their own emotions and understand how

different classroom situations influence their emotions. Self-aware teachers are more

conscious of their emotional strengths and limitations. These teachers are also able to use

their emotions, such as enthusiasm, to motivate their students to learn (Jennings &

Greenberg, 2009).

Socially and emotionally competent teachers are also able to manage their emotions

and behaviors in the classroom, especially when emotionally provocative situations arise,

such as having to handle student misbehavior (Jennings & Greenberg, 2009). Likewise,

teachers who are socially and emotionally competent are aware of the influence of their

emotions and behaviors on students. These teachers display social awareness in their

sensitivity to differences in perspectives and are able to recognize and understand how

this influences behaviors in students, staff, and parents. Teachers with high SEC have a

distinct advantage in building positive social relationships with students, colleagues, and

parents by being supportive and utilizing their skills in cooperation and perspective

taking to facilitate relationships. Finally, teachers who are SEC are also able to make

responsible decisions because they can effectively problem-solve and consider how their

decisions affect others, are willing to compromise, and take ownership of their choices.

Jennings and Greenberg (2009) asserted that the quality of SEL implementation is affected by teacher SEC. They suggest that teachers with low SEC will be less likely to generalize SEL concepts and will not provide a good role model of social-emotional skills. Likewise, Jennings and Greenberg argued that teachers with low SEC will experience higher burnout and stress, and that these factors may also affect SEL implementation. Research in the area of teacher implementation of SEL programs supports the relationship between teacher psychological experiences such as burnout, stress, self-efficacy, and self-awareness on SEL implementation. These psychological experiences are conceptualized as being related to teacher SEC.

Han and Weiss (2005) discussed the impact that teacher self-efficacy may have on SEL program implementation. They noted that teacher beliefs about teaching efficacy (i.e., the extent to which teachers believe they have an influence on students) have a strong influence on the motivation behind their interest in adopting a new instructional program. Han and Weiss found that teacher self-efficacy was related to a teacher's ability to persevere despite facing setbacks as well as the amount of effort they were willing to expend on a new program initiative. Teachers who had high self-efficacy were also more motivated to obtain student outcomes and were willing to exert greater levels of effort to achieve results.

Teacher burnout may also affect the quality of teachers' implementation of SEL curricula. It is hypothesized that teachers with low SEC will experience burnout more frequently and with greater intensity than teachers with higher SEC. Han and Weiss (2005) found that teacher burnout influenced the implementation of new SEL programs because teachers who were experiencing burnout had lower engagement in their teaching

activities, less interest in new practices, and negative attitudes towards implementing a new program.

The Conduct Problems Prevention Research Group (1999) found that quality of teacher implementation was significantly related to student outcomes of the PATH curriculum. In their randomized clinical study involving 198 intervention classrooms and 180 control classrooms in four different states, the researchers investigated the impact of a primary prevention, social-emotional learning curriculum. The researchers were interested in how dosage and quality of implementation affected student behavior and classroom atmosphere. They found that the quality of teacher implementation of the social-emotional curriculum as measured by their skill in teaching the concepts, managing the classroom, and modeling and generalizing the concepts, was significantly related to decreases in classroom aggression $F(1, 167) = 9.90, p < .001; F(1, 167) = 16.54$ $p < .001;$ and $F(1, 167) = 9.22, p < .001$, respectively. These three quality measures were also related to higher scores on positive classroom climate $F(1, 137) = 4.95, p < .01; F(1,$ $137) = 8.87, p < .01;$ and $F(1, 137) = 4.94, p < .01$, respectively. These effects remained significant even after controlling for the number of lessons taught. The researchers concluded that both implementation quantity and quality of social-emotional learning curricula are important in producing positive outcomes (The Conduct Problems Prevention Research Group, 1999).

Likewise, Ransford, Greenberg, Domitrovich, Small, and Jacobson (2009) investigated the influence of teacher burnout and sense of efficacy on their implementation dosage and quality of a SEL curriculum. Results revealed that teachers who reported high levels of burnout and low levels of administrative support

implemented fewer supplemental activities $F(1, 97) = 3.77, p < .05$. The authors found

that teachers who reported high levels of burnout and low levels of curriculum and

coaching support, implemented fewer lessons than other teachers, $F(1, 97) = 7.32, p < .01$

and $F(1, 96) = 5.83, p < .05$, respectively. Lastly, teachers who reported higher burnout

and lower training implemented lessons with lower quality and fewer generalization

activities, $F(1, 98) = 10.31, p < .01$, and $F(1, 97) = 4.75, p < .05$. Ransford et al.

concluded that psychological experiences of teachers influence SEL implementation

quality.

Teacher SEC and Its Influence on Instructional Outcomes

Jennings and Greenberg (2009) acknowledged that teacher SEC may also

influence other classroom climate variables, such as classroom management and teacher-

student relationships. As Merrell and Gueldner (2010) pointed out, classroom

management and teacher-student relationships also contribute to successful

implementation of SEL programs. Figure 2 summarizes this relationship between factors

that create a healthy classroom climate and ultimately influence positive student

outcomes. In addition to teacher factors, the model recognizes that school and community

factors also influence this relationship at all levels. Research supporting the influence of

teacher SEC on teacher-student relationships and classroom management is described

next and linked to student academic and behavioral outcomes. In addition, the influence

of school climate and community factors across all levels of the model are briefly

summarized.

Miller and Wiltse (1979) discussed how the emotional state of the classroom is

influenced by the mental health of the teacher, suggesting that the positive mental health

of a teacher is critical in creating a positive classroom atmosphere. They posited that the continuous responsibility of having to be a good example, the pressure of preparing students academically, and the frequency of dealing with interpersonal and behavioral problems in teaching profession creates a great deal of stress. The authors hypothesized that these inherent stressors of the teaching profession impact teachers who are at-risk for mental health problems, leading "maladjusted" teachers to act out using behaviors that are detrimental to students' well-being.

Research on teachers' psychological well-being supports the relationship between teacher self-efficacy and teacher self-awareness to instructional behaviors and student outcomes. Hamre and Pianta (2004) analyzed self-reported depression in nonfamilial caregivers across various daycare settings and found that daycare providers reporting high levels of depressive symptoms displayed less sensitive behaviors ($\beta = -0.10$, $p < .0001$) such as limited positive verbal interactions with children as well as significantly fewer interactions ($\beta = 0.09$, $p < .001$) with children. Thus the quality of interactions between caregivers and children were related to the level of depression experienced by the daycare provider (Hamre & Pianta, 2004).
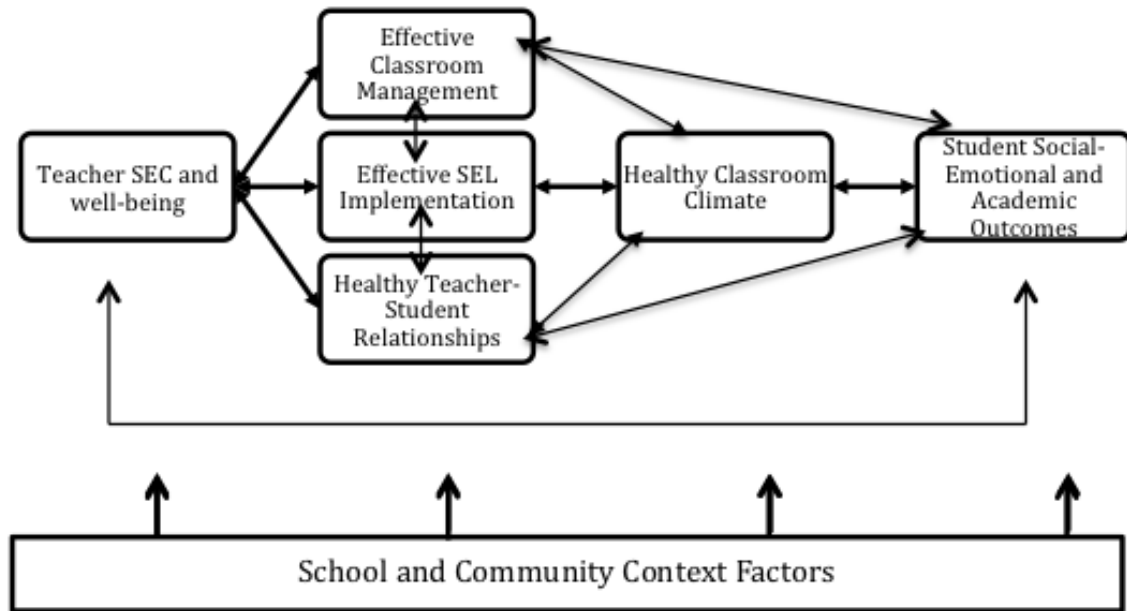
Figure 2. A model of teacher social and emotional competence and classroom and student outcomes. Adapted from *"The Prosocial Classroom: Teacher Social and Emotional Competence in Relation to Student and Classroom Outcomes*," by P. Jennings and M. Greenberg*,* Review of Educational Research*, 79,* p. 494. Copyright 2009 by the American Educational Research Association.

Forehand, Jones, Brody, and Armistead (2002) explored the interaction between self-reported levels of depression in mothers and teachers on the adjustment of African American children ages 7 to 15 years old. Using separate hierarchical multiple regression analyses, the authors found that mothers reporting high levels of depressive symptoms predicted child depressive symptoms when those children's teachers also reported high depressive symptoms ($\beta = 0.30\ p < .01$).The authors also found a similar risk for younger children, such that younger children exhibited more externalizing symptoms when both teachers and mothers endorsed high levels of depressive symptoms. This effect was not

found for older children and the authors hypothesized that this may be because older children are less reliant on teachers for support, and find comfort from peers instead.

Lastly, Han and Weiss (2005) found that teacher's sense of self-efficacy was related to instructional variables such as their persistence in teaching under difficult situations, commitment to teaching, openness to new ideas, and willingness to try alternative teaching methods to meet the needs of their students. Teacher self-efficacy was also related to student outcomes such as achievement, motivation, and students' own sense of efficacy. Han and Weiss reported that teachers who experienced high burnout were more likely to have intensions on leaving the teaching profession, a higher rate of absenteeism, somatic problems, and negative interactions with students. Therefore, these studies suggest that the psychological well-being of teachers' influences personal factors (e.g., their school attendance and personal health) and has consequences on students' academic and behavioral outcomes.

Teacher-student relationships. Yoon (2002) investigated the relation between teacher characteristics (e.g., teacher stress, negative affect, and self-efficacy) and student-teacher relationships. Yoon found that teachers' reports of stress and negative affect were significantly related to negative student-teacher relationships. However, none of the teacher characteristics were related to the number of positive teacher-student relationships. Overall, teacher stress was found to be the main predictor of the number of negative relationships with students, above and beyond negative affect and self-efficacy.

Hamre, Pianta, Downer, and Mashburn (2007) found similar results in their study of 2,282 preschoolers and 567 teachers. Results indicated that teachers who reported low self-efficacy and high levels of depression also expressed higher levels of conflict with

students (β = -.01, $p \leq$ .05 and β = .01, $p \leq$ .01, respectively). These teachers were also found to report more conflict than would be predicted by the number of children displaying significant problem behaviors in their classroom. Conversely, teachers who displayed emotional support reported lower levels of conflict (β = -.04, $p \leq$ .05) between students than would be predicted by their reported behavioral problems in the classroom.

The relation between teacher stress and teacher-student relationship is especially important given that teacher-student relationships in kindergarten have been shown to predict children's outcomes through eighth grade (Hamre & Pianta, 2001). Hamre and Pianta (2001) found that teachers' report of high conflict and dependency with children in kindergarten correlated significantly with poor academic outcomes for boys in elementary school and eighth grade (r = -.22 to r = .30, p < .05). High levels of teacher-student conflict for both boys and girls also predicted lower work-habit remarks in elementary school (β = .34, p < .01) and more discipline violations in later elementary grades (β = .03, p < .05). Interestingly, the authors also found that for children with high-levels of problem behaviors, having negative relationships with teachers became a stronger predictor of low work-habit ratings and disciplinary violations. This finding suggests that forming early, positive relationships with teachers may serve as a buffer for future academic difficulties irrespective of the level of problem behavior a child displays (Hamre & Pianta, 2001).

Cornelius-White (2007) synthesized 119 studies on learner-centered teacher-student relationships and found a moderate degree of association (r = .36) between positive teacher-student relationships and positive student outcomes (e.g., grades, perceived achievement, motivation, self-efficacy, attendance). The author also found that

some of the strongest relations among teacher variables and positive student outcomes were related to teachers' displays of empathy and warmth.

Similarly Baker, Grant, and Morlock (2008) examined how teacher-student relationships characterized by trust, warmth, and low conflict, predicted school adjustment with students with significant externalizing and internalizing symptoms. Positive teacher-student relationships were found to be positively related to school adaptation ($r = .46$, $p < .001$). For example, children who demonstrated externalizing behaviors problems but had a close relationship with the teacher had higher reading scores than children who displayed a similar degree of externalizing behavior problems but did not have a close relationship with the teacher. Likewise, students identified as having internalizing behavior problems and a positive relationship with the teacher had better work habits than similar peers with internalizing behavior problems but who did not have positive relationships with the teacher. Overall, the quality of teacher-student relationships independently predicted student adjustment outcomes (Baker et al., 2008).

Positive classroom climate and classroom management. Bru, Stephens, and Torsheim (2002) focused on the relation between students' perception of class management and reports of their own misbehavior in a sample of 3,834 Norwegian 6th and 9th grade students. The dimensions of class management included emotional support, academic support, monitoring, and student influence. Overall, the researchers found that student perceptions of class management had the strongest relationship to off-task behavior and opposition to the teacher compared to bullying. The researchers also found that the strongest predictor of desired behavior was student perception of emotional support. These findings support Hirschi's (1969) theory that attachment to a person

increases the probability that the person will be more compliant and adhere to appropriate norms. Bru et al. also discussed the importance of emotional support as a way to improve student motivation and create positive learning experiences.

Emotional support has also been found to be important to middle school students' success. Malecki and Demaray (2003) investigated which types of teacher support (i.e., emotional, instrumental, informational, appraisal, etc.) related to students' social, behavioral, and academic outcomes. The authors found that all four types of support explained significant variance in social skills (10%), academic competence (13%), and school maladjustment (30%). However, emotional support, support given in the form of trust and love, was a significant predictor of social skills and academic outcomes ($p <$ .001) and contributed the most unique variance to the model.

Providing emotional support to students was also found to be important to middle school students' reports of happiness or subjective well-being. Suldo et al. (2009) examined the relationship between students' report of happiness and type of support provided by teachers (i.e., emotional, informational, appraisal, and instrumental). After controlling for the shared variance across the four types of teacher support, emotional support and instrumental support each explained significant portions of unique variance ($\beta = .24$, $R^2 = 2\%$ and $\beta = .19$, $R^2 = 1\%$, respectively) contributing to student happiness. These results indicated that teachers who created environments that were emotionally supportive (e.g., caring, loving, and fair) as well as provided instrumental support (e.g., showed investment in student understanding of concepts) contributed to student life satisfaction and happiness.

At the elementary school level, Hamre and Pianta (2005) found that emotional and instructional support in the first grade moderated risk in school achievement. They identified kindergarten students who displayed both demographic risk and functional risk. Demographic risk was defined as mothers with less than four years of college education; functional risk was defined as one standard deviation below the norm in academic and behavior. Children with demographic and functional risk factors in first-grade classrooms in classes that provided high instructional and emotional support had similar end-of-the-year achievement scores as children without demographic risk. In terms of teacher-student relationships, children displaying high functional risk, but placed in a classroom with high levels emotional support, had similar levels of conflict with their teachers as their low-risk peers. On the other hand, children with high functional risk in low emotionally supportive classrooms had higher levels of conflict with teachers. The results of this study revealed that having an emotionally and instructionally supportive classroom reduces functional and demographic risk and enhances academic outcomes (Hamre & Pianta, 2005).

To further investigate the mechanisms underlying a positive classroom climate and teacher well-being, Klusmann, Kunter, Trautwein, Ludtke, and Baumert (2008) researched whether teacher's engagement in self-regulatory practices such as their engagement in the teaching profession, their ability to emotionally distance themselves, and their ability to cope with failure, would be associated with occupational well-being, instructional performance, and favorable student outcomes. Dependent measures were student ratings of their teachers' classroom management, tempo, and cognitive activation, as well as student mathematic achievement. the relation between teacher self-regulation

and teaching engagement was mediated by students' perceived personal support ($z =$ 4.68, $p < .05$) and teacher cognitive activation ($z = 2.87$, $p > .05$). Students also reported feeling more competent and autonomous in classes that were taught by teachers with higher teaching engagement and self-regulatory abilities ($R^2 = .02$).

Research in the area of teachers' psychological well-being reveals that various aspects of teachers' psychological processes can influence SEL program implementation by determining a teacher's willingness to adopt a new program, the quality in which the program is delivered and reinforced, as well as through student-teacher relationships and classroom climate. At an individual level, Brackett et al. (2009) reported that teachers who were more skilled at regulating their emotions experienced less burnout, greater job satisfaction, were more likely to display more positive affect, and have more support from principals. Jennings and Greenberg (2009) hypothesized that teacher SEC is the underlying psychological process that contributes to teachers' emotion regulation and promotion of teacher well-being. As illustrated in Figure 2, higher teacher SEC allows for better SEL implementation because social-emotional skills enable them to be more willing to adopt a new program, serve as positive role models of social-emotional skills, and identify and reinforce students more frequently for using SEL skills. Teachers with high levels of SEC will also develop more positive teacher-student relationships and effective classroom management, which not only enhance SEL program implementation, but also creates a healthy classroom climate (e.g., Cornelius-White, 2007; Jennings & Greenberg, 2009; Malecki and Demaray, 2003; Yoon, 2002). In sum, the likelihood of positive academic and behavioral student outcomes increases when teachers create classrooms with high-levels of emotional and instructional support, marked by sincerity,

openness, and a care for student success (e.g., Hamre et al., 2007; Hamre & Pianta, 2005; Rimm-Kaufman et al., 2002; Suldo et al., 2009).

School climate and community. The role that school climate and community factors play in supporting teacher SEC is next discussed next. As Bronfenbrenner (1979) notably stated in his article on human development, the understanding of a person must take into account the immediate setting as well as the larger context in which the person functions. This ecological framework posits that the relationship between a person and his or her environment is bidirectional and equally impacts both. Therefore, in relation to this study, it is important to understand that school climate and community factors may also impact many levels of this relationship. For example, in a critical literature review on teacher retention and attrition in special and general education, Billingsley (1993) found that district and school environments such as administrative support, collegial and parent support, teacher autonomy, teaching assignments, role demands, class size, and work rewards all influenced teacher decisions to remain in the field. The Alliance for Excellent Education (2005) reported that among the top reasons for teachers leaving the field were related to school climate factors such as the lack of planning time (65%) and lack of influence over school policy (52%).

Aelterman, Engels, Van Petegum, and Verhaeghe (2007) found that at the elementary school level, approximately 7% of the total variance of teacher well-being was attributed to school differences, with 5% explained by school differences at the secondary level. A mixture of teacher, school climate, and community factors were found to influence teacher well-being. In particular, self-efficacy, experienced pressure of work,

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support from principal, support from colleagues, attitude towards innovations, and relationship with parents explained about 54% of the variance of teacher well-being.

Kam, Greenberg, and Walls (2003) investigated factors that contributed to SEL program implementation. Three hundred fifty first graders in six different public schools and three schools were assigned to the intervention condition that implemented a SEL program. Two factors were found to have contributed significantly to the success of SEL program implementation – principal support and quality of program implementation. Interestingly, the study found a significant interaction between principal support and quality of program implementation across four areas of student outcomes: Aggression (F[3, 157] = 3.69, p = .01); behavior dysregulation (F[3, 157] = 4.62, p < .005); social-emotional competence (F[3, 157] = 2.52, p < .06); on-task behaviors (F[3, 157] = 3.44, p = .01). The authors concluded that a combination of both high principal support and high quality program implementation were necessary for SEL program implementation.

Battistich, Solomon, Kim, Watson, and Schaps (1995) examined the influence of school climate on various student outcomes, such as academic achievement, motivation, social and personal attitudes, and behaviors. Twenty-four elementary schools from six different districts across the United States were studied. Student's perception of a positive school climate was found to have a statistically significant effect on their enjoyment of class (ES = .48), liking for school (ES = .47), and task orientation toward learning (ES = .38). However, there was not a significant effect for academic performance.

These studies highlight the intricate nature between teachers, classrooms, students, and the school/community, and reveal how all these factors may contribute to various student and teacher outcomes. It is hypothesized that teacher SEC is but one factor in this

larger model that may help explain the relation between teacher well-being, healthy classroom climate, and positive student outcomes. SEC may also serve as a resiliency factor when teachers are faced with difficult school/community environments. Therefore, teacher SEC may be worth investigating to broaden our understanding of these relationships.

Need for a Teacher SEC Assessment

A teacher SEC assessment is necessary in order to investigate the influence of teacher SEC on SEL program implementation and other academic outcomes. This SEC assessment need is not a new idea. In 1979, Miller and Wiltse advocated for the incorporation of classes on self-discovery and personal development in teacher preparation programs. Miller and Wiltse also supported the use of a screener to identify teachers who may be at-risk for developing mental health problems in the classroom, in order to provide additional support for these teachers.

In 2006, a similar appeal was made by Patti, who advocated that teacher preparation include social-emotional curricula and provide teachers with opportunities to practice social-emotional skills. Patti noted that teacher education programs had historically been inadequate in developing teachers' abilities in communication, conflict resolution, and managing their emotions. Patti called for the use of an assessment upon entering the teaching profession to measure teacher SEC in areas such as positive emotional expression, "accurate self-assessment, self-regulation, conflict management, collaboration skills, (and) empathy" (p.74). Then, based upon the assessment, goals could be created, progress monitored, and growth evaluated through a posttest assessment. According to Patti, the advantage of an assessment that measures teacher

SEC is to better prepare teachers' social-emotional knowledge and skills in teacher training programs. Frequently it is assumed that teachers have social-emotional skills; by creating a measure to assess teacher SEC, teacher training programs may begin to realize that social-emotional skills are not inherent and must be addressed prior to teachers entering the field.

Therefore, there appears to be a need for a scale to measures teacher SEC so that the impact of teacher SEC on SEL program implementation, positive classroom climate, teacher-student relationships, student outcomes, and teacher well-being can be investigated. Educational professionals, who recognize that these skills must be addressed in teacher preparation programs and cultivated before teachers enter the field, also endorse the development of an assessment measuring teacher SEC.

Self-Report Rating Scales

One method of assessing social-emotional constructs is through self-reports scales (Merrell, 2008). Social-emotional self-report measures are typically designed to measure specific social-emotional characteristics and behaviors based on the perspective of the individual. DeVellis (2003) asserted that self-report measures offer an advantage of being able to measure theoretical constructs that are not directly observable or easily obtained through direct measurement. The advances over the past couple of decades in self-report development have created many self-report assessments that are high-quality and provide a lot of useful information (Merrell, 2008). Some of the challenges of self-report scales are the instability of social-emotional constructs and the nature of noncognitive responses being specific to the situation (Anastasi & Urbina, 1997). Another challenge to self-report assessments are response biases that can take the form of acquiescence, when

respondents respond to items in one direction; social desirability, when respondents select items that are socially desirable; faking, where respondents attempt to select items that create a more positive picture of themselves; and deviation, where the respondent endorses items in a haphazard or unusual manner.

Despite the challenges that face self-report assessment, Merrell (2008) noted that self-report measures of social-emotional behaviors are useful for gaining a greater understanding of the individual, screening for prevention and intervention purposes, and making decisions on further assessment. Self-report measures may also provide information that would not be possible through direct observation or other sources of social-emotional assessment. Therefore, self-report measures are one way of obtaining unique information on theoretical constructs such as the construct of interest in this research study, teacher SEC. A self-report measure of teacher SEC will be developed and investigated.

Current Scales

Currently a few self-report measures are available to measure teacher well-being, such as teacher self-efficacy, teacher stress, and burnout. However there are two main limitations to the current measures available. First, many teacher-specific measures assess a narrow band of social-emotional constructs that do not represent all aspects of teacher SEC. Second, measures used in assessing teacher SEC were not specifically designed for teachers. The following three scales described below are scales that have been used in studying teacher well-being.

The Classroom Appraisal of Resources and Demands (CARD; Lambert, McCarthy, & Abbott-Shim as cited in Lambert, McCarthy, O'Donnell, & Wang, 2009)

measures teacher stress through examining the difference between a teacher's perception of school-provided resources and demands of the classroom environment. This scale is based upon the transactional model of stress that conceptualizes teacher stress as being the result of perceived classroom demands exceeding available resources. The CARD is composed of 65-items, the Demands scale consists of 35 items and the Resources scale is consists of 30 items. The items are rated on a 5-point Likert scale (1 = Very Unhelpful or Not Demanding; 5 = Very Helpful or Extremely Demanding). A total stress score is computed by subtracting the Demand subtest from the Resources subtest. Studies on the CARD revealed strong internal reliability (Cronbach's alpha = .92 to .95) and evidence for criterion validity (e.g., Lambert, McCarthy, O'Donnell, & Melendres, 2007; Lambert, O'Donnell, Kusherman, & McCarthy, 2006; Jazaar, Lambert, and O'Donnell, 2007). The benefit of the CARD is that it was created specifically to address stressors in the teaching profession; however, it does not measure teacher SEC.

Yoon (2002) created a 6-item questionnaire to measure teacher self-efficacy in establishing positive teacher-student relationships with students with difficult behaviors. Teachers rate this 7-point scale on how true an item is for them (1 = not true at all; 7 = very true). Example items include, "I can build a good relationship with even the most difficult student," "I can successfully handle the situation when one of my students gets disruptive and oppositional", and "I have positive characteristics that are very helpful when there is a problem with a student". In Yoon's study, internal consistency was .83. No other psychometric property of this scale was studied. Like the CARD, Yoon's scale was created specifically as a teacher self-report measure, but again, it is too narrow in scope and focuses specifically on teacher self-efficacy as it relates to a teacher's ability to

handle students with challenging behaviors. This scale also lacks psychometric evidence to support its reliability and validity.

Another frequently administered self-report scale is the Maslach Burnout Inventory (MBI; Maslach, Jackson, & Leiter, 1997), which measures burnout and is composed of three scales: Emotional Exhaustion (EE, 9 items), Depersonalization (DP, 5 items), and Personal Accomplishment (PA, 8 items). Items relating to Emotional Exhaustion ask how frequently respondents feel fatigue, frustration, and interpersonal stress. Items on the Depersonalization scale ask respondents how often they have negative interactions with colleagues. Items that categorize the Personal Accomplishment subscale focus on how frequently respondents feel a sense of competence and personal achievement. The assessment uses a 7-point frequency scale that ranges from 0 "never" to 6 "everyday". Reliability estimates of the MBI scale on a sample of 1,316 participants revealed a Cronbach's coefficient alpha of .90 for the Emotional Exhaustion scale, .79 for the Depersonalization scale, and .71 for the Personal Accomplishment scale. Test-rest reliability ranging in time spans from 2-weeks to a year, obtained correlation coefficients ranging from .50 to .82. The MBI also obtained high convergent validity on studies investigating the relationship between burnout and the amount of workload, desires to leave one's job, and interpersonal relationships. Discriminant validity studies on the MBI also supported the MBI as a valid measure that was different from job dissatisfaction and depression (Maslach et al., 1997).

The MBI Educators Survey (MBI-ES) adapts the scale by replacing items with the word *recipient* to *student* (Maslach et al., 1997). Studies of this adapted scale received similar internal reliability estimates across each subscale ranging from .72 - .90, and

studies on its factor structure revealed it to be similar to the MBI. Although this version

of the MBI is suitable for the education setting, and teacher burnout is hypothesized to be

related to teacher SEC, the MBI-ES is not a measure of teacher SEC. Therefore, this brief

review of teacher self- report scales reveals that there are a limited number of validated

teacher self-report scales available to use and supports the development of an assessment

specifically on teacher SEC.

An expanded analysis on teacher self-report. Studies examining teacher well-

being and demographic differences revealed that there are a few demographic differences

such as age, education level, gender, number of years teaching, and class setting that may

influence teacher well-being. For example, Griffith, Steptoe, and Cropley (1999)

examined coping strategies associated with job stress in teachers. The researchers

distributed 1,459 questionnaires to teachers across London and 780 questionnaires were

returned. The questionnaires assessed aspects of teacher stress, psychological coping,

negative affect, and social support. The results indicated that female teachers reported

higher levels of stress across the 4 subscales: work pressure and relationships, student

behavior, career problems, and time/resources difficulties, compared to male teachers

(means $1.79 \pm .056$ versus 1.60 ± 0.60, $F(1,702) = 14.9$, $p < .001$). The source of teacher

stress that had the largest differences between male and female teachers was on the

subscale measuring work pressure and relationships. After accounting for the effects of

gender, stress scores were found to be higher among younger teachers ($r = -.12$, $p <$

.002), teachers with larger class sizes ($r = .14$, $p < .001$), and teachers at the primary

grade level as opposed to the secondary grade level ($M = 1.81$, $SD = 0.56$ versus $M =$

1.66, $SD = 0.58$, $F(1, 702) = 12.9$, $p < .001$).

Zabel and Zabel (2001) investigated the relationship between age, experience, and preparation to special education teachers' report of burnout. The authors obtained a sample of 301 questionnaires from special education teachers in Kansas. No age differences between high (defined as one standard deviation above the mean) and low (defined as one standard deviation below the mean) scores across any of the subscales on the MBI-ES were found. There was also no significant correlation between the amount of teaching experience and burnout across the three MBI-ES subscales. The authors reported the correlations on the emotional exhaustion subscale approached significance ($r = .10$, $p = .08$) and differences between extremely high and low scoring groups on this subscale also approached significance ($F = 3.18$, $p = .08$). Teachers with master's degrees had significantly higher scores on the Personal Achievement scale ($F = 12.8$; $p < .01$), but did not have significantly different scores from teachers with bachelor degrees on the Emotional Exhaustion and Depersonalization scales.

This brief analysis of current teacher assessments calls attention to the limitations of current measures available to researchers and practitioners who are interested in studying teacher SEC. This analysis also reveals that a psychometrically sound measure of teacher SEC does not appear to exist. Interestingly, studies on teacher self-report measures also reveal that there may be demographic characteristics that influence teacher reports of well-being.

In summary, SEL programs are beginning to be implemented across schools throughout the United States as primary prevention mental health initiatives. As more schools begin to adopt SEL programs, research on SEL programming must also advance in understanding critical features in program delivery. Currently the literature on SEL

implementation indicates that teachers play a significant role in the effectiveness of the SEL program on student outcomes. Jennings and Greenberg (2009) hypothesized that teacher SEC may be an important factor in SEL implementation and classroom climate. In order to further investigate teacher SEC, there is a need to create a self-report measure to assess core SEL competencies that make up teacher SEC. This measure should be specific to the teaching profession, in order to recognize the unique challenges of this environment and the social-emotional skills necessary to promote a positive classroom climate.

CHAPTER III

METHOD

Social-Emotional Competence Teacher Rating Scale (SECTRS) was developed as a teacher self-report measure of SEC in order to identify those teachers who may be in need of developing their social-emotional skills. In addition to assessment purposes, researchers can use this scale to understand the relationship between teacher SEC and positive classroom climate, teacher well-being, and SEL program implementation. SECTRS scale development consisted of six main steps that were supported by the literature in scale development (e.g., DeVellis, 2003; Merrell, 2008; Spector, 1992): (1) define construct, (2) design scale, (3) pilot test and expert review, (4) full administration, (5) evaluate items, and (6) validate. The development of the scale consisted of two phases as illustrated in Figure 3. Phase 1 included creating and refining a pilot version of the scale. Phase 2 consisted of pilot testing the scale with a diverse sample of participants in order to evaluate scale items and conduct reliability and validity analysis of the scale.

Phase 1: Development of the SECTRS

Defining the construct. Self-report scales can be developed to be reliable and valid measures when there is strong theoretical support on the relation between the phenomena of interest and other constructs. Merrell (2008) described this approach as the rational-theoretical approach. This approach starts with a description of personality traits and behaviors that can be measured and the creation of items that are suitable within those domains. Merrell stated that the benefit of using the rational-theoretical approach is that items in the scale will have strong face validity and be "psychologically meaningful and theoretically unified" (p. 204). Therefore, the first step in developing the SECTRS

was to clearly define the construct(s) of interest. The construct of interest for this research study was teacher SEC. As defined by the CASEL group and Jennings and Greenberg (2009), SEC consists of five core competencies: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making. These constructs were clearly defined and answered research question one, *"What are important teacher SEC domains that would make up a teacher self-report scale of teacher SEC?"*

SECTRS constructs. Self-Awareness was defined as the ability to accurately assess one's feelings, emotions, interests, and values. Teachers who are self-aware recognize their emotional patterns "and know how to generate and use emotions such as joy and enthusiasm to motivate learning in themselves and others" (Jennings & Greenberg, 2009, p.495). Teachers also have a good understanding of their emotional strengths and weakness as well as have a realistic sense of self-confidence.

Social awareness was defined as the ability to take the perspective of and empathize with students, family, and staff members. Teachers who are socially aware "build strong and supportive relationships through mutual understanding and cooperation" (Jennings & Greenberg, 2009, p.495). They are sensitive to cultural diversity and appreciate different perspectives of parents, students, and school personnel. This sensitivity allows them to effectively problem solve conflicts between students and school personnel.

Responsible decision-making was defined as the ability for teachers to make decisions based on consideration of "ethical standards, safety concerns, appropriate social norms, respect for others, and likely consequences of various actions" (CASEL, 2011,

p.1). As such, teachers take into account how their decisions will impact the school, students, and/or staff members, as well as take "responsibility for their decisions and actions" (Jennings & Greenberg, 2009, p.495).

```
                    ┌─────────────────┐
                    │ Define Construct │
                    └─────────────────┘
                            │
  ┌─────────┐       ┌─────────────────┐
  │ Phase 1 │  {    │  Design Scale   │
  └─────────┘       └─────────────────┘
                            │
                    ┌─────────────────┐
                    │  Pilot & Expert │
                    │     Review      │
                    └─────────────────┘
                            │
                    ┌─────────────────┐
                    │  Evaluate Items │
  ┌─────────┐       └─────────────────┘
  │ Phase 2 │  {            │
  └─────────┘       ┌─────────────────┐
                    │    Validate     │
                    └─────────────────┘
```
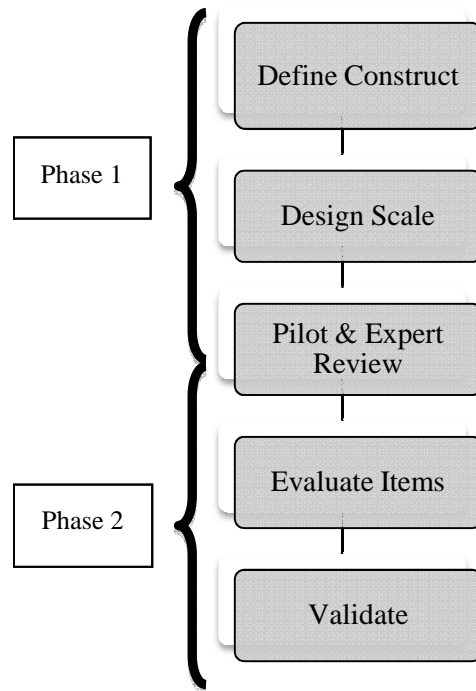
Figure 3. A model of the rating scale development process that includes two phases: phase one, scale creation and phase two, scale administration and validation. Adapted from *Summate Rating Scale Construction*, by P. Spector. Copyright 1992 by Sage Publications.

Teachers demonstrate self-management through their ability to regulate their emotions and impulses when faced with emotionally challenging situations (Jennings & Greenberg, 2009). Teachers are able to express and channel their emotions in healthy ways that contribute to a positive classroom climate and positive relationships with other staff members. They are able to handle misbehavior calmly and effectively. Teachers are

43

comfortable with student autonomy and encourage students to discover things on their own (Jennings & Greenberg, 2009). Teachers set and monitor progress toward academic goals (CASEL, 2011).

Lastly, having good relationship skills was defined as the ability for teachers to encourage and develop healthy and rewarding relationships with staff, with their students, and between others. Teachers with good relationships skills are able to prevent, manage, and resolve interpersonal conflict (CASEL, 2011), as well as seek help when needed. Figure 4 illustrates this theoretical model with example items that represented the five constructs.

Designing the scale. Items included in this scale were generated to reflect the five core competencies of SEC. In some instances items were adapted from existing scales. Item generation was used to answer research question two, "*What potential items would be appropriate representations of these SEC domains?"*. The final item pool consisted of 53 items. Nine items were adapted from the following scales: Social Emotional Assets and Resiliency Scales – adolescent version (SEARS-A; Merrell, 2011), Social Skills Rating System – secondary version (SSRS; Gresham & Elliot, 1990), and the Situational Self-Awareness Scale (SSAS; Govern & Marsch, 2001). Fifty-three original items were created based upon the theoretical constructs hypothesized to encompass teacher SEC. Figure 4 exhibits example items from the SECTRS scale (please see the Appendix for a copy of the full scale).

SECTRS used a Likert scale because this type of scale is commonly used in assessments that measure opinions, beliefs, and attitudes (DeVellis, 2003), and is often used in behavioral, social, and emotional self-report assessments (Merrell, 2008).

Teachers were asked the degree to which they agreed or disagreed with an item.

Responses were rated on a 6-point scale. Item values ranged from 1 (strongly disagree) to

6 (strongly agree); higher scores on the SECTRS represented higher levels of teacher

SEC.

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                    ┌─────────────────┐
                    │ Teacher Social- │
                    │   Emotional     │
                    │  Competence     │
                    └─────────────────┘
```

Self-Awareness	Social Awareness	Self-Management	Relationship Skills	Responsible Decision Making
I frequently get upset in the classroom and do not understand why.	*I know how my emotional expressions affect my interactions with student.*	*I nearly always stay calm when a student upsets me.*	*I create a sense of community in my classroom.*	*I nearly always consider ethical and legal factors before coming to a decision.*

Figure 4. The five core competencies that constitute teacher SEC along with example

items that reflect the competency of interest.

Pilot testing and expert review. Once the initial pool of items and scale format

were designed, experts reviewed the pool of items. A convenience sample of experts,

either knowledgeable in the content area or with practical experience working in

education, were requested to provide feedback on the relevancy of the item to the

construct of interest, the clarity and conciseness of items, and additional items to consider

including (DeVellis, 2003). These experts came from a variety of professionals with backgrounds in education and psychology.

Expert panelists with knowledge in the content area (e.g., school psychologists, counseling psychologists, school counselors, clinical psychologists, etc.) had experience or knowledge in scale development, a minimum of two years experience working with schools, and a basic understanding of teachers' roles and responsibilities. Professionals from education (e.g., teachers, school psychologists, principals, speech language pathologists, reading specialists, etc.) had minimum of two years of experience working in an elementary, middle, or high school setting. A total of six experts reviewed the SECTRS scale: three school psychologists (two master-level school psychologists and one doctorate-level school psychologist) and three teachers (two special education teachers and one general education teacher).

Experts were invited by email to participate in the study and sent the pilot version of the SECTRS assessment with space beside each item for comments and questions. The experts had two weeks from the time they received the form to provide feedback. Based upon expert feedback, items were revised and one item was removed because of item ambiguity. Readability analysis conducted on Microsoft Word (Microsoft Corporation, 2010) indicated that the SECTRS had a Flesch-Kincaid Grade Level readability score of 6.8, and a Flesch Reading Ease score of 62.9%. Thus, the readability of the items appeared appropriate for the population (DeVellis, 2003).

Phase 2: Full Administration and Analysis of Items and Scale Psychometric

Properties

      Participants. A convenience sample of teachers participated in this study.

Participants were recruited from schools across the United States that participated in a

previous nationwide study that was carried out by the research team that the student

researcher has been a member of for four years. Additional participating schools were

invited based upon personal connections.

      Five schools participated in the previous study and agreed to participate in the

current study. These schools included four public schools in Northern California (three

high schools and one elementary school) and one K-12 private school in Honolulu,

Hawaii. Of the four schools in Northern California, two schools were in same district and

requested permission from the district superintendent to participate in the study. The

superintendent replied to the request via email and copied all other schools in the district,

providing all of them with permission to participate in the study. Following this email, an

additional seven schools from this California school district agreed to participate in the

study. A total of five elementary schools, two middle schools, and four high schools

participated from California using this "snowball recruitment" technique.

      In addition to the K-12 private school in Hawaii, the three additional Hawaii

schools were recruited through personal contacts. All three schools (two elementary and

one high school) were located on the Western side of Oahu and were public schools.

Lastly, one elementary school in Oregon was recruited through a personal contact. In

sum, a total of 16 schools participated in the study from three different states (California

$n = 11$, Hawaii $n = 4$; Oregon $n = 1$). Of these schools, eight were elementary schools,

two were middle schools, five were high schools, and one was a K-12 school.   Although

diverse, this sample can be best conceptualized as a convenience sample that is not

representative of public schools across the United States.

A total of 381 teachers opened the link to the SECTRS survey, however, 61 cases

were deleted because all assessment items were incomplete; these assessments were not

included in any analyses. The remaining 320 participants completed at least the SECTRS

survey; the information from these teachers was used to run EFA analyses on the

SECTRS. Following the EFA, 18 additional cases were removed because one or more

additional assessment (e.g., MBI-ES, SREIT, etc.) was incomplete. The final 302 cases

were used to run reliability, validity and group differences analyses. Thus, a sample size

of 302 was used as the complete data set, although a sample of 320 teachers was used for

analyses that involved SECTRS data only (see Results for additional information on

missing data). Statistical analyses revealed that there were no significant group

differences between the $n = 320$ dataset and the $n = 302$ dataset across any demographic

feature. Demographics describing the participating teachers from both datasets are

presented in Table 1 and Table 2.

Table 1

Demographic Characteristics of 320 Participating Teachers

Demographic	Category	*n*	%
Gender	Female	235	73.4
	Male	85	26.6
Grade-level	Primary (grade K - 2)	44	13.8
	Elementary (grade 3 – 5)	48	15.0
	Middle (grade 6 – 8)	46	14.4
	High school (grade 9 – 12)	181	56.6
Teacher setting	General education teacher	249	77.8
	Special education teacher	35	10.9
	General education teacher assistant	2	0.6
	Special education teacher assistant	5	1.6
	Resource teacher	29	9.1
School community	Urban	91	28.4
	Suburban	171	53.4
	Rural	57	17.8
Ethnicity	White/ Caucasian	185	57.8

Table 1 (continued)

	Black/ African American	2	0.6
	Hispanic/ Latino	15	4.7
	Asian/ Pacific Islander	89	27.8
	American Indian/ Native American	1	0.3
	Multiracial	19	5.9
	Other	9	2.8

Number of students in classroom ($n = 314$) $M = 30.37$ ($SD = 19.32$)

Age ($n = 319$) $M = 41.95$ ($SD = 10.85$)

Years ($n = 320$) $M = 14.05$ ($SD = 9.21$)

Table 2

Demographic Characteristics of 302 Participating Teachers

Demographic	Category	*n*	%
Gender	Female	225	74.5
	Male	77	25.5
Grade-level	Primary (grade K - 2)	42	13.9
	Elementary (grade 3 – 5)	47	15.6
	Middle (grade 6 – 8)	44	14.6
	High school (grades 9 – 12)	168	55.6
Teacher setting	General education teacher	234	77.5
	Special education teacher	34	11.3
	General education teacher assistant	2	0.7
	Special education teacher assistant	5	1.7
	Resource teacher	27	8.9
School community	Urban	88	29.1
	Suburban	159	52.6
	Rural	54	17.9
Ethnicity	White/Caucasian	174	57.6

Table 2 (continued)

	Black/African American	2	0.7
	Hispanic/ Latino	15	5.0
	Asian/ Pacific Islander	84	27.8
	American Indian/ Native American	1	0.3
	Multiracial	18	6.0
	Other	8	2.6
Number of students in classroom ($n = 296$)			$M = 30.10$ ($SD = 19.13$)
Age ($n = 301$)			$M = 41.97$ ($SD = 10.86$)
Years teaching ($n = 302$)			$M = 14.07$ ($SD = 9.25$)

Measures. Along with the developed SECTRS scale, five additional scales were administered to teachers to provide convergent and discriminant validity evidence, measure school climate, teacher-student relationship, and behavioral management. Although no scale currently exists that measures teacher SEC, a scale measuring a related construct, emotional intelligence, was included with the SECTRS. Likewise a measure for discriminant validity was also included. Three additional measures were included to assess teacher-student relationships, classroom management, and school climate, because

these variables were hypothesized to relate to teacher SEC. All six assessment forms took approximately 20 – 25 minutes to complete.

Emotional intelligence. The self-report EI test (SREIT; Schutte et al., 1998) is a 33 item self-report assessment that measures emotional intelligence. Factor analyses on the SREIT supports a one-factor solution. This scale has strong internal consistency (α = .90) and test-retest reliability. Strong internal consistency of the scale was supported with the present sample (α = .93). Schutte et al. found that the SREIT correlated with theoretically similar constructs such as attention to feelings, clarity of feelings, mood repair, optimism, less impulsivity, as well as to the openness of feelings trait of the big five personality dimensions. Likewise, Brackett and Mayer (2003) found that the SREIT significantly correlated with many of the Big Five personality traits (i.e., neuroticism, extraversion, openness, and conscientiousness), and with the EQi (r = .43), and measures of well-being (r = .70). Because of the overlap that the SREIT has with measures of personality and well-being, Brackett and Mayer (2003) argue that the SREIT may be best conceptualize as a "mixed" model of emotional intelligence that encompasses a breadth of traits including "well-being, persistence, and good interpersonal skills" (p.1157), rather than emotional intelligence as a measured by actual ability. Although the SECTRS is not specifically a scale of emotional intelligence as it is generally defined, it was hypothesized that there would be a moderate positive correlation between the two constructs measured by these scales.

Teacher burnout. The Maslach Burnout Inventory – Educators Survey (MBI - ES; Maslach et al., 1997) measures burnout and consists of 22 items in three scales: Emotional Exhaustion (EE, 9 items), Depersonalization (DP, 5 items), and Personal

Accomplishment (PA, 8 items). Items relating to Emotional Exhaustion ask how frequently respondents feel fatigue, frustration, and interpersonal stress. Items composing the Depersonalization scale ask respondents how often they have negative interactions with colleagues. Items that categorize the Personal Accomplishment subscale focus on how frequently respondents feel a sense of competence and personal achievement. The assessment uses a 7-point frequency scale that ranges from 0 "never" to 6 "everyday". The MBI-ES adapted the original MBI scale by replacing items with the word recipient to student (Maslach et al., 1997). The scale received internal reliability estimates across each subscale ranging from .72 - .90, and studies on its factor structure revealed it to be similar to the MBI. It was hypothesized that teacher burnout as measured by the MBI-ES Emotional Exhaustion and Depersonalization subscales would have a moderate negative correlation with the SECTRS. It was hypothesized that there would be a positive correlation between the SECTRS and the MBI-ES Personal Accomplishment subscale. Internal consistency reliability scores obtained on the MBI-ES subscales in the present study were as follows: $\alpha = .78$ for Personal Accomplishment, $\alpha = .90$ for Emotional Exhaustion, and $\alpha = .65$ for Depersonalization.

   Behavior and instructional management. The Behavior and Instructional Management Scale – 12-item version (BIMS, Martin & Sass, 2010) assesses teachers' behavior management and instructional management. The BIMS -12-item version is a shortened version of a 24-item scale, with 6 items comprising the Behavior Management subscale and 6 items comprising the Instructional Management subscale. Item values range from 1, "not at all", to 6, "very well/very clear". Higher scores on this scale "indicate a more controlling, interventionist approach while lower scores are indicative of

a less controlling belief " in the respective subscale (p. 1126, Martin & Sass, 2010). A confirmatory factor analysis of the 12-item version of the BIMS conducted on 550 participants established an adequate to good model fit. The model fit was adequate when residuals were assumed to not to correlate, χ^2 (28) = 126.271, p < .001, CFI = .932, TLI = .949, RMSEA = .100, WRMR = 1.142, and good when the residuals for two items were allowed to correlate, χ^2 (28) = 106.637, p < .001, CFI = .945, TLI = .959, RMSEA = .090, WRMR = 1.040. Reliability analysis displayed good internal consistency for the Behavior Management subscale (α = .77) and the Instructional Management subscale (α = .77). In the present study similar internal consistency scores were found for both subscales: α = .83 for Behavior Management and α = .62 for Instructional Management. Convergent and discriminant validity were established with the Ohio State Teacher Efficacy Scale (OSTES) with values ranging from r = -.19 to r = -.65. It was hypothesized that the SECTRS would have a moderate negative correlation with the BIMS because teachers with high SEC would have a less controlling and interventionist approach to handling behavior and instruction.

  School climate. The Psycho-Social Environment Profile Questionnaire (PSE, The World Health Organization, 2003) is a measure of school environment. The 114-item scale measures various aspects of school climate that are divided into quality areas such as bullying and harassment, home-school connections, equal participation opportunities, types of discipline, etc. For the purposes of this study only the Providing a Friendly, Rewarding, and Supportive Atmosphere quality area was utilized (from here on referred to as PSE-P). The PSE-P consists of 18 items with item values ranging from 1, "Not at all", to 4, "Very Much". Higher values on the PSE-P indicated a more positive school

climate. The PSE-P was created by reviewing 650 international research articles and was reviewed by schools in 20 different countries. Information on the reliability and validity of this scale was not available. However, there was strong internal consistency reliability coefficients for the PSE-P in the present study ($\alpha = .93$). It was hypothesized that the SECTRS would have a moderate positive correlation with PSE-P.

Teacher-student interactions. The Inventory of School-Climate – teacher version (ISC-T, Brand, Felner, Seitsinger, Burns, & Bolton, 2008) is rating scale that measures teachers' perceptions of classroom atmosphere. The ISC-T consists for 29 items and six-subscales that measure Respect and Sensitivity to Peers and Cultures, Disruptiveness, Positive Teacher-Student Interactions, Achievement Orientation, and Support for Diversity, and Safety. For this research study, only the Positive Teacher-Student Interactions subscale was utilized. This subscale consists of five items that are rated on a 5-point Likert scale, with item values ranging from 1, "Strongly Disagree" to 5, "Strongly Agree". Higher values on this subscale indicated positive perceptions of teacher-student interactions. A study examining the psychometric properties of this subscale revealed good internal consistency ($\alpha = .76$) and stable test-retest reliability at one year ($r = .46$) and two-year ($r = .48$) intervals (Brand et al., 2008). In the present study the internal consistency reliability coefficient for this subscale was ($\alpha = .84$). Investigations on the convergence between teacher and student report on classroom climate revealed high correlations between teacher-student interactions and similar subscales (e.g., Teacher Support, Negative Peer Interactions, Disciplinary Harshness, etc.) values ranged from $r = -.05$ to $r = -.33$. It was hypothesized that the Positive Teacher-Student Interaction subscale would have a moderate positive correlation with the SECTRS.

Procedure

Participation in this study was voluntary, and personally identifying information was not collected. School administrators were contacted and given an email letter detailing the purpose of the study and consent procedures. School administrators agreed to participate in the study by signing and completing a letter of consent to participate in the study.

Once a school agreed to participate, teachers were emailed a letter explaining the study, directions on how to complete the assessments, a consent form, a link and to an IRB approved survey website (i.e., Qualtrics), and instructions for receiving a compensation honorarium. Each teacher that participated received a $15 gift card to Target. Teachers consented to the study by clicking the "accept" button after reading the consent form. Teachers could elect not to participate by either not going to the website, selecting "decline" after the consent form, or stopping at anytime throughout the assessment.

Teachers first completed the demographic section and SECTRS assessments. Then, to control for order effects, the last five assessments were presented in a random order. Individual SECTRS items were displayed in a random order as well. Once teachers completed the online assessment, their answers were stored on a secure University of Oregon survey website. As soon as the researcher achieved 300 complete assessments, data were transferred to SPSS 19.0 (SPSS, 2010) for analyses.

CHAPTER IV

RESULTS

Data Screening

Missing data composed a very small percentage of the data in both datasets;

0.12% for the $N = 320$ dataset and 0.05% for the $N = 302$ dataset. No participant had

more than two missing data points across all assessments and there were no more than

one missing data point per assessment question. In other words, no participant skipped

the same question and no participant skipped a question more than twice. Missing values

were replaced with the responder's assessment mean. Although this method of handling

missing data may artificially attenuate variance estimates, it is able to preserve the data

and may be defensible when the percentage of missing data is less than 10% (Roth,

1997). No errors were found in the data.

Exploratory Factor Analysis

Research questions one and two involved scale development and were reported on

in the Methods. Research question three asked, *"Using an exploratory factor analysis*

technique with a national sample, what is the likely underlying factor structure of the

SECTRS?". An exploratory factor analysis (EFA) was used to address this research

question. The EFA was estimated using principal axis factoring (PAF) with an oblique

rotation (direct oblimin). PAF was utilized as opposed to principal components analysis

(PCA) because the goal of the analysis was to reveal latent variables rather than reduce

item content (e.g., Costello & Osborne, 2005, Preacher & MacCallum, 2003). An oblique

rotation was used for the estimation as it was hypothesized that dimensions of factors

describing the structure would be intercorrelated (Costello & Osborne, 2005). All

assumptions were met for running a PAF. Below are the steps taken to determine the factor structure of the SECTRS. The process was iterative and involved both the use of a priori criteria (e.g., use of Kaiser's Rule, Scree Plot visual analysis) and researcher judgment based on interpretability of findings.

Step 1. Using Kaiser-Guttman's criterion (hereon referred to as Kaiser's Rule) of extracting factors with an eigenvalue equal to or greater than 1.0, the analysis extracted 13 factors accounting for 45.61% of the variance of the 52 items (Kaiser, 1960). Communalities were generally low and ranged in value from .06 to .47. Communalities measure the percent of variance explained by a single item. Thus, higher communality scores indicate that the item is strongly related to the underlying latent variable (Floyd & Widaman, 1995). Examination of the 13 factors revealed an uninterpretable factor solution and the pattern matrix rotation failed to converge. The factor pattern matrix displays coefficients that represent the contribution of each item to each factor.

Step 2. Visual interpretation of the scree plot, wherein the components retained are determined by where eigenvalues drop off sharply, revealed that six components should be retained. All items were run using forced six-factor solution based on Kaiser's Rule (Kaiser, 1960). The subsequent six-factor solution accounted for 35.87% of the variance with communalities ranging from $h^2 = .08$ to $h^2 = .54$; however, this solution failed to converge and produce a pattern matrix. Next, a five-factor solution was attempted based on Kaiser's Rule (Kaiser). The five-factor solution accounted for 33.87% of the variance with communalities ranging from $h^2 = .06$ to $h^2 = .53$; however, this again failed to produce a pattern matrix.

Step 3. Finally, four-factor solution was forced using Kaiser's Rule (Kaiser, 1960). The four factors accounted for 31.67% of the variance. Communalities ranged from $h^2 = .06$ to $h^2 = .53$ with 11 communalities below $h^2 = .25$.

Step 4. Based upon researcher judgment, five items that had low communalities (less than $h^2 = .20$) were removed (items 8, 12, 22, 33, 37), 14 items with low factor loadings (less than .35) were also removed (items 41, 9, 1, 20, 3, 23, 44, 52, 32, 2, 6, 40, 7, 15), and finally one item was eliminated because of high double loading (item 51). The remaining 33 items were rerun using principal axis factoring with an oblique rotation (direct oblimin), and forcing a four-factor solution. Using Kaiser's Rule, the analysis extracted four factors accounting for 35.96% of the variance. Only three items had communalities below $h^2 = .25$ with the lowest being $h^2 = .20$.

Step 5. Three items were removed because of low factor loading (items 39, 21, and 38) and three more items were removed because of high double loading (items 48, 26, 20). The subsequent 27-items were rerun through an EFA using principal axis factoring with an oblique rotation (direct oblimin), and forcing a four-factor solution. Using Kaiser's Rule, the analysis extracted four factors accounting for 37.37% of the variance. Only one item had a communality below $h^2 = .25$, the item's communality was $h^2 = .24$.

Step 6. Lastly, one item was removed for clinical interpretability (item 35). The 25-items were rerun through an EFA using principal axis factoring with an oblique rotation (direct oblimin), and forcing a four-factor solution. Using Kaiser's Rule, the analysis extracted four factors accounting for 37.93% of the variance. There was no communality below $h^2 = .25$. Overall, all but nine of the items had communalities above

$h^2 = .40$, a minimum communality guideline (Costello & Osborne, 2005). Generally in cases like this where communalities are low (between .20 and .40), obtaining good factor congruence depends upon having a larger sample size (Hogarty, Hines, Kromrey, Ferron, & Mumford, 2005). Therefore, because the sample size was above 300 these items were retained in the analysis despite having low communality scores.

The final four-factor model is presented in Table 3 with the percent of variance explained by each factor as well as the cumulative percent of variance explained by the factors. The first factor contained seven-items and explained the majority of the variance, 25.43%, the second factor contained six-items and explained 5.54% of the variance, the third factor contained six-items and explained 3.88% of the variance, and lastly the fourth factor contained six-items and explained 3.08% of the variance.

Table 3

Percent of Variance Explained by Retained Factors (N = 320)

Factor	% of Variance Explained	Cumulative %
1	25.43	25.43
2	5.54	30.97
3	3.88	34.85
4	3.08	37.93

An Oblimin oblique rotation was utilized in the analyses because it was hypothesized that the factors, representing aspects of teacher SEC, would be related to one another (Costello & Osborne, 2005). The factor correlations ranged from $r = .35$ to $r = .42$, and therefore provide support for the use of an Oblimin oblique rotation.

The sorted pattern factor loadings are presented in Table 4. The identified factors

were labeled as follows: Factor 1, Teacher-Student Relationships; Factor 2, Emotion-Regulation; Factor 3, Social Awareness; Factor 4, Interpersonal Relationships. The factor loadings were fairly low to moderate. Costello and Osborne (2005) suggest a minimum guideline of at least .32 and Stevens (2002) suggest a minimum loading value of .30 for a sample size of 300. All factor items obtained factor loadings above these suggested values. Factor 1 and 2 were robust factors with at least five items loading at .50 or higher (Costello & Osborne, 2005). Factors 3 and 4 had lower factor loadings, possibly suggesting weak or unstable factors (Costello & Osborne, 2005). Although Factors 2 and 3 were weaker, they were retained because the sample size was larger than 300 (Stevens, 2002) and these factors demonstrated clinical relevance in measuring teacher SEC. Descriptive statistics for factor and total scores are displayed in Table 5.

Table 4

Pattern Coefficients for the Four Factors of the Social Emotional Competence Teacher

Rating Scale with Oblimin Oblique Rotation (N = 320)

Factor	1	2	3	4
1. Teacher-Student Relationships				
43. Close relationship with students	**.71**	-.06	.01	.01
18. Aware of student feelings	**.60**	-.01	.00	.06
47. Understand student feelings	**.57**	.09	.12	.05
50. Students come to me with problems	**.52**	-.04	.14	.11
49. Difficult to build relationship with students	**.50**	.19	-.07	-.07
42. Create a community in classroom	**.49**	.06	.19	.16
45. Positive relationship with families	**.46**	-.03	.11	.22
2. Emotion-Regulation				
30. Calm when upset	-.03	**.72**	-.00	-.01
34. Clam when addressing misbehavior	.04	**.67**	.08	.03
36. Get upset when students provoke me	.05	**.65**	-.14	.03
24. Think before I act	-.07	**.61**	.18	.04
4. Get upset and do not understand why	.07	**.59**	-.01	-.01
31. Manage emotions in healthy ways	-.01	**.45**	.11	.13
3. Social-Awareness				
10. Appreciate individual and group differences	.10	.14	**.58**	-.10
28. Student safety is important	.11	.06	**.56**	-.14
26. Consider ethical and legal factors	-.09	-.04	**.53**	.14

Table 4 (continued)

14. Ensure instruction is culturally sensitive	.06	-.08	**.52**	.09
11. Understand how my emotion affect students	.19	.17	**.38**	-.04
27. Consider student well-being in decisions	.11	.17	**.34**	.13
4. Interpersonal Relationships				
29. Staff members seek my advice	.18	.01	-.15	**.67**
5. Easy to tell people how I feel	.09	.01	-.03	**.46**
17. Effectively negotiate solutions with staff	-.13	.15	.13	**.43**
46. Staff members respect me	.06	.16	.06	**.40**
13. Pay attention to emotions of staff	.11	-.06	.22	**.40**
16. Comfortable talking to parents	.20	.22	-.2	**.33**

Note. Bold item correlations denote items that are part of the corresponding factor.

Table 5

Descriptive Statistics of the SECTRS Factor and Total Scores for each Dataset

SECTRS	N = 320				N = 302			
	Min	*Max*	*M*	*SD*	*Min*	*Max*	*M*	*SD*
1. Teacher-Student Relationships	22.00	42.00	33.85	4.04	22.00	42.00	33.85	4.07
2. Emotion-Regulation	15.00	36.00	29.06	3.38	15.00	36.00	29.08	3.40
3. Social Awareness	23.00	36.00	31.35	2.68	23.00	36.00	31.36	2.70
4. Interpersonal Relationships	15.00	36.00	27.94	3.46	15.00	36.00	27.98	3.46
Total score	88.00	146.00	122.20	10.50	88.00	146.00	122.27	10.61

Note. Min = Minimum reported score; Max = Maximum reported score

Internal Consistency Reliability

To answer research question four, *"Using Cronbach's alpha, what is the internal consistency reliability of the SECTRS on a large sample of teacher self-report ratings?"* internal consistency reliability for the SECTRS factor and total scores were calculated using SPSS 19.0 for Macs (SPSS, 2010) with the full sample ($N = 320$). Cronbach's alpha coefficients were as follows: Factor 1 (Teacher-Student Relationships, 7 items) = .81; Factor 2 (Emotion Regulation, 5 items) = .80; Factor 3 (Social Awareness, 6 items) = .71; Factor 4 (Interpersonal Relationships, 6 items) = .69; total score (25 items) = .88. With the exception of Factor 4, all factor scores demonstrated adequate to strong internal consistency, with the alpha for Factor 4 falling slightly lower than the .70 standard for adequate reliability (Bland & Altman, 1997). This indicates that Factor 4 scores should be interpreted with caution and generalization of this factor may be limited (Salvia & Ysseldyke, 2007).

Validity Based on Convergent and Discriminant Evidence

To answer research question five, *"What is the convergent and discriminant validity between the SECTRS and other similar rating scales?"* a series of bivariate correlations were conducted. One way to establish test validity is through calculating correlations between assessments that purport to measure the same construct (Campbell & Fiske, 1959, Salvia & Ysseldyke, 2007). In this way, higher correlations represent a similarity in constructs. Conversely, to demonstrate that a test is measuring a unique or different construct, lower or negative correlations between tests hypothesized to measure different constructs are evidence of discriminant validity (Campbell & Fiske, 1959).

To establish convergent validity, bivariate Pearson product-moment correlations were calculated between total and factor scores on the SECTRS and the total score on the SREIT (see Table 6). Results from this analysis revealed positive and significant ($p <$ .001) correlations between the total and subscales scores on the SECTRS and SREIT. Correlation coefficients ranged from .44 to .65, with the highest correlation between the SECTRS total score and the SREIT total score. The strength of these correlations support the convergent validity of the SECTRS, however the magnitude of these correlations would not suggest that they are measuring the same construct.

To establish discriminant validity, bivariate Pearson product-moment correlations were calculated between total and subscale scores on the SECTRS and the MBI-ES (see Table 6). The MBI-ES includes one positive subscale, Personal Accomplishment, which was hypothesized as having higher, positive correlations compared to the two sub-scales measuring Emotional Exhaustion and Depersonalization. As expected, the Personal Accomplishment subscale had moderate, positive correlations that were statistically significant ($p < .001$). Correlation coefficients ranged from .26 to .46 with the highest correlation between the SECTRS total score and the Personal Accomplishment score. The two negative subscales on the MBI-ES, Emotional Exhaustion and Depersonalization, resulted in lower, negative correlations that were almost all statistically significant ($p < .01$ and $p < .001$). Correlations among the negative subscales on the MBI-ES and the SCETRS ranged from .01 to -.34. The lower, negative correlations found between SECTRS scores and MBI-ES scores provide evidence to support the discriminant validity of this scale.

Table 6

Correlations Between SECTRS Scores and Scores from the Self-Report EI Test and the

Maslach Burnout Inventory (N = 302)

	SECTRS				
	Teacher – Student Relationships	Emotion Regulation	Social Awareness	Interpersonal Relationships	Total
SREIT					
Total	.51***	.46***	.44***	.58***	.65***
MBI-ES					
Personal Accomplishment	.43***	.37***	.26***	.34***	.46***
Emotional Exhaustion	-.16**	-.25***	.01	-.23***	-.21***
Depersonalization	-.30***	-.31***	-.16**	-.26***	-.34***

Note. SREIT = Self-Report EI Test; MBI-ES = Maslach Burnout Inventory – Educators

Survey.

**p < .01. ***p < .001

Group Comparisons

In order to answer research question six, "*Are there differences in SEC based*

upon teachers' demographic characteristics such as gender, classroom setting, and years

of experience?", a series of multivariate analysis of variance (MANOVA) and

multivariate analysis of covariate (MANCOVA) were performed and analyzed using

SPSS 19.0 (SPSS, 2010). Prior to running analyses, data were evaluated for statistical

assumptions; all statistical assumptions were met. All alpha levels were set to .05.

Results are presented by demographic category.

Gender. A multivariate analysis of variance (MANOVA) was performed with

SECTRS factor and total scores as the dependent variables and teacher gender as the

independent variable. Gender had two levels, female and male. Using Wilk's test of

multivariate significance, gender was not statistically related to the weighted multivariate

combination of SECTRS factor and total scores, $\Lambda = 0.97$, $F(4, 297) = 2.12$, $p = .08$, $\eta^2 =$

0.03. These results indicate that significant group differences were not detected between

male and female teachers across SECTRS subscale and total scores. Multivariate and

univariate results are presented in Table 7 and descriptive statistics are displayed in Table

8.

Table 7

MANOVA Results for Gender and SECTRS Scores with Follow-Up Univariate Analyses

	Multivariate[a]					df	SS	MS	F	p
Source	Λ	F	p	η^2						
Gender	.97	2.12	.08	.03	Teacher-Student Relationships					
					Gender	1	129.49	129.49	7.99	.01
					Error	300	4864.84	16.22		
					Total	301	4994.32			
					Emotion Regulation					
					Gender	1	3.95	3.95	0.34	.56
					Error	300	3470.60	11.57		
					Total	301	3474.54			
					Social Awareness					
					Gender	1	15.47	15.47	2.14	.15
					Error	300	2172.19	7.24		

Table 7 (continued)

	Total	301	2187.66			
Interpersonal Relationships						
	Gender	1	21.93	21.93	1.84	.18
	Error	300	3575.95	11.92		
	Total	301	2187.88			
Total score						
	Gender	1	483.21	483.21	4.34	.04
	Error	300	33409.95	111.37		
	Total	301	33893.16			

[a]$df = (4, 297)$

Table 8

Descriptive Statistics for Gender across SECTRS Subscales and Total Scores

Measure	Female (*n* = 225)		Male (*n* = 77)	
	M	*SD*	*M*	*SD*
Teacher-Student Relationships	34.23	0.27	32.73	0.46
Emotion Regulation	29.15	0.23	28.88	0.39
Social Awareness	31.49	0.18	30.97	0.31
Interpersonal Relationships	28.14	0.23	27.52	0.39
Total	123.01	0.70	120.10	1.20

Ethnicity. A MANOVA was performed with SECTRS factor and total scores as the dependent variables and ethnicity as the independent variable. Ethnicity had seven levels: White/Caucasian, Black/African American, Hispanic/Latino, Asian/Pacific Islander, American Indian/Native American, Multiracial, and Other. Using Wilk's test of multivariate significance, ethnicity was not statistically related to the weighted multivariate combination of SECTRS factor and total scores, $\Lambda = 0.92$, $F(24, 1019.88) = 1.06$, $p = .38$, $\eta^2 = 0.02$. These results indicate that there are no significant group differences between ethnic groups across SECTRS factor and total scores. Multivariate and univariate results are presented in Table 9. Descriptive statistics are presented in Table 10.

Table 9

MANOVA Results for Ethnicity and SECTRS Scores with Follow-Up Univariate Analyses

	Multivariate[a]					df	SS	MS	F	p
Source	Λ	F	p	η^2						
Ethnicity	.92	1.06	.38	.02	Teacher-Student Relationships					
					Ethnicity	6	35.09	5.85	0.35	.91
					Error	295	4959.24	16.81		
					Total	301	4994.32			
					Emotion Regulation					
					Ethnicity	6	53.49	8.91	0.77	.60
					Error	295	3421.05	11.60		
					Total	301	3474.54			
					Social Awareness					
					Ethnicity	6	39.44	6.57	0.90	.49
					Error	295	2148.22	7.28		
					Total	301	2187.66			

Table 9 (continued)

Interpersonal Relationships						
Ethnicity	6	59.26	9.88	0.82	.55	
Error	295	3538.62	12.00			
Total	301	3597.88				
Total score						
Ethnicity	6	201.38	33.56	0.29	.94	
Error	295	33691.78	16.81			
Total	301	33893.16				

[a]$df = (24, 1019.88)$

Table 10

Descriptive Statistics for SECTRS Subscale and Total Scores by Ethnicity

Measure	White/ Caucasian (n = 174)	Black/ African American (n = 2)	Hispanic/ Latino (n = 15)	Asian/ Pacific Islander (n = 84)	American Indian/ Native American (n = 1)	Multiracial (n = 18)	Other (n = 8)
	M(SD)	*M(SD)*	*M(SD)*	*M(SD)*	*M(SD)*	*M(SD)*	*M(SD)*
Teacher-Student Relationships	33.75 (0.31)	36.00 (2.90)	34.00 (1.06)	33.98 (0.45)	34.00 (4.10)	34.39 (0.97)	32.38 (1.45)
Emotion Regulation	29.17 (0.56)	33.00 (2.41)	28.93 (0.88)	28.69 (0.37)	31.00 (3.41)	29.33 (0.80)	29.75 (1.20)
Social Awareness	31.40 (0.29)	33.00 (1.91)	31.20 (0.70)	31.05 (0.29)	30.00 (2.70)	32.50 (0.64)	31.38 (0.95)
Interpersonal Relationships	28.20 (0.26)	24.00 (2.45)	27.40 (0.89)	27.76 (0.38)	30.00 (3.46)	28.06 (0.82)	27.13 (1.23)
Total	122.52 (0.81)	126.00 (7.56)	121.53 (2.76)	121.48 (1.17)	125.00 (10.69)	124.28 (2.52)	120.63 (3.78)

Community setting. A MANOVA was performed with SECTRS factor and total scores as the dependent variables and community setting as the independent variable. Community Setting had three levels: Rural, Suburban, and Urban. Using Wilk's test of multivariate significance, community setting was not statistically related to the weighted multivariate combination of SECTRS factor and total scores, $\Lambda = 0.98$, $F(8, 590) = 0.62$, $p = .76$, $\eta^2 = 0.01$. These results indicate that there are no significant group differences between community settings across SECTRS factor and total scores. Multivariate and univariate results are presented in Table 11. Descriptive statistics are presented in Table 12.

Table 11

MANOVA Results for Community Setting and SECTRS Scores with Follow-Up Univariate Analyses

Source	Multivariate[a]					df	SS	MS	F	p
	Λ	F	p	η^2						
Community Setting	.98	0.62	.76	.01	Teacher-Student Relationships					
					Community Setting	2	2.94	1.47	0.09	.92
					Error	298	4964.74	16.66		
					Total	300	4967.68			
					Emotion Regulation					
					Community Setting	2	3.23	1.61	0.14	.87
					Error	298	3462.75	11.62		
					Total	300	3465.98			
					Social Awareness					
					Community Setting	2	13.11	6.55	0.90	.41
					Error	298	2171.86	7.29		

Table 11 (continued)

	Total	300	2184.96			
Interpersonal Relationships						
	Community Setting	2	9.66	4.82	0.40	.67
	Error	298	3584.13	12.03		
	Total	300	3593.79			
Total score						
	Community Setting	2	33.70	16.85	0.15	.86
	Error	298	33721.32	113.16		
	Total	300	33755.02			

[a]$df = (8, 590)$

Table 12

Descriptive Statistics for Community Setting across SECTRS Subscales and Total Scores

Measure	Urban (n = 88)		Suburban (n = 159)		Rural (n = 54)	
	M	*SD*	*M*	*SD*	*M*	*SD*
Teacher-Student Relationships	33.72	0.44	33.92	0.32	33.74	0.56
Emotion Regulation	29.15	0.36	29.10	0.27	28.85	0.46
Social Awareness	31.63	0.29	31.16	0.21	31.48	0.37
Interpersonal Relationships	28.25	0.37	27.87	0.28	27.82	0.47
Total	122.74	1.13	122.06	0.84	121.89	1.45

Years experience. A MANOVA was performed with SECTRS factor and total scores as the dependent variables and years of teaching experience as the independent variable. Years of teaching experience was transformed into a categorical variable by dividing the participants into two groups using a median split. This method of dichotomizing variables has its limitations such as loss of individual differences and potential for erroneous interpretation of variable relationships; however, it is a practice that is widely used in order to simplify independent variables and analyze data using ANOVAs and MANOVAs (MacCallum, Zhang, Preacher, & Rucker, 2002). The median years of teaching experience was 12 years. The number of years teachers taught ranged from 0 to 45 years ($M = 14.07$; $SD = 9.25$). Using Wilk's test of multivariate significance, years of teaching experience was statistically related to the weighted multivariate

combination of SECTRS factor and total scores, $\Lambda = 0.97$, $F(4, 297) = 2.57$ $p = .04$, $\eta^2 = 0.03$. These results indicate that there are significant group differences between years of teaching experience across SECTRS factor and total scores. Multivariate results are presented in Table 13. Descriptive statistics are presented in Table 14. Although the multivariate test revealed significant results, follow-up univariate ANOVAs on each of the five SECTRS measures did not reveal statistically significant mean differences between teachers with experience above and below the median. Thus, having more or less teaching experience, did not influence levels of teacher SEC. Alpha was adjusted for multiple testing using the Bonferroni alpha adjustment (i.e. .05/5 = .01) to maintain the probability of Type I error at .05.

Table 13

MANOVA Results for Years of Teaching Experience and SECTRS Scores with Follow-Up Univariate Analyses

Source	Multivariate[a]					df	SS	MS	F	p
	Λ	F	p	η^2						
Years Experience	.97	2.57	.04	.03	Teacher-Student Relationships					
					Years Experience	1	84.48	84.48	5.16	.02
					Error	300	4909.84	16.37		
					Total	301	4994.32			
					Emotion Regulation					
					Years Experience	1	2.59	2.59	0.22	.64
					Error	300	3471.95	11.57		
					Total	301	3474.54			
					Social Awareness					
					Years Experience	1	9.11	9.11	1.25	.26
					Error	300	2178.55	7.26		

Table 13 (continued)

Total	301	2187.66			
Interpersonal Relationships					
Years Experience	1	52.51	52.51	4.44	.04
Error	300	3545.37	11.82		
Total	301	3597.881			
Total score					
Years Experience	1	318.48	318.48	2.85	.09
Error	300	33574.68	111.92		
Total	301	33893.16			

[a]$df = (4, 297)$

Table 14

Descriptive Statistics for Years of Teaching Experience across SECTRS Subscales and

Total Scores

Measure	Below 12 years (*n* = 153)		Above 12 years (*n* = 149)	
	M	*SD*	*M*	*SD*
Teacher-Student Relationships	33.33	4.32	34.38	3.74
Emotion Regulation	29.17	3.60	28.98	3.18
Social Awareness	31.19	2.80	31.54	2.58
Interpersonal Relationships	27.57	3.59	28.40	3.28
Total	121.25	11.22	123.31	9.88

Age. A MANOVA was performed with SECTRS factor and total scores as the dependent variables and age of teacher as the independent variable. Age of teacher was transformed into a categorical variable by dividing the participants into two groups using a median split. The median age was 42 years and ranged from 20 to 70 years ($M = 41.97$; $SD = 10.86$). Using Wilk's test of multivariate significance, teacher age was statistically related to the weighted multivariate combination of SECTRS factor and total scores, $\Lambda = 0.96$, $F(4, 296) = 2.79$ $p = .03$, $\eta^2 = 0.04$. These results indicate that there are significant group differences between the age of the teacher across SECTRS factor and total scores. Multivariate results are presented in Table 15.

Follow-up univariate ANOVAs on each of the SECTRS scores comprising the multivariate composite revealed statistically significant mean differences between the age of teachers on one SECTRS factor score. Older teachers had a higher mean ($M = 34.51$,

$SD = 4.02$) than younger teachers ($M = 33.12$, $SD = 4.04$), $F(1, 299) = 8.97$ $MSE =$ 4847.50, $p = .003$, Teacher-Student Relationships (Factor 1). In order to determine the magnitude of this difference, effect-size calculations were conducted using Cohen's D procedure (Cohen, 1992). This procedure compares the difference between mean scores as a proportion of the standard deviation from the normal curve. Effect size magnitudes are typically categorized as being large (above .80), medium (above .50), or small (above .20). The calculation for Cohen's D indicated the difference between older and younger teachers on the Teacher-Student Relationships factor was small ($ES = .34$). Follow-up univariate results are presented in Table 15, and descriptive statistics and post-hoc analyses are presented in Table 16. Alpha was adjusted for multiple testing using the Bonferroni alpha adjustment (i.e. $.05/5 = .01$) to maintain the probability of type I error at .05.

A multivariate analysis of covariance (MANCOVA) was performed to control for the potential effect of years of experience on the multivariate results for Age. To run this analysis, SECTRS total score was removed because of its high correlation to the other dependent variables (i.e., SECTRS factor scores). The covariate was not significant at the alpha level of .05, $\Lambda = 0.98$, $F(4, 295) = 1.33$ $p = .26$, indicating that after controlling for years of experience, the effects of teacher age on Teacher-Student Relationships (Factor 1) remained statistically significant.

Table 15

MANOVA Results for Teacher Age and SECTRS Scores with Follow-Up Univariate Analyses

Source	Multivariate[a]					df	SS	MS	F	p
	Λ	F	p	η^2						
Age	.96	2.79	.03	.04	Teacher-Student Relationships					
					Age	1	145.40	145.40	8.97	.00
					Error	299	4847.59	16.21		
					Total	300	4992.99			
					Emotion Regulation					
					Age	1	1.60	1.60	0.14	.71
					Error	299	3464.38	11.59		
					Total	300	3465.98			
					Social Awareness					
					Age	1	27.02	27.02	3.75	.05
					Error	299	2153.65	7.20		

Table 15 (continued)

Total	300	2180.67			
Interpersonal Relationships					
Age	1	52.19	52.19	4.40	.04
Error	299	3544.65	11.86		
Total	300	3596.84			
Total score					
Age	1	662.91	662.91	5.98	.02
Error	299	33170.24	110.94		
Total	300	33833.15			

[a]$df = (4, 296)$

Table 16

Descriptive Statistics for Years of Teaching Experience across SECTRS Subscales and

Total Scores

Measure	1. Below 12 years (*n* = 153)		2. Above 12 years (*n* = 149)		
	M	*SD*	*M*	*SD*	
Teacher-Student Relationships	33.33	4.32	34.38	3.74	2 > 1
Emotion Regulation	29.17	3.60	28.98	3.18	*ns*
Social Awareness	31.19	2.80	31.54	2.58	*ns*
Interpersonal Relationships	27.57	3.59	28.40	3.28	*ns*
Total	121.25	11.22	123.31	9.88	*ns*

Teacher setting. A MANOVA was performed with SECTRS factor and total scores as the dependent variables and classroom setting of the teacher as the independent variable. Classroom setting had five levels: General Education Teacher, Special Education Teacher, General Education Teacher Assistant, Special Education Teacher Assistant, and Resource Teacher. Using Wilk's test of multivariate significance, classroom setting was statistically related to the weighted multivariate combination of SECTRS factor and total scores, $\Lambda = 0.91$, $F(16, 898.82) = 1.70$ $p = .04$, $\eta^2 = 0.02$. These results indicate that there are significant group differences between the teacher setting across SECTRS factor and total scores. Multivariate results are presented in Table 17.

Follow-up univariate ANOVAs on each of the SECTRS scores revealed statistically significant mean differences between teacher setting on only one dependent variable, SECTRS total score (see Table 17). Alpha was adjusted for multiple testing using the Bonferroni alpha adjustment (i.e. .05/5 = .01) to maintain the probability of type I error at .05.

Post-hoc analyses using Tukey HSD were conducted to locate significant mean differences between each teacher setting on SECTRS total score. Tukey HSD was used in order to reduce familywise type I error (Glass & Hopkins, 1996). Post-hoc analyses and descriptive statistics are presented in Table 18. There were significant mean differences on SECTRS total score between special education teacher assistants and both general education teachers and resource teachers. Results were significant at the $p < .05$ level.

To examine the magnitude of these differences, effect-size calculations were conducted using Cohen's D procedure (Cohen, 1992). These analyses indicated that the difference between special education teacher assistants and general education teachers and the difference between special education teacher assistants and resource teachers was large ($ES = 4.37$ and $ES = 4.11$, respectively). However, these results should be interpreted with great caution considering the small sample sizes for special education teacher assistants and resource teachers.

Table 17

MANOVA Results for Teacher Setting and SECTRS Scores with Follow-Up Univariate Analyses

	Multivariate[a]					Univariate				
Source	Λ	F	p	η^2		df	SS	MS	F	p
Teacher Setting	.91	1.70	.04	.02	Teacher-Student Relationships					
					Teacher Setting	4	194.99	48.75	3.02	.02
					Error	297	4799.33	16.16		
					Total	301	4994.32			
					Emotion Regulation					
					Teacher Setting	4	123.12	30.78	2.73	.03
					Error	297	3351.42	11.28		
					Total	301	3474.54			
					Social Awareness					
					Teacher Setting	4	56.96	14.24	1.99	.10
					Error	297	2130.70	7.17		

Table 17 (continued)

	Total	301	2187.66			
Interpersonal Relationships						
	Teacher Setting	4	90.71	22.68	1.92	.11
	Error	297	3507.17	11.81		
	Total	301	3597.88			
Total score						
	Teacher Setting	4	1443.626	360.91	3.03	.01
	Error	297	32449.53	109.26		
	Total	301	33893.16			

[a]$df = (16, 898.82)$

Table 18

Descriptive Statistics and Post-Hoc Analyses for Teacher Setting across SECTRS Subscales and Total Score

Measure	1. GENED Teacher ($n = 234$) *M(SD)*	2. SPED Teacher ($n = 34$) *M(SD)*	3. GENED TA ($n = 2$) *M(SD)*	4. SPED TA ($n = 5$) *M(SD)*	5. Resource Teacher ($n = 27$) *M(SD)*	Post-hoc test
Teacher-Student Relationships	33.53 (0.26)	35.24 (0.69)	35.00 (2.84)	38.40 (1.80)	33.89 (0.77)	*ns*
Emotion Regulation	28.96 (0.22)	29.97 (0.58)	28.50 (2.38)	33.00 (1.50)	28.33 (0.65)	*ns*
Social Awareness	31.26 (0.18)	32.27 (0.46)	30.00 (1.89)	33.20 (1.20)	30.89 (0.52)	*ns*
Interpersonal Relationships	27.85 (0.23)	27.94 (0.59)	31.00 (2.43)	31.60 (1.54)	28.30 (0.66)	*ns*
Total	121.59 (0.68)	125.41 (1.79)	124.50 (7.40)	136.20 (4.68)	121.41 (2.01)	4 > 1,5

Note. GENED = General Education Teacher; GENED TA = General Education Teacher Assistant; SPED = Special Education

Teacher; SPED TA = Special Education Teacher Assistant

Grade level. A MANOVA was performed with SECTRS factor and total scores as the dependent variables and teacher grade-level as the independent variable. Grade-level was composed of four levels: primary (grades K-2), elementary (grades 3-5), middle (grades 6-8), and high school (grades 9-12). Using Wilk's test of multivariate significance, grade-level was statistically related to the weighted multivariate combination of SECTRS factor and total scores, $\Lambda = 0.96$, $F(12, 778.14) = 2.47$ $p = .004$, $\eta^2 = 0.03$. These results indicate that there are significant group differences between the grade-level setting across SECTRS factor and total scores. Multivariate results are presented in Table 19.

Follow-up univariate ANOVAs on each of the SECTRS scores revealed statistically significant mean differences between grade-level setting on three SECTRS scores: SECTRS total score, Factor 1 (teacher-student relationships), and Factor 4 (interpersonal relationship) (see Table 19). Alpha was adjusted for multiple testing using the Bonferroni alpha adjustment (i.e. .05/5 = .01) to maintain the probability of type I error at .05.

Post-hoc analyses using Tukey HSD were conducted to locate significant mean differences between each grade-level on SECTRS total score. Tukey HSD was used in order to reduce familywise type I error (Glass & Hopkins, 1996). Post-hoc analyses and descriptive statistics are presented in Table 20. There were significant mean differences on Factor 1(teacher-student relationship) between high school teachers and both primary and elementary school teachers. High school teachers displayed significantly different scores from primary school teachers and middle school teachers on Factor 4 (interpersonal relationship). Lastly, on SECTRS total, high school teachers differed

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significantly from and primary and elementary school teachers. High school teachers received lower SECTRS scores across these three scales. Results were significant at the *p* < .05 level. In order to determine the magnitude of these differences, effect-size calculations were conducted using Cohen's *D* procedure (Cohen, 1992). All effect-sizes were medium, indicating a meaningful difference between these groups. Results are presented in Table 21.

Table 19

MANOVA Results for Grade-Level and SECTRS Scores with Follow-Up Univariate Analyses

	Multivariate[a]						df	SS	MS	F	p
Source	Λ	F	p	η^2							
Grade-level	.91	2.47	.00	.03	Teacher-Student Relationships						
						Grade-level	3	339.25	113.08	7.30	.00
						Error	297	4603.73	15.50		
						Total	300	4942.90			
					Emotion Regulation						
						Grade-level	3	71.16	23.72	2.09	.10
						Error	297	33.68.21	11.34		
						Total	300	3439.36			
					Social Awareness						
						Grade-level	3	50.90	16.97	2.37	.07
						Error	297	2123.47	7.15		

Table 19 (continued)

	Total	300	2174.37			
Interpersonal Relationships						
	Grade-level	3	176.88	58.96	5.16	.00
	Error	297	3395.72	11.43		
	Total	300	3572.60			
Total score						
	Grade-level	3	2078.63	692.88	6.57	.00
	Error	297	31340.60	105.52		
	Total	300	33419.23			

[a]$df = (12, 778.14)$

Table 20

Descriptive Statistics and Post-Hoc Analyses for Grade-Level across SECTRS Subscales and Total Score

Measure	1. Primary ($n = 42$) M(SD)	2. Elementary ($n = 47$) M(SD)	3. Middle ($n = 44$) M(SD)	4. High ($n = 168$) M(SD)	Post-hoc test
Teacher-Student Relationships	35.73 (4.04)	35.00 (3.30)	33.95 (3.30)	32.98 (4.06)	1, 2 > 4
Emotion Regulation	29.83 (3.18)	29.74 (2.92)	29.05 (3.49)	28.68 (3.49)	*ns*
Social Awareness	32.19 (2.54)	31.70 (2.42)	31.32 (2.51)	31.04 (2.80)	*ns*
Interpersonal Relationships	29.05 (3.49)	28.40 (3.32)	28.98 (2.74)	27.30 (3.52)	1, 3 > 4
Total	126.80 (10.96)	124.85 (8.82)	123.30 (10.18)	120.01 (10.55)	1, 2 > 4

Note. ns = not significant.

Table 21

Effect Size of Post Hoc Pairwise Comparisons of the Effect of Grade-Level on Subscales and Total Scores of the SECTRS

Comparison	Teacher-Student Relationships	Emotion Regulation	Social Awareness	Interpersonal Relationships	Total Score
High – primary	0.68 (medium)	*ns*	*ns*	0.56 (medium)	0.63 (medium)
High – elementary	0.55 (medium)	*ns*	*ns*	*ns*	0.50 (medium)
High – middle	*ns*	*ns*	*ns*	0.53 (medium)	*ns*

Note. *ns* = not significant.

Number of students in classroom. The number of students in the classroom variable was not included in the analyses because respondents appeared to interpret this question in at least two different ways. The question was intended for teachers to report the average number of students per class period; however, some teachers reported the total number of students that they interact with across all their classes. Because of these two different interpretations severe outliers were found with 24 teachers reporting class sizes of 50 – 100 students. This variable was not included in analyses because of potential problems with interpreting findings.

Relationship to Prosocial Classroom Variables

The last research question, *"Is there a relationship between teacher SEC and teacher perceptions of teacher-student relationship, classroom management, and school climate?"*, was analyzed by conducting Person product-moment correlations between the factor and total scores on the SECTRS and three different scales: Inventory of School Climate – teacher version (ISC-T; Brand et al., 2008), Behavior and Instructional Management Scale – 12 item version (BIMS; Martin & Sass, 2010), and Psycho-social environment scale (PSE-P; The WHO, 2003). All analyses were run on SPSS 19.0 for Macs (SPSS, 2010).

Teacher-student relationship. The relation between teacher perceptions of teacher-student relationships and teacher SEC was analyzed by running Pearson product correlations between the ISC-T Teacher-Pupil Interactions subscale (Brand et al., 2008) and SECTRS factor and total scores. The results of these analyses revealed significant, positive correlations ranging from .40 - .64, $p < .001$. The highest correlation occurred between SECTRS Factor 1 (Teacher-Student Relationship) and the Teacher-Pupil

Interactions subscale on the ISC-T. Results are displayed in Table 22. Overall, these correlations suggest that higher levels of teacher SEC are related to higher levels of healthy teacher-student relationships.

Classroom management. To determine the relation between classroom management and teacher SEC, Pearson product-moment correlations were run between the two subscales composing the BIMS (Martin & Sass, 2010) and SECTRS factor and total scores. Results are presented in Table 22. The BIMS Behavior Management subscale displayed significant, positive correlations with almost all factor and total scores on the SECTRS, with the exception of Factor 2 (Emotion Regulation). The significant correlations ranged from .17 to .22, $p < .001$. Conversely, the relation between the BIMS Instructional Management subscale and the SECTRS factor and total scores was significant and negative with correlations ranging from -.31 to -.55, $p < .001$. That is, higher levels of teacher SEC were associated with higher levels of a controlling behavior management style and lower levels of an authoritative instructional style.

School climate. To explore the relation between teacher SEC and school climate, Pearson product-moment correlations were conducted between SECTRS factor and total scores and quality area one of the PSE-P (The WHO, 2003). Quality area one of the PSE-P measures the extent to which a school creates a caring and supportive atmosphere. Results are exhibited in Table 22. Correlation coefficients were significant and positive with values ranging from .29 to .44, $p < .001$. The highest correlation occurred between SECTRS total score and PSE-P quality area one total score. Thus, higher levels of teacher SEC were related to higher levels of positive school climate.

Table 22

Correlations Between SECTRS Total and Subscale Scores and Scores from the Teacher-Pupil Interaction subscale of the Inventory of School Climate – Teacher version, Behavior and Instructional Management Scale – 12 Item Version, and Quality Area One of the Psycho-Social Environment Profile (N = 302)

	SECTRS				
	Teacher-Student Relationships	Emotional Regulation	Social Awareness	Interpersonal Relationships	Total
ISC-T					
Teacher-Pupil Interactions	.64***	.44***	.40***	.43***	.63***
BIMS					
Behavioral Management	.17***	.07	.21***	.22***	.21***
Instructional Management	-.48***	-.31***	-.48***	-.46***	-.55***
PSE-P					
Quality Area One	.37***	.29***	.33***	.35***	.44***

Note. ISC-T = Inventory of School Climate – Teacher version; BIMS = Behavior and Instructional Management Scale; PSE-P = Psycho Social Environment Profile.

****p* < .001

CHAPTER V

DISCUSSION

The purpose of this study was to develop a scale that measured teacher SEC, examine its psychometric properties, and determine its relationship to key variables that have been hypothesized to relate to teacher SEC. The first research question, "What are important teacher SEC domains that would make up a teacher self-report scale of teacher SEC?" was addressed by delineating the five core competencies outlined by the CASEL group (CASEL, 2011) as well as described by Jennings and Greenberg (2009). These five core competencies were self-awareness, self-management, social awareness, relationship skills, and responsible decision-making. The second research question pertained to identifying appropriate items that represented the SEC domains. Based upon the core competencies identified previously, items for the SECTRS were created or adapted from other scales. These items were evaluated by an expert panel and revised based upon expert feedback.

Factor Analysis

A convenience sample of teachers completed the SECTRS as well as additional scales to provide data to address research question three, "Using an exploratory factor analysis technique with a national sample, what is the likely underlying factor structure of the social-emotional competence teacher rating scale (SECTRS)?". The results of the factor analysis revealed four factors consisting of 26-items. Factor 1 appeared to be measuring behaviors relating to the relationship between teachers and students. Factor 2 appeared to be measuring the ability for teachers to manage their emotions in the classroom and across school settings. Factor 3 appeared to be measuring aspects of

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cultural sensitivity and a consideration of others in decision-making. Factor 4 appeared to be measuring the relationships between teachers and staff members as well as between teachers and parents. These factors appear to be appropriate representations of what the scale was intended to measure, teacher SEC.

Interestingly Factor 1, Teacher-Student Relationships, was the largest and most robust factor. This appears consistent with the literature on the importance of positive interactions between students and teachers in creating an emotionally supportive classroom atmosphere (e.g., Hamre et al., 2007; Hamre & Pianta, 2001; Suldo et al., 2009). Not surprisingly, teacher interactions with students may be altered by their psychological state; evidence suggests that teacher depression influences teacher-student conflict (Hamre et al., 2007; Hamre & Pianta, 2004). Therefore, having good teacher-student relationships is an important indicator of teacher SEC. Early, positive teacher-student relationships appear particularly important for children who are at-risk because supportive teachers provide appropriate academic and behavioral feedback that help these students acclimate to the classroom environment (Hamre & Pianta, 2001). Thus, the degree to which students are able to access important "instructional and socialization resources of the classroom environment" (p. 636, Hamre & Pianta, 2001) may be somewhat dependent on the relationship between teacher and student.

Factor 2, Emotion-Regulation, contained items that represented the ability for teachers to manage their emotions in the classroom and remain calm during challenging situations. This construct is similar to the hypothesized construct of self-management, but more specific to emotion-management as opposed to a broader definition of self-management that includes the ability to manage behaviors to reach a purposeful goal.

Sutton (2007) reported that the most common negative emotion experienced by teachers is frustration. Such negative emotions, including anger and frustration, can interfere with the quality of teaching (Garner, 2010). Expressions of negative emotions by teachers in response to problem behaviors or negative emotions of students has been shown to worsen teacher mood (Garner, 2010) and may in fact contribute to feelings of burnout (Brackett et al., 2010). However, when teachers express their negative emotions calmly, students perceive this type of expression positively (Garner, 2010). Likewise, students in classrooms that are characterized by emotional warmth have greater feelings of happiness (Suldo et al., 2009), build the capacity for students to regulate their own emotions (Hamre & Pianta, 2005), and may also be linked to long-term positive academic and behavioral outcomes (Hamre & Pianta, 2001). Teachers that are able to regulate their emotions also serve as good role models for children and set social-emotional expectations for students. Therefore, emotion regulation appears to be an important construct related to teacher SEC.

Factor 3, Social Awareness, included items that reflected sensitivity to diversity and an awareness of how personal actions and decisions influence students. Although this was a hypothesized construct, it differed slightly in that it not only included the ability to empathize with people from diverse backgrounds, but also included the ability to make responsible-decisions through the consideration of others and ethical and legal guidelines. Rimm-Kaufman et al. (2002) explored a similar construct that they called teacher sensitivity and examined how displays of positive, warm interactions as well as responsiveness to children's social-emotional cues would help to develop appropriate classroom behaviors. The authors described that a teacher who was sensitive and

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responsive would structure the environment in ways that matched their students' interactive style and would recognize a "child's needs for autonomy, independence, and mastery" (p. 460, Rimm-Kaufman et al., 2002). Rimm-Kaufman et al. found that greater displays of teacher sensitivity resulted in fewer negative classroom behaviors by children who were socially bold (showed high amounts of off-task behavior and talk-outs). Thus it appears that social awareness and sensitivity are important aspects of teacher SEC.

Factor 4, Interpersonal Relationships, consisted of items relating to the relationships that teachers had with school staff and parents. Items reflected the ability to recognize and communicate emotions, problem-solve, and respect towards staff and others. Although relationship skills was the hypothesized to be a single construct, factor analysis results of the SECTRS suggested that this construct be divided into teachers' relationships with students and teachers' relationships with staff and families. The separation of these two types of relationships seems logical considering that teachers must be able to form relationships with adults (i.e., parents and school staff) as well as with students when operating in a school context. These adult relationships and interactions would most likely differ from relationships that teachers form with students. Billingsley (1993) reported that support from colleagues and parents was one of the top reasons that teachers remained or left the field. Thus, interpersonal relationships with adults, similar to teacher-student relationships, are important in creating an emotionally supportive climate for teachers (and arguably students as well) and require teachers to be socially-emotionally competent in order to navigate these professional relationships with adults.

Despite the highly relevant constructs that were extracted from the factor analysis, the difficulty in producing distinct factors, the low communality scores, and factors with low factor loadings, suggest that the total scale and factors should be interpreted with caution. There are many different reasons that might have contributed to this finding. First, the construct of teacher SEC was defined without a strong theory supporting it and may have been inaccurately defined. Another potential reason for the weak factor solution may be attributed to the item selection and generation process. As Merrell (2008) cautioned, utilizing a rational-theoretical approach when developing items has the potential to create a scale with strong face validity. However, the scale may not be psychologically meaningful or theoretically unified (Merrell, 2008). Future studies may explore alternate definitions of teacher SEC as well as the generation of new items. Aside from creating new items, obtaining a larger sample of teachers could allow for additional analyses such as confirmatory factor analysis to determine whether the constructs were valid and consistent with the findings from the exploratory factor analysis.

Psychometric Properties of the SECTRS

   Reliability. Analyses investigating internal consistency reliability of the SECTRS suggest adequate reliability for three factors and the total score. Factor 4, Interpersonal Relationships, did not meet the .70 standard for adequate reliability (Bland & Altman, 1997), but was very close. Internal consistency reliability estimates the stability of the items in measuring the latent construct. Therefore, it is important that the SECTRS demonstrate reliability in order to adequately assess other psychometric properties (i.e., validity) of the assessment and provide correct interpretation of subsequent analyses (Salvia & Ysseldyke, 2007). The lower reliability coefficient found

for Factor 4 (Interpersonal Relationships), could be the result of lower factor loadings obtained for that factor. Again, a larger sample size would have provided the opportunity to assess the adequacy of the four different factors, but was beyond the scope of the study.

Validity. Validity is also an important factor in establishing the psychometric properties of an assessment. Validity examines whether a test measures what it purports to measure (Salvia & Yessldyke, 2007). Results from the validity analyses support the SECTRS construct because it obtained significant, positive correlations with the SREIT, an assessment measuring a similar construct of emotional intelligence. It was assumed that having knowledge and awareness of emotions would be related to higher levels of teacher SEC. Likewise, the SECTRS obtained weak and negative correlations with two of the MBI-ES subscales: Emotional Exhaustion and Depersonalization, supporting the hypothesis that teachers with higher levels of SEC would experience fewer feelings of burnout (Brackett et al., 2010). Again, validity scores for Factor 4 should also be interpreted with caution because reliability scores were low and this threatens validity (Salvia & Yessldyke, 2007).

SEC by Teacher Demographics

Several analyses were conducted to examine group differences across SECTRS factor and total scores. These results should be interpreted on a group level rather than an individual level and are not intended to make generalizations about how all individuals within a group perform. Furthermore, differences within groups tend to be larger than differences between group differences. The results for each independent variable are summarized below.

Gender. It is clear from the results that male and female teachers reported similar levels of teacher SEC. It would not be expected that male and female teachers would report differing levels of teacher SEC. Studies on gender differences across rating scales on teacher well-being and social-emotional functioning have been mixed (e.g., Griffith, Steptoe, Cropley, 1999; Zabel & Zabel, 2001) and varied depending on the construct of interest (Wilgenbusch & Merrell, 1999). Hargreaves (2000) found in their study of elementary school teachers that female teachers were equally as likely as male teaches to express and articulate their anger. The author hypothesized that this may be the case because of the position of power that teachers have over their students, such that the targets of their anger (i.e., students) do not pose a large threat or harm to them.

Ethnicity. Statistically significant differences in reported teacher SEC across ethnicities were not detected. Again, it was not expected that teachers representing different ethnicities would have differing levels of SEC. Findings from the current study are aligned with findings from studies that examine teacher burnout suggesting non-significant differences in reported feelings of emotional exhaustion and depersonalization across ethnic groups (Billingsley, 2004; Lackritz, 2004).

Community setting. Findings indicated that there was no significant difference in reported teacher SEC across the various community settings (urban, suburban, rural). Again there was no a priori hypothesis regarding differences across these different settings. However, Garner (2010) noted that different teaching contexts and cultures require different approaches to expression of emotions, giving the example of how intense expressions of negative emotion may be interpreted as caring to ethnic minority children. If this were the case for the teachers in the study, the difference may have been

reflected in Factor 2, Emotion Regulation; however, no significant difference was found on this factor or across any other factor.

Years of experience. The results revealed that there were no significant differences between teachers with more or fewer years of teaching experience across SECTRS factor and total scores. Other research has also failed to find significant correlations between teaching experience and burnout (Zabel & Zabel, 2001) and between years of teaching experience and the quality of teacher-child interactions (Pianta, La Paro, Payne, Cox & Bradely, 2002). Thus, although it would appear that having more teaching experience would help develop social-emotional competencies, presenting findings were consistent with other studies suggesting no significant differences in teacher SEC by years of experience.

Age. The results clearly indicate that older teachers reported more positive relationships with their students than younger teachers. Interestingly, within special education, the relationship between demographic variables such as gender, ethnicity, and age, found that only age provided a significant predictor of attrition. Younger special education teachers were more likely to leave the field than older teachers (Billingsley, 2004). Potential reasons for this difference may be that younger teachers can afford to switch careers with limited consequences (i.e., loss tenure, salary, etc.) if they decide that they do not enjoy teaching. Younger teachers may also be less invested and committed to their occupation and location and more likely to leave for family-related reasons (e.g., deciding to stay at home to take care of their children) (Billingsley, 2004). Thus, this difference between younger and older teachers may be reflective of older teachers' commitment to the field of education that requires a larger investment in building

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relationships with their students. This difference may also be attributed to the greater age difference that older teachers have with their students. This greater difference in age may allow them greater classroom power, which in turn helps them feel more comfortable forming close relationships with students (Hargreaves, 2000).

Teacher setting. The results demonstrated that special education teacher assistants had significantly higher scores as compared to general education teachers and resource room teachers on the SECTRS total score. In general, it appears that special education teachers have a higher turnover rate than general education teachers (Boe, Bobbitt, & Cook, 1997). The higher rate of attrition and burnout has been linked to a number of school-based factors such as paperwork load, job stress, lack of support from principals, lack of proper professional development, and lack of planning time (Fore, Martin, & Bender, 2002). Although the same reasons are cited for general education teachers, there are still significantly more special education teachers that leave the field compared to general education teachers. This research is highlighted in order to suggest that perhaps special education teachers who decide to remain the field or who self select to become special education teachers, do so because they have higher levels of teacher SEC that serves as a resiliency factor when faced with the demands and stressors of working in a special education environment.

Grade level. Results indicate that high school teachers differed significantly from primary school teachers and from middle and elementary school teachers. These differences were on the SECTRS total score and both relationship skills subscales – Teacher-Student Relationships and Interpersonal Relationships. This finding is interesting in light of a study conducted by Hargreaves (2000) who found that differences

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in the physical and professional closeness between elementary school teachers and secondary teachers (high school). The authors hypothesized that the "greater differences between teachers and students in age, physical size and strategic sophistication" (p. 819, Hargreaves, 2000) affords elementary school teachers greater classroom power compared to secondary teachers, which allows elementary school teachers to feel comfortable with physical and emotional closeness with their students. Secondary teachers in this study felt as though they wanted to be supportive towards students' emotions, however found that students' emotional states were intrusive to learning and caused deviations from the classroom learning.

Hargreaves (2000) also noted that the organization of secondary schooling impedes the ability to form emotional connections with students because of the large number of students high school teachers are in contact with in addition to the fragmented class schedules. Therefore, this difference between high school teachers and teachers of lower grades could be a function of the inherent structure of the high school setting where there are greater professional and personal boundaries between students, staff, and parents as well as more formal, episodic encounters (Hargreaves, 2000). Taken together, these factors may have contributed to the lower scores on the Teacher-Student and Interpersonal Relationship subscales and the SECTRS total score.

Class size. This variable was not analyzed because of inconsistency in data reporting. During data cleaning, it was noted that there were at least two different ways respondents answered this question. Some teachers reported the total number of students they taught, while other teachers reported on the average class size. Thus, it was determined that results using class size would be difficult to interpret given the

inconsistencies in teacher responding. Class size would have been interesting to analyze given the research base suggesting that classroom quality is related to teacher-student ratios and not related to other factors like teaching experience and level of training (Pianta et al., 2002). Classroom size has also been shown to contribute to teacher well-being and decisions to remain in the field of education (Fore et al., 2002). Future studies may examine both methods in which teachers responded in order to ascertain which type of contact with students plays a larger role in teacher SEC and well-being (i.e., the number of students in a classroom or the total number of students that teachers are in contact with).

Teacher-Student Relationship, Classroom Management, and School Climate

Overall results from correlational analyses confirmed the hypotheses of the relationship between teacher SEC, teacher-student relationships, classroom management, and school climate, with the one exception of a significant, negative correlation between authoritarian behavioral management styles and teacher SEC. It should be noted that these relationships are purely correlational and should not be interpreted as causal in nature.

Teacher-student relationships. The significant, positive correlation between the SECTRS and the Teacher-Pupil Interaction subscale suggests that having higher levels of teacher SEC relates to higher positive teacher-student relationships. Further validation of the SECTRS scale comes from the finding the SECTRS Teacher-Student Relationship subscale obtained the highest correlation with the Teacher-Pupil Interactions subscale. The relationship between teachers and students cannot be overemphasize because of the considerable amount of literature indicating that emotionally supportive relationships

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between teachers and students creates positive classroom environments that are conducive to learning (e.g., Hamre & Pianta, 2001; Hamre & Pianta, 2005; Rimm-Kaufman, 2002; Suldo et al., 2009). Thus, it appears that higher levels teacher SEC is related to teacher perceptions of positive teacher-student relationships.

Classroom management. Classroom management, as measured by the BIMS (Martin & Sass, 2010), assessed the degree to which teachers held a controlling and interventionist approach to instruction and behavioral management. It was hypothesized that teachers with higher SEC would have less controlling attitudes toward instruction and would manage classrooms through motivating students intrinsically. In terms of instructional management, this hypothesis was supported. Higher levels of teacher SEC were related to lower levels of controlling instructional practices. Suldo et al. (2009) found that sensitive teachers who used instructional practices that promoted adolescent well-being used diverse teaching practices, provided responsive feedback to students, and created a classroom that encouraged student questions. Likewise, teacher sensitivity has been related to greater self-reliance, more positive affect, and fewer negative behaviors from socially bold children. Current findings suggested that higher teacher SEC may be related to teachers' abilities to be responsive, sensitive, and use a more interactive style of teaching that promotes positive teacher-student relationships and classroom climate.

On the other hand, higher teacher SEC was related to significantly higher levels of a controlling and interventionist approach to behavioral management. Literature in this area has been mixed with research suggesting that differing views on behavioral management style may be a function of the culture of the school and community. For example, one study found that authoritarian beliefs were related to less conflict between

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teachers and students with high level of problem behaviors (Hamre et al., 2007). In addition, students from a predominately urban, economically disadvantaged, African American background were found to perceive teachers as caring when they were strict and tightly controlled student misbehavior. Future studies could investigate how the interplay between culture and demographic features relates to teachers' beliefs on behavioral management styles.

      School climate. Lastly, higher levels of teacher SEC were related to higher levels of positive school climate. Having a positive work environment has been established as being an essential component to teacher well-being (e.g., Boe et al., 1997; Billingsley, 1997; Littrell, Billingsley, & Cross, 1994). Therefore, it was expected that having a more positive workplace would relate to higher levels of teacher SEC. School climate, including administrative support, has been related to teachers remaining in the special education field and decreases in reported stress (Fore et al., 2002). In fact, Littrell et al. (1994) found that work-related variables were better predictors of teacher job satisfaction than demographic variables like age, gender, and years of teaching experience. In particular the study found that principal support was the most important contributor to teachers' physical and psychological well-being. Principals who provided emotional and instrumental support to teachers predicted teachers' commitment to remain in the field and high job satisfaction. An emotionally supportive environment also motivates teachers to perform well because they feel connected to the school (Littrell et al., 1994).

Limitations

There are several limitations to the current study that should be considered when interpreting these results. Limitations include a small sample size, the underrepresentation of demographic groups, weak factor structure, and rater bias.

Sample size. The sample size of roughly 300 was determined based on the minimum number of participants required to run a factor analysis. In addition, practical aspects, such as financial and time constraints of the researcher, limited the size of the sample. Although a sample of 300 was determined to be adequate to perform an exploratory factor analysis, this analytical method is considered a large sample statistical technique. Thus, the results of the factor analysis may be limited based upon the sample size.

Underrepresentation of demographic groups. Likewise, a convenience sample of teachers was utilized in this study. Teacher participants were from the West coast of the United States (Hawaii, Oregon, and California). Thus, there is a regional bias in the sample, with some groups over or underrepresented. A national sampling from regions across the United States would have been ideal, but were out of the scope of this research project. The limited sample size also resulted in underrepresentation of certain demographic groups. For example, in comparison to the national census data there were considerably fewer people from Black/ African American, Hispanic/ Latino, American Indian/ Native American backgrounds represented in the sample. Therefore, caution should be taken when interpreting the results between demographic features and the SECTRS scores. Although the small representation of certain demographic groups (e.g., smaller number of male teachers and in comparison to female teachers) may be

representative of the true population ratio, in order to accurately compare groups differences it would be important to obtain similar group sizes across all demographic features.

Weak factor structure. The factor analysis results contained nine communalities with scores below .40, a minimum communality guideline. Although these communalities were low, the items were retained because of their relevance to the scale and clinical interpretability. However, it suggests that these items were not contributing much variance to the total scale. The factor analysis also revealed that the scale accounted for about 38% of the variance, indicating that the majority of the variance of the scale was not explained. It is hypothesized that construct definition and item content may have contributed to these findings. The weakness of the factor structure is a limitation in interpretability of the findings.

It is also important to note that factor four, Interpersonal Relationships, contained only one item (item 16) assessing teacher-family relationships. Item 16 had the lowest communality of the factor, .33, and therefore may be conceptualized as fitting in with a separate factor rather than combined with factor four. If item 16 were removed, factor four would best be described as a measure of teacher-staff relationships. Future studies may examine psychometric properties of this factor with item 16 removed.

Teacher setting. Another limitation in this study is the applicability of the items in the SECTRS to teachers working in different grade levels and settings (general education vs. special education, teacher assistant vs. teacher). As mentioned in the discussion section, these different settings have very different cultures and customs. For example, special education classrooms typically have smaller teacher-student ratios that

may afford them the ability to develop closer relationships to students. Likewise, the way that an elementary teacher forms relationships with students differs from that of a high school teacher and middle school teacher because of the differences in students' developmental sophistication and the nature and structure of the these different school settings. Therefore, results across teacher setting and grade-level variables should be interpreted with caution as they may be reflective of the inherent differences in school structure and job responsibilities, and not necessarily a function of having higher or lower teacher SEC.

Rater bias. As with any self-report scale, the SECTRS was subject to response biases. Thus, it is important to remember that the results obtained in this study were based upon teacher perceptions, which may differ from actual behavioral performance. For example, teachers may have endorsed items that were socially desirable, faked responses, or deviated in unusual directions or patterns (Merrell, 2008).

Future Directions

Further investigation of psychometric properties. Future studies can continue to examine the psychometric properties of the SECTRS scale. A larger, diverse sample of teachers across the United States would provide the opportunity to rerun an EFA as well as a confirmatory factor analysis (CFA) on the SECTRS scale. Furthermore, a large, diverse sample could also confirm or disconfirm the relationships found in this study especially between teacher demographic features and SECTRS scores. Research in this area may also explore Differential Item Functioning and Item Response Theory procedures to determine if varying demographic groups consistently responded to items differently. Future reliability studies could examine the stability of the SECTRS across

time through test-retest studies. Validity studies could examine how sensitive the SECTRS is to interventions focused on developing teacher SEC, investigating its validity through multiple sources of information such as direct observations and rating scales completed by students and staff, and investigating the predictive validity of the SECTRS scale to teacher performance, teacher well-being, and classroom outcomes.

SEC construct definition. The weak factor structure of the SECTRS may also suggest that the construct of teacher SEC be redefined and/or new SECTRS items be developed in order to produce a more psychometrically and clinically sound measure of teacher SEC. Garner (2010) points out that the problem with understanding teacher emotions is that much of the work in this area is not well linked to theory, thus additional explorations into developing a solid construct is a necessary first step to developing any scale of teacher SEC. Along these lines, the weak factor structure may also indicate that additional items are warranted to run a factor analysis and capture the hypothesized teacher SEC construct. Future studies may want to include more items representing the teacher SEC construct.

Examination of culture and community. The unexpected significant, positive relationship between authoritarian behavioral management approaches and teacher SEC highlights the impact that school and community culture plays on teaching practices. Therefore, future research could investigate how teachers in different communities and cultures view the role of emotions in the classroom. These views may influence the relationships in the model proposed by Jennings and Greenberg (2009) and illustrated in Figure 2. Likewise, it may be useful to understand student perspectives on the role of teacher emotions in the classroom and whether that differs based upon school setting

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(e.g., primary, elementary, high school), community culture (e.g., urban, suburban, rural), or personal culture (e.g., ethnicity).

Teacher SEC and SEL implementation. It was previously noted that teacher SEC may have a profound effect on the implementation of SEL curricula in schools. Investigation of this relationship was beyond the scope of the current study; however, future studies could explore whether a relationship exists between teacher SEC and the quality of SEL implementation. For example, researchers could examine the relationship between teacher SEC and teachers' ability to provide examples of SEL concepts and generalize SEL skills throughout the day. If such a link were established between teacher SEC and quality of SEL implementation, enhancing teacher SEC may be an important target in enhancing the fidelity of SEL intervention implementation.

Limiting teacher bias. As mentioned in the limitations, rater bias is a potential weakness with all self-report scales. One way to investigate rater bias is through the inclusion of a social desirability scale along with the SECTRS to determine whether a teacher is responding in a fashion that he or she believes to be ideal. A second way to limit teacher bias is through direct observations of teacher behavior to determine whether teacher self-report ratings corroborate with actual behavior. Direct observations are often considered the "gold standard" of assessment, but are difficult in practice because they are time consuming and costly (Merrell, 2008). In terms of this study, it would have been difficult to follow up with all 320 teachers across the 16 participating schools and three states. Thus, one possible alternative would be to have teachers at each school observe another teacher for 20 minutes and then complete a behavior rating scale based upon their observation, and examine the correlations between both ratings. Future studies may want

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to examine these methods in order to investigate the extent to which rater bias may have influenced teacher behavior.

Linking SEC assessment to intervention. A measure like the SECTRS should also be conceptualized within a model that supports the development of teacher SEC. As Merrell (2008) poignantly states, the role of assessment is to help solve a problem and is thus a part of a larger process involving interventions and data-based decision-making. Therefore, if the SECTRS is to have treatment utility, assessment results should inform interventions that provide opportunities for teachers to develop their social-emotional skills (e.g., through teacher education programs and continuing education programs). Currently teachers report that they receive very little training on managing their own emotions in the classroom (Garner, 2010) and this can have negative consequences for both teachers and students.

A few studies have investigated interventions that have shown to influence teacher SEC. For example, mindfulness practices may help develop teacher SEC by developing the core competencies that compose the construct of teacher SEC: self-awareness, self-management, social-awareness, relationship skills, and responsible decision-making. The fundamental goal of mindfulness practices is to train the mind to become more aware and present, freeing the mind from usual responses and thoughts (Kristeller & Johnson, 2005). Through training the mind to become consciously aware and inhibiting automatic responses, mindfulness practices promote both physical and psychological self-regulation while at the same time enhancing responsible decision-making through more cognizant choices.

Specific mindfulness studies with teachers have found decreases in self-reports in stress and increases in well-being (e.g., Winzelberg & Lusking, 1999). Franco, Manas, Cangas, Moreno and Gallego (2010) implemented a 10-week mindfulness intervention with 68 secondary teachers. The results of their intervention included large decreases in psychological distress specifically in the areas of somatization, interpersonal sensitivity, and hostility, as well as smaller reductions in obsessive-compulsion, depression, anxiety, psychosis, phobic anxiety, and paranoid ideation as compared to a control group. These results were observed at the four-month follow up. Likewise, Gold, Smith, Hopper, Herne, Tansey, and Hulland (2010) investigated the use of a Mindfulness-Based Stress Reduction (MBSR) intervention on primary school teachers and found significant improvements in teacher report of anxiety, depression, and stress. Teachers also reported positive feelings towards the intervention noting benefits such as increased time during the day, enjoyment of present moments, decreases in stress, and improvements in responding to difficult situations (Gold et al., 2010). These interventions illustrate how an assessment measuring teacher SEC maybe used within a system that supports teacher SEC through interventions such as MBSR or other social-emotional development activities. In this way, an assessment like the SECTRS could be used to screen teachers at-risk to provide additional support as well as to monitor social-emotional growth following a social-emotional intervention.

Conclusion

In summary, a scale measuring teacher SEC is still in its infancy. There is much to be learned regarding a strong theoretically supported construct of teacher SEC and development of items that would represent this construct. The SECTRS may provide a

first step in understanding what a scale of teacher SEC might be composed of and what it may measure. A scale like the SECTRS may be useful to teacher preparation programs as a way to target and develop social-emotional skills prior to teachers entering the field, or as a way to measure social-emotional outcomes within a school system that provides interventions to support teacher SEC. It is clear through this research that teachers' social-emotional health is a crucial component to a prosocial classroom, positive student outcomes, and teacher well-being. Therefore, future research should continue to explore and further refine a construct of teacher SEC, the mechanisms in place that influence and promote teacher social-emotional health, how it impacts student outcomes, as well as the influence of culture across these variables.

APPENDIX

SECTRS ASSESSMENT

What grade-level best describes the setting you work with children?
Primary (grades K-2)
Elementary (grades 3 - 5)
Middle School (grades 6 - 8)
High School (grades 9 - 12)

In what capacity best describes your work with students?
General Education Teacher
Special Education Teacher
General Education Teacher Assistant
Special Education Teacher Assistant
Resource Teacher

Approximately how many students are in your classroom?

What would best describe your school community?
Urban
Suburban
Rural

Gender
Female
Male

What is your age?

How many years have you been teaching?

What is your racial identity?
White/ Caucasian
Black/ African American
Hispanic/ Latino
Asian/ Pacific Islander
American Indian/ Native American
Multiracial
Other _____

The statements below describe your thoughts, feelings, and actions in the classroom and in situations at your school. For each item, please indicate the extent to which you agree or disagree with the statement provided. There are no right or wrong answers, so please be as honest as possible.

1. I nearly always use my positive emotions such as joy and enthusiasm to help me motivate my students.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

2. I know exactly what type(s) of school situations make me upset.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

3. I know my emotional strengths.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

4. I frequently get upset in the classroom and do not understand why.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

5. It is easy for me to tell people how I feel.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

6. I am nearly always conscious of my inner most thoughts.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

7. I am able to articulate my core beliefs, ideals, and personal philosophies and how these related to my teaching goals.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

8. I often wish I were a better teacher.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

9. I would want a teacher like me.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

10. I appreciate individual and group differences (e.g., cultural, linguistic, socio-economic, etc.).
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

11. I know how my emotional expressions affect my interactions with students.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

12. It is difficult for me to understand opinions that differ from mine.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

13. I pay attention to the emotions of staff members at my school.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

14. I make an effort to ensure that my instruction is culturally sensitive.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

15. It is easy for me to understand perspectives that are different from mine.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

16. I feel comfortable talking to parents.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

17. In conflict situations with staff members, I can effectively negotiate solutions.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

18. I am aware of how all of my students are feeling.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

19. I frequently acknowledge accomplishments of students.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

20. I take responsibility for my decisions
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

21. I make good decisions.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

22. I often make decisions without considering its effect on others.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

23. Staff members at school view me as someone who is dependable.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

24. I think before I act.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

25. I nearly always consider ethical and legal factors before coming to a decision.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

26. I problem-solve with students when there is a problem or argument.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

27. I consider my students' well-being when making decisions.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

28. My students' safety is an important factor in the decisions I make.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

29. Staff members seek my advice when resolving a problem.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

30. I nearly always stay calm when a student upsets me.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

31. I am able to manage my emotions and feelings in healthy ways.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

32. I effectively set limits with students firmly, yet respectfully.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

33. I am comfortable with having students figure things out for themselves.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

34. I remain calm when addressing student misbehavior.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

35. I can disagree with school staff without fighting or arguing.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

36. I frequently get upset when students provoke me.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

37. When life is hard, I don't let things get to me.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

38. I take criticism without getting angry.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

39. I use my free time in a good way.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

40. I always set professional goals at the beginning of the school year.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

41. I take proactive steps to discourage misbehavior.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

42. I create a sense of community in my classroom.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

43. I have a close relationship with my students.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

44. I work well with students of diverse backgrounds.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

45. I build positive relationships with my students' families.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

46. Staff members at my school respect me.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

47. I am good at understanding how my students' feel.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

48. I am good at listening to students.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

49. It is very difficult to for me to build relationships with students.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

50. Students come to me with problems.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

51. I frequently give compliments to people at my school.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

52. I feel okay asking for help when I need it.
Strongly Disagree
Disagree
Somewhat Disagree
Somewhat Agree
Agree
Strongly Agree

REFERENCES CITED

Adelman, H. S., & Taylor, L. (2000). Moving prevention from the fringes into the fabric of school improvement. *Journal of Educational and Psychological Consultation, 11*, 7-36.

Aelterman, A., Engels, N., Petegem, K.V., & Verhaeghe, J.P. (2007). The well-being of teachers in Flanders: The importance of a supportive school culture. *Educational Studies, 33*(3), 285-297.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders disorders (*4th ed., text revision). Washington, DC: Author.

Anastasi, A., & Urbina, S. (1997). *Psychological testing* (7th ed.). Upper Saddle River, NJ: Prentice Hall.

Baker, J. A., Grant, S., & Morlock, L. (2008). The teacher-student relationship as a developmental context for children with internalizing or externalizing behavior problems. *School Psychology Quarterly, 23*(1), 3-15.

Battistich, V., Solomon, D., Kim, D., Watson, K., & Schaps, E. (1995). Schools as communities, poverty levels of student populations, and student attitudes, motives, and performance: A multilevel analysis. *American Educational Research Journal, 32*(3), 627-658.

Billingsley, B. S. (1993). Teacher retention and attrition in special and general education: A critical review of the literature. *The Journal of Special Education, 27*(2), 137-174.

Billingsley, B.S. (2004). Special education teacher retention and attrition: A critical analysis of the research literature. *Journal of Special Education, 38*(1), 39-55.

Bland, J.M. & Altman, D.G. (1997). Cronbach's alpha. *British Medical Journal, 314*, 572.

Boe, E. E., Bobbitt, S. A., & Cook, L. H. (1997). The journal of special education. *The Journal of Special Education, 30*(4), 371-389.

Brackett, M.A., & Mayer, J.D. (2003). Convergent, discriminant, and incremental validity of competing measures of emotional intelligence. *Personality and Social Psychology School Bulletin, 29*(9), 1147-1158.

Brackett, M. A., Patti, J., Stern, R., Rivers, S. E., Elbertson, N., Chisholm, C., & Salovey, P. (2009). A sustainable, skill-based approach to building emotionally literate schools. In M. Hughes, H. L. Thompson, & J. B. Terrell (Eds), *The handbook for developing emotional and social intelligence: Best practices, case studies, and strategies* (pp. 329-358). New York, NY: Pfeiffer.

136

Bronfenbrenner, U. (1979).*The ecology of human development*. Cambridge, MA: Harvard University Press.

Bru, E., Stephens, P., & Torsheim, T. (2002). Students' perceptions of class management and reports of their own misbehavior. *Journal of School Psychology, 40*(4), 287-307.

Buchanan, R., Gueldner, B. A., Tran, O. K., & Merrell, K. W. (2009). Social and emotional learning in classrooms: A survey of teachers' knowledge, perceptions, and practices. *Journal of Applied School Psychology, 25*, 1-17.

Buss, M. T. (2007). *The role of teachers' positive attitude toward emotions in implementation of a social-emotional intervention* (Doctoral dissertation, Texas A&M University). Retrieved from http://repository.tamu.edu/bitstream/handle/1969.1/ETD-TAMU-1967/BUSSDISSERTATION.pdf?sequence=1

Campbell, D.T. & Fiske, D.W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, *56*(2), 81-105.

CASEL (2011). *Skills and Competencies*. Retrieved from http://casel.org/why-it-matters/what-issel/skills-competencies/.

Cherniss, C., & Goleman, D. (2006). From school to work: Social and emotional learning as the vital connection. In M. J. Elias & H. Arnold (Eds.)*The educator's guide to emotional intelligence and academic achievement* (pp. 58-61). Thousand Oaks, CA: Corwin Press.

Cohen, J. (1992). "*A power primer*." Psychological Bulletin, 112, 155-159.

Conduct Problems Prevention Research Group. (1999). Initial impact of the FAST Track prevention trial for conduct problems: II. Classroom effects. *Journal of Counseling and Clinical Psychology*, *67*, 648–657.

Conduct Problems Prevention Research Group. (2010). The effects of a multiyear universal social-emotional learning program: The role of student and school characteristics. *Journal of Consulting and Clinical Psychology, 78*(2), 156-168.

Cornelius-White, J. (2007). Learner-centered teacher-student relationships are effective: A meta analysis. *Review of Educational Research, 77*(1), 113-143.

Costello, A.B., & Osborne, J.W. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research and Evaluation, 10*(7), 1-9.

DeVellis, R.F. (2003). *Scale Development*. Thousand Oaks, CA: Sage Publications, Inc.

Durlak, J. A., & Wells, A. M. (1997). Primary prevention mental health programs for children and adolescents: A meta-analytic review. *American Journal of Community Psychology*, *25*, 115-153.

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*, 405-432.

Elias, M. J. (2006). The connection between academic and social-emotional learning. In M. J. Elias & H. Arnold (Eds.), *The educators guide to emotional intelligence and academic achievement: Social-emotional learning in the classroom* (pp. 4-14). Thousand Oaks, CA: Corwin Press.

Elbertson, N. A., Brackett, M. A., & Weissberg, R. P. (2010). School-based social and emotional learning (SEL) programming: Current perspectives. In A. Hargreaves, A. Lieberman, M. Fullan, & D. Hopkins (1st Eds.), *The second international handbook of educational change* (pp. 1017 -1032). New York, NY: Springer.

Farmer, E. M. Z., & Farmer, T. W. (1999). The role of schools in outcomes for youth: Implications for children's mental health services research. *Journal of Child and Family Students,* 8(4), 377-396.

Floyd, F. J. & Widaman, K. F. (1995). Factor analysis in the development and refinement of clinical assessment instruments, *7*(3), 286-299.

Fore, C. Martin, C., Bender, W. N. (2002). Teacher burnout in special education: The causes and the recommended solutions. *High School Journal, 86*(1), 36-44.

Forehand, R., Jones, D. J., Brody, G. H., & Armistead, L. (2002). African American children's adjustment: The roles of maternal and teacher depressive symptoms. *Journal of Marriage and Family, 64*, 1012-1023.

Franco, C., Manas, I., Cangas, A. J., Moreno, E., & Gallego, J. (2010). Reducing teachers' psychological distress through a mindfulness training program. *The Spanish Journal of Psychology, 13*(2), 655-666.

Garner, P. W. (2010). Emotional competence and its influences on teaching and learning. *Educational Psychology Review, 22*, 297-321.

Glass, G. V., & Hopkins, K. D. (1996). *Statistical Method in Education and Psychology.* Needham Heights, MA: Allyn & Bacon.

Gold, E., Smith, A., Hopper, I., Herne, D., Tansey, G., & Hulland, C. (2010). Mindfulness-based stress reduction (MBSR) for primary school teachers. *Journal of Child and Family Studies,19*, 184-189.

Govern, J. M., & Marsch, L. A. (2001). Development and validation of the situational self awareness scale. *Consciousness and Cognition, 10*(3), 366-378.

Greenberg, M. T., Domitrovich, C., & Bumbarger, B. (2001). The prevention of mental disorders in school-aged children: Current state of the field. *Prevention and Treatment,4*(1), 1 – 64.

Greenberg, M. T., Weissberg, R. P., O'Brien, M. U., Zins, J. E., Fredericks, L., Resnik, H., & Elias, M. J. (2003).Enhancing school-based prevention and youth development through coordinated social, emotional, and academic learning. *American Psychologist*, *58*(6/7), 466-474.

Gresham, F. M., & Elliott, S. N. (1990). *Social Skills Rating System*. Circle Pines, MN: American Guidance Service.

Griffith, J., Steptoe, A., & Cropley, M. (1999). An investigation of coping strategies associated with job stress in teachers. *British Journal of Educational Psychology, 69,* 517-531.

Grossman, D. C., Neckerman, H. J., Koepseli, T. D., Liu, P. Y., Asher, K. N., Beland, K., Frey, K., & Rivara, F. P. (1997). Effectiveness of a violence prevention curriculum among children in elementary school. *Violence Prevention Among Children, 277* (20), 1605-1611.

Hamre, B. K., & Pianta, R. C. (2001). Early teacher-child relationships and the trajectory of children's school outcomes through eighth grade. *Child Development, 72*(2), 625-638.

Hamre, B. K., & Pianta, R. C. (2004). Self-reported depression in nonfamilial caregivers: Prevalence and associations with caregiver behavior in child-care settings. *Early Childhood Research Quarterly, 19*, 297-318.

Hamre, B. K., & Pianta, R. C. (2005). Can instructional and emotional support in the first-grade classroom make a difference for children at risk of school failure? *Child Development, 76*(5), 949-967.

Hamre, B.K., Pianta, R.C., Downer, J.T., & Mashburn (2007). Teachers' perceptions of conflict with young students: Looking beyond problem behaviors. *Social Development 17*(1), 115-136.

Han, S. S., & Weiss, B. (2005). Sustainability of teacher implementation of school-based mental health programs. *Journal of Abnormal Child Psychology, 33*(6), 665-679.

Hirschi, T. (1969). *Causes of delinquency*. Berkeley, CA: University of California Press.

Hoagwood,K. E., Olin, S. S., Kerker, B. D., Kratochwill, T. R., Maura, C., & Saka, N. (2007). Empirically based school interventions targeted at academic and mental health functioning. *Journal of Emotional and Behavioral Disorders,* 15(2), 66-92.

Hogarty, K.Y., Hines, C.V., Kromrey, J.D., Ferron, J.M., & Mumford, K.R. (2005). The quality of factor solutions in exploratory factor analysis: The influence of sample size, communality, and overdetermination. *Educational and Psychological Measurement, 65*, 202-226.

Jazaar, M., Lambert, R. G., & O'Donnell, M. (2007). An investigation of elementary teacher stress to guide educational administrators in curbing the early career departure of elementary school teachers. In L. K. Lemasters & R. Papa (Eds.), *At the tipping point: Navigating the course for the preparation of educational administrators* (pp. 59–72). Lancaster, PA: DEStech Publications, Inc.

Jennings, P. A., & Greenberg M. T. (2009). The prosocial classroom: Teacher social and emotional competence in relation to student and classroom outcomes. *Review of Educational Research, 79*(1), 491-525.

Kaiser, H. F. (1960). The application of electronic computers to factor analysis. Educational and Psychological Measurement, 20, 141-151.

Kam, C., Grennberg, M. T., & Walls, C. T. (2003). Examining the role of implementing quality in school-based prevention using the PATHS curriculum. *Prevention Science, 4*(1), 55-63.

Klusmann, T., Kunter, M., Trautwein, U., Ludtke, O., & Baumert, J. (2008). Teachers' occupational well-being and quality of instruction: The important role of self-regulatory patterns. *Journal of Educational Psychology, 100*(3), 702-715.

Kristeller, J. L. & Johnson, T. (2005). Cultivating loving kindness: A two-stage model of the effects of meditation on empathy, compassion, and altruism. *Zygon, 40*(2), 391-407.

Kusche, C. A., & Greenberg, M. T. (2006). Brain development and social-emotional learning: An introduction for educators. In M. J. Elias & H. Arnold (Eds.) *Emotional intelligence and academic achievement* (pp. 35-42). Thousand Oaks, CA: Corwin.

Lackritz, J. R. (2004). Exploring burnout among university faculty: Incidence, performance, and demographic issues. *Teaching and Teacher Education, 20*, 713-729.

Lambert, R. G., McCarthy, C. J., O'Donnell, M., & Melendres, L. (2007). Teacher stress and classroom structural characteristics in elementary settings. In G. Gates, M. Wolverton, & W. Gmelch (Eds.), *Emerging thought and research on student, teacher, and administrator stress and coping* (pp. 109 – 131). Charlotte, NC: Information (Vol. 4). Greenwich, CT: Information Age.

Lambert, R. G., McCarthy, C., O'Donnell, M., & Wang, C. (2009). Measuring elementary teacher stress and coping in the classroom: Validity evidence for the classroom appraisal of resources. *Psychology in the Schools, 46*(10), 973-988.

Lambert, R., O'Donnell, M., Kusherman, J., & McCarthy, C. (2006). Teacher stress and classroom structural characteristics in preschool settings. In R. Lambert & C. McCarthy (Eds.), *Understanding teacher stress in an age of accountability* (pp. 105 – 120). Greenwich, CT: Information Age Publishing.

Littrell, P. C., Billingsley, B. S., & Cross, L. H. (1994). The effects of principal support on special and general educators' stress, job satisfaction, school commitment, health, and intent to stay in teaching. *Remedial and Special Education, 15*(5), 297-310.

MacCallum, R.C., Zhang, S., Preacher, K.J., & Rucker, D.D. (2002). On the practice of dichotomization of quantitative variables. *Psychological Methods*, *7*(1), 19-40.

Malecki, C. K., & Demaray, M. K. (2003). What type of support do they need? Investigating student adjustment as related to emotional, informational, appraisal, and instrumental support. *School Psychology Quarterly, 18*(3), 231-252.

Maslach, C., Jackson, S.E., & Leiter, M.P. (1997). Maslach burnout inventory. In C. P. Zalaquett, C.P., & R. J. Wood (Eds.), *Evaluating stress: A book of resources* (pp. 191-218). Lanham, MD: The Scarecrow Press.

Merrell, K. W. (2008). *Behavioral, social, and emotional assessment of children and adolescents.* New York, NY: Talyor & Francis Group, LCC.

Merrell, K. W. (2010).Linking prevention science and social-emotional learning: The Oregon Resiliency Project. *Psychology in the Schools, 47*(1), 55-70.

Merrell, K.W. (2011). *Social-Emotional Assets and Resiliency Scale: Adolescent Version.* Lutz, FL: PAR.

Merrell, K. W., & Buchanan, R. (2006).Intervention selection in school-based practice: Using public health models to enhance systems capacity of schools. *School Psychology Review*, *35*, 167-180.

Merrell, K. W., & Gueldner, B. A. (2010). *Social and emotional learning in the classroom: Promoting mental health and academic success*. New York, NY: The Guilford Press.

Microsoft Word for Mac 2011 (version 14.1.2) [Computer software]. Microsoft Corporation.

Miller, D. F., & Wiltse, J. (1979). Mental health and the teacher. *Journal of School Health, 49*(7), 374-377.

National Center for Education Statistics. (2002). Dropout rates in the United States 2000. Washington, DC: U.S. Department of Education, Offices of Educational Research and Improvement.

No Child Left Behind Act of 2001, 20 U.S.C. § 6319 (2008).

O'Brien, M. U., & Resnik, H. (2009). The Illinois social and emotional learning (SEL) standards: Leading the way for school and student success. *Illinois Principal Association, 16* (7), 2-5.

Patti, J. (2006).Addressing social-emotional education in teacher education. In M. Elias & Arnold, H. (Eds.), *The educator's guide to emotional intelligence and academic achievement* (pp. 67-75). Thousand Oaks, CA: Corwin Press.

Pianta, R. C., La Paro, K. M., Payne, C., Cox, M. J., & Bradley, R. (2002). The relation of kindergarten classroom environment to teacher, family, and school characteristics and child outcomes. *The Elementary School Journal, 102*(3), 225-238.

Preacher, K. J., & MacCallum, R. C. (2003). Repairing tom swift's electric factor analysis machine. *Understanding Statistics, 2*(1), 13-43.

Ransford, C. R., Greenberg, M. T., Domitrovich, C. E., Small, M., & Jacobson, L. (2009). The role of teachers' psychological experiences and perceptions of curriculum supports on the implementation of a social and emotional learning curriculum. *School Psychology Review, 38*(4), 510-532.

Rimm-Kaufman, S. E., Early, D. M., Cox, M. J., Saluja, G., Pianta, R. C., Bradley, R. H., & Payne, C. (2002). Early behavioral attributes and teachers' sensitivity as predictors of competent behavior in the kindergarten classroom. *Applied Developmental Psychology, 23*, 451-470.

Roth, P. L. (1997). Missing data: A conceptual review for applied psychologists. *Personnel Psychology, 47*(3), 537-560.

Salvia, J., & Ysseldyke, J.E. (with Bolt, S.). (2007). *Assessment in Special and Inclusive Education.* Houghton Mifflin Company, Boston, MA.

Spector, P. E. (1992). *Summated rating scale construction.* Newbury Park, CA: Sage Publications, Inc.

SPSS Graduate Student Version for Mac (version 19.0) [Computer software]. 2010. Chicago, IL: SPSS Inc.

Suldo, S. M., Friedrich, A. A., White, T., Farmer, J., Minch, D., & Michalowski, J. (2009). Teacher support and adolescents' subjective well-being: A mixed-methods investigation. *School Psychology Review, 38*(1), 67-85.

Wang, M. C., Haertel, G. D., & Walberg, H. J. (1997). Toward a knowledge base for school learning. *The Review of Educational Research*, *63*(3), 365-376.

Wilgenbusch, T., & Merrell, K. W. (1999). Gender differences in self-concept among children and adolescents: A meta-analysis of multidimensional studies. *School Psychology Quarterly, 14,* 101-120.

World Health Organization (2003). *Creating an environment for emotional and social well-being.* Retrieved from http:// www.who.int/school_youth_health/media/en/sch_childfriendly_03_v2.pdf

World Health Organization (2004). Prevention of mental disorders: Effective interventions and policy options: A summary report. *Geneva, Switzerland: World Health Organization Department of Mental Health and Substance Abuse.*

Yoon, J. S. (2002) Teacher characteristics as predictors of teacher-student relationships: Stress, negative affect, and self-efficacy. *Social Behavior and Personality, 30*(5), 485-494.

Zabel, R. H., & Zabel, M. K. (2001). Revisiting burnout among special education teachers: Do age, experience, and preparation still matter? *Teacher Education and Special Education,24*(2), 128-139.

Zins, J. E., Bloodworth, M. R., Weissberg, R. P., & Walberg, H. (2004). The scientific base linking social and emotional learning to school success. In J. Zins, R. P. Weissberg, M. Wang, & H. J. Walberg, (Eds.), *Building academic success on social and emotional learning: What the research says*. New York, NY: Teachers College Press.

Zins, J. E., & Elias, M. E. (2006). Social emotional learning. In G. G. Bear & K. M. Minke (Eds.), *Children's needs III* (pp. 1-13). Bethesda, MD: National Association of School Psychologists.

Zins, J. E., Payton, J. W., Weissberg, R. P., & O'Brien, M. U. (2007). Social and emotional learning for successful school performance. In G. Matthews, M. Zeidner, & R. D. Roberts (Eds.), *The science of emotional intelligence: Knowns and unknowns* (pp. 375 -395). New York, NY: Oxford University Press.