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# Kindergarten teachers' perceptions of kindergarten readiness

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The University of San Francisco

KINDERGARTEN TEACHERS'  
PERCEPTIONS OF KINDERGARTEN READINESS

A Dissertation Presented  
to  
The Faculty of the School of Education  
Learning and Instruction Department

In Partial Fulfillment  
of the Requirements for the Degree  
Doctor of Education

by  
Nancy L. Cappelloni  
San Francisco  
May 2010

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THE UNIVERSITY OF SAN FRANCISCO

Dissertation Abstract

Kindergarten Teachers' Perceptions of Kindergarten Readiness

Entering kindergarten ready to learn has become a growing concern in this country. The kindergarten year has important consequences for a child's acquisition of knowledge and skills that are powerful determinants for later school success.

Kindergarten teachers report that more than half of children enter school with a number of problems and are not optimally ready to learn, posing them at-risk for school failure, retention, or in need of later intervention. Despite these concerns, research on kindergarten readiness and teachers' beliefs about readiness is sparse.

The purpose of this study was to examine kindergarten teachers' perceptions of readiness and the degree of importance they placed on 43 different characteristics, skills, and abilities demonstrating kindergarten readiness within seven theorized constructs of early learning and development, largely based on the National Educational Goals Panel's multidimensional framework. These constructs represented the seven scales in the researcher-designed and validated 5-point Likert-type response scale survey instrument. The survey was administered in early 2010 online and in paper format to a non-probability, convenience sample of 653 kindergarten teachers from the California Kindergarten Association and one public, Northern California school district.

Descriptive statistics indicated that kindergarten teachers placed greater importance on the social and emotional constructs of kindergarten readiness and on

children's approaches towards learning than on academic skills. An exploratory, unconstrained factor analysis yielded six factors that statistically explained 61% of the variance in relation to the total variance explained by all the six factors. The grouping of the items in the original seven constructs were conceptually reorganized. The findings reinforced kindergarten teachers' perceptions of the importance of emotional maturity and self-regulation, sensitivity to and respect for others, and enthusiasm and eagerness to learn. The results of the study suggest that kindergarten teachers recognize important relationships, associations, and distinctions among the items, and they do not make the same kind of distinctions in constructs of readiness as has been previously theorized.

These findings can assist in developing a common language among administrators, teachers, parents, policy makers, and legislators involved in early childhood education and can impact future steps taken by these stakeholders that determine curriculum development, instructional methodology, transitional practices, and school readiness policies.

This dissertation, written under the direction of the candidate's dissertation committee and approved by the members of the committee, has been presented to and accepted by the Faculty of the School of Education in partial fulfillment of the requirements for the degree of Doctor of Education. The content and research methodologies presented in this work represent the work of the candidate alone.

Nancy Cappelloni,  
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May 21, 2010

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## A Personal Reflection

Thank you for surrounding me with the love of my family, friends, and colleagues, for the unconditional love of my daughters, Lauren, Lisa, and Dana, and to G-d for giving me the strength, determination, and endurance to persevere.

Thank you for giving me this opportunity for personal and professional growth, enabling me to find the courage and determination to continue and achieve this great accomplishment, and to learn to look at things critically from a new perspective.

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## CHAPTER ONE

### THE RESEARCH PROBLEM

#### Statement of the Problem

Entering school ready to learn has become a growing concern in this country. Over two and one half million children enter the nation's public kindergartens each year (Snyder, Dillow, & Hoffman, 2008). Children begin school with considerable variation in their range of general knowledge, skills, and abilities. Entering kindergartners come from increasingly diverse ethnic, racial, cultural, social, economic, and language backgrounds, and they differ in the types of early care and educational experiences prior to kindergarten (West, Denton, & Germino-Hausken, 2000; West, Denton, & Reaney, 2001; Zill & West, 2001).

Many parents and educators are concerned whether children will have the knowledge and skills at age five to succeed in kindergarten. According to the most recent data from the U.S. Department of Education, one of three children enters kindergarten without the skills needed to succeed in school (National Center for Educational Statistics, 2006; Zill & West, 2001). From the start of kindergarten, children from low-income families, English language learners, and children with multiple risk factors considered to be at-risk of school failure start behind, lag behind, and stay behind. Risk factors are not only associated with children's lower literacy and math skills, but with problem behaviors that affect peer interactions, and a lack of task persistence, eagerness to learn, and attention (West et al., 2001). Findings from the Early Childhood Longitudinal Study of 1998-1999 (ECLS-K) found that nearly half of those children entering kindergarten

with multiple risk factors scored in the bottom quartile in reading, math, and general knowledge skills. Similarly, risk factors are generally associated with lower parent ratings of the child's health, social development, and behavior, and teachers report that children with multiple risk factors display positive approaches to learning and positive social behaviors less frequently than those children without risk factors (West et al., 2000; Zill, 1999; Zill & West, 2001). More importantly, early school problems generally persist and intensify, as well as predict school adjustment and later academic problems, including retention, dropout, incidences of delinquency, and even aggression, crime, and violence (Boyd, Barnett, Bodrova, Leong, & Gomby, 2005; Fantuzzo, King, & Heller, 1992; Princiotta, Flanagan, & Germino-Hausken, 2006; Tremblay, Gervais, & Petitclerc, 2008).

The kindergarten year has been shown to have important consequences for a child's acquisition of knowledge and skills that are powerful determinants for later school success (Pianta & Cox, 1999). Readiness skills at the start of kindergarten are associated with educational outcomes in later years. Research indicates that children's cognitive skills and knowledge at the beginning of kindergarten have been shown to be associated with gains in reading and math in later grades and predict later reading and math achievement (Denton & West, 2002; McClelland, Acock, & Morrison, 2006).

Concerns that many children from disadvantaged families are insufficiently prepared to begin formal schooling has motivated a greater focus on the importance of early childhood education and readiness for kindergarten. Although at-risk and less advantaged children show substantial academic gains overall by the end of kindergarten, they still lag behind their more advantaged classmates in more sophisticated reading and

mathematics knowledge and skills, thus widening the achievement gap between these groups of children (West et al., 2001). Overall, children behind in kindergarten are still behind in fifth and eighth grade (Princiotta et al., 2006; Walston, Rathbun, & Germino-Hausken, 2008). Data from the National Center for Children in Poverty (NCCP) indicates that the proportion of young children living in low-income families is rising. In 2007 more than 10 million children, or 43% of children under the age of six living in the United States, lived in low-income families (NCCP, 2008). On average, four-year-olds living in poverty are about 18 months behind developmentally what is typical for others in their age group. This developmental lag between children from low income and middle-class families is particularly alarming because it contributes to an achievement gap that persists into kindergarten and far beyond (Copple & Bredekamp, 2009).

State-defined benchmarks that describe what children are expected to learn and how they are expected to perform in kindergarten have become increasingly demanding. The accelerated academic standards and growing expectations for kindergarten students to meet state content standards demand greater preparedness from children in the years prior to kindergarten entry. Although many educators believe that the current kindergarten curriculum resembles what used to be taught in the first grade and growing concern about depriving children of play in their early school years by driving them too hard academically is prevalent, research suggests that children entering kindergarten unprepared for the challenges that lie ahead may soon be at-risk for school failure, retention, or may be in need of later intervention (Coleman & Dover, 1993; Roth, McCaul, & Barnes, 1993; West et al., 2001).



The acquisition of a child's readiness skills can be traced back to early childhood educational experiences in preschool, family characteristics, and influences during the years before kindergarten (Shonkoff & Phillips, 2000; West et al., 2000; Zill & West, 2001). Early childhood educational experiences are formative for a child's later developing years. Young children, especially during the first five years of life, have an impressive learning capacity, and the nurturing of those capacities is critical for their educational achievements in following years. Early educational approaches that encourage social interaction, language experiences, and social-emotional development can have tremendous impact in a young child's development (Thompson, 2008).

The growing evidence that early childhood experiences are intricately linked to later school success has fueled recent interest in the importance of all children entering kindergarten ready to learn. Recent research indicates that a high-quality preschool experience is associated with academic achievement in kindergarten and has long term social and emotional outcomes. Preschool has been shown to benefit all children and prepare them for the transition to the accelerated academic demands of kindergarten (Barnett, Epstein, Friedman, Boyd, & Hustedt, 2008; Barnett & Yarosz, 2007; Head Start, 2005; Magnuson, Rum, & Waldfogel, 2007; Marcon, 2002). More specifically, children considered to be at-risk of school failure benefit particularly from a high-quality preschool (Logue, 2007; West et al., 2000).

Many children enter kindergarten with a lack of high-quality preschool experience. In 2006, two-thirds of three- to five-year-olds in the United States were enrolled in some form of preschool education (Snyder et al., 2008). According to a report by the National Institute for Early Education Research (NIEER) (Barnett et al., 2008),

during the 2006-2007 school year, state-funded preschool programs served over one million three and four-year-olds. This represents an enrollment increase of more than 108,000 children from the previous year. Although these absolute numbers are impressive, only 24% of all four-year-olds and only 4% of all three-year-olds, or about half of those eligible, were served in state-funded preschool programs across the country.

To date, 38 states publicly fund preschool programs for four-year-olds, and 26 states provide publicly funded preschool programs for three-year-olds (Barnett et al., 2008). Behind the national averages, however, lie large and growing disparities. The chances for a child to benefit from state funded preschool programs are largely determined by the state in which the child lives. This problem is further compounded by the fact that there are still 12 states that provide no provision of state-funded preschool education to even their most disadvantaged families, other than special education services for young children with disabilities. Not surprisingly, the children in these states in need of publicly funded preschool are at a disadvantage. Studies have demonstrated that the potential benefits of high quality early education exceed intervention costs that may be incurred later by 7 to 17 times (Barnett, et al., 2007, 2008).

In order to ensure that children are ready for successful school experiences, establishing and articulating early learning standards is one of the most pressing issues in early childhood policy and practice today. Research has shown that children's kindergarten readiness skills can be significantly enhanced through effective preschool programs, yet these programs need to be implemented with consistent, high-quality, developmentally appropriate early learning standards. Although this seems self-evident, there is a glaring lack of such mandatory early learning standards that clearly articulate

what children should learn in preschool and subsequently know and be able to do when they enter kindergarten (Scott-Little, Kagan, & Frelow, 2005). Furthermore, a review of the research literature suggests that there is great inconsistency between the cognitive and literacy skills that states place on their early learning standards (Scott-Little et al., 2005), recent findings in neuroscience and early childhood development (Shannon, 2007; Shonkoff & Phillips, 2000; Thompson, 2008) indicating that positive social and emotional development are crucial for academic success, and what kindergarten teachers have reported are important readiness characteristics in prior studies (Hains, Fowler, Schwartz, Kottwitz, & Rosenkoetter, 1989; Heaviside & Farris, 1993; Lin, Lawrence, & Gorrell, 2003; Piotrkowski, Botsko & Matthews, 2000; Wesley & Buysse, 2003).

Studies have indicated that policy makers, legislators, administrators, parents, preschool teachers, and kindergarten teachers vary widely in their expectations regarding what children should know and be able to do before beginning kindergarten (Hains et al., 1989; O'Donnell, 2008; Piotrkowski et al., 2000; Wesley & Buysse, 2003). There is neither universal agreement nor a commonly held belief regarding kindergarten readiness. Furthermore, the complexity of kindergarten readiness becomes more apparent as one tries to establish operational definitions, guidelines, standards, articulations, and timelines. In an attempt to define school readiness, the National Education Goals Panel (NEGP) established a multidimensional framework in 1989 articulating that school readiness is the interconnectedness of many contexts that impact a child's early learning and development. These include interactions of the family, preschool, and the individual characteristics of the child as conceptualized by the constructs of Physical Well-Being and Motor Development, Social and Emotional Development, Approaches Towards

Learning, Language Development, and Cognition and General Knowledge (Kagan et al., 1995).

Many kindergarten teachers feel that a significant number of children enter kindergarten not optimally ready to learn (Hains et al., 1989; Piotrkowski et al., 2000; Smith & Shepard, 1988). Teachers report that more than half of children enter school with a number of problems (Rimm-Kaufman, Pianta, & Cox, 2000). Teachers' concerns include lack of preschool experience, lack of family support for teaching necessary readiness skills, being disruptive, and an inability to communicate needs and thoughts (Heaviside & Farris, 1993; Lin et al., 2003; Wesley & Buysse, 2003). In a national survey of 3,595 kindergarten teachers, 46% of the teachers reported that more than half of their students were unable to follow directions when they began kindergarten. Although entering kindergarten has been shown to be a challenging period of transition for many children (Rimm-Kaufman et al., 2000), alignment between preschool and kindergarten and transition practices aimed at easing the transition to kindergarten are lacking.

There is consensus in the research literature that it is essential to understand kindergarten teachers' perceptions about what characteristics, behaviors, and skills are important for children's success when they begin school (Hair, Halle, Terry-Humen, Lavelle, & Calkins, 2006; Lin et al., 2003; Piotrkowski et al., 2000; Scott-Little, Kagan, & Frelow, 2006; Snider & Roehl, 2007). Research on teaching effectiveness suggests that the beliefs teachers hold about the curriculum, their students, and their roles and responsibilities directly influence their instructional practice and expectations in the classroom, which in turn affect their behavior in the classroom (Pajares, 1992). Kindergarten teachers' readiness views and expectations have been shown to have a

tremendous impact on the emphasis of their instructional strategies, their intervention and retention practices, and on their transitional practices for children entering kindergarten (Bowman, Donovan, & Burns, 2001; Lin et al., 2003; Rimm-Kaufman et al., 2000; Snider & Roehl, 2007).

Yet research on the effect of kindergarten teachers on the educational outcomes of young children in kindergarten is sparse (Guarino, Hamilton, Lockwood, & Rathbun, 2006), and little empirical research examines kindergarten teachers' beliefs about school readiness. This study was designed to improve the understanding of teachers' beliefs about kindergarten readiness, link teachers' perceptions to their practice, extend previous research on the subject, assist in developing a common language among teachers, parents, researchers, and policy makers involved in early childhood education, and help provide needed perspective in preparing children more effectively as they transition to the ever increasing demands and challenges of kindergarten.

### Purpose of the Study

The purpose of the current study was to examine kindergarten teachers' perceptions of kindergarten readiness and the degree of importance they placed on each of seven theorized constructs of early learning and development. The five dimensions identified by the National Education Goals Panel (NEGP)--*Physical Well-Being and Motor Development, Social and Emotional Development, Approaches Toward Learning, Language Development, and Cognition and General Knowledge*--provided the foundation for the development of the seven constructs for this study. For the purpose of the current study, the five dimensions were expanded to seven theoretical constructs of early learning and development by separating *Social and Emotional Development* into

two hypothesized constructs, *Social Development* and *Emotional Development*, and by separating *Language Development* into two theorized constructs, *Language Development and Communication* and *Emerging Literacy Development*. Therefore, the seven theorized constructs measured in this study were: (1) *Physical Well-Being and Motor Development*, (2) *Emotional Development*, (3) *Social Development*, (4) *Approaches Towards Learning*, (5) *Language Development and Communication*, (6) *Emerging Literacy Development*, and (7) *Cognitive Development and General Knowledge*.

To achieve the purpose of this study, the researcher constructed a survey instrument. Indicators within each construct were comprised of various characteristics, skills, and abilities representing kindergarten readiness. The study measured the degree of importance that kindergarten teachers placed on 43 specific indicators across the seven theorized constructs.

The study investigated the extent to which these seven theorized constructs were measured reliably, the extent to which they were statistically distinct from each other as determined by an exploratory unconstrained factor analysis, and the degree of emphasis that kindergarten teachers placed on each of the seven theorized constructs and the 43 specific indicators within the constructs.

### Background and Need

Prior to the 1990s, little attention was paid to the issue of school readiness. Children in the United States entered school with great discrepancies in skills, family backgrounds, and early educational experiences. Individual and cultural variations in children were often mistaken for a demonstration of their deficiencies, rather than differences, in their school readiness (Kagan, Moore, & Bredekamp 1995). Although

attempts were made as early as 1965 to narrow the achievement gap through programs such as Head Start, glaring inequities in this country's early educational services to young children remain. Many children enter school unprepared for the rigorous curriculum and classroom environment. Conversely, many schools are not ready for kindergartners coming from increasingly diverse racial, ethnic, cultural, social, economic, and language backgrounds (Shore, 1998). Growing pressures to raise academic standards and to assess all students' progress towards meeting those standards place an even greater burden on both students and teachers (West et al., 2000).

### *Readiness*

It is quite logical in societies that place a premium on the formal education of children to state that children should enter school ready for the demands that will be made of them. However, determining the nature of those demands and the characteristics and abilities required of children to meet those demands has resulted in an epistemological gridlock. (Blair et al., 2007, p. 151)

Conceptualizing kindergarten readiness is a challenging and, often, controversial task. Children entering kindergarten demonstrate greater proficiencies in some areas than others, and all children demonstrate varying degrees of school readiness. Although there is consensus in the field of early childhood education that readiness is comprised of many indicators within the constructs of early learning and development, the degree of importance that should be placed on the constructs differs between states' early learning standards, parents' expectations, preschool teachers, and kindergarten teachers. Due in large part to the concern that many children enter school already at-risk of failure, an increased interest in kindergarten readiness has emerged.

The National Association for Young Children (NAEYC) (1995) asserted that any discussion of school readiness must consider the following three factors: (1) the diversity

and inequity of children's early life experiences, (2) the wide variation in young children's development and learning, and (3) the degree to which school expectations of children entering kindergarten are reasonable, appropriate, and supportive of individual differences.

Conceptualizations of school readiness have been influenced by varying, and often competing, models, many of which have different perspectives. Earlier conceptualizations of readiness suggest that readiness is fixed and determined by specific indicators such as age, ability, or maturation. Later models assert that readiness is developmental and comprised of interrelated factors. Some of these later conceptualizations are closely aligned with the NEGP's multidimensional model of readiness, articulating the concept that school readiness is not a single standard of development, abilities, or skills, but a range of variables and proficiencies in different developmental domains, each empirically linked with later success in school (Kagan et al., 1995).

Some generally accepted models of readiness in the current research literature include the empiricist/environmental perspective of readiness (Meisels, 1999), the maturational model (Graue, M.E., 1992; Meisels, 1999; Smith & Shepard, 1988), the chronological model, the social constructivist model (Graue, E., 1999; Graue, M.E., 1992; Meisels, 1999), the universal model (Blair et al., 2007), the interactionist model (Meisels, 1999), a model in which social, political, organizational, educational, and personal resources support children's readiness (Piotrkowski et al., 2000), and the ecological perspective on the transition to kindergarten model (Pianta, Rimm-Kaufman & Cox, 1999; Rimm-Kaufman & Pianta, 2000),



The empiricist/environmental perspective defines readiness in terms of practical characteristics of the child's behavior. Readiness for school is viewed as a fixed or prerequisite set of physical, intellectual, and /or social skills needed in order for children to fulfill the requirements of the school environment. Specific skills or experiences are valued as precursors to successful school experience (Meisels, 1999).

Within the maturational model, readiness is viewed as a certain level of maturity tied to each child's own biological timetable which varies greatly from one child to another (Graue, M.E., 1992; Meisels, 1999; Smith & Shepard, 1988). This idealist/nativist perspective on readiness suggests that little can be done to accelerate the process, and "children are ready to learn when they are ready" (Meisels, 1999, p.47).

The chronological model of readiness asserts that children are ready to learn when they reach a certain chronological age determined by their state. Within this model, it is assumed that the skills and knowledge needed for success in school are associated with age and a specific cut off date.

The social constructivist model asserts that there is not one absolute definition of readiness. Social and cultural contexts impact how school readiness is perceived within families, schools, and communities. Ideas and meanings are shaped by the context within which readiness is defined and constructed. This model shifts the focus away from the individual child and instead toward the values, expectations, and perceptions of teachers, parents and schools regarding readiness (Graue, E., 1999; Graue, M.E., 1992; Meisels, 1999).

The universal model examines a variety of differential indicators within the child as precursors for readiness. These indicators include individual abilities in areas such as

preliteracy, behavioral self-regulation, social skills, general cognitive ability, and language ability; and indicators within the school environment, such as teacher practices and abilities, administrative policies, availability of high-quality preschool experiences, and priorities for early educational progress (Blair et al., 2007).

The interactionist model views readiness as *bidirectional* with a dual focus on the child and the environment in which the child is being taught. This model focuses on children's skills, knowledge, and abilities and on schools' capacities to meet the individual needs of their students. In this model readiness is perceived as relative, influenced by the interaction of the child's personal experiences and characteristics and environmental and cultural experiences (Meisels, 1999).

Piotrkowski et al. (2000) conceptualized school readiness as comprised of the social, political, organizational, educational, and personal resources that support the child's success at school entry. This model takes into account the shared responsibilities that families, communities, and schools have in providing nurturing environments that promote children's learning. Community, or neighborhood, support includes high quality preschool for all age-eligible children. Local school readiness resources include transition programming and parent involvement. Family resources include a rich literacy environment and financial and social support for nurturing parenting. Finally, personal readiness resources are the child's individual characteristics within each of the five dimensions of early learning and development identified in the NEGP.

Finally, and most relevant for the current study, the ecological perspective on the transition to kindergarten model emphasizes early linkages between home, preschools, and kindergarten classrooms to optimize children's ability to start school successfully.

Not only are school transitions critical for later school success, but also the transition to kindergarten must be conceptualized in terms of the combined effects of individual child characteristics and the influences of schools, teachers, families, and community factors. This model emphasizes both the interconnectedness between these contexts and the positive connections, communication, and collaboration among them that can be aligned in ways that support children's adjustment to early schooling (Pianta, Cox, Taylor, & Early, 1999; Rimm-Kaufman & Pianta, 2000). This model of readiness was particularly significant for the current research, as it provided support for the study's theoretical framework.

#### *National Education Goals Panel*

In order to renew a federal commitment to improve educational achievement and increase the country's commitment to students, teachers, and schools, President George H.W. Bush and the 50 state Governors established the first National Education Goal in 1989. *Goal One*, referred to as the "Readiness Goal," stated that by the year 2000 all children in America would start school ready to learn. Although the National Education Goals Panel (NEGP) Report on Goal One did not use the word "readiness" (NEGP, 1993), this goal was instrumental in the development of a common language about preparedness for kindergarten and was pivotal in the recognition that all children in this country should start school "ready to learn."

Recognizing the wide range of abilities and experiences, which influence early learning and development, the NEGP suggested that a child's performance encompasses a wide range of abilities, skills, and individual characteristics. The NEGP's Resource and Technical Planning Groups (Kagan et al., 1995) drew upon the research in early

childhood education indicating that early learning and development is embedded within five interrelated dimensions: Physical and Motor Development, Social and Emotional Development, Approaches Toward Learning, Language Development, and Cognitive and General Knowledge. The NEGP established a multi-dimensional framework in which to conceptualize readiness, recognizing the interconnectedness of these five dimensions of early development and learning. A brief description of these five dimensions follows:

**Physical Well-Being and Motor Development:** Characteristics and skills of a child's growth, physical health and fitness, gross motor, fine motor, sensory motor abilities, and functional performance.

**Social and Emotional Development:** The characteristics and skills that enable children to have positive, secure, and successful interactions and relationships with others, including peers, teachers, and other adults; feelings of self-concept, self-efficacy, and personal well-being.

**Approaches Toward Learning:** The inclinations, dispositions, and styles reflective of the ways children become engaged in learning and approach learning tasks.

**Language Development:** The characteristics and abilities enabling children to communicate orally and in written form; development of emergent literacy skills; the ability for children to express themselves and communicate with others.

**Cognitive Development and General Knowledge:** The knowledge base a child has and the ability to represent the world cognitively within three types of knowledge—physical, logico-mathematical, and social-conventional (Kagan et al., 1995; Scott-Little et al., 2005).

The NEGP multidimensional model of kindergarten readiness, perceived by many as the closest approximation to a national consensus on areas of early learning and development (Scott-Little et al., 2005), maintains that readiness is not comprised of a single set of skills or proficiencies, but is a multi-faceted construct that incorporates the interrelatedness of individual characteristics of the child, the child's family, early childhood education programs, schools, and teachers to support children's early learning, development, and competencies. The NEGP model also recognizes individual, cultural, and contextual variability in each child's early learning and development (Kagan et al., 1995).

Much attention focused on the NEGP's readiness goal and on its three accompanying objectives. These objectives focused on three critical components that interact with and impact a child's learning, development, and readiness for school, and they are associated with later school success: (1) the availability of a high quality, developmentally appropriate preschool program; (2) parent participation and support in the child's education; and (3) the child's physical and mental health. The NEGP established a new model for school readiness by acknowledging that readiness is a collaborative process influenced by these three interrelated factors (Kagan et al., 1995; West et al., 2001).

The NEGP recognized that readiness requires not only prepared children, but also the capacity and readiness of the nation's schools to be responsive to all children entering kindergarten, regardless of the enormous variability in their characteristics. In the report, *Ready Schools* (Shore, 1998), the NEGP suggested that policies and strategies be either introduced or expanded to create learning climates optimal for all children. Additionally, the NEGP report argued that in order to optimize children's early learning and

development, and in order for children to become competent and successful in school, there must be a match between the child and the child's learning environment. The NEGP claimed that it is the responsibility of schools to provide continuity and a smooth transition between home, early care and early education, and kindergarten and to educate children effectively and promote school success once children begin school. The particular skills, abilities, and knowledge that children bring to kindergarten are not only a function of the environments they have experienced prior to kindergarten, but are impacted by the "readiness" of the school in which they enroll (Kagan et al., 1995; NAEYC & NAECS/SDE, 2002; NEPG, 1997; Shore, 1998).

The NEGP framework was instrumental in the development of a common conceptualization of readiness and helped define, articulate, and clarify the constructs of early learning and development that impact children's readiness for school. The NEGP recognized that a child's early learning experiences are associated with later success in school, and it helped provide a national framework for education reform intended to ensure equitable educational opportunities and high levels of educational achievement for all students (Kagan et al., 1995; West et al., 2001). This NEGP multidimensional model of early learning and development was particularly significant for the current research, as it provided the foundation for the study's theoretical framework.

While the readiness goal heightened both awareness and controversy over what "ready to learn" implies and what constitutes a high-quality, developmentally appropriate preschool program, it subsequently raised national concern over policies that focused on accountability and academic outcomes in preschool. Some have argued that the growing emphasis on academic outcomes challenges developmentally appropriate practices

intended to stimulate children's exploration, engagement, discovery, and play. Additionally, the readiness goal incited debate concerning how readiness addresses individual differences in learning and variations in development, the use of assessments to determine young children's placement in kindergarten, and how it is determined whether a child is ready or not ready for school (Meisels, 1999).

### *Early Childhood Development*

Current research supports the claim that the years before kindergarten are recognized by a vitally important period of early brain development and learning (Bowman et al., 2001; Shannon, 2007; Shonkoff & Phillips, 2000; Thompson, 2008). The first five years in a child's life are a time of extraordinary physical, social, emotional, linguistic, and conceptual development. Recent advances in developmental neuroscience provide greater insight into early brain development, revealing that brain development is an ongoing complex interplay between the child's active mind and the child's environment. Early learning during these years occurs in all areas of a young child's development—physical/motor, social, emotional, approaches towards learning, language and communication, emerging literacy, and cognitive development and general knowledge (Copple & Bredekamp, 2009; Kagan et al., 1995; Shonkoff & Phillips, 2000; Thompson, 2008). These seven areas of early learning and development make up the seven theorized constructs for the current study.

Most recently, research investigating associations between child outcomes before or during kindergarten with later school success frequently examines the interactions among components within these seven constructs, suggesting that they do not operate in isolation from one another. Developmentally appropriate experiences that stimulate the

brain's activity through engagement and stimulation help children become more proficient at cognitive functions such as memory, attention, behavior, emotions, and others. This results in improved problem-solving skills, learning, behavioral self-control, and emotional regulation. Cognitive strategies and self-regulation have been shown to improve reading comprehension proficiency (Lubliner & Smetana, 2005); attention, motivation, and behavior are characteristics that are associated with reading difficulties (McMaster, Fuchs, Fuchs, & Compton, 2005); and, the acquisition of language and communicative competence are linked to successful social interactions and academic success (Copple & Bredekamp, 2009). For the purpose of the current study, a brief summary of some of the current research that suggests associations between these seven constructs and academic performance has been provided.

#### *Physical Health and Motor Development*

Children's health has been linked to school performance. It has been shown to have a direct impact on student behavior, peer interactions, and classroom management (Copple & Bredekamp, 2009; Kagan et al., 1995). Children entering kindergarten with unrecognized or untreated health conditions are at a tremendous disadvantage and may be beginning school at-risk for failure. Children's ill health has been shown to lead to increased absenteeism from school and a lack of ability to participate in physical activities (Clemens & Nunnally, 2002). In 2005-2006, an estimated 14% of children ages birth-17 had a special health care need as measured by parent's reports, limiting some children's ability to do things that other healthy children can do (Federal Interagency Forum on Child and Family Statistics, 2009).



Current research suggests that exercise can have a direct impact on student behavior and classroom management and that regular physical activity can help build and maintain healthy bodies, reduce feelings of depression and anxiety, and increase the capacity for learning. Developing motor skills can contribute to a child's sense of attaining new goals and improve cooperation with peers (Copple & Bredekamp, 2009). Poor fitness can result in reduced energy, preventing children from participating in group activities (Kagan, et al., 1995). Health problems, such as chronic illness and difficulties in vision, speech, or hearing may prevent a successful start in kindergarten. Studies have revealed that children from lower income families are significantly more likely to have health problems compared to children from higher income families. Clemens and Nunnally (2002) suggested that behavior and emotional problems may be precipitated or exacerbated by undiagnosed or poorly controlled health conditions. Whereas healthy children are able to focus on and actively engage in experiences crucial for learning, health problems can interfere with learning and can create both social and academic barriers in kindergarten.

### *Social Development*

It has been found that many students enter kindergarten without sufficient social skills and the behavioral readiness necessary to participate in activities necessary for academic learning and achievement (Logue, 2007). A strong body of research links children's social and emotional competence with school readiness, overall academic achievement during school, and later in life. Children's social interactions and relationships with teachers and peers as well as their growing sense of self-concept are linked to school success. Vespo, Capece, and Behforooz (2006) asserted that emotional

and social development is critical to a child's academic success. Self-concept, self-esteem, self-efficacy, self-awareness, empathy, the ability to express one's feelings appropriately, and peer socialization have been identified as key attributes of social and emotional behavior in the classroom.

The early childhood years are a pivotal time for nurturing the development of establishing relationships with other children, and peer relationships contribute to children's long-term development (Kemple, David, & Hysmith, 1997; Shonkoff & Phillips, 2000). Research in neuroscience suggests that interactions with responsive social partners have tremendous impact on the growing brain. Research indicates that positive interactions and relationships between teachers and children in early childhood educational settings impact the child's early experiences in academic, social, and emotional domains, is critical for the development of the child's early learning experiences, and promote more optimal achievement (Domitrovich, Gest, Gill, Bierman, Welsh, & Jones, 2009; Neuman & Cunningham, 2009; Perry & VandeKamp, 2000; Perry, VandeKamp, Mercer, & Nordby, 2002). Children's relationships with their teachers in early child care settings have also been shown to be important predictors not only of their social relations with peers and their behavior in general, but also with school achievement in later years (Shonkoff & Phillips, 2000). Research in neuroscience also suggests that teachers who maintain interactions with young children and are responsive and sensitive to their needs can provide stimulation that is calibrated to the child's readiness for new learning (Thompson, 2008). Young children who feel supported and accepted by adults and who have positive and secure adult attachments are also likely to have higher self esteem (Copple & Bredekamp, 2009).

Since the amount of adult-child interaction time in many families is shrinking due in part to single parent and dual-income families, the teacher-child relationship is particularly important, for both academic and developmental outcomes (Christenson, 1999).

### *Emotional Development*

The preschool child's transition from dependency to competency is necessary for the child to manage emotions, inhibit behavior, and focus attention on important tasks. A child's emotional regulation has strong implications for fostering positive peer relationships and interactions (Shonkoff & Phillips, 2000). Researchers for the National Early Childhood Technical Assistance Center (NECTAC) suggest that prolonged periods of excessive stress in early childhood can significantly impact young children's brain development and can contribute to problems with learning, behavior, and physical and mental health. High-stress conditions have been found to put children at greater risk for school failure, problematic peer relationships, chronic health issues, and mental health disorders (Shaw & Goode, 2008).

In a study evaluating the effectiveness of the Nurturing Curriculum, a program developed to improve emotional and social behaviors in kindergarten, it was found that for children who had undergone the program, prosocial behavior increased significantly over time while aggression, dominance, disruptive behavior, socially immature behavior, and academic immaturity decreased significantly over time. These improvements were compared to a cohort not exposed to the curriculum, and findings indicated that these improvements were not due to normal developmental changes (Vespo et al., 2006), suggesting the importance of early intervention.

*Approaches Toward Learning*

Learning-related skills and higher levels of behavioral self-regulation in kindergarten are associated with higher academic achievement (McClelland et al., 2006; Ponitz, McClelland, Matthews, & Morrison, 2009). Further, there is evidence that classroom environments and positive teacher-child interactions can impact student attitudes towards learning and students' use of self-regulated learning strategies (Perry & VandeKamp, 2000; Perry et al., 2002), which in turn have been found to predict later academic success (Wigfield, Eccles, & Rodriguez, 1998; Zimmerman, 1994; Zito, Adkins, & Gavins, 2007).

Ponitz et al. (2009) defined behavioral regulation as involving multiple components of executive functioning: attentional focusing, working memory, and inhibitory control. In their study examining behavioral regulation at kindergarten entry, they found that children with higher levels of behavioral regulation in the fall made greater gains in mathematics, literacy, and vocabulary skills in the spring, and that children entering kindergarten with lower behavioral regulation showed gains in mathematics only. The researchers concluded that gains in behavioral self-regulation at the start of kindergarten could predict gains in mathematics achievement at the end of the kindergarten year. They suggested that proficiency in behavioral aspects of self-regulation helps children adjust to school, helps them in their social interactions, and allows them to benefit more from their learning experiences. The researchers asserted that poorly self-regulated children are at greater risk of low achievement, emotional and behavioral problems, and later school dropout.

McClelland et al. (2006) asserted that many children entering kindergarten with lower levels of social competence and self-regulation may be at significantly greater risk for difficulty in school, including social interactions with peers and lower academic achievement. The researchers found that children's kindergarten learning-related skills were significantly related to their reading and math scores between kindergarten and sixth grade, and children's kindergarten learning-related skills significantly predicted their initial level and growth in reading scores and influenced their math trajectories.

Students with teachers who encourage young students' independent skills were found to demonstrate high levels of metacognition, intrinsic motivation, and strategic action (Perry & VandeKamp, 2000). Perry et al. (2002) also concluded that young children engage in self-regulated learning, demonstrating behaviors aligned with independent, academically effective learners, when given opportunities to do so by their teachers through teacher support and specific instructional practices.

### *Language and Communication Development*

The acquisition of language and communicative competence provides the foundation for successful social interactions, provides the foundation for all curricula throughout school, and is necessary for academic success in all subject areas (Copple & Bredekamp, 2009). Research on literacy development suggests that the processes of reading, writing, speaking, listening, and thinking develop simultaneously as learners become literate (Shonkoff & Phillips, 2000).

Research indicates that socioeconomic factors contribute to differences in language exposure in the home. Children from disadvantaged families begin school with less exposure to vocabulary and language experiences than children from more

advantaged homes. Maternal speech patterns predict vocabulary growth during the child's first three years of life and significantly impact kindergarten literacy skills. Children with limited vocabulary lag behind from kindergarten, exhibit lower reading abilities, are often resistant to reading, maintain smaller vocabularies, and most often stay behind as they progress through school and into adulthood (Biemiller, 2001; Hart & Risley, 1995, 2003; Shonkoff & Phillips, 2000; Snow, Burns, & Griffin, 1998). In comparison, children exposed to language-rich environments have greater exposure to vocabulary development through interactions with books, all forms of print, and rich conversations. Children with larger vocabularies become more proficient readers, read more widely, and have higher academic gains (Lubliner & Smetana, 2005).

Vocabulary knowledge is closely associated with reading comprehension and academic achievement, and vocabulary limitations are a major component in the achievement gap (Biemiller, 2001; Hart & Risely, 1995, 2003; Lubliner & Smetana, 2005). In their landmark study, Hart and Risley (1995; 2003) found tremendous discrepancies in the use of language interactions in the home environment. They observed that children from low-income families have significantly more limited experience with language, particularly in vocabulary development, than children from middle-income families. By age three, significant disparities exist in children's vocabulary that has substantial associations to language development and school success. Children begin kindergarten with large disparities in their language and literacy knowledge and skills. Catching up is difficult for "vocabulary-disadvantaged children" (Biemiller, 2003 p.3), and it would require these children to acquire new vocabulary at above-average rates.

### *Emerging Literacy*

Literacy experiences in both the home and the preschool environments have strong links to reading success in school that are far lasting. Effective vocabulary instruction beginning early in school can help narrow the achievement gap (Bowman, Donovan, & Burns, 2001; Hart & Risley, 1995). Additionally, researchers have postulated that for some students, inadequate instruction rather than true reading disabilities have been the cause for their reading difficulties (Biemiller, 2001; Lubliner & Smetana, 2005; McMaster et al., 2005).

Studies of reading program efficacy suggest that reading instruction should include phonemic awareness, phonics, fluency, vocabulary, comprehension strategies, and rudimentary skills, such as becoming familiar with the conventions of print, beginning forms of printing, and an understanding of the meaning of words and phrases (Bowman et al., 2001; Perkins-Gough, 2007). The National Institute for Literacy (2009) reported that the strongest and most consistent predictors of later literacy development include preschool emergent literacy skills, such as alphabet knowledge, phonological awareness, and writing letters. These skills, particularly letter knowledge and phonological awareness, were found to have predictive significance for later reading, confirming the link between emergent literacy in preschool with later reading in primary school (Lonigan, Burgess, & Anthony, 2000).

### *Cognitive Development and General Knowledge*

Play has important benefits for children's cognitive growth, and it provides opportunities for children to discover, explore, invent, experiment, question, and construct and assimilate new knowledge. Montie, Xiang, and Schweinhart (2006)

observed that four-year old children from 10 different countries in both childcare and educational settings that encouraged free choice activities, had a wide range of materials available, and provided opportunities to explore materials and solve problems, all had more significant gains in their cognitive performance at age seven than children in settings lacking those characteristics.

A foundation comprised of both factual knowledge and skills and conceptual understandings of information have been found to promote cognitive development and general knowledge. Informal conceptions of mathematics—counting systems, numerical thinking, reasoning, and predicting, serve as the foundation for later, more formal, cognitive instruction (Bowman et al., 2001). Wolfgang, Stannard, and Jones (2001) suggested that construction play with blocks offers the preschool age child opportunities to classify, measure, count, order, use fractions, and explore depth, width, length, symmetry, shape and space—skills that provide the foundation for later cognitive functioning involved in learning mathematics. In their longitudinal study investigating block play, they found that there was a strong correlation between block performance in preschool and standardized math scores in seventh grade, and again in high school, indicating a positive correlation between preschool block performance and later math achievement.

Recent research confirms that positive early childhood experiences in the seven constructs of early learning and development are essential for promoting social competency, school readiness, and are associated with and are often predictors of later academic success (Bowman et al., 2001; Boyd et al., 2005; LaParo & Pianta, 2000; Shonkoff & Phillips, 2000; Strickland & Riley-Ayers, 2006). The healthy development of



these constructs, however, is heavily contingent upon the support and services to which children and their families have access.

### *Early Childhood Education*

The National Association for the Education of Young Children (NAEYC) and the National Association of Early Childhood Specialists in State Departments of Education (NAECS/SDE) have asserted that high-quality early childhood education can nurture the physical, social, emotional, language, and intellectual development in young children (NAEYC & NAECS/SDE, 2002).

Research suggests that attendance at high-quality preschool programs is associated with children's academic achievement in kindergarten and has long-term effects on children's social and emotional outcomes (Barnett & Yarosz, 2007; Boyd et al., 2005; Copple & Bredekamp, 2009; Zill, 1999) and on academic achievement later in school (Bowman et al., 2001; Shonkoff & Phillips, 1998; Snow et al., 1998; West et al., 2000).

There is evidence that children who have attended center-based preschool programs, prekindergarten, or Head Start enter kindergarten with more proficiencies and have lower rates of kindergarten retention and special education placement than those children who have not attended such programs. Children who attend one or two years of a preschool program show cognitive gains in math and literacy and more positive outcomes in classroom behavior, self-esteem, and motivation (Boyd et al., 2005; Lunenberg, 2000; Magnuson et al., 2007). During the preschool years important social and emotional developments occur in school, such as such as developing and sustaining social relationships with teachers and peers and develop emotional competence, all of which

build a foundation for kindergarten readiness and later school success (Boyd et al., 2005). Research suggests that positive experiences in these areas are crucial for social competency and academic success, and that there is a strong relationship between the social and emotional dimensions of early child development with children's later development, readiness, and success in school (Shonkoff & Phillips, 2000).

The quality of the preschool program classroom environments also contributes to a child's ability to acquire academic skills (Mashburn, 2008; Roth et al., 1993). Findings from two important longitudinal studies examining the long-term effects of high-quality early education, the Abecedarian project (Campbell, Ramey, Pungello, Sparling, & Miller-Johnson, 2002) and the High Scope Perry Preschool Study (Schweinhart, Montie, Xiang, Barnett, Belfield, & Nores, 2005) indicate the sustainability of positive, long-term effects into early adulthood. Participants in these programs demonstrated higher gains in math and reading skills, were more likely to have graduated from high school, showed a lower rate of teenage pregnancy, demonstrated a lower rate of crime-related incidences, were more likely to attend a four-year college, had attained more years of education overall, and had higher earnings as adults.

Only 56% of three- and four-year-old children in this country are enrolled in some form of early educational program (Snyder et al., 2008). For children who are at risk, this is particularly critical, as the resources available to them and their families may be much more limited than to children not at risk. Universal prekindergarten initiatives begun by the NAEYC are recent attempts at providing mandatory early education programs to all children in this country to promote a more equitable system for school readiness and success. In fact, the major trend in kindergarten programs has been an increase in full-day

kindergarten classes in an attempt to provide sufficient time for children to become more proficient in mastering an increasingly rigorous kindergarten curriculum. This increase has been attributed to a number of social, economic, and educational factors (Smith & Shepard, 1988; Walston & West, 2004). Kindergartners' overall gains in both reading and math were associated with more time spent on subject due to a longer kindergarten day. These gains were significantly higher than gains made by children in half-day kindergarten classes (Princiotta et al., 2006).

Although there is an increased awareness of the long-term benefits of early childhood education and readiness for school, the research literature on the academic status of children focuses primarily on elementary and secondary school children. Few empirical studies have examined the characteristics of entering kindergartners. In order to gain more knowledge about children's early experiences as they entered kindergarten and characteristics influencing their later school success, a large-scale national study was conducted examining kindergartners and their schools, classrooms, teachers, and families. *The Early Childhood Longitudinal Study, Kindergarten Class of 1998-99* (ECLS-K), sponsored by the U.S. Department of Education, National Center for Education Statistics (NCES), followed a nationally representative sample of 22,782 kindergartners beginning in the fall of 1998 (West et al., 2000) and followed the same cohort of children through their fifth grade and eighth grade years (Princiotta et al., 2006; Walston et al., 2008). The children in the study were enrolled in a total of 1,277 public, private, full, and half-day kindergarten programs. The sample included children from diverse racial, ethnic, and socioeconomic backgrounds. Assessments were designed to measure children's early academic skills, physical growth, fine and gross motor

development, health, social skills, problem behavior, and approaches to learning (Snyder et al., 2008; West et al., 2000; Zill & West, 2001).

The ECLS-K study associated poor educational outcomes, such as low achievement test scores, retention, suspension or expulsion, and dropping out of school with four risk factors (Zill & West, 2001): low maternal education (having a mother with less than a high school education); living in a welfare dependent family; living in a single-parent home; and having parents whose primary language was one other than English. Findings indicated that 46% of all four-year-olds who had not yet entered kindergarten had at least one of these risk factors, 31% of these children had two or more risk factors, and 16% had three or more. Risk factors were found to be more common among kindergartners from racial-ethnic minorities than among those from white families. Nearly half of those children identified with multiple risk factors scored in the bottom quartile in reading, math, and general knowledge skills. Children with one risk factor were found to lag behind those with none; children with two or more risk factors exhibited larger achievement lags, poorer health, more problem behavior, and less positive approaches to learning than did children with a single or no risk factor. Similarly, risk factors were generally associated with lower parent ratings of the child's health, social development, and behavior. Kindergarten teachers also reported that children with multiple risk factors displayed positive approaches to learning and positive social behaviors less frequently than children from lower risk environments (West et al., 2001; Zill, 1999; Zill & West, 2001).

Children who come from a positive literacy environment, who possess a positive approach to learning, and who enjoy very good or excellent health perform better

academically than children who do not have these advantages, and these benefits persist into later grades (Denton & West, 2002; Princiotta et al., 2006; Walston et al., 2008). These findings suggest that children who begin kindergarten with certain resources are at a developmental advantage. The advantages, as well as the disadvantages with which children begin school, are also sustainable over time.

### *Early Learning Standards*

In order to improve student achievement through stronger school accountability, early childhood education has recently become part of a standards-based movement. Early learning standards, also commonly referred to as desired results, learning goals, performance expectations, foundations, or child based outcomes, are formal articulations of what children should be expected to know and be able to do upon kindergarten entry. Early learning standards clarify expectations for what should be taught in preschool and provide a common set of expectations for desired outcomes prior to kindergarten (NAEYC and NAECS/SDE, 2004; Scott-Little, Kagan, & Frelow, 2003a).

To date, 49 states have some form of early learning standards for preschool-age children, most developed within the last 10 years (Barnett et al., 2008; Scott-Little et al., 2005; Scott-Little, Lesko, Martella, & Milburn, 2007). In their content analyses in which they analyzed, articulated, and coded the states' standards documents, Scott-Little, Kagan, and Frelow (2005, 2006) used the NEGP framework as the foundation for their coding system for the standards. The researchers found significant differences among the states' standards documents regarding the purpose, implementation, alignment, assessment procedures, and the degree of emphasis placed on the five dimensions of early learning and development.

The findings of the Scott-Little et al. (2005, 2006) analyses indicated, however, that all states place a strong emphasis on the academic areas of learning--cognitive development, general knowledge, and language development. Contrary to the states' academic emphasis, studies have indicated that kindergarten teachers place a strong emphasis on social and emotional development among entering kindergartners, such as taking turns, sharing, and being sensitive to other children's feelings. Kindergarten teachers additionally place importance on a child's overall physical health, rest, and nourishment, and on compliance with teacher authority, following directions, curiosity, and enthusiasm towards learning (Heaviside & Farris, 1993; Lin et al., 2003; Piotrkowski et al., 2000; Wesley & Buysse, 2003). In contrast to the states' emphasis, kindergarten teachers place much less importance on academic skills, such as counting to 20 or above, knowing the letters of the alphabet, and identifying basic shapes and colors (Hains et al., 1989; Heaviside & Farris, 1993; Lin, et al., 2003; Piotrkowski et al., 2000), and other studies found that kindergarten teachers believe it is their primary responsibility to teach important skills children need once they enter kindergarten (Hains et al., 1989; Heaviside & Farris, 1993).

#### *Kindergarten Teachers' Perceptions*

Studies have indicated that kindergarten teachers' perceptions of kindergarten readiness are shaped by many factors, such as their gender, age, race or ethnicity, their own personal experiences as learners, their professional training and teaching experience, and the demographic characteristics of the schools in which they teach (Lin et al., 2003; Smith & Shepard, 1988; West et al., 2001). In one study exploring kindergarten teachers' perceptions of boys at the start of kindergarten, teachers systematically underestimated

the performance of smaller-than-average sized boys in all curricular areas, placing them at risk for being identified as needing remediation, even though their academic skills were adequate (Smith & Niemi, 2007). This research suggests that teachers' beliefs, even about children's appearance at the start of kindergarten, can impact their perceptions of children's abilities.

Teachers' beliefs about kindergarten expectations are also reflected in teachers' attitudes toward time spent on subjects and instructional methods. A secondary analysis of the ECLS-K data revealed that kindergartners' reading and math gains were both related to time spent on subject and on teachers' reports of their use of various instructional approaches. In math, students of teachers who placed a greater emphasis on traditional practices, computation, and student-centered instruction achieved greater gains than those students whose teachers placed less emphasis on such practices. Students of teachers who emphasized reading and writing skills, didactic instruction, phonics, and reading and writing activities exhibited greater achievement gains than children whose teachers spent less time on such practices (Guarino et al., 2006).

Although kindergarten teachers do not necessarily share a common set of beliefs about kindergarten readiness and how children learn (Logue, 2007), their beliefs have been found to be consistent with others in their schools, suggesting that their beliefs are aligned with the structure, pressure, and expectations of the schools in which they teach (Hains et al., 1989; Smith & Shepard, 1988). Contrary to these findings, other studies have shown that kindergarten teachers report feelings of tension, stress, and anxiety in their inability to overcome the inconsistencies between their own beliefs about child development and readiness and the expectations and pressures placed upon them by their

schools, resulting in some teachers leaving their jobs (Smith & Shepard, 1988; Wesley & Buysse, 2003). In one study, half of the interviewed kindergarten teachers felt pressure about their students' preparation for first grade from the first grade teachers, and, at the same time, feelings of self-imposed pressure were particularly evident in those kindergarten teachers who believed in child-centered, developmentally appropriate instructional practice (Parker & Neuharth-Pritchett, 2006).

Kindergarten teachers' beliefs about readiness are often not aligned with those of preschool teachers and parents (Hains, et al., 1989; Piotrkowski et al., 2000; Wesley & Buysse, 2003). Kindergarten and preschool teachers have agreed that characteristics such as confidence, creativity, and curiosity are more important than academic skills, but preschool teachers additionally have expressed concern that children exiting preschool are unprepared for the academic demands of kindergarten (Hains, et al., 1989; Piotrkowski et al., 2000; Wesley & Buysse, 2003). Parents' readiness beliefs have been closely aligned with those of kindergarten teachers, although like preschool teachers, they have placed greater urgency on children's academic skills. Findings from the Parents' Reports of the School Readiness of Young Children from the National Household Education Surveys Program of 2007 (O'Donnell, 2008) indicated that 56% of parents of preschoolers reported that it was essential to teach their children the alphabet, 54% of parents felt that it was essential to teach their children numbers, and 45% of parents felt that it was essential to teach their children to read before entering kindergarten. Many parents have feared that their children are starting school unprepared for the tasks expected of them (Iruka & Carver 2006; Wesley & Buysse, 2003), but at the same time, parents have expressed concern in their own abilities to teach their children necessary



readiness skills (Wesley & Buysse, 2003), further accentuating the importance of early learning standards in preschool.

Recent conceptualizations of readiness articulate the inclusion of families, schools, and communities. It has been suggested that understanding the interrelationship between parenting, the home-school partnership, and teacher-child relationships is more effective than concentrating on isolated skills and abilities solely within the child (Ponitz et al., 2009). Therefore, it is not only critical to examine kindergarten teachers' perceptions, but to also determine to what extent their beliefs are aligned with parents' and preschool teachers' for the purpose of collaboration between home and school and for better alignment and transition between preschool and kindergarten.

#### *Alignment and Transition*

The transition between preschool and kindergarten has been recognized as a stressful and difficult time for many children (Hains et al., 1989). The successful adjustment to kindergarten depends in part on the match between the characteristics and experiences of individual children and the expectations of the schools in which they will attend. This match is not only a matter of making sure that children demonstrate readiness for school, but also that schools are ready to adapt to the diverse and changing needs of young children (Graue, 1999). Smooth transitions to kindergarten are ones that involve purposeful coordination between the child, the family, the preschool and home, the kindergarten classroom, and the kindergarten and preschool teachers prior to the start of kindergarten (Early, Pianta, Taylor, & Cox, 2001). Studies have suggested that positive transitions are associated with social, emotional, and cognitive gains (LoCasale-Crouch, Mashburn, Downer, & Pianta, 2008).

An essential element of transition is the intentional and focused emphasis on the alignment of standards, curriculum, and assessments both *within* and *during* the preschool and kindergarten, called *horizontal alignment*, and *between* preschool and kindergarten, referred to as *vertical alignment*. Alignment has important implications for the degree to which children experience consistency and continuity as they transition from the preschool to kindergarten setting (Kagan, Carroll, Comer, & Scott-Little, 2006).

Practices that teachers can employ to assist incoming students in the transition from home and preschool to kindergarten are important components of school readiness. Yet, reports have indicated that these transitional practices are underutilized by both preschool teachers and kindergarten teachers. In the National Center for Early Development and Learning's (NCEDL) *Multi-State Prekindergarten Study* during the 2001-2002 school year, it was found that the most frequently used practices are those that take place once school has begun. The least frequently used practices are those that involve kindergarten teachers' individualized communication with children, their families, and their schools before the start of kindergarten, including visits from kindergarten teachers to prekindergarten classrooms (LoCasale-Crouch et al., 2008). These findings suggest that opportunities to assist in the transition to kindergarten are not being fully realized, even though they have been found to be beneficial for both kindergarten teachers and incoming kindergarten students in the alignment and transition between preschool and kindergarten. The lack of kindergarten teacher's outreach attempts has been found to be the trend, with the exception of teachers who have training in transitions and schools that provide time and resources to encourage these practices (Early et al., 2001; LoCasale-Crouch et al., 2008).

Given that conceptualizations of kindergarten readiness vary from group to group and person to person, it has been suggested in the research literature that future studies gather input from different stakeholders, such as legislators, school board members, administrators, kindergarten teachers, preschool teachers, and parents, in order to gain a better understanding of that unique group's perspective on readiness (Scott-Little, et al., 2006). Kindergarten teachers' views have been recognized as particularly important as critical stakeholders in the education of young children, and they should be solicited in the process of developing early learning standards (Scott-Little et al., 2006, 2007). Their assessments of entering kindergartners, both formal and informal, impact special education placement, ability grouping, grade retention, instructional methods, and expectations for children's achievement trajectories. Depending on kindergarten teachers' readiness expectations, they may view students as ready, or not ready, and treat them differently (Piotrkowski et al., 2000).

Many early childhood professionals agree that kindergarten today has become academically oriented to the extent that it resembles first grade (Wesley & Buysse, 2003). Yet, kindergarten teachers report that most legislators, state and district school board members, as well as administrators who make school policy, have no experience in kindergarten classrooms and are isolated from the diverse needs and challenges that kindergarten teachers face (Wesley & Buysse, 2003). Kindergarten teachers claim that they do not have a voice in making decisions which determine curriculum, instructional methodology, and readiness policy and practice, and that their views are rarely solicited (Piotrkowski, et al., 2000; Wesley & Buysse, 2003). Kindergarten teachers' beliefs have been found to impact their own instructional practices (Lin et al., 2003; Rimm-Kaufman

et al., 2000), and there is strong evidence that kindergarten teachers play a pivotal role in the academic success of young children (Domitrovich et al., 2009; Neuman & Cunningham, 2009; Wigfield et al., 1998). Therefore, investigating teachers' perceptions of kindergarten readiness brings greater understanding to current and future practices regarding kindergarten readiness and is a necessary prerequisite to help ensure the success of young children in kindergarten and beyond.

### Theoretical Rationale

The theoretical rationale for the current study hypothesized that a multidimensional framework of kindergarten readiness is comprised of many interconnected components that influence kindergarten teachers' perceptions of kindergarten readiness.

This multidimensional framework supports the interrelationship between the individual characteristics of the child, the support and participation of the child's family, the community, and the availability of high-quality, developmentally appropriate preschool that reinforces early learning standards. This multidimensional framework recognizes that all these factors contribute to kindergarten teachers' perceptions of readiness as measured by the researcher's seven theorized constructs of early learning and development.

For the purpose of this study, the National Education Goals Panel (NEGP) multidimensional framework of readiness (Kagan et al., 1995) was chosen as the overarching theoretical framework in conjunction with the ecological model on the transition to kindergarten (Pianta et al., 1999; Rimm-Kaufman & Pianta, 2000).

The ecological model on the transition to kindergarten (Pianta et al., 1999; Rimm-Kaufman & Pianta, 2000) acknowledges that early school transitions are critical for later school success, and the transition to kindergarten must be conceptualized in terms of the combined effects of individual child characteristics and the influences of schools, teachers, families, neighborhoods, and peers. This model recognizes that the quality of relationships among these contexts and their development over time either support or challenge a child's adjustment into kindergarten and are key predictors of the child's later school success. This model emphasizes positive connections, communication, and collaboration among home, preschool, and kindergarten that are based on personal contacts prior to school entry, the coordination of curriculum, and transition activities in which the child's development is the key focus or goal.

The ecological transition model is aligned with the NEGP's focus on "ready schools" in an attempt to smooth the transition between home and school, striving for continuity between early education programs and elementary schools, and recognizing the many interrelated resources to support children's success (Pianta et al., 1999; Rimm-Kaufman & Pianta, 2000; Shore, 1998).

The NEGP framework (Kagan et al., 1995) articulates the notion that school readiness is not a single dimension or a single standard of development or learning, but a range of variables. Recognizing the wide range of abilities and experiences which influence early learning and development, the NEGP framework conceptualizes a multi-dimensional approach to early learning and development encompassing five dimensions: (1) Physical Well-Being and Motor Development, (2) Social and Emotional

Development, (3) Approaches Toward Learning, (4) Language Development, and (5) Cognition and General Knowledge.

The NEGP framework (Kagan et al., 1995) recognizes the individual, cultural, and contextual variability in each child's early learning and development and stresses that: (1) the dimensions are inextricably linked, (2) development in one dimension often influences and/or is contingent upon development in other dimensions, and (3) the dimensions be considered a totality, underlying their interconnectedness. The NEGP framework sets forth the idea that school readiness is a multi-faceted construct that incorporates the interrelatedness of families, early childhood education programs, schools, teachers, and the broader community to support children's early learning and development (Kagan et al., 1995). Embedded within this framework of readiness, the particular skills, abilities, characteristics, and knowledge children bring to school are a function of both the "readiness" of the child's environments before beginning kindergarten and the "readiness" of the school in which they enroll (Copple, 1997; Kagan et al., 1995; NAEYC, 2004; NEGP, 1997; Shore, 1998).

The NEGP framework (Kagan et al., 1995), grounded in empirical research in early development and learning, has made an important contribution to the area of early childhood education and conceptualizations of school readiness. The NEGP's recognition of five dimensions of early learning and development provided the foundation for many states' early learning standards. The NEGP framework also provided a foundation for Scott-Little et al. (2005) to code and operationalize indicators for each of the NEGP's five dimensions and analyze the states' early learning standards. These indicators represent items that articulate specific skills, abilities, and characteristics

that states, in their early learning standards, claim that children should know and be able to do upon entering kindergarten.

The NEGP's framework provides an overarching and comprehensive foundation for the current study's purpose and methodology. The current study initially began with the NEGP framework's five dimensions of early learning and development, but then expanded them into seven constructs by separating Social and Emotional Development into two constructs—Social Development and Emotional Development--and by separating Language, Literacy, and Communication Development into two constructs—Language and Communication Development and Emerging Literacy Development. The separation of the five dimensions of early learning and development into seven theorized constructs was felt necessary in order to strengthen the reliability of the constructs, to further accommodate, clarify, and consolidate all the indicators within the constructs, and to measure kindergarten teachers' perceptions of readiness more reliably. The reasons for this separation follow.

Prior studies indicate that kindergarten teachers place a strong emphasis on both the social and emotional characteristics of readiness (Hains et al., 1989; Heaviside & Farris, 1993; Lin et al., 2003; Piotrkowski et al., 2000; Wesley & Buysse, 2003); therefore, it was determined that these two constructs should be separated. For the purpose of the current study, Social Development encompassed indicators measuring interactions and relationships with peers and adults, cooperation, social skills, and conflict resolution. Emotional Development encompassed indicators measuring expression of feelings, self-efficacy, self-confidence, and self-control.

Similarly, prior studies investigating kindergarten teachers' perceptions of readiness used a higher percentage of items in surveys measuring language development and communication relative to emerging literacy (Hains et al., 1989; Piotrkowski et al., 2000). Almost half the total amount (44%) of indicators across all five dimensions in the Scott-Little et al. (2005) study were coded within Language Development, and this dimension was subdivided into two subscales—Language Development and Communication, and Emerging Literacy Development. Given the importance of these constructs, Language Development was separated into two separate theorized constructs in the current study. Language Development and Communication encompassed indicators measuring receptive and expressive language abilities (listening and speaking), vocabulary, English language proficiency, communication, comprehension, questioning strategies, and language mechanics. Emerging Literacy Development encompassed indicators measuring phonemic and phonological awareness, story sense and sequence, writing, concepts of print, alphabetic knowledge, and literature awareness. Therefore, the seven theorized constructs used for the purpose of investigating kindergarten teachers' perceptions of kindergarten readiness in the current study were: Physical Well-Being and Motor Development, Social Development, Emotional Development, Approaches Toward Learning, Language and Communication, Emerging Literacy Development, and Cognitive Development and General Knowledge. Forty-three indicators, or items, served to specify these skills, abilities, and characteristics children demonstrate across the seven theorized constructs in the current study's survey instrument (Appendix A).



## Research Questions

This study investigated the following five research questions regarding kindergarten teachers' perceptions of kindergarten readiness through quantitative data collection and analysis:

1. To what extent can the seven theorized constructs (Physical Well-Being and Motor Development, Social Development, Emotional Development, Approaches Toward Learning, Language and Communication, Emerging Literacy Development, and Cognitive Development and General Knowledge) be measured reliably?
2. To what extent are the seven theorized constructs statistically distinct from one another as determined by an unconstrained, exploratory factor analysis?
3. What degree of emphasis do kindergarten teachers place on each of the seven theorized constructs?
4. What degree of importance do kindergarten teachers place on the specific 43 indicators within each of the seven theorized constructs?

## Significance of the Study

The topic of kindergarten readiness is of extreme importance today. It has received increased attention from parents, educators, researchers, and legislators. President Obama has made early childhood education a priority in the *American Recovery and Reinvestment Act* of 2009 by providing \$5 billion in early childhood education funding under the Child Care and Development Block Grant (CCDBG). The Obama-Biden “Zero to Five” plan is intended to help promote efforts in the states to raise the quality of early learning programs, to move toward voluntary, universal

preschool, and to ensure that all children are better prepared for school success by the time they enter kindergarten (U.S. Department of Education, 2009).

Yet, a scarcity of research has investigated teachers' beliefs, views, and expectations about kindergarten readiness. No studies have investigated these perceptions within a multidimensional framework across seven distinct constructs of early learning and development. The current study addressed this gap in the research literature and gave kindergarten teachers an opportunity to contribute their voices to the growing body of research about kindergarten readiness. The current study provides a greater understanding of the perceptions that kindergarten teachers hold regarding kindergarten readiness and the extent to which these perceptions are consistent with findings from prior studies.

Findings from the current study help in three areas: (1) to further the research knowledge base regarding kindergarten readiness by focusing on the perceptions of these key stakeholders, (2) to inform policy decisions about early learning standards and vertical alignment between preschool and kindergarten, and (3) to aid in the development of stronger transition practices aimed at preparing children for the adjustment to kindergarten.

### Definition of Key Terms

The following terms have been operationally defined for the purpose of this study:

1. *At-risk for school failure*: The term refers to factors associated with lower performance on measures of academic achievement. Children are often designated at risk when they possess two or more of the following risk factors which include children having a non-English primary language in the home, children living in a

single-parent family, children's mothers having less than a high school education, and children's families receiving welfare assistance (West et al., 2001).

2. *Early childhood education experiences*: Participation in preschool, nursery school, prekindergarten, Head Start, or a childcare center prior to kindergarten.
3. *Early learning standards*: Developmentally appropriate early childhood standards and performance expectations for preschool children's learning and development. Content is implemented through informed practice in the following five domains identified in the NEGP documents: (1) physical and motor, (2) social and emotional, (3) approaches toward learning, (4) language and communication, and (5) cognition and general knowledge.
4. *High-quality preschool*: A preschool program with a high rating in the following areas: child-teacher interactions, activities, materials, learning opportunities, health and safety routines, classroom environment, adult-child ratio, relationships with families, and the education and training of teachers and staff.
5. *Kindergarten readiness*: A multi-dimensional view of the attributes that preschool-age children demonstrate at the time of kindergarten entry. These attributes, or characteristics, fall within seven constructs of early learning and development (1) physical well-being and motor development, (2) social development, (3) emotional development, (4) approaches toward learning, (5) language and communication development, (6) emergent literacy, and (7) cognitive development and general knowledge.
6. *Kindergarten readiness skills*: Specific skills, abilities, and characteristics that preschool-age children demonstrate at the time of kindergarten entry.

7. *Preschool-age children, or preschoolers:* All children between the ages of three to five. This includes children in prekindergarten programs.
8. *Prekindergarten:* Any type of publicly funded or private preschool program for children between the ages of three to six preceding kindergarten entry.
9. *Transition:* The transition process is the period of time beginning the year before kindergarten entrance and continuing through the kindergarten year (Pianta et al., 1999).

## CHAPTER TWO

### REVIEW OF THE LITERATURE

#### Introduction

Within the past two decades, an increased interest in kindergarten readiness has emerged along with a growing body of research literature. Researchers, practitioners, and policymakers have attempted to provide greater understanding of this complex phenomenon. Children's success in school is now commonly recognized as being associated with multiple factors and experiences prior to entering kindergarten. Current research supports the claim that the years before kindergarten are recognized by a vitally important period of early brain development and learning in young children. Early learning and development during these years occur in all areas of human functioning—physical, social and emotional, cognitive, and language (Copple & Bredekamp, 2009; Shonkoff & Phillips, 2000; Thompson, 2008). There is consensus in the literature confirming that *all* these areas are essential for a child's early development and learning, that they are associated with and often are predictors of children's success in kindergarten and later school years, and that they do not operate in isolation from one another (Bowman, Donovan, & Burns, 2001; Boyd, Barnett, Bodrova, Leong, & Gomby, 2005; LaParo & Pianta, 2000; Shonkoff & Phillips, 2000; Strickland & Riley-Ayers, 2006). Early learning standards are an attempt to offer high-quality early childhood education programming and to provide alignment between preschool and kindergarten. Kindergarten teachers, valued as important stakeholders in the education of young children, have rarely been solicited concerning their beliefs about readiness and have had

little opportunity to contribute to the development of early learning standards.

Investigating kindergarten teachers' perceptions of readiness and the degree of importance they place on early learning and development was the purpose of this study.

Although current research has identified the effectiveness of high-quality preschool as an important component in preparing children for kindergarten, the focus of this research study was on gaining an understanding of the perceptions of kindergarten teachers about students' characteristics at the time of kindergarten entry. Therefore, the focus of this literature review is on articles and studies that address kindergarten readiness and the transition to kindergarten.

This chapter reviews the research literature in two sections. Section One reviews the literature in two areas: (1) the development of the states' early learning standards, and (2) studies investigating alignment and the transition between preschool and kindergarten. Section Two reviews the research literature investigating kindergarten teachers' perceptions of kindergarten readiness.

### Section One

In this section the following research literature will be reviewed: studies investigating the development, content, and implementation of the states' early learning standards; the topic of alignment; and studies examining the use of transition practices between preschool and kindergarten.

#### *Early Learning Standards*

Early learning standards emerged during the last decade in an attempt to define what a child should be expected to know and be able to do upon kindergarten entry, and to establish criteria for what should be taught in publicly funded preschools to ensure

children's success in kindergarten and beyond. Early learning standards are documents that articulate what should be taught and what children should learn prior to kindergarten entry. Although early learning standards were primarily developed for use in publicly funded prekindergarten programs to improve teaching practices, in some states they are voluntary, and in other states they are mandatory (Scott-Little, Kagan, & Frelow, 2003a, 2003b; Scott-Little, Kagan, & Frelow, 2005).

The current movement to improve student achievement through stronger accountability for schools is one of the most significant developments in education today. Schools are increasingly accountable for making sure that students perform at certain levels, and grade level standards have been written to articulate what students are expected to learn, how they are expected to perform, and what teachers are expected to teach in grades K-12. Scott-Little, Lesko, Martell, and Milburn (2007) suggested that this movement towards accountability has had significant impact on early childhood education's attempts to provide greater accountability for learning outcomes.

Early childhood education has recently become part of this standards-based movement. Program standards have traditionally articulated benchmarks for basic standards of care and services for structural program features. The National Institute has established ten "quality standards" for Early Education Research (NIEER). These ten quality standards are: (1) Early learning standards, (2) Teacher degree, (3) Teacher specialized training, (4) Assistant teacher degree, (5) Teacher-in-service, (6) Maximum class size for 3-year olds and for 4-year olds, (7) Staff-child ratio for 3-year olds and 4-year olds, (8) Screening, referral and support services, (9) Meals, and (10) Monitoring. The NIEER report on the state of preschools in this country, written by the researchers

Barnett, Epstein, Friedman, Boyd, and Hustedt (2008) claimed that these ten quality standards help to ensure that preschool programs have higher levels of quality, but focus more on policy requirements than on actual practice. NIEER claimed that these quality standards are critical to help attain educational effectiveness, but they do not necessarily guarantee children a highly effective education (Barnett et al., 2008; Scott-Little, et al., 2003b, 2005).

A current shift is now focused on process features, including teacher-child relationships, curriculum, child-centered instructional methods, teacher and peer interactions, and early learning standards (Scott-Little et al., 2007). Early learning standards, one of NIEER's ten quality standards, focus on specifications of what children should learn and should be able to do rather than on required features of programs. NIEER supports the five dimensions of early learning and development identified by the NEGP as foundational to early learning standards. Although all states require early childhood classrooms to meet *some* specific quality standards in order to receive state preschool funds, each state has its own criteria for individual early learning standards (Barnett et al., 2008).

The use of early learning standards varies from state to state. Some states monitor the use of early learning standards in preschools, providing training and technical assistance to teachers. Some states align their standards with curriculum and assessments, while in other states the early learning standards are available but there is no accountability for their implementation. Some states do not have assessments in place at all to measure children's progress articulated in the standards (Scott-Little et al., 2003a, 2003b, 2005).



Besides an increased emphasis on the importance of specifying the skills, characteristics, and knowledge children should learn and develop during the preschool years, Scott-Little et al. (2003a, 2003b, 2005; Scott-Little, Kagan, & Frelow, 2006, 2007) maintained that several federal initiatives instigated the process of developing early learning standards. The NEGP framework (Kagan, Moore, & Bredekamp, 1995) provided the foundation for the development of early learning standards for preschool programs, which, in turn, articulate what children should know and be able to do when they enter kindergarten. The Bush Administration's "Good Start, Grow Smart" initiative in 2002 encouraged all states to include plans for voluntary early learning guidelines in language and early literacy. This initiative specified that these guidelines be aligned with each state's K-12 content standards to define what children would be learning in publicly funded child-care settings and early education programs, many of which served children at-risk for school failure.

Articulating and improving student learning prior to kindergarten is increasingly important for improving student performance in later grades. Recent research provides evidence that children have a great capacity for learning during their preschool years, and early education has been shown to positively affect student outcomes (Bowman, et al., 2001; Head Start, 2005; Shonkoff & Phillips, 2000). Recent research indicating that children's experiences before they begin kindergarten are critically important for their future school success helped fuel the momentum in developing early learning standards and in operationalizing expectations for what children should know and be able to do prior to kindergarten. In response to this research and the knowledge that early childhood educational environments are highly variable, it is asserted that early learning standards

can help narrow the achievement gap by making learning environments more equitable. Therefore, Scott-Little et al. (2003b, 2005, 2007) claimed that, not only are early learning standards beneficial and provide continuity to early childhood education, but they are also necessary.

Although early learning standards are relatively new, 46 states have developed, or are in the process of developing, early learning standards (Barnett, et al., 2008). Conflicting findings in the Scott-Little et al. study (2007) indicated that 49 states have developed early learning standards, with the one remaining state in the process of development.

The National Association for the Education of Young Children (NAEYC) and the National Association of Early Childhood Specialists in State Departments of Education (NAECS/SDE) address several significant educational, ethical, developmental, programmatic, assessment, and policy issues related to early learning standards (NAEYC & NAECS/SDE, 2002, 2004). The NAEYC and NAECS/SDE asserted, like NIEER, that early learning standards are a valuable component of a comprehensive, high-quality early childhood education, and that these standards help promote school readiness and later academic and social competence. NAEYC and NAECS/SDE also supported NEGP's five dimensions of development as a foundation for developing early learning standards specifically tailored to stimulate preschool-age children's learning. However, the NAEYC and NAECS/SDE asserted that positive outcomes can only be achieved if early learning standards do the following: (1) emphasize significant, developmentally appropriate content and outcomes; (2) utilize informed, inclusive processes to develop and review the standards involving multiple stakeholders; (3) implement strategies and

assessments that are both ethical and appropriate for young children; and (4) provide strong supports for early childhood programs, professionals, and families (NAEYC & NAECS/SDE, 2004). The implementation of early learning standards, therefore, can help build consistency and continuity, support better transitions from preschool to kindergarten, and contribute to an approach closely aligned with K-12 standards and performance expectations (NAEYC & NAECS/SDE, 2002).

A closer examination of early learning standards demonstrates there is a large disparity among the 50 states regarding the development, content, implementation, and evaluation of early learning standards (Barnett et al., 2008; Scott-Little et al., 2003b, 2005, 2006, 2007). Since no comprehensive source of data existed regarding state-level organizations' initial stages of development of early learning standards, Scott-Little et al. (2003b) conducted a national study to provide data on what standards had been developed, the processes used to develop them, and how states were implementing them. At that time, 19 states had officially adopted or endorsed early learning standards, 8 states had standards that were not officially adopted or endorsed, 13 states were in the process of developing them, and 11 states had no standards. The most significant finding that emerged from this initial study was that there is great variability in the use, purpose, and alignment of early learning standards with K-12 standards, and there are significant differences in how the early learning standards are developed and who participates in the development process. Two findings are particularly noteworthy: (1) only 13 states explicitly stated that the purpose of the standards was to improve children's readiness for school, or to at least increase the likelihood that children will learn skills important for

kindergarten entry; and (2) the dimensions of Social and Emotional Development and Approaches Toward Learning were underrepresented in the standards.

Scott-Little et al. (2005) conducted another study two years later to analyze the content of early learning standards developed by state-level organizations in all 50 states. A total of 36 states and 38 sets of standards were included in this content analysis. The underlying premise for this study was that “early learning standards promote quality programming and support children’s readiness for school when they cover all five dimensions in a manner that addresses important knowledge, skills, and characteristics within each domain” (p. 32). The purpose of their study was to investigate the following: (1) to what extent the five dimensions of development and learning in the NEGP framework had been addressed in the standards; (2) the degree of emphasis placed on each dimension; (3) to what extent specific indicators within each of the dimensions had been addressed; and (4) the degree of emphasis placed on each of the indicators within the five dimensions. This study has particular significance to the current study because the framework used for their coding system, dimensions, and indicators from the states’ early learning standards served as a framework for the survey instrument.

Since the standards documents vary in content and length, and since there are no existing national standards for children’s early learning outcomes, a coding framework was developed by Scott-Little et al. (2005) for this study to accommodate the great variety of standards. The protocol for this coding system was the NEGP framework. The researchers claimed that this framework provided a research-based, peer-reviewed document, widely accepted in the field of early childhood education, empirically linked with later school success, and broad enough to encompass the wide variety of standards

that had been developed among the 36 states. Furthermore, the researchers found that most states had initially been guided by the NEGP framework in developing their early learning standards.

Scott-Little et al. (2005) developed a total of 36 indicators that comprehensively articulated specific skills and knowledge for each of the five dimensions in the NEGP framework reflected in the states' early learning standards. Although the number of indicators was not equal across the five dimensions, Scott-Little et al. (2005) postulated that the variability of, and greater emphasis on, the Cognition and General Knowledge and Language Development dimensions may have been due to a number of factors, including: (1) some states viewed these skills as more important for readiness than the other dimensions; (2) there was a greater body of research literature in the areas of early literacy and cognition, enabling states to articulate standards in these areas more than in Approaches Toward Learning and Social and Emotional Development, which can be more ambiguous and more difficult to operationalize; and (3) some dimensions lended themselves to more direct instruction, observation, and assessment, and therefore are represented to a greater extent in the standards.

Scott-Little et al. (2003b, 2005, 2006) additionally noted that academic and developmental content areas were not clearly differentiated in the standards, and states took many different approaches in articulating their standards. This is particularly significant to the current study because it has also been found in reviewing surveys examining kindergarten teachers' perceptions of readiness that there were many different methods used for articulating and categorizing academic and developmental areas and different methods for organizing indicators within the constructs being studied.

The states showed a strong preference in articulating items in the Language Development dimension, a fact that is apparent when examining the number of indicators Scott-Little et al. (2005) developed to encompass all the states' standards for this dimension. The Language Development dimension has 16 indicators, almost half (44%) the total amount of indicators. Language Development was subdivided into "verbal language" and "emerging literacy" subscales in order to further differentiate the construct. Social and Emotional Development, which had a total of 8 indicators (22%), was divided into "social" and "emotional" subscales. Cognition and General Knowledge had four indicators (11%) and was subdivided into three subscales: "physical," "logico-mathematical," and "social-conventional knowledge." Physical Well-Being and Motor Development had four indicators (11%) and was subdivided into two subscales: "physical development" and "physical abilities." Approaches Toward Learning had four indicators (11%), all within one scale. In the current study, the subscales, "Social" and "Emotional" Development and "Language" and "Emerging Literacy" have been made into four separate scales in order to measure these four distinct constructs.

Scott-Little et al. (2005) coded each individual standard item based on the primary focus of its content, therefore assigning each item to one of 36 indicators within 5 dimensions and 10 subscales. The researchers then analyzed the breadth and depth across the five dimensions. Breadth measured the extent to which each of the five dimensions was addressed by each state (the number of items the researchers coded for each dimension) and the relative degree of emphasis across the five dimensions. Depth measured the extent to which each set of standards addressed each indicator within a dimension (the number of items the researchers coded for each indicator within each

dimension). This coding system is particularly important to the current study because it provided a comprehensive framework for the current study's survey instrument that could encompass all 43 indicators across the seven hypothesized constructs being measured.

The findings in the Scott-Little et al. (2005) study indicated that there was a wide variation in the number and types of items included in each state's standards documents. The total number of items each state included in their standards documents ranged from 50 to 371, with a mean of 151.1 items and a standard deviation of 83.7. A strong emphasis was placed on the Language Development and Cognition and General Knowledge dimensions. All 38 standards documents had included at least one standard in both of these dimensions, but not all 38 standards documents included standards within the other three dimensions. Two states had no standards coded in Approaches Toward Learning, three had no standards coded in Social and Emotional Development, and four states had no standards coded in Physical and Motor Development.

In examining the breadth, or degree of emphasis across the five dimensions, Scott-Little et al. (2005) again found that there was great variability in the degree to which the five dimensions had been addressed in the states' documents. This was demonstrated in the wide range of mean percentages and standard deviations in the standards coded for each dimension. Mean percentages ranged from 8.7 to 38.6, and standard deviations ranged from 7.2 to 14.0. Of particular significance was the strong emphasis on the more academic areas. An average of 39% of the standards were coded as Cognition and General Knowledge, and an average of 31% of the standards were coded as Language Development, whereas an average of 12% of the standards were coded as Social and Emotional Development, an average of 10% were coded as Approaches

Toward Learning, and an average of 9% of the standards were coded for Physical Well-Being and Motor Development.

In examining the depth, or the extent to which a set of standards addressed each of the indicators within a specific dimension, Scott-Little et al. (2005) also found that there was a greater emphasis in Language Development and Cognition and General Knowledge. The wide range of mean percentages and standard deviations of indicators within each dimension evidenced this emphasis. The percentage of indicators addressed in the Cognition and General Knowledge dimension was 91%, and in the Language Development, 81%. However, the other dimensions were still fairly well represented, with Approaches Toward Learning at 78%, Social and Emotional at 63%, and Physical and Motor Development at 61%. Most important, each state had at least one standard matching at least one indicator for both Language and Communication and for Cognition and General Knowledge. Six states had no indicators in Physical and Motor Development, three states had no standards within Social and Emotional Development, and two states had no standards coded as Approaches Toward Learning.

Further analyses by Scott-Little et al. (2005) indicated that some states placed greater emphasis than others in certain areas within each dimension. Certain indicators had significantly higher mean percentages than others. For example, within Physical and Motor Development, the “motor skills” indicator had a mean percentage of 49% compared with the other three indicators within that dimension, which ranged from a mean percentage of 2% to 24%. Within the Cognition and General Knowledge dimension, the indicators “logico-mathematical knowledge” (43%) and “knowledge of the physical world” (38%) had the highest percentages. “Social skills with peers” had the



highest mean percentage (33%) within the Social and Emotional dimension. “Curiosity about new tasks and challenges” (32.1%) had the highest mean percentage in the Approaches Toward Learning dimension. Of the 16 indicators within the Language and Communication dimension, the highest mean percentages were found in “writing process” (11.4%), “creative uses of language” (10.6%), “vocabulary and meaning” (10.3%), and “print awareness” (9.8%). These findings are of particular significance because in the current study the degree of importance that kindergarten teachers placed on the seven theorized constructs were measured, as well as the degree of importance the teachers placed on the specific indicators within each of the constructs.

Scott-Little et al. (2006) conducted another content analysis examining the content in 46 early learning standard documents for the purpose of investigating the emphasis that states place in specific areas. The researchers used the same coding scheme that they had in the Scott-Little et al. (2005) study. The new study’s results were consistent with findings from the earlier one: (1) there was a wide variability in standards and an emphasis on both the Language Development and Cognition and General Knowledge dimensions; (2) each of the states’ early learning standards documents addressed both the Language Development and the Cognition and General Knowledge dimensions; (3) the mean percentages of standards addressing indicators within each dimension were within one or two mean percentage points of those found in the 2005 study; (4) the mean percentages of standards addressing indicators within the Cognition and General Knowledge dimension was 39%, or over three times the mean percentage of standards addressing indicators within the Physical and Motor, Social and Emotional, and Approaches Toward Learning dimensions; and (5) the mean percentage of standards

addressing indicators within the Language Development dimension was 30%, or over twice the mean percentage of items in the Physical and Motor, Social and Emotional, and Approaches Toward Learning dimensions. Although the Cognition and General Knowledge dimension had the highest mean percentage of indicators overall, there was a wide range in indicators (from 1-129) for the subscale “logico-mathematical knowledge” within this dimension. Also noteworthy is that only 8 of the 46 states had items for the indicator “Overall health and rate of growth,” while this area of development has been found to be of great importance to kindergarten teachers (Heaviside & Farris, 1993; Piotrkowski, Botsko, & Matthews, 2000).

In order to document and analyze trends in the development and implementation of early learning standards, Scott-Little et al. (2007) conducted another study to provide more current information on the status of early learning standards. A 72-item web-based instrument combining closed-ended and open-ended questions concerning early learning standards, child assessments, and program assessments was emailed to early childhood specialists in every state department of education. Complete responses were received from 41 states—a response rate of 82%. Findings indicated that early learning standards are commonly used as a resource to improve instruction or curriculum in early childhood classrooms, and that, overall, most states support and invest in the implementation of early learning standards by providing guidance, training, and assistance to support teachers to use the standards (Scott-Little et al., 2007). The most significant finding in this study was that attempts at alignment between the early learning standards and the K-12 standards continued to be an important issue. Data from this study indicated that every state had addressed alignment in some way, and that efforts at alignment impacted the

emphasis states put on the five dimensions of early development and learning. For example, in some states early learning standards were viewed as an extension downwards of the K-12 standards, with an emphasis placed on the consistency between the two sets of standards. Since K-12 standards are academic in nature, other dimensions in the early learning standards may have been left out because there were no corresponding K-12 standards, such as in the areas of Social and Emotional Development and Approaches Toward Learning. In some cases, states included standards in these dimensions even though they were not included in the K-12 standards (Scott-Little et al., 2006, 2007). The researchers found that 27 states used either the K-12 standards or only kindergarten standards as a foundation for developing their early learning standards. Two states even reported that they revised their kindergarten standards in order to be better aligned with their early learning standards (Scott-Little et al., 2007).

Scott-Little et al. (2005, 2007) suggested that early learning standards are a framework for improving early education, and that closely aligned early learning standards and kindergarten standards can promote consistency and continuity for children as they transition from preschool into kindergarten. The researchers asserted that the process of developing early learning standards should include open communication, articulation, and exchanges of information and experiences among all key stakeholders in order to insure valid, effective, and useful standards. Scott-Little et al. (2003, 2006) claimed that dialogue among these stakeholders is necessary for effective implementation because each group of stakeholders, including kindergarten teachers, makes an important contribution to conceptualizations of readiness and brings a unique perspective of what is important for children's readiness for school.

Overall, the Scott-Little et al. studies (2003b, 2005, 2006, 2007) indicated that states have placed a strong emphasis on the academic, content-related dimensions of Cognition and General Knowledge and Language Development. This emphasis reflects how states have conceptualized readiness and what states have claimed that children need to know and to be able to do prior to kindergarten. Scott-Little et al. (2003b, 2007), however, also identified a number of concerns that have been raised regarding the appropriateness of standards in early educational settings, including: (1) potential negative impacts and limitations for children with disabilities and children from homes whose primary language is not English; (2) the belief that the very nature of young children's development does not lend itself to "standards"; and (3) that "standards" for preschool aged children are counter to what is known about children's growth and development and may shift instructional methods more towards teacher-directed rather than child-initiated approaches (Copple & Bredekamp, 2009; Scott et al., 2003b, 2007).

A concern with particular significance for the current study is the finding that the states' standards put great emphasis on the Cognitive and General Knowledge and Language Development dimensions and an under-emphasis on the Social and Emotional Development and Approaches Toward Learning dimensions. These findings do not reflect evidence in current research that both supports the healthy development in all five dimensions and specifically articulates that social and emotional development are highly correlated with children's learning and school success (Bowman et al., 2000). Further, the states' emphasis in academic readiness is inconsistent with prior studies investigating kindergarten teachers' readiness beliefs. These studies indicate teachers place a strong emphasis on Social and Emotional Development, Physical Well-Being, and Approaches

Toward Learning and much less emphasis in academic content areas, as reflected in the dimensions of Cognition and General Knowledge and Language Development.

### *Alignment and Transition*

Kagan, Carroll, Comer, and Scott-Little (2006) claimed that alignment, or lack of alignment, among standards, curricula, and assessments has important implications for the degree to which children experience continuity as they transition from preschool to kindergarten. A smooth transition ultimately aids in children's readiness for kindergarten. Kagan et al. (2006) asserted that there is a need for *vertical alignment*—consistency and continuity between preschool and kindergarten. Kagan et al. (2006) claimed that with effective vertical alignment, preschool's early learning standards and kindergarten's content standards will fit together and build on one another. They asserted that early learning standards, curricula, and assessments all need to be implemented and incorporated into a coherent accountability system.

Whereas efforts to provide consistency and continuity across settings in standards, curricula, and assessment is often referred to as *alignment*, *transition* refers to practices that attempt to link and support the move from preschool to kindergarten. Transition efforts are essential for promoting continuity for children and facilitating their adjustment to kindergarten (Kagan et al., 2006; LoCasale-Crouch, Mashburn, Downer, & Pianta, 2008). Aligned with the NEGP's focus on "ready schools," the ecological perspective of transition (Pianta, Rimm-Kaufman, & Cox, 1999; Rimm-Kaufman & Pianta, 2000) recognized that the successful transition from preschool to kindergarten requires more than ensuring that children have readiness competencies. The purposeful coordination and positive interactions between preschools, elementary schools, the child, and the

family is essential for providing smooth transitions to provide children with positive experiences at the start of school that consequently support children's early school success (LoCasale-Crouch et al., 2008).

Transition practices are the use of specific activities that facilitate this continuity and foster the interrelationship among the various contexts. These practices have been shown to facilitate quicker social and emotional adjustment to kindergarten, allowing children to take better advantage of learning opportunities in the classroom. Further, evidence suggests that better social and emotional adjustment to the kindergarten classroom is a precursor to and predictor of later school success (Rimm-Kaufman & Pianta, 2000). Since the goals, demands, and expectations of kindergarten are different from those of preschool, and because of children's diverse experiences preceding kindergarten, some children are more successful than others in meeting the new demands of kindergarten. Evidence suggests that children may even be at greater risk for school failure and social adjustment problems when they experience an ineffective transition between preschool and kindergarten (LoCasale-Crouch et al., 2008).

Although transition practices have benefits for kindergarten teachers, as well, such as information-sharing with preschool teachers and families and knowing more about incoming students, transition practices have been identified as an underutilized means of preparing children for the adjustment to kindergarten (Early, Pianta, Taylor, & Cox, 2001; Rimm-Kaufman, Pianta, & Cox, 2000). A nationally represented sample of 3,595 public school kindergarten teachers reported on their use of practices related to the transition of children into kindergarten during the 1996-1997 year in the National Center for Early Development and Learning's (NCEDL) *Transition Practices Survey*. The

survey was designed to gather comprehensive information on transition practices used for children entering kindergarten and first grade and to collect information on the prevalence of children's problems with the transition to kindergarten. A 36% response rate resulted in the 3,595 completed questionnaires (Pianta, Cox, Taylor, & Early, 1999).

Pianta, Cox, et al. (1999) found that, although some form of transition practice was universal, the most frequently reported practice, employed by 95% of the sample, was talking with the child's parents(s) once school began. The most frequently reported practices were those that occurred after children had begun kindergarten, and are what LoCasale-Crouch et al. (2008) described as "too little, too late, and too impersonal" (p. 126). These practices most commonly involved low-intensity contact, such as flyers, brochures, and group open houses, and were aimed at the whole class or school (Early et al., 2001; Pianta, Cox, et al., 1999). Practices that were the most time-intensive and involved individualized contact with children or families before the start of school were among practices used the least frequently. Common barriers to implementing transition practices reported by teachers included class lists generated too late, summer work not supported by salary, and a lack of a transition plan in the district (Early et al., 2001).

Rimm-Kaufman et al. (2000) used data from the NCEdL's *Transition Practices Survey* to examine kindergarten teachers' judgments of the prevalence and types of problems children experience upon kindergarten entry. One of the questions in the survey asked teachers, "Based on your experience, for how many children in a typical class are the following characteristics a problem when they enter kindergarten?" (Rimm-Kaufman et al., 2000, p. 155). The following twelve problems were listed: (1) "lack of academic skills;" (2) "difficulty following directions;" (3) "difficulty working as part of a group;"

(4) “problems with social skills, getting along with other children;” (5) “difficulty working independently;” (6) “difficulty communicating/language problems;” (7) “lack of any formal preschool experience;” (8) “highly academic preschool experience;” (9) “nonacademic preschool experience;” (10) “disorganized home environments;” (11) “immaturity;” and (12) “other.” Response options included: (1) “none;” (2) “a few;” (3) “about one fourth of the class;” (4) “about half of the class;” or (5) “more than half of the class.” Findings indicated that over one-third of the teachers reported that “about half the class or more” entered kindergarten with “difficulty following directions,” “lack of academic skills,” “disorganized home environment,” and “difficulty working independently.” Forty-six percent of the teachers reported that “about half the class or more” had “difficulty following directions,” whereas only 14% of the teachers reported that “about half the class or more” had “difficulty communicating/language problems” (Rimm-Kaufman et al., 2000).

Nine common transition practices identified from the NCEDL’s *Transition Practices Survey* (Pianta et al., 1999) included: (1) preschool children’s visits to kindergarten classes, (2) preschool teachers’ visits to kindergarten classes, (3) kindergarten teachers’ visits to preschool, (4) spring orientation meetings for preschool children, (5) spring orientation meetings for preschool children’s parents, (6) school-wide elementary school activities for preschool children, (7) individual meetings between preschool teachers and preschool children’s parents about kindergarten, (8) preschools sharing written records about children’s preschool experience with elementary school, and (9) contact between preschool teachers and kindergarten teachers regarding curriculum and/or specific children (LoCasale-Crouch et al., 2008).



LoCasale-Crouch et al. (2008) conducted a study using data from the NCEDL Multi-State Study of Pre-Kindergarten to investigate both the frequency that pre-kindergarten teachers use transition practices and also the extent to which these practices are associated with kindergarten teachers' judgments of children's behavior and skills at kindergarten entry. Participants were 722 prekindergarten children from six different states and the prekindergarten teachers from the 214 classes in which these study children were enrolled. The teachers reported on the extent to which they used the nine different transition practices identified above in the NCEDL transition study throughout the prekindergarten year. During the fall of the kindergarten year, kindergarten teachers completed the Teacher-Child Rating Scale, measuring children's social and emotional competencies, and the Academic Rating Scale, measuring teachers' perceptions of children's language and literacy skills. Prekindergarten teachers reported implementing an average of 6 transition activities, with a range of 0-9. The most frequently reported practice (78%) was prekindergarten teachers sharing written records about children's prekindergarten experiences with the elementary schools. This was followed by prekindergarten teachers visiting the kindergarten classes (78%) and prekindergarten children visiting the kindergarten classes (74%). The least frequently reported practice (42%) was kindergarten teachers visiting prekindergarten classes.

LoCasale-Crouch et al. (2008) concluded that the number of transition practices implemented is positively associated with kindergarten teachers' perceptions of children's social competencies and language and literacy skills. In their study, the positive influence of transition practices on kindergarten teachers' ratings of individual children was found to be stronger for children who experienced social and economic risk.

The researchers reasoned that transition practices in preschool were not only positively associated with children's readiness and adjustment to kindergarten, but that these practices also supported vertical transition, such as linkages between preschool classrooms and kindergarten classrooms, and between preschool teachers and kindergarten teachers. The researchers asserted that outreach efforts between kindergarten and preschool continued to be an underutilized and overlooked practice that has important implications for children's adjustment and readiness to kindergarten.

Findings from these studies investigating transition practices are relevant to the current study. They add insight to understanding of what kindergarten teachers do to promote children's positive adjustment to school, as well as help to better understand the problems that kindergarten teachers perceive that their students face at the start of kindergarten. Common themes that emerged from these studies included teachers' perceptions that a high percentage of children enter kindergarten with a lack of academic skills and with problems following directions and working independently. These problems have significant implications for the shifting academic expectations that children face from preschool to kindergarten and the expectations that kindergarten teachers have for incoming students. Further, these problems are consistent with many competencies that kindergarten teachers identify as important for kindergarten readiness as well as the states' emphasis on academics in early learning standards.

## Section Two

The beliefs, views, and expectations that kindergarten teachers hold about kindergarten readiness are themes not frequently represented in the research literature. Although researchers have examined teachers' views towards readiness, their

investigations have not specifically addressed the degree of importance that kindergarten teachers place on specific characteristics, skills, and abilities that they believe are important for children to demonstrate as they enter kindergarten. The first section of this literature review includes four studies that examine different aspects of kindergarten teachers' perceptions of kindergarten readiness. This is followed by three further studies that investigate and compare kindergarten teachers, parents, and preschool teachers beliefs toward readiness.

### *Kindergarten Teachers' Perceptions of Readiness*

Two large-scale studies conducted by the National Center for Education Statistics (NCES) in 1993 and 1999 used nationally representative samples of kindergarten teachers for the purpose of collecting data on their background characteristics, instructional practices, and beliefs about kindergarten readiness. The first was the NCES study conducted in 1993 by Heaviside and Farris. The second was the Early Childhood Longitudinal Study (ECLS-K) conducted between 1998-1999 (West, Denton, & Germino Hausken, 2000). Both studies, although conducted between 10-6 years ago, are frequently cited in the research literature as seminal studies with exceptionally large sample sizes specifically investigating kindergarten teachers' perceptions of readiness.

The first study (Heaviside & Farris, 1993) is particularly relevant to the current study for two reasons. First, it was conducted at the request of the National Education Goals Panel (NEGP) as a component in the process of developing consensus on the definition of school readiness. Second, kindergarten teachers were asked to rate the importance of various "qualities" of school readiness according to their personal beliefs.

The purpose of the 1993 NCES survey (Heaviside & Farris, 1993) was to obtain information about public school kindergarten teachers' views on a number of issues related to school readiness, specifically teachers' beliefs about school readiness, the characteristics of the classes, teachers' practices in these classes, and teachers' background characteristics. Because the study was exploratory in nature, one of the researchers' goals was to analyze the relationships among a wide range of individual variables to kindergarten readiness beliefs. These variables were comprised of school characteristics, including school and class enrollment size, region, percentage of minority enrollment, percentage of students receiving free or reduced-price lunches, type of kindergarten program (such as full/half day, transitional/traditional), teacher characteristics (such as number of years teaching kindergarten), and race/ethnicity.

The sample in the Heaviside and Farris (1993) study included 1,339 kindergarten teachers from a stratified sample of 860 public schools. Teachers were mailed the surveys and were requested to respond to questions regarding the frequency of instructional practices in the classroom, the extent to which they agreed or disagreed with statements about readiness, and to rate the importance of 15 characteristics of readiness. Finally, they were asked to select what they believed were the three most essential characteristics. The 15 characteristics were listed randomly in one scale measuring general readiness. Response options were on a 5-point Likert scale ranging from "not at all important" to "essential," with only the endpoints labeled. Teachers were also asked to respond to 17 questions indicating the extent of their agreement with various beliefs about readiness on a 5-point Likert type scale, ranging from "strongly

disagree,” “disagree,” “neutral,” “agree,” and “strongly agree” (Heaviside & Farris, 1993).

Ninety-six percent of the participants reported that being physically healthy, rested, and well-nourished was either “very important” or “essential” for kindergarten readiness; 84% believed that the child’s ability to communicate his or her needs, wants, and thoughts verbally in the child’s primary language was “very important” or “essential,” and 76% of the teachers believed that enthusiasm and curiosity in approaching new activities was “very important” or “essential.” Other characteristics that teachers rated as “very important” or “essential” were the ability to “follow directions” (60%), “not being disruptive in class” (60%), “being sensitive to other children’s feelings” (58%), and “the ability to take turns and share” (56%). Teachers placed less importance on “knowing English” (42%), “the ability to sit still and pay attention” (42%), and “finishing tasks” (40%). Teachers ranked as least important “problem-solving skills” (24%), the “ability to identify colors and shapes” (24%), the “ability to use pencils and paintbrushes” (21%), “alphabet knowledge” (10%), and “counting to 20 or more” (7%). Responses also indicated that teachers were unanimous in their beliefs that parents have an important role in preparing children for school. Ninety-nine percent of teachers believed that “parents should read to their children and play counting games at home regularly,” yet only 27% of the teachers believed that “parents should make sure that their children know the alphabet before they begin kindergarten.” (Heaviside & Farris, 1993, p.8)

Teachers were almost unanimous (94%) in their beliefs that it is the teacher’s responsibility to build readiness skills in the kindergarten classroom once the child

begins school. Most teachers (88%) also felt that readiness is developmental and cannot be forced. Teachers were split in their beliefs about sending children to kindergarten when they are age eligible even if they do not demonstrate readiness skills—56% of the teachers believed that children should begin kindergarten anyway, and 55% of the teachers believed in waiting a year before beginning. Almost half of the teachers believed that children who begin formal reading and math instruction in preschool will not be more successful in elementary school (46%), and less than half (45%) agreed that parents should teach their children the alphabet. Only 53% of the teachers agreed or strongly agreed that preschool is very important for kindergarten success (Heaviside & Farris, 1993).

Survey responses indicated that school poverty status, geographic region, minority enrollment, and the teacher's race/ethnicity impacted the degree of importance teachers reported on specific indicators of readiness. Teachers in schools with low levels of poverty rated a child's ability to take turns and share as very important or essential in greater numbers than teachers in schools with high poverty levels (64% versus 52%). Eighty-four percent of teachers in schools with lower minority student enrollment rated enthusiasm and curiosity as very important or essential, while fewer teachers (71%) in higher minority enrollment schools rated it as very important or essential. About half (53%) of teachers in schools located in rural areas believed that English language proficiency was essential, whereas 35% of teachers in urban fringe and 37% in city schools thought it was very important or essential. Responses among non-White teachers with less than five years experience who taught in urban schools with a high minority enrollment and a high percentage of students eligible for free or

reduced-lunch indicated that they agreed or strongly agreed that (1) “attending preschool is very important for kindergarten success,” (2) “children who begin formal reading and math in preschool will be more successful in elementary school,” and (3) “parents should make sure their children know the alphabet before starting kindergarten” (responses ranging from 34%-74%). White, non-Hispanic teachers in schools with low percentages of both minority students and students eligible for free or reduced-priced lunch in rural schools were the most likely (ranging from 59%-66%) to indicate they would suggest an “unready” but age-eligible child wait a year before entering kindergarten. Responses also indicated that Black, non-Hispanic teachers placed greater importance on “counting” (23%) than White teachers (6%) and those of all other races (8%), and they also placed a greater emphasis on children “knowing the letters of the alphabet” before beginning school (30%) than both White teachers and those of all other races (9%). There was less variance in responses among ethnic groups in reporting emphasis of importance on social skills. Teachers of all ethnicities were within close range in their beliefs that it was very important or essential for children to be “physically healthy, rested, and well-nourished” (92-99%) and to “take turns and share” (55-63%) (Heaviside & Farris, 1993).

Although a number of important findings emerged in this study, there were also four identified limitations. First, this study was conducted almost two decades ago. Kindergarten state content standards have become more academic, and teachers’ readiness beliefs and expectations may have changed because of more rigorous demands on and expectations of kindergarten students today. Second, teachers were asked to respond to only 15 qualities of readiness and 17 statements about readiness,

limiting more detailed findings. Third, some of the language used to describe the qualities were vague and without specific meaning, such as “knows the English language” and “knows the letters of the alphabet.” Finally, only 58% of the teachers completed the questionnaire by mail. The other 42% responded to the survey by a telephone interview, which may have led to some response bias among participants.

Of particular significance to the current study is that, overall, teachers placed the greatest emphasis on children’s physical health, on their ability to communicate needs, wants and thoughts verbally, and on their approaching new activities with enthusiasm and curiosity. Teachers, overall, placed much less emphasis on the importance of academic skills, such as entering kindergarten knowing the letters of the alphabet and being able to count to 20 or above. Further, most teachers agreed that readiness for school occurs as children mature and grow and cannot be pushed. These findings have important implications for the current study, suggesting that teachers believe it is their responsibility to teach the skills children will need in kindergarten *during* the kindergarten year, and that pre-academic skills are not as important for entering kindergartners as other non-academic readiness skills.

The second large-scale NCEES study that examined teacher qualifications, background characteristics, practices, and beliefs was the Early Childhood Longitudinal Study (ECLS-K) (West et al., 2000). Data were collected from 3,305 kindergarten teachers in both public and private schools across the country. As part of this study, teachers in the ECLS-K sample (N = 3,305) completed the *Kindergarten Teacher Questionnaire* consisting of three sections (A, B, and C) and questions regarding classroom characteristics, teacher qualifications, instructional practices, and evaluations



of students' academic performance and social skills (U.S. Dept. of Ed., 1999). Of particular interest to the current study are the questions in Section B, which asked teachers about their view of kindergarten readiness, their school climate, and their school environment. In Section B, question 7 asked teachers to rate the level of importance of 13 characteristics of readiness on a 5-point scale labeled (1) "not important," (2) "not very important," (3) "somewhat important," (4) "very important," and (5) "essential." These 13 items were almost identical to the 15 items in the 1993 NCES study (Heaviside & Farris, 1993) and were also categorized within one scale of readiness characteristics. However, two critical items from the 1993 survey—"is physically healthy, rested, well nourished," and "is enthusiastic and curious in approaching new activities"—were deleted from the ECLS-K study.

Findings from Section B of the ECLS-K questionnaire (U.S. Dept. of Ed., 1999) have not been published by NCES at this date, and a statistical analysis of the data files are out of the scope of the current study. Lin, Lawrence, and Gorrell (2003), however, used the kindergarten teacher data (N = 3,305) collected in the ECLS-K study to examine kindergarten teachers' perceptions about readiness and the extent to which kindergarten teachers in different school contexts and with different personal characteristics varied in their views about readiness. The researchers hypothesized that the 13 items in question 7 of Section B of the *Kindergarten Teacher Questionnaire* represented two constructs—academic expectations and social expectations—and that these two constructs were related. The means of these two constructs were thought to be a function of the predictor variables: teacher characteristics, such as age, gender, ethnicity, certification, education level, years of teaching experience; and school

characteristics, such as the type (public or private), region, community size, and percent minority student enrollment. A Multiple Indicator Multiple Cause (MIMIC) model was used to evaluate the hypotheses. Descriptive statistics indicated that the item with the greatest variability was “knows English” ( $M=3.44$ ,  $SD=1.02$ ), and the item showing the least variability was “takes turns/shares” ( $M=3.87$ ,  $SD=.68$ ) (Lin et al., 2003). The current study utilized some of the same demographic variables which may provide information for further exploratory analysis of relationships between teacher and school characteristics and kindergarten readiness beliefs.

The key finding in this study was that kindergarten teachers perceived social attributes as more important than academic skills. Almost 84% of the teachers rated “tells needs/thoughts” as “very important or essential,” 79% rated “not disruptive of the class” as “very important or essential,” 78% rated “follows directions” as “very important or essential,” and 74% rated “take turns and shares” as “very important or essential.” In comparison, less than 15% rated “counts to 20 or more” as “very important or essential,” 21% rated “knows most of the alphabet” as “very important or essential,” and 32% rated “names colors and shapes” as “very important or essential” (Lin et al., 2003).

Age was found to be associated with differences in teachers’ perceptions of academic skills, but not with social skills. The age range for teachers in the study was 24-58 years, with a median of 42 years. Older teachers were less likely to rate academic skills as very important or essential than younger teachers, but there were no statistically significant differences between these two groups with regard to social skills. The researchers concluded that there was an insufficient amount of male teachers in the sample (2%) to find the effects reliable for gender differences (Lin et al., 2003).

One weakness in the ECLS-K study (West et al., 2000) was the deletion of the two items, “is physically healthy, rested, well-nourished,” and “is enthusiastic and curious in approaching new activities,” because these items represented the dimensions of Physical Health and Approaches Towards Learning that were not well represented, and because teachers in the 1993 study rated them so highly (Heaviside & Farris, 1993). Of particular significance to the current study is that Lin et al. (2003) conducted a factor analysis as part of the statistical analysis of the ECLS-K data. Although there were only 13 items in the scale, the factor analysis discriminated between only social and academic constructs. Other constructs, such as Physical and Motor Development (“uses pencil, brushes”), Approaches Towards Learning (“finishes tasks”), and Language and Communication (“knows the alphabet”) were embedded within these two factors. In the current study, the exploratory factor analysis was unconstrained and did not discriminate solely between social and academic constructs.

The findings in the Lin et al. (2003) study are consistent with the findings in the 1993 teacher readiness survey (Heaviside & Farris, 1993). In both studies, 84% of the teachers responded that it was very important or essential for children to be able to communicate their needs, wants and thoughts. Teachers in both studies reported that they placed greater importance on the social aspects of readiness, such as following directions and being sensitive to other children’s feelings, than on academics skills, such as counting to 20 or knowing the letters of the alphabet.

Smith and Shepard (1988) conducted one of the first and most important studies investigating kindergarten teachers’ readiness beliefs and kindergarten retention practices. This frequently cited qualitative study included the collection of four sources of

data: kindergarten teacher interviews, observations of kindergarten classes, analysis of documents, and semistructured interviews with parents. The sample was comprised of 44 kindergarten teachers in a predominantly middle class, generally well-educated school district, with no more than 20% ethnic or linguistic minority composition and including both rural and suburban schools. The purpose of the study was to help the school district in which the study took place establish policy regarding the process and criteria for grade promotion.

First, 40 of the 44 kindergarten teachers were interviewed, using a semi-structured, clinical interview format using a “case knowledge” methodology. Interviewers asked a series of indirect and direct questions, working under the concept that teachers’ beliefs are best known by inference from their “case knowledge.” Case knowledge was defined by the researchers as knowing *what* to do, based on prior experience, rather than *why*. Teachers’ answers, therefore, revolved around students’ readiness experiences in their classrooms. A list of 47 categories was developed from the initial research questions, and categorization of teachers’ beliefs about readiness and retention was constructed (Smith & Shepard, 1988).

Six schools were then selected for classroom observations. These included two schools with high-retaining and three with low-retaining kindergartens, and one school with both a developmental kindergarten and a transition class. Various documents on school readiness and retention policies, test results, and student records were also reviewed by the research team. Finally, samples of parents of children were interviewed for the purpose of understanding the parents’ perspective of their children’s progress through kindergarten, first grade, and readiness for second grade.

The analysis of data led the researchers to four conclusions. First, teachers' beliefs about developing readiness fell along a dimension of *nativism*, "an internal, organismic process unrelated to environmental intervention" (Smith & Shepard, 1988, p. 314). Second, teachers' beliefs about developing readiness were related to retention practices. Third, teachers' beliefs about retention were different from those of parents. Fourth, teachers' beliefs about readiness and retention practices were related to school structures. The researchers found that teachers were divided between those who believed that readiness is developmental and unfolds in stages outside the influence of parents and teachers, and those who believed that readiness can be influenced by some kind of intervention, including teachers, parents, caregivers, and the school environment (Smith & Shepard, 1988).

After the researchers reviewed the transcripts, they found that seven categories of teacher beliefs emerged. These included beliefs about: (1) the nature of development, (2) rates of development, (3) evidence for lack of a child's preparation for school, (4) the possibility of catching up, (5) influencing a child's preparation for school, (6) causes of lack of preparation, and (7) what the teacher can do (Smith & Shepard, 1988). Smith and Shepard (1988) concluded that the structuring of kindergarten places constraints on what teachers can do in class, and in turn might influence their belief systems. The researchers noted that one school in the study had very little emphasis on designing instruction to meet the needs, interests, or developmental readiness of the children; instead, the needs of the school emphasized efficiency and order. The researchers found that expectations for kindergarten performance, as well as parental pressure for academics, established a context that affected teachers' beliefs. The researchers concluded that teachers' use of

retention may have been in response to the demands of the school and standards for academic performance and behavior.

Four key findings emerged from Smith and Shepard's (1988) study. First, teacher beliefs and practices were not always congruent and were influenced by the specific educational and social context, school structure, and school climate. Second, there was consensus among teachers that retaining a student for lack of competence or maturity was viewed as positive. Third, teachers' beliefs about readiness and retention were shared within a school. Finally, both formal and informal pressures at school, such as the downward push of academic curriculum, parental pressure, and expectations from first grade teachers influenced the structure of kindergarten, which in turn, impacted teachers' beliefs. Although the current study did not examine specific reasons for teachers' perceptions of readiness as children enter kindergarten, nor did it examine the sample's demographic data to investigate the influences of teachers' backgrounds, experiences, and school structures, it found that the beliefs kindergarten teachers hold about readiness today are similar to many of the same beliefs that emerged from Smith and Shepard's (1988) study.

#### *Readiness Perceptions of Kindergarten Teachers, Preschool Teachers, and Parents*

One of the first studies to examine expectations for school readiness among both kindergarten and preschool teachers was conducted by Hains, Fowler, Schwartz, Kottwitz, and Rosenkoetter (1989). This frequently cited, descriptive study was designed to investigate the extent to which preschool teachers' perspectives on readiness skills matched kindergarten teachers' perspectives, and to assess preschool and kindergarten teachers' expectations for readiness. The researchers in this study hypothesized that a

better understanding of these perceptions and expectations could help facilitate the transition process from preschool to kindergarten. Although this study was conducted 20 years ago, it is of great relevance today, and it is of particular importance to the current study since it investigated perceptions of both preschool and kindergarten teachers that could aid in strengthening alignment and transition practices.

Twenty-one randomly selected preschool teachers and a convenience sample of 28 kindergarten teachers from two school districts were chosen to participate in the study. The preschools, day care centers, and both school districts were located in two counties in Kansas, one of which was rural, and the other contained a university community. The preschool teachers taught an average of seven years, and their classrooms had an average of 16 children, typically including one child with a mild disability. The kindergarten teachers taught an average of nine years, and the average number of children in their classrooms was 23, typically including three mildly disabled children (Hains et al., 1989).

The Skill Expectations Survey for Kindergarten Readiness (SESKR) was designed by the researchers for the purpose of the study (Hains et al., 1989). A graduate student using an interview protocol administered the survey to each teacher. Each teacher was given the survey to follow along with while the interviewer read the questions and recorded the responses. The survey consisted of two sections: one requesting demographic information and one comprised of nine skill categories: Academics, Independent Work, Instruction-Following, Activity Transitions, Communication, Social Interaction, Self-Care, Large Group Participation, and Conduct. A total of 153 specific skills across the nine categories ranged from 6 to 41, with an average of 17 items per category. Each teacher was asked to rate the importance of a student being able to

accomplish each skill at a certain point in time by responding to each item on a 3-point scale ranging from (1) “not important,” (2) “somewhat important,” and (3) “very important.” Preschool teachers were instructed to rate the importance of attaining each skill by the time a child exited preschool. Kindergarten teachers were instructed to rate the importance of a child attaining each skill at three points: kindergarten entry, by the middle of kindergarten, and at kindergarten exit.

Overall, the preschool teachers rated 78 items (51%) as “very important,” including items from each of the nine categories. Kindergarten teachers, in comparison, rated only six items (4%) as “very important” at kindergarten entry from only three categories: Academic, Self-Care, and Communication. They rated 49 items (32%) as “very important” by the middle of kindergarten, including some items from all nine categories, and they rated 122 items (80%) as “very important” by the end of kindergarten (Hains et al., 1989).

A finding of particular significance in this study was the discrepancy found between the number of items (78) that preschool teachers viewed as “very important” by kindergarten entry and the number of items (6) that kindergarten teachers viewed as “very important” at kindergarten entry. This finding is consistent with one from the Heaviside and Farris study (1993), suggesting that kindergarten teachers felt it was their responsibility to teach important readiness skills during the kindergarten year. Closer investigation of two Academic items—“label eyes, nose, label hands, head, legs,” and “label red, blue, yellow, green”—is of interest, however, as they were not in concordance with items identified as academic in other studies, such as knowing the alphabet and counting. Overall, the emphasis which kindergarten teachers placed on the social,



emotional, and approaches towards learning constructs in the current study is consistent with those in the Hains et al. (1989), study suggesting that kindergarten teachers today still believe that academic skills are more appropriately taught during the kindergarten year rather than prior to kindergarten.

At the end of the Hains et al. (1989) survey all teachers were asked to make a forced-choice ranking for the nine categories, from most important to least important. Although the preschool and kindergarten teachers both rated the same top five categories as most important in the forced-choice ranking, they were in a different order. Hains et al. (1989) found that the preschool teachers rated Social Interaction, Communication, Instruction-Following, Conduct, and Self-Care as most important, and the rankings by the kindergarten teachers, although not temporally differentiated by beginning, middle, and end of kindergarten, were Conduct, Instruction-Following, Self-Care, Social Interaction, and Communication.

Hains et al. (1989) concluded that the views of the kindergarten teachers in this study may have been reflective of the less stringent expectations in these two Kansas communities and the fact that half of the children in their classrooms had not attended preschool or childcare. The researchers suggested that, while the kindergarten teachers indicated a willingness to teach young students necessary skills during the kindergarten year, the preschool teachers' higher expectations of children's exit skills may have been reflective of their misperceptions of an increase in academic expectations in kindergarten or pressure from parents to provide more academics in preschool.

There are five weaknesses in this study. The first is that the survey consisted of 153 specific skills across the nine categories, ranging from 6 to 41 items in each category.

Kindergarten teachers were asked to respond to each of the 153 items three times during the year, resulting in 612 responses--an unusually large amount. Second, 21 preschool teachers and 28 kindergarten teachers comprised a small sample size. Third, since the survey was administered using an interview protocol, there is a strong chance that response bias occurred since teachers could not be anonymous in their responses. Fourth, a 3-point rating scale limited the range of responses. Fifth, the reporting of the ranking of nine skill categories appeared to be inaccurate because the mean scores were greater than any points on the response scale.

Another study designed for the purpose of examining beliefs and expectations about school readiness among parents and professionals used focus group methodology. Wesley and Buysse (2003) chose to use this methodology in order to obtain an in-depth analysis of perceptions, experiences, and issues addressing school readiness. In order to accommodate the range and variation in opinions on specific readiness issues, the researchers expected to gain new insights through the group dynamics that might not occur through individual interviews.

The Wesley and Buysse (2003) study was developed at the request of a state-level administrator in the North Carolina Department of Public Instruction. The researchers worked with larger teams to identify the research questions and design the study. The 12-15 member teams included public school classroom teachers, preschool coordinators, elementary school principals, state agency administrators, and university-based inclusion specialists. By including the professionals in these development teams in order to carry out the research plan, the researchers recognized that this was an alternative to traditional methods of conducting research “by shifting the focus from mastery as residing with the

experts to mastery as residing within the practice community, with the ultimate goal of integrating educational research and practice” (Wesley & Buysse, 2003, p. 354). Of particular significance to the current study is the inclusion of public school classroom teachers on the teams, since research has indicated that teachers are not often solicited for their opinions and beliefs regarding policy and instructional practice.

Of the 118 participants in the Wesley and Buysse (2003) study, 36 (31%) were kindergarten teachers, 25 (21%) were preschool teachers, 25 (21%) were parents of currently enrolled kindergarten students, and 25 (21%) were elementary principals. Twenty focus groups were formed from five communities representing a mix of rural and urban, large and small schools, and included schools with culturally diverse student populations. Elementary school principals were invited to participate within determined geographic regions, and prekindergarten and kindergarten teachers were invited within a subset of randomly selected schools. Within the randomly selected schools, two kindergarten classes were further randomly selected, and all parents of children enrolled in those classes were invited to participate, with the offer of a \$35 stipend.

Focus group discussions lasted approximately one hour. A member of the research team trained as a focus group facilitator led each discussion. All group discussions followed the same format, and facilitators addressed a standard set of seven open-ended questions about school readiness. Each focus group discussion was audio taped, and written observations of each discussion were recorded. A thematic content analysis was conducted to produce themes and conceptual categories that emerged. Thematic categories were established, and within each of these categories, themes that reflected majority opinion and those that were expressed by only one or a few

respondents were considered. A comparison of the thematic categories was made by a second researcher and was compared with the first. A summary of the findings was mailed to all participants, inviting them to give feedback on the accuracy and comprehensiveness of the findings. Wesley and Buysse (2003) reported that the participants' responses to the summaries indicated that the findings accurately described their focus group discussions.

Wesley and Buysse's study (2003) contributed a number of important findings related to instructional practices in kindergarten and how children learn best prior to kindergarten. Six important themes emerged with particular significance to the current study. First, all participants in the focus group stressed the importance of social and emotional development and language and communication, while de-emphasizing academic skills. Second, all participants were in agreement that many factors besides chronological age influence a child's readiness for school, including living in families whose first language is not English, socioeconomic status, cultural differences, life experiences, and developmental delays or disabilities. Third, preschool teachers emphasized the importance of building children's confidence, encouraging creativity and curiosity, and engaging their attention. They expressed concern for children entering kindergarten unprepared for the academic work expected of them. Fourth, kindergarten teachers expressed tension in their inability to balance their personal beliefs about child development and how children learn with the demands to conform to expectations and pressures they felt from school standards and first grade teachers. Kindergarten teachers reported that kindergarten exit skills impact the need for children to demonstrate kindergarten entry skills, and therefore the teachers stressed the importance of all

children attending preschool in order to prepare them for kindergarten. Fifth, kindergarten teachers and principals agreed that parents play a critical role in teaching their children readiness skills, but they recognized that parents need to be educated in how to teach their children these things. Principals and kindergarten teachers also acknowledged the wide range of abilities and the diversity of children in each kindergarten class. Finally, Wesley and Buysse found that all participants agreed that schools are not ready for all children. Participants expressed the need for transition practices and an increase in communication and collaboration among families, schools, and communities concerning kindergarten expectations. In addition, teachers and principals felt that legislators, board members, and school administrators have little experience in kindergarten classrooms and are isolated from kindergarten teachers and the diversity of their student and family populations.

Wesley and Buysse's (2003) study made important contributions to the knowledge base about kindergarten readiness. The unique focus methodology was well designed and conducted. Specifically, the facilitators were prepared with several prompts to be used if necessary to clarify responses or expand discussion around an issue, such as, "You've mentioned the importance of children being confident and independent. How important is it for children to know basic concepts?" (Wesley & Buysse, 2003, p. 356). Additionally, the study team chose to concentrate on general notions of readiness rather than on current policies. To ensure that all participants had the opportunity to express their views, facilitators asked participants if they had anything more to say before moving onto the next question. The procedures for sampling, conducting the focus group, and for data analysis were described in great depth, allowing for replication of this study. The

study had three limitations, however, regarding the sample. One was the small number of parents (25), with only four fathers among them. Second, participants were from only 10 counties within one state. Finally, only 36 kindergarten teachers participated in the focus groups, making it difficult to generalize the findings. Yet, the findings from the Wesley and Buysse study (2003) are relevant to the current study. Although the teachers in the current study were not solicited as to the reasons they perceive readiness as they do, the kindergarten teachers in the Wesley and Buysse study (2003) unanimously expressed feeling pressure from school standards, kindergarten exit skills, and first grade teachers that they indicated influenced their beliefs about children's readiness.

In another study investigating kindergarten readiness beliefs of parents, preschool teachers, and kindergarten teachers, Piotrkowski et al. (2000) designed the *Community Attitudes on Readiness for Entering School* (CARES) survey. The purpose of their study was to systematically compare the beliefs of parents, preschool teachers, and kindergarten teachers in one high-need urban school district in New York State. Recognizing that inconsistencies in readiness expectations can be harmful to young children, the researchers suggested that it was especially important to investigate the differences in readiness beliefs and expectations among parents, preschool teachers, and kindergarten teachers because they all shared in the responsibility for educating young children. Additionally, students in high-need communities are especially at increased risk of school failure, experiencing high rates of grade retention, special education placement, and school drop-out.

The sample for the study was a densely populated urban public school district selected specifically because 90% of the largely Black and Hispanic student population in

the district were eligible for federally funded free lunches. The study population consisted of parents of preschoolers attending community-based preschools in the district, all the preschool teachers, all the parents of preschoolers in preschools operating in two elementary schools in the district, and all the kindergarten teachers in the district's schools. The final sample was comprised of 355 parents, 52 preschool teachers, and 57 kindergarten teachers (Piotrkowski et al., 2000).

The CARES survey was designed for the study by Piotrkowski et al. (2000) in order to measure parents' and teachers' beliefs about the importance of specific readiness resources. The researchers recognized that few studies have examined readiness beliefs with regard to multiple dimensions of children's readiness. Therefore, they designed the CARES survey, building upon the five dimensions of school readiness identified by the National Education Goal Panel (NEGP) and the researchers' conceptualization of school readiness.

Piotrkowski et al.'s (2000) conceptualization of readiness encompassed the shared responsibilities that families, communities, and schools have in providing nurturing environments that promote children's learning. The researchers identified a child's *personal readiness resources* as consisting of skills and abilities the child begins school with: health and self-care; regulation of emotion and behavior; appropriate interactions with adults and children; effective communication of needs and feelings; interest and engagement; motivation; motor skills; cognitive knowledge; and the ability to adjust to the demands of the kindergarten classroom.

Exploratory factor analyses were conducted separately for parents and teaching staff. In the teaching sample, 10 factors explained 64% of the variance, although the

researchers cautioned that the respondent –to-item ration was low (46 items to 152 respondents). Results of both factor analyses were used to create eight multi-item subscales reflecting Piotrkowski et al.'s (2000) conceptualization of readiness beliefs about children's school readiness resources. These subscales were: Advanced Knowledge, Basic Knowledge, Compliance with Teacher Authority, Self-Care, Emotional Maturity, Interest and Engagement to reflect approaches to learning, Compliance with Classroom Routines, and Motor Skills. Four single items did not meet criteria for inclusion in any subscale but were retained: Health, Peer Relations, Communicates in Own Language, and Communicates in English, resulting in 12 subscales.

The 12 subscales were encompassed within two domains, or scales, of readiness resources: General Readiness Resources and Classroom-related Readiness Resources. General Readiness Resources included seven subscales: Health, Peer Relations, Communicates in Own Language, Emotional Maturity, Self-Care, Interest and Engagement, and Motor Skills. The five subscales of Classroom-related Readiness Resources were Communicates in English, Compliance with Teacher Authority, Basic Knowledge, Compliance with Classroom Routines, and Advanced Knowledge. There were a total of 45 items within the 12 subscales. Respondents were asked to rate each item on a 4-point Likert-type scale labeled (1) "not too important," (2) "somewhat important," (3) "very important, but not essential," and (4) "absolutely necessary" (Piotrkowski et al., 2000). Since the design of the current study is similar, with 7 scales encompassing 43 indicators, the response options used in the Piotrkowski et al. (2000)



study were determined to be appropriate for those in the current study. All options were retained, with the exception of “absolutely necessary” being replaced with “essential.”

Multivariate analyses of variance (MANOVA) were conducted for both domains to assess group differences in dependent variables. For the General Readiness scale, the parents, preschool teachers, and kindergarten teachers were in agreement in their rankings of importance placed on all seven subscales, with the exception of Motor Skills. Kindergarten teachers rated Motor Skills as less important ( $M = 2.83$ ;  $SD = 0.71$ ) than did parents ( $M = 3.28$ ;  $SD = 0.70$ ) and preschool teachers ( $M = 3.17$ ;  $SD = 0.70$ ). Kindergarten teachers, preschool teachers, and parents all assigned the greatest importance to Health, with means respectively  $3.96$  ( $SD = 0.19$ ),  $3.73$  ( $SD = 0.66$ ), and  $3.79$  ( $SD = 0.62$ ). Kindergarten teachers were unanimous in their beliefs towards the single Health item, “is rested and well nourished; health care needs are met,” with 96% of the kindergarten teachers ( $N = 57$ ) rating it “absolutely necessary” with a very small variance in scores ( $M = 3.96$ ;  $SD = 0.19$ ). Kindergarten teachers rated Peer Relations next in importance ( $M = 3.67$ ;  $SD = 0.51$ ), followed by Communicates in Own Language ( $M = 3.60$ ;  $SD = 0.59$ ) (Piotrkowski et al., 2000) .

Kindergarten teachers also shared similar beliefs among themselves regarding their rating of one item within the subscale, Emotional Maturity: “Does not hit/bite, has self-control.” Eighty-nine percent of teachers rated this item “absolutely necessary.” Similarly, 86% of kindergarten teachers rated the item “Feeds self with fork” within the subscale Self-Care “absolutely necessary.” Parents’ beliefs about the importance of “Does not hit/bite, has self-control” were closely aligned with those of the kindergarten teachers, with 84 % of parents rating this characteristic as “absolutely necessary.” Means

of 3.51 or higher were also reported for the parents and preschool teachers for the scales of Health, Peer Relations, Communicates in Own Language, and Emotional Maturity, with Health also having the highest means for both parents ( $M = 3.79$ ;  $SD = 0.62$ ) and preschool teachers ( $M = 3.73$ ;  $SD = 0.66$ ) (Piotrkowski et al., 2000).

Both statistically significant within-group MANOVAs and one-way ANOVAs indicated that there were significant group differences for all five subscales in the Classroom-related Readiness scales. Although all groups rated Compliance with Teacher Authority as “absolutely necessary,” the means indicated that parents ( $M = 3.80$ ;  $SD = 0.46$ ) rated it as more important than did kindergarten teachers ( $M = 3.66$ ;  $SD = 0.54$ ) or preschool teachers ( $M = 3.52$ ;  $SD = 0.64$ ). Kindergarten teachers gave more importance to Compliance with Classroom Routines ( $M = 3.07$ ;  $SD = 0.62$ ) and the least importance to both Basic Knowledge ( $M = 2.81$ ;  $SD = 0.84$ ) and Advanced Knowledge ( $M = 2.15$ ;  $SD = 0.67$ ), whereas parents and preschool teachers put more emphasis on their beliefs of importance for both Basic ( $M = 3.70$ ;  $SD = 0.51$  and  $M = 3.22$ ;  $SD = 0.70$  respectively) and Advanced Knowledge ( $M = 3.15$ ;  $SD = 0.61$  and  $M = 2.62$ ;  $SD = 0.70$  respectively).

The discrepancy between the strong emphasis shared by parents and preschool teachers on academic-type skills found within the Basic and Advanced Knowledge subscales and the lower emphasis placed on these skills by kindergarten teachers becomes evident when reviewing the groups’ percentages of items rated as “absolutely necessary.” For the item, “Knows ABCs” within the scale Basic Knowledge, 82% of parents, 33% of preschool teachers, and only 19% of kindergarten teachers rated it “absolutely necessary.” Within the Advanced Knowledge scale, the item “Knows own address/telephone” was also rated as “absolutely necessary” by only 19% of kindergarten

teachers, while 70% of parents and 42% of preschool teachers rated it as “absolutely necessary” (Piotrkowski et al., 2000).

A number of important findings emerged from this study. First, parents, kindergarten teachers, and preschool teachers were all in agreement as to the importance they placed on a child’s health and compliance with teacher authority. Parents placed a greater emphasis on academically oriented skills than either group of teachers, especially the kindergarten teachers. Additionally, all groups rated emotional maturity, self-care, and eagerness to learn as very important. The findings are consistent with the Hains et al. (1989) study, indicating that both the preschool and kindergarten teachers viewed the social aspects of readiness as more important than the academic. The high response rate of the kindergarten teachers (89%) in the Piotrkowski et al. (2000) study has important implications for the current study, demonstrating kindergarten teachers’ apparent interest in the topic and the study, and their willingness to participate in the research.

There are two identified limitations to this study. The first is that the study was conducted in only one school district. Another limitation was the small sample size of both the preschool teachers ( $N = 52$ ) and the kindergarten teachers ( $N = 57$ ). The small sample size makes this study, like the Wesley and Buysse study (2003), difficult to generalize the findings. However, the findings are still relevant to the current study. The kindergarten teachers in the Piotrkowski et al. (2000) study shared similar beliefs with those in the current study regarding the importance of a child’s health, peer relations, emotional maturity, and self-care upon kindergarten entry. Furthermore, the exploratory factor analysis conducted in the Piotrkowski et al. (2000) study attempted to further explain new conceptualizations of readiness, as had been attempted in the current study.

Four weaknesses in the Piotrkowski study have been identified. First, some of the items in the survey included more than one characteristic, making the item ambiguous, such as “Is self-confident—Proud of his/her work,” in which two different indicators were combined in one item. Second, items such as “Knows ABCs” were vague in identifying exactly what skill was being measured. Third, the language used for the survey items was simplified and the number of items in the scales was reduced in order to accommodate both parents with limited education and preschool teachers. Therefore, the findings of kindergarten teachers’ perceptions may have been compromised. Finally, the design and reporting of the study, particularly regarding the division of the Resources into two scales and twelve subscales, made it challenging to review and interpret.

In summary, a strong emphasis in the studies reviewed was placed on survey design as the methodology for measuring teachers’ perceptions of readiness. Although focus groups and interviews were conducted, surveys, usually in the form of Likert scale questionnaires, were used most often in the studies reviewed and therefore have important implications for the Likert-style design of the survey instrument developed for the current study. Additionally, the use of a factor analysis in two of the studies (Lin et al., 2003; Piotrkowski, 2000) adds support for an exploratory factor analysis of the data in the current study.

A review of these studies pertaining to kindergarten teachers’ perceptions of school readiness has revealed a number of key findings. An emerging theme in these studies is that kindergarten teachers place the most emphasis for kindergarten readiness on children’s social abilities. Indicators such as sharing, taking turns, and being sensitive to the needs of others were found to have great importance in ratings of readiness

characteristics. Kindergarten teachers also rated indicators of approaches towards learning, such as enthusiasm and curiosity, as very important. Following directions, compliance with authority, communicating needs and wants effectively, and self-control were also highly rated as important skills for kindergarten. A child's health was found to be essential among kindergarten teachers, parents, and preschool teachers, as well. Although parents were in agreement with most of what kindergarten teachers reported, parents placed greater importance on children's academic abilities, such as counting and knowing the alphabet. Although preschool teachers also agreed that health and social skills were important, they reported concern over children entering kindergarten unprepared for the academic rigor facing them.

One particular finding having important implications for the current study was the indication that kindergarten teachers believed it is their responsibility to teach the skills children will need in kindergarten *during* the kindergarten year, with the provision that children are healthy and well-rested, are able to communicate their needs and wants effectively, and follow teachers' directions, take turns and share. Kindergarten teachers also agreed that attendance in preschool is an important component in preparing children for kindergarten.

### Summary

The National Education Goals Panel (NEGP) multidimensional framework provides a foundation for the development of states' early learning standards and provides a theoretical framework for the current study. The NEGP framework made a valuable contribution to the field of early childhood education by identifying dimensions of early learning and development grounded in empirical research associated with

readiness for school. Additionally, the NEGP's readiness goal brought to this country's attention the concept that readiness for school is dependent not only on the child's readiness for school, but on schools' readiness for all children.

The early learning standards that are currently being developed by all states in the nation, have, for the most part, drawn from the NEGP framework to define their standards for what children are expected to know and be able to do as they enter kindergarten. Scott-Little et al. (2006) claimed that the development of early learning standards is re-defining the construct of and influencing current conceptualizations of readiness.

The review of the research literature found a marked discrepancy among kindergarten teachers' emphasis of importance in readiness, states' emphasis in early learning standards, and current research on early learning and development. An emerging theme in studies investigating kindergarten teachers' perceptions of readiness was that teachers place a very strong emphasis on all of the constructs of early learning and development with the exception of language development and cognition and general knowledge. In particular, kindergarten teachers reported that characteristics within social and emotional development, overall physical health, and approaches to learning are important for kindergarten readiness. Contrary to teachers' beliefs, the states have placed a strong emphasis on language, literacy, cognition, and general knowledge in their early learning standards. A gap in the research exists, as none of the studies reviewed comprehensively examined kindergarten teachers' perceptions of readiness across the seven theorized constructs of early learning and development. A deeper investigation and

understanding of their beliefs was still needed. The current study attempted to fill this need.

## CHAPTER THREE

### METHODOLOGY

#### Restatement of the Purpose

The primary purpose of this study was to examine kindergarten teachers' perceptions of kindergarten readiness and the degree of importance they place on various characteristics, skills, and abilities demonstrating kindergarten readiness in each of seven theoretical constructs of early learning and development. For the purpose of this study, the following seven constructs have been defined: (1) *Physical Well-Being and Motor Development*, (2) *Emotional Development*, (3) *Social Development*, (4) *Approaches Toward Learning*, (5) *Language Development and Communication*, (6) *Emerging Literacy*, and (7) *Cognitive Development and General Knowledge*. These seven constructs represent the seven scales in the survey instrument. This study improves the understanding of teachers' beliefs about kindergarten readiness and thereby extends previous research on the subject.

#### The Research Questions

This study answered the following research questions regarding kindergarten teachers' perceptions of kindergarten readiness through quantitative data collection and analysis:

1. To what extent can the seven theorized constructs (Physical Well-Being and Motor Development, Social Development, Emotional Development, Approaches Toward Learning, Language and Communication, Emerging Literacy



Development, and Cognitive Development and General Knowledge) be measured reliably?

2. To what extent are the seven theorized constructs statistically distinct from one another as determined by an exploratory factor analysis?
3. What degree of emphasis do kindergarten teachers place on each of the seven theorized constructs?
4. What degree of importance do kindergarten teachers place on the specific 43 indicators within each of the seven theorized constructs?

This chapter presents the methodology for the current study, addressing the research design, sample population, protection of human subjects, instrumentation, validity (including the expert panel and the pilot studies, reliability and procedures for securing internal consistency), procedures for data collection, proposed data analysis, and limitations.

### Research Design

This study used a descriptive research design. Descriptive statistics systematically describe certain characteristics of a given population and serve to provide a description of the research results through organizing, summarizing, tabulating, depicting, and describing collections of data (Isaac & Michael, 1995; Shavelson, 1996).

A survey provides the study data. Surveys collect factual information that describes an existing phenomenon (Isaac & Michael, 1995). In this study the survey responses described the perceptions of kindergarten teachers about kindergarten readiness. Many researchers believe that the best way to find out what people like and believe is to ask them (Weisberg, Krosnick, & Bowen, 1996).

Research on the topic of readiness has used descriptive research methods to collect data. Previous studies examining kindergarten teachers' perceptions of kindergarten readiness has been limited, but survey methodology has commonly been used to collect data, and they have made important contributions to the topic of kindergarten readiness (Germino-Hausken, Walston, & Rathbun, 2004; Guarino, Hamilton, Lockwood, & Rathbun, 2006; Hains, Fowler, Schwartz, Kottwitz, & Rosenkoetter, 1989; Heaviside & Farris, 1993; Piotrkowski, Botsko, & Matthews, 2000; Rimm-Kaufman, Pianta, & Cox, 2000; Smith & Shepard, 1988).

A survey in the form of a researcher-designed questionnaire, based on a five-point Likert scale, was employed to measure the degree of importance that kindergarten teachers placed on seven theorized constructs of kindergarten readiness (Appendix A). The survey contained 43 self-report items and 6 demographic questions. Survey methodology was chosen for this study in order to achieve a high response rate, in which the results could be generalized to the overall population of kindergarten teachers. The surveyed sample was as large as possible to reflect the demographics of the target population.

### Sample

A non-probability, convenience sampling was used to recruit a large group of kindergarten teachers. Initially, this group was comprised of kindergarten teachers registered and participating in the California Kindergarten Association (CKA) annual conference held in Santa Clara County on January 16-17, 2010. The study location was chosen because of: (1) the unique access to a large sample population representing the closest approximation to the general population of kindergarten teachers as possible, (2)

the anticipated high interest conference participants would have in the survey, and (3) the researcher's geographic access to the conference site. In the past, over one thousand participants have attended this conference.

Initially, in the Fall of 2009, the CKA conference committee expected approximately 900 participants to attend the 2010 conference since in the past several years participation was approximately 1,200. The researcher, therefore, expected that at least 150 completed and valid surveys would be returned for analysis during the course of the conference and another 50 would be returned for analysis on-line within two weeks of the conference. In December of 2009, due to current economic constraints and limited public school funds, the conference organizers realistically expected about 600 participants to attend the conference.

Approximately 550 participants attended the two-day CKA conference, of which approximately 475 were teachers currently teaching kindergarten. The other participants were comprised of preschool teachers, first grade teachers, and kindergarten teachers not currently teaching kindergarten. The majority of the participants at this conference were kindergarten teachers from both public and private schools in Northern California, although teachers from all parts of California, as well as from Nevada, Hawaii, Oregon, Arizona, and Washington attended. Although no single response rate is considered standard (Fink, 2003), questionnaires handed out in institutional settings tend to have response rates between 10% and 50% (Weisberg, Krosnick & Bosen, 1996). Based on this information and response rates reported in prior studies, the researcher therefore anticipated a 34% response rate. Of the 475 kindergarten teachers participating, 141

paper surveys were completed, resulting in a 30% return rate. No on-line surveys were completed during the conference.

At the end of the conference, the CKA conference committee and CKA Board recognized the importance of and implications for the research study. They agreed to send the on-line survey link to the entire CKA membership (3,700 members) by email following the conference in hopes of generating a higher survey completion rate to aide in the research study. The on-line survey was sent to the membership and was posted on *SurveyMonkey* for two weeks. Members were kindergarten teachers in the states listed above as well as from New Hampshire, Wisconsin, Montana, Texas, Alaska, and American Samoa.

A total of 489 on-line surveys were completed by CKA members, resulting in a 13% return rate. Overall, however, 630 surveys were returned by CKA members in both paper and on-line forms, resulting in a 17% return rate. The final sample consisted of the 34 on-line surveys completed during the second pilot test (occurring during the process of securing test validity), 141 paper surveys from the CKA conference, and 489 on-line surveys from the CKA membership, resulting in a final sample size of 664. The 34 on-line surveys were included in the final sample because 11 items from that version of the survey were deleted and no new items were added.

After a process of data cleaning, missing data were replaced for participants with three or less items missing from the 43 possible responses to survey items. In examining the missing items, it was determined that items were left out randomly rather than through any intentional or purposeful pattern of not answering specific questions. There were 88 respondents missing one item (13%), 19 respondents missing two items (3%),

and 7 respondents missing 3 items (1%). Missing items were replaced with the individual's total average score for the remaining items in the corresponding scale. Eleven individuals missing four or more items were not included in the data analysis, resulting in a final sample size of 653.

### Protection of Human Subjects

The University of San Francisco Institutional Review Board for the Protection of Human Subjects (IRBPHS) granted approval for this research in December of 2009. This research adheres to the ethical standards of the University of San Francisco IRBPHS. This study investigated the perceptions of kindergarten teachers outside of their normal classroom settings. The rights of all participants involved in this research were protected. The participants assumed no anticipated physical, mental, or emotional risks. Participants were informed that their participation in the study was strictly voluntary. Participants were provided with the opportunity to decline participation in the study at any time. An Information Sheet/Cover Letter (Appendixes F and G) was included with both the paper and on-line surveys that gave all participants full and comprehensible information about the purpose of the research study and provided assurances of the individual's voluntary participation and anonymity. Return of the completed survey and demographic data to the researcher constituted implied consent. Participants interested in receiving the results of the survey were sent the results at the conclusion of the study.

## Instrumentation

### *Development of the Survey Instrument*

The final survey instrument, named “Perceptions of Kindergarten Teachers Regarding Kindergarten Readiness,” was divided into two distinct sections: a questionnaire about kindergarten readiness with 43 closed-ended questions using a five-point Likert-type response scale and 6 demographic (background data) questions. The entire survey took between 5-10 minutes to complete.

The initial survey instrument was composed of three distinct sections: a questionnaire about kindergarten readiness with 61 closed-ended questions using a Likert-type response scale, 8 demographic questions, and one open-ended section in which participants were asked to provide their responses to a single question, elaborating on their own perceptions of kindergarten readiness. The researcher designed each of the three sections for the sole purpose of the study. Specific modifications to the initial survey are discussed below.

The researcher developed the instrument after reviewing the literature pertaining to kindergarten teachers’ perceptions of readiness and reviewing survey instruments used to collect data. Since the researcher was interested in examining kindergarten teachers’ beliefs of what characteristics they felt were important for a child to demonstrate within the theoretical framework discussed, no existing instrument was appropriate for the purpose of the current study. Weaknesses found in existing survey instruments were the following: an insufficient number of items, survey language intended to accommodate responses from parents, kindergarten teachers, and preschool teachers rather than language intended specifically for kindergarten teachers, questions pertaining to

transition practices and problems, questions regarding instructional practice, and surveys designed for individual kindergarten student ratings. Therefore, a new survey for the purpose of examining teachers' perceptions towards readiness, and in particular, the importance they place on indicators within seven theorized constructs, was constructed as needed.

The foundation for the current survey instrument was Scott-Little, Kagan, and Frelow's (2005) content analysis of states' early learning standards. These researchers used the National Education Goals Panel (NEGP) framework (Kagan, Moore, & Bredekamp, 1995) as the foundation for their system of coding and analyzing the wide variety of the states' 38 early learning standards documents in their study. They found the NEGP framework to be the closest approximation to a national consensus on areas of early learning and development, and it provided them with a framework to code the content of the standards and operationalize indicators for each of the NEGP's five dimensions: Physical Well-Being and Motor Development, Social and Emotional Development, Approaches Toward Learning, Language Development, and Cognition and General Knowledge. Key attributes were examined within the standards documents, and the researchers subsequently developed 36 indicators that articulated specific skills and knowledge for each of the five dimensions. The number of indicators was not equal across the five dimensions, however, and the researchers attributed this limitation to a number of factors. First, some dimensions lend themselves to a greater number of indicators than other dimensions. Second, the types of skills and abilities within the dimensions, such as Cognitive and Language development, were easier to articulate than those in other dimensions, such as Approaches Toward Learning. Finally, there was more

research on specific skills and abilities associated with children's success in some dimensions, such as language development, than in others. The unequal amount of indicators was particularly evident in the Language and Communication dimension, which had a total of 16 indicators (44% of the total) and Physical Well-Being and Motor Development, which only had four indicators (11% of the total).

In order to identify specific indicators within each dimension and to code each indicator into a uniform system, Scott-Little et al. (2005) examined the indicator's content rather than specific subject areas they represented. The inter-rater reliability of two researchers analyzing the indicators on all the standard items in the documents ranged from 83% to 100%, with an average of 90% agreement.

The findings of the Scott-Little et al. study (2005) indicated that states placed an emphasis on both the Language and Communication and the Cognition and General Knowledge dimensions. The purpose of the current study was to investigate the degree of importance kindergarten teachers place on seven theorized constructs: (1) Physical Well-Being and Motor Development, (2) Emotional Development, (3) Social Development, (4) Approaches Toward Learning, (5) Language Development and Communication, (6) Emerging Literacy, and (7) Cognition and General Knowledge.

#### *Design of the Survey Instrument*

The survey instrument (Appendix A) was comprised of two sections. The first section consisted of a series of 43 close-ended questions. One goal of this question construction was to provide clear and unambiguous questions that teachers would interpret in the way the researcher intended and designed so as not to confuse the participants. The items in this section were designed to measure the degree of importance



that teachers placed on each of the indicators within each of the seven theorized constructs of kindergarten readiness. Each scale represented one construct associated with kindergarten readiness with multiple indicators in each, called items. Respondents were asked to rank the importance of each of these items. The items were grouped randomly rather than by construct. This decision was made for two reasons. First, prior studies investigating teachers' perceptions of readiness and transition practices grouped survey items randomly (Heaviside & Farris, 1993; Lin et al., 2003; Rimm-Kaufman et al., 2000). Second, consistency bias--the desire of respondents to appear consistent by answering related questions in a consistent fashion--is reduced if items are grouped randomly, although at the expense of slightly longer completion time (Weisberg et al., 1996). Random grouping also reduces respondents noticing that separate items are interrelated.

The design of the first section of the survey questionnaire was based on the framework used in coding indicators and dimensions of early learning standards from a content analysis by Scott-Little et al. (2005). Permission from the primary researcher (Scott-Little) was granted. In its initial stage for the review by the Expert Panel, the survey had 61 open-ended questions representing indicators within the seven theoretical constructs. For the final instrument, the number of items was reduced to 43, and some of the wording was revised based on the expert panel's advice, feedback from the first pilot study, and tests for internal consistency after the second pilot study. Additionally, because of the structure and limitations of administering and collecting surveys from busy participants at the California Kindergarten Conference, it was determined that a shorter survey would most likely increase the rate of response.

The final survey was administered in two ways to allow for a greater response rate and attract a greater number of participants. The first method was a paper version (Appendix A). The second was an on-line version retrievable at <https://www.surveymonkey.com/s/H66QTG8>

### *Scales*

This study initially began with the NEGP framework (Kagan et al., 1995; Scott-Little et al., 2005) but then expanded the five dimensions to seven constructs in order to accommodate, clarify, and consolidate all the indicators for the purpose of strengthening the reliability of the scales and to further differentiate important constructs. For the purpose of this study, the term *construct* replaced the terms *dimension* and *domain*, because the current study was in part a construct validity study seeking to determine if the indicators within a given scale collectively were consistent, whether the scales measured different constructs through the process of a reliability analysis and a factor analysis, and whether the instrument effectively measured kindergarten teachers' assessments of the importance of the seven theorized constructs.

A review of the research literature and an examination of scales used in studies investigating teachers' perceptions of readiness indicated that there were different methods of organizing indicators within the constructs being studied. In one NCEs study (Heaviside & Farris, 1993), 15 indicators comprised one scale of readiness characteristics. In another NCEs study (Lin, Lawrence, & Gorrell, 2003), 13 indicators were factor loaded into two constructs—Academic and Social. Still another study (Hains et al., 1989) used an entirely different scale system, differentiating 153 indicators into nine scales--*Academic, Independent Work Skills, Following Verbal Teacher Directions,*

*Transitions, Communication Skills: Receptive Language and Expressive Language, Social Interaction, Self-Care, Classroom Conduct, and Large Group Time.* In another study (Piotrkowski et al., 2000), two domains, *General Readiness* and *Classroom-Related Readiness*, were measured, each with seven and five subscales respectively, including a total of 45 indicators.

The descriptions of and characteristics associated with the original dimensions, as described in the NEGP report (Kagan et al., 1995), were adhered to for the scales and the items in this study's survey. Since the language used to describe the constructs in most of the studies frequently used the terminology from the NEGP, it was determined that the constructs incorporated in this study would include the five NEGP dimensions and incorporate the same terminology. Even though in the NEGP framework, social and emotional development were treated as one construct, prior research indicated that kindergarten teachers place a strong emphasis on both the social and emotional characteristics of readiness. In the Scott-Little et al. (2005) study, these two domains were subdivided into two sub-scales for the purpose of clarifying their individual indicators. For the purpose of the current study, these two constructs, social development and emotional development, were also separated. Additionally, since there were 16 indicators (44% of the total amount) within the Language Development dimension in the Scott-Little et al. (2005) study, the researchers subdivided that dimension into two subscales—Language Development and Communication, and Emerging Literacy. Earlier studies also used a higher percentage of items in surveys measuring language development and communication relative to emerging literacy (Hains et al., 1989; Piotrkowski et al., 2000). Given the importance of each of these factors, Language

Development was also separated into two separate constructs in the current study—Language Development and Communication, and Early Literacy. Therefore, for the purpose of this research, the following seven scales were used: (1) Physical Well-Being and Motor Development, (2) Social Development, (3) Emotional Development, (4) Approaches Toward Learning, (5) Language Development and Communication, (6) Emerging Literacy, and (7) Cognitive Development and General Knowledge.

The scale of Physical Well-Being and Motor Development measured gross motor, fine motor, and graphomotor skills, overall health, physical abilities, and functional performance (physical competencies). Emotional Development measured self-concept, self-control, self-regulation of emotion, self-efficacy, communication of needs and feelings, and sensitivity towards others. Social Development measured interactions and relationships with peers and adults, cooperation, social skills, and conflict resolution. Approaches Toward Learning measured task perseverance, interest, eagerness and engagement in new tasks, independence, attentiveness, and transitions. Language and Communication measured receptive and expressive language abilities (listening and speaking), vocabulary, English language proficiency, communication, questioning strategies, and language mechanics. Emerging Literacy measured phonemic and phonological awareness, comprehension, story sense and sequence, writing, concepts of print, alphabetic knowledge, and literature awareness. Cognitive Development and General Knowledge measured physical, logico-mathematical (numeric concepts and temporal awareness), and social-conventional knowledge.

### *Indicators*

The indicators representing each construct were represented by items within each scale. One consideration in developing the items was to determine the appropriate scales in which to include the items. The constructs, Approaches Toward Learning and Emotional Development were more ambiguous in what was being measured, and therefore they required more indicators to gain reliability. Similarly, in examining items in other surveys, it was found that indicators were frequently categorized in different scales. For example, the indicator, “sits still and pays attention,” measured emotional development, approaches towards learning, and social development in three different surveys.

In cases in which there was some ambiguity in scales and indicators, the researcher attempted to adhere to the indicators within the dimensions that they represented in the Scott-Little et al. (2005) content analysis. Additionally, a review of other surveys in the research literature suggested that certain skills, abilities, and characteristics linked with kindergarten and later school success, such as vocabulary development (Biemiller, 2001, 2003; Hart & Risley, 1995; Snow, Burns, & Griffin, 1998), needed to be included in the list of indicators for the current study. For the purpose of this instrument, the researcher modified some of the wording in the items found in other surveys to reflect the language more commonly used among kindergarten teachers. An emphasis was on content, rather than on specific academic areas.

In determining how many indicators to include within each scale, the researcher again turned to the literature and to recent studies. The total number of indicators in the studies reviewed ranged from 13 to 153, covering one to nine scales. The percentage of

indicators within each scale varied dramatically, as well. Some scales, such as “Academic” had only four indicators (Lin et al., 1989), whereas in another study (Hains et al., 1989) there were 41 indicators for the same scale. Although Physical and Motor Development usually had very few indicators in the surveys reviewed, teachers have repeatedly emphasized the importance of this construct. Teachers have also placed a much greater emphasis on the social constructs of learning over academic, cognitive constructs. Given this background, it was determined that at least five indicators for each scale should be provided for this instrument and that there would not necessarily be an equal amount of indicators in each scale. It was more difficult to construct the appropriate indicators for the Physical Well-Being and Motor Development scale than for the scales, Emerging Literacy and Cognitive Development and General Knowledge, which were more specific and easier to articulate. Another consideration in designing the survey was to reduce the number of indicators to a reasonable amount so as not to fatigue respondents while retaining a sufficient number in order to measure the constructs reliably and include important indicators for each construct. Therefore, a total of 61 initial items grouped together by construct were developed for the expert panel to review, and after careful revision, 43 items were retained in random order in the final survey.

### *Response Scale*

A five-point scale is frequently used in questionnaire construction (Hoinville, 1978), with the understanding that such a scale is not an absolute measure of attitude but a way of placing respondents in relative positions on a dimension. Likert and Likert-type scales are the most widely used attitude scale types used in the social sciences. They can accommodate multi-dimensional attitudes, and they tend to have high reliabilities (Vogt,

2005). Therefore, a 5-point Likert-type response scale was constructed for the purpose of this study to rate teachers' degree of importance for each item. In reviewing prior studies it was found that response options included the following descriptors: "not at all important," "not important," "not too important," "not very important," "somewhat important," "very important," and "essential" (Hains et al., 1989; Heaviside & Farris, 1993; Lin et al., 2003; Piotrkowski et al., 2000). Therefore, the current response scale showed descriptors for each of the five points which clarified the meaning of each point. The response options included the following: "not too important", "somewhat important", "important", "very important", and "essential". Items were positively phrased in order to make them readily understood, and no reverse coding of responses was required. Since it was hypothesized that teachers would believe that nothing is "not important" and that everything is important to some degree, the label for the first response was "not too important" rather than "not important," and a mid-point alternative, "important" was included. Points were not numbered.

#### *Open-Ended Question*

Following the closed-ended items in the initial survey, a single open-ended question was included in order to investigate whether teachers identified any other areas of readiness besides those items included in the survey. An open-ended question is commonly included in a survey, as respondents are not always able to supply answers that readily fit into a precoded range of possible responses within the structured survey format (Hoinville, 1978). The question asked, "What characteristics, skills, behaviors, or other readiness areas not included in this survey do you think are important for a child's readiness for kindergarten?" Although more open-ended questions enabling respondents

to offer more detail to their responses to the survey questions would have been of interest to the researcher, only one open-ended question was considered for inclusion to keep the survey completion time to a minimum. In reviewing the responses to this question from both the expert panel and both pilot studies, it became apparent that participants did not identify any other kindergarten readiness areas of concern, and a number of participants explicitly stated that the survey was comprehensive as is. Therefore, the open-ended question was removed from the final survey.

### *Demographic Background Information*

Eight questions investigating teachers' backgrounds were included in the initial survey. To get a high response rate while at the same time respecting teachers' anonymity, these questions were kept to a minimum. The background questions were chosen because previous studies indicated that teacher background variables impacted their perceptions of kindergarten readiness (Lin et al., 2003; Smith & Shepard, 1988; Wesley & Buysse, 2003). Data from these demographic questions in prior studies revealed relationships between teachers' background experiences and their school structures with teachers' expectations for students' readiness for school and problems teachers perceive entering kindergarten students encounter during the transition to kindergarten (Guarino et al., 2006; Heaviside & Farris, 1993; Lin et al., 2003; Rimm-Kaufman et al., 2000).

These eight initial teacher background variables were: (1) the number of years the teacher has taught kindergarten, (2) the number of years the teacher has taught in grades one or above, (3) the number of years the teacher has taught in a preschool or prekindergarten, (4) the type of school (public or private) the teacher currently teaches in,



(5) the kind of school (urban, suburban, or rural) the teacher currently teaches in, (6) the percentage of minority enrollment at the teacher's school, (7) the percentage of students receiving reduced/free lunch at the teacher's school, and (8) the teacher's racial/ethnic background. It was hypothesized that responses to these questions might provide a profile of the type of school and student population the participants worked in and might provide information for further exploratory analysis of relationships between teachers, school characteristics, and teachers' readiness beliefs. However, after the pilot studies, it was determined that teachers might not know the exact percentage of minority students and students receiving reduced/free lunch in their schools, compromising the validity of the responses. Therefore, these last two demographic questions were deleted from the final survey, which also shortened the survey.

### Validity

Three strategies were applied to secure content-related evidence of validity for the survey instrument in order to ensure that the survey questions accurately reflected the constructs they represent. First, during test development, the researcher made every attempt to design appropriate indicators for each scale aligned with the framework used in the Scott-Little et al. study (2005). Second, a validity panel of six experts reviewed the instrument's items and gave their appraisals of the extent to which the items accurately represented the constructs. The panel gave additional feedback on the wording of some of the survey items. Third, two pilot tests were administered. The purpose of the pilot tests was primarily to explore the practicality of the data collection and the amount of time necessary to complete the survey, to determine any ambiguities in the items, to identify items that could be eliminated, and to analyze internal consistency. The first pilot test was

given to a group of eight kindergarten teachers in one Northern California public school. They were given the paper version of the survey after the expert panel group had revised it. The second pilot test was given to a group of 34 kindergarten teachers in one Northern California public school district. They were given the on-line version of the survey after it had been revised based on the revisions made after the first pilot test.

Content validity had already been addressed by the NEGP Resource group during development of the document establishing the five dimensions of readiness (Kagan, et al., 1995). Scott-Little et al. (2005) also reported that members of their research team worked to provide inter-rater reliability for the indicators used in their content analysis.

To examine the construct validity of the instrument, a factor analysis was conducted after the administration of the final survey. The factor analysis enabled the researcher to reduce the large number of items to a smaller number of factors that could be conceptually and statistically grouped together (Vogt, 2005).

#### *Expert Panel*

The expert panel was comprised of six educators: a primary school administrator, a primary school resource specialist, a district school psychologist, a primary school reading specialist, a University instructor and second grade teacher, and one kindergarten teacher/grade level coordinator. Their qualifications and experiences working with kindergarten students in a public school were relevant to the proposed study (Appendix B). The panel was given the initial survey that was comprised of 61 items across 7 scales grouped by construct, one open-ended question, and 8 demographic questions. Room for comments for each scale was given. A cover letter explaining the survey, the purpose of their assistance, and questions to consider for further feedback was included (Appendix

C). The purpose of the expert panel was to serve as a check for consistency, clarity in interpretation of items and language used, face validity, and to identify any ambiguous items in the instrument.

Feedback on the effectiveness of the format of the instrument and recommendations made by this panel were incorporated into the final survey version. Panel members suggested revising some ambiguous wording used in 19 of the items from each of the constructs except for Physical Well-Being and Motor Development in order to be more objective, observable, and more specific. Combining two similar items in Approaches Toward Learning was suggested. One panel member suggested adding another item to the Physical Motor and Well-Being construct. Finally, the panel recommended deleting nine items that appeared redundant from the Cognitive Development and General Knowledge, Emerging Literacy, Social Development, and Language and Communication Development constructs. The total number of items was reduced from 61 to 53. There was no feedback given regarding the demographic questions, and the open-ended question did not generate any further comments from the panel members.

#### *First Pilot Test*

The first pilot test was administered to a group of kindergarten teachers from one public, primary school site in Marin County. This convenience sample was made up of eight kindergarten teachers at the school where the researcher was employed. This pilot group used the paper version of the survey after it had been revised with the expert panel's feedback. The pilot test was comprised of 53 items representing 7 constructs in a random order, one-open ended question and 8 demographic questions. An introductory

cover letter explaining the purpose of the pilot study and the request for their participation (Appendix D) was included with the survey.

During the process of taking the survey, a *cognitive think-aloud pretesting* method was employed. To do this, respondents were asked to think aloud as they proceeded through the survey items, verbalizing their thoughts about the questions as well as their answers (Weisberg et al., 1996). The researcher was not present in the room with the respondents, but a recorder was set up to record the think-aloud method. This process enabled the researcher to identify potential problems in the questions that might not have otherwise been apparent. It took approximately 15 minutes for the teachers to complete the survey in this manner. Based on their feedback, the researcher made further revisions to the survey. The term, “some”, in several of the items was changed to make the items more specific. The order of two items, “Child communicates needs, wants, and thoughts clearly in primary language” and “Child communicates needs, wants, and thoughts clearly in English” was reversed for clarity of understanding. Adding an additional item, “Child has the ability to separate from parent without undue anxiety,” was suggested by this pilot group. It was added, increasing the total amount of items to 54. There were no comments about the demographic questions. The open-ended question did not generate any further items to include as survey items, nor did any of the teachers respond to that question.

### *Second Pilot Test*

The second pilot test was sent to a group of kindergarten teachers from several public, primary school sites in Marin County. This sample was comprised of approximately 75 kindergarten teachers teaching kindergarten, or multi-grade classes that

include kindergarten, in the Marin County public school district during the 2009-2010 school year. This group was chosen because the researcher taught in one Marin County public school district and had support for the study by the Marin County Superintendent of Public Schools. The Superintendent emailed the principals of the schools in the district with kindergarten teachers requesting these teachers' participation in the pilot study. The link to the on-line version of the survey on *SurveyMonkey.com* was attached along with a cover letter explaining the survey and the pilot test and requesting their participation (Appendix E). The on-line survey included 54 items in random order that had been revised after the first pilot test, one open-ended question, and 8 demographic questions. Participants were asked to respond to the survey within 15 days. A total of 34 respondents completed the on-line version of the survey. Tests for internal consistency were conducted using these 34 completed surveys.

### Reliability

The researcher assessed the degree to which the instrument possessed internal consistency through a reliability analysis that measured the extent to which the items collectively were internally consistent. Coefficient alpha, a measure of internal reliability, was the procedure used to measure the intercorrelation of the items and estimated the proportion of the variance in all the items that was accounted for by a common factor (Vogt, 2005). Internal consistency of the survey was tested twice--the first time after the second pilot test and the second time after the administration of the final instrument.

The following describes internal consistency testing after the second pilot study. Tests for internal consistency using Cronbach's alpha were conducted for each of the seven constructs. The purpose was to secure evidence regarding the reliability with which

the instrument measured what it intended to measure, the extent to which the items functioned homogeneously, and to determine if there was consistency in the scores among the individual items. This analysis helped determine which items to include or to exclude from each scale. The objective was to select a set of items that yielded a summed score that was more strongly related to the construct than any other possible set of items. The minimal acceptable level of each scale was set to .70.

Cronbach's coefficient alphas were computed for each of the seven theorized constructs. Initially the coefficient alphas computed between .79 and .90, well above the minimal acceptable level for each scale, suggesting good to strong reliability and that the items in the individual scales were highly correlated (i.e. they measured the same thing). Item analyses were conducted on the items in each scale in order to reduce the number of items in the survey and to strengthen the reliability of each scale. A total of 11 items were removed from the 7 scales. The final coefficient alphas for the scales were computed, indicating reliability from good to strong, from .73 to .90. The following describes internal consistency testing for each of the seven constructs.

In conducting the item analyses for the three scales, Physical Well-Being and Motor Development, Approaches Towards Learning, and Cognitive Development and General Knowledge, the content of the items was considered rather than strictly the magnitudes of the corrected item-total correlations. Because the constructs were broad in what they measured, some individual items with higher item-total correlations were left in these scales. This was done in order to accurately represent the constructs and to prevent narrowly defining the constructs by omitting indicators found important in previous studies. Additionally, some items were left in because prior studies had

indicated that they were of particular importance to kindergarten teachers. Although removing the items with the lowest corrected item-total correlation would have given each of these three scales even greater reliability, a strategic decision was made to leave certain items in the scale for these reasons (Appendix A.).

Item analyses were conducted on the six items hypothesized to assess the scale, Social Development. Initially, the six items yielded a reliability coefficient of .83. All six items remained in the final scale (items 3, 9, 14, 20, 28, and 40) retaining the final Cronbach's coefficient alpha of .83.

Item analyses were conducted on the six items hypothesized to assess the scale, Language and Communication Development. Initially, the six items yielded a reliability coefficient of .79. All six items remained in the final scale (items 4, 23, 25, 36, 39, and 41), leaving the final Cronbach's coefficient alpha unchanged at .79.

Item analyses were conducted on the five items hypothesized to assess the scale, Emotional Development. Initially, the five items yielded a reliability coefficient of .79. By removing one item, "Child is able to express emotions and feelings effectively to others," the Cronbach alpha would have increased only slightly to .80. It was determined to leave this item in, in order to keep the number of items to five in this scale (items 11, 18, 32, 53, and 54), yielding the final Cronbach's coefficient alpha of .79.

Item analyses were conducted on the 12 items hypothesized to assess the scale, Emerging Literacy Development. Initially, these items yielded a reliability coefficient of .90. Five items were removed one at a time, according to the lowest corrected item-total correlations, without affecting the reliability of this scale and without compromising the construct. These five items were, "Child makes predictions about text that has been read

to him/her,” “Child recognizes own name,” “Child can write letter strands, words, or sentences,” “Child chooses and looks at books independently,” and “Child demonstrates an understanding of some conventions of print.” The final Cronbach’s coefficient alpha for this scale with the seven remaining items (items 5, 7, 12, 29, 34, 43, and 48) stayed at .90.

Item analyses were conducted on the eight items hypothesized to assess the scale, Physical Well-Being and Motor Development. Initially, these items yielded a reliability coefficient of .81. The two items with the lowest corrected item-total correlations were “Child demonstrates good gross motor skills: can jump, hop, skip, climb, kick, run, and throw a ball” (.82) and “Child demonstrates self-help skills: feeds self, takes care of bathroom needs, cleans up after self” (.82). It was determined to leave both these items in the scale for three reasons. First, deleting them would not have strengthened the reliability of this scale. Second, they were important items representing two areas of the broader construct. Three, both these indicators have been shown to be particularly important to kindergarten teachers in prior studies (Heaviside & Farris, 1993; Piotrkowski et al., 2001). Therefore, the items with the next lowest corrected item total correlations were deleted in order to reduce the size of this scale without compromising the construct. These deleted items were, “Child can draw a person with face and body parts,” “Child appears to be well-rested,” and “Child appears to be well-nourished.” The final Cronbach’s coefficient alpha for this scale with the remaining five items (items 2, 8, 17, 26, and 44) lowered to .73.

Item analyses were conducted on the eight items hypothesized to assess the scale, Approaches Towards Learning. Initially, these items yielded a reliability coefficient of



.85. The item with the lowest corrected item-total correlation was, “Child shows enthusiasm, eagerness, and curiosity in approaching new activities” (.87). Since eagerness to learn, curiosity, and positive approaches to learning have been shown to be associated with academic performance (West, Denton, & Reaney, 2001; Zill, 1999; Zill & West, 2001) and prior studies have indicated that kindergarten teachers place a strong emphasis on entering kindergartner’s enthusiasm and curiosity for learning (Heaviside & Farris, 1993; Piotrkowski et al., 2001), this item (item 1) was left in the scale. The item with the next lowest corrected item-total correlation was, “Child shows invention, creativity, and imagination” (.84). This item was the only item that was deleted from the scale. The seven remaining items (items 1, 19, 24, 31, 33, 35, and 45) yielded a final Cronbach’s coefficient alpha of .84.

Item analyses were conducted on the nine items hypothesized to assess the scale, Cognitive Development and General Knowledge. Initially, these items yielded a reliability coefficient of .82. In an attempt to reduce the number of items for this scale, it was determined that the item with the lowest corrected item-total correlation, “Child counts to 20 or above” (.81) should be retained because it was an indicator frequently represented in states’ early learning standards (Scott-Little et al., 2005). It was determined that the next item with the lowest corrected item-total correlation, “Child demonstrates compliance with teacher and other authority figures” (.81) was also retained because prior studies indicated that kindergarten teachers place a strong emphasis on the importance of compliance with authority and following directions (Heaviside & Farris, 1993; Lin et al., 2003; Piotrkowski et al., 2001; Rimm-Kaufman et al., 2000). The items with the next lowest corrected item-total correlation were, “Child understands and states

reasons for rules” (.81) and “Child states an awareness of right and wrong behavior in specific situations” (.80). These two items were deleted from the scale. The seven remaining items (items 6, 13, 15, 21, 37, 42, 46) yielded a final Cronbach’s coefficient alpha of .80.

In summary, a total of 11 items were dropped from the pilot-tested on-line survey, reducing the number of items to a more manageable 43 while retaining good to strong reliability for each of the seven scales (Table 1).

Table 1

Reliability Coefficients for Seven Scales After Second Pilot Study

Theorized Construct	n Items	First Alpha	n Items	Final Alpha
Social Development	6	.83	6	.83
Language/Communication Development	6	.79	6	.79
Emotional Development	5	.79	5	.79
Emerging Literacy Development	12	.90	7	.90
Physical Well-Being/Motor Development	8	.81	5	.73
Approaches Towards Learning	8	.85	7	.84
Cognitive Development/General Knowledge	9	.82	7	.80
Total number of items	54		43	

The open-ended question did not generate any new areas of readiness not already addressed in the survey items. Although it was originally placed in the survey to allow teachers the opportunity for further elaboration on any additional area of kindergarten readiness not already included in the items, it did not provide the research with additional

clarifying information, and so it was deleted from the final survey instrument. The demographic questions were reduced to six because it was determined that teachers may not know the proper answers to two of the questions regarding student characteristics, thus compromising the validity of the responses. Overall, the revisions of the initial survey reduced the length of the final survey by about 30%, ensuring a faster completion time which was thought to be necessary due to the constraints of the environment in which the survey was administered.

### Procedures for Data Collection

In September of 2009, the researcher, upon request, received permission from the California Kindergarten Conference committee to distribute the survey instrument at the annual conference to be held *January 15-16, 2010*. A few weeks prior to the conference, the researcher was given permission to place the survey (Appendix A), cover letter (Appendix F), and optional request for results/drawing entry form (Appendix H) in the conference registration packet. The researcher felt this would facilitate maximum participation rates and expedite distribution time. In early January, the conference organizers expected approximately 600 participants at the conference. A few days before the conference, only 350 participants had preregistered. The researcher printed 450 copies of the surveys in the event of late registrations. The researcher delivered these surveys and 450 sharpened new pencils to the conference committee for inclusion in the registration packets for distribution at the conference registration table.

During the two conference days, more participants registered, and the researcher printed another 75 surveys. For the duration of the conference, the researcher was given a space near the registration table where she was able to answer questions about the survey

to conference attendees, collect completed surveys and the optional email response cards, and had available extra surveys and pencils. Bowls of candy were at this table as an incentive to stop by and as a token of appreciation for respondents' efforts. Participants were informed that the surveys could be completed at their convenience during the conference and were to be returned to the designated spot at the researcher's table any time within the conference hours. In addition, the researcher posted the on-line survey link [www.surveymonkey.com/s/H66QTG8](http://www.surveymonkey.com/s/H66QTG8) for interested participants to take the survey on-line following the conference instead of the paper version. Either the researcher or her research assistant remained at the table for the duration of the conference. The study was announced at the opening General Session to help notify attendees, acknowledge the importance of the research, and gain a greater response rate.

All potentially interested participants, both paper and on-line, were given an information cover letter (Appendixes F and G), explaining the study and requesting participation in the study. Participants were assured of their anonymity and were informed that the survey was strictly voluntary. They were advised that the survey would take between 5 and 10 minutes to complete. As an incentive to participate in the study, participants were informed that they would be entered in a drawing for a \$75.00 gift certificate to Barnes and Nobel Bookstores upon turning in their completed survey. For the paper survey, they were given a card with a place for their name and email to be entered into the drawing, and if interested, they could request to receive the results of the study (Appendix H). For the on-line survey, participants were given the email address of the researcher in order to request the same. In no way was this identifying information

linked to the participants' completed survey. There were 141 completed paper surveys returned, and 489 surveys were completed on-line.

### Data Analysis

The statistical software used to analyze the data in the study was SPSS 16.0 to answer the following research questions:

1. To what extent can the seven theorized constructs be measured reliably?

To secure evidence regarding the reliability of the survey instrument, internal consistency estimates of reliability used Cronbach's coefficient alpha to determine if there was consistency in the scores among items and if the individual items were correlated with one another. Tests for internal consistency were conducted after the second pilot test and were reported in Chapter III, and they were conducted a second time after the administration of the final survey.

2. To what extent are the seven theorized constructs statistically distinct from one another?

An unconstrained exploratory factor analysis studied the interrelationships among the variables in a concise but accurate manner as an aid in conceptualization. Additionally, the exploratory factor analysis served to uncover the underlying structure of a relatively large set of variables (43) and reduce those to a smaller number of factors (6). The first stage of the factor analysis involved extracting factors from the correlation matrix to make initial decisions about the number of factors underlying the set of items. A Maximum Likelihood extraction method with an oblique rotation, which assumes correlations between factors was employed, was employed, unconstrained in the number of factors that emerged. Eigenvalues measure

the amount of variation in the total sample accounted for by each factor (Garson, 2010; Gorsuch, 1983). The absolute magnitude of the eigenvalues of the factors was used as the statistical criteria to determine the number of factors to extract. The eigenvalues were helpful in deciding how many factors should be used in the analysis. One commonly used criterion is to retain all factors that have eigenvalues greater than 1.0 (Green & Salkind, 2008). Therefore, all factors that had eigenvalues of 1.0 or greater were retained. The minimum value of an acceptable factor loading was set to .40, considered a standard criterion for exploratory purposes (Garson, 2010). Thus, any items with a factor loading of less than .40 was considered as low and therefore did not load on a particular factor.

3. What degree of emphasis do kindergarten teachers place on each of the seven theorized constructs?

Statistical analysis included computing and summarizing descriptive data including means and standard deviations for both the seven scales representing the seven hypothesized constructs and the two scales resulting from the factor analysis.

4. What degree of importance do kindergarten teachers place on the specific indicators within each of the seven theorized constructs?

In order to identify the degrees of importance the teachers placed on each of the constructs, a ranked order measuring the strength of responses for each item was used. Demographic information in Part II of the survey reported descriptive analyses including frequency and percentage data in order to present a demographic overview of teachers' backgrounds based on the six demographic variables.

### Limitations

Two major limitations to the proposed study have been identified. First, because the sample was drawn from participants attending one conference in Northern California and from the general membership of the California Kindergarten Association, it may be difficult to draw inferences about the population of all kindergarten teachers as a whole. Therefore, despite a high response rate from 653 kindergarten teachers, external validity may have been compromised. It is possible that this study is only generalizable to schools whose teachers and students are similar in background and composition to those individuals who participated in this research study. Second, since the sample was recruited as a convenience sample, there may be sampling error. The sampling procedures and conditions may have been different from the true population since the participants volunteered to complete the survey.

## CHAPTER IV

### RESULTS

The purpose of this study was to examine kindergarten teachers' perceptions of kindergarten readiness and the degree of importance they placed on each of seven theorized constructs of early learning and development. For the purpose of this study, the following seven constructs were defined: (1) *Physical Well-Being and Motor Development*, (2) *Emotional Development*, (3) *Social Development*, (4) *Approaches Toward Learning*, (5) *Language Development and Communication*, (6) *Emerging Literacy*, and (7) *Cognitive Development and General Knowledge*. These seven constructs represent the seven scales in the survey instrument, which was specifically constructed for the purpose of this study. Data collected from the survey items 1-43 were used to address the research questions. The survey asked kindergarten teachers to rate the degree of importance they placed on 43 different characteristics, skills, and abilities reflecting kindergarten readiness on a 5-point Likert-type response scale.

Tests for internal consistency using Cronbach's alpha were conducted for each of the seven constructs in order to secure evidence regarding the reliability with which the instrument measured what it was intended to measure. The analyses also examined the extent to which the constructs and the factors making up individual constructs are statistically distinct from each other. Additionally, an unconstrained factor analysis was conducted with the 43 survey items to compare the kindergarten teachers' alternative conceptualization of kindergarten readiness to the one reflected in the seven theorized constructs.



This results chapter is divided into five sections. The first section provides the demographic data of the sample, while the other sections correspond to and address the findings of the four research questions that were the basis for the study.

### Sample

The study participants consisted of a non-probability, convenience sample of 653 kindergarten teachers. This group was comprised of 34 kindergarten teachers from one public Northern California school district and 619 kindergarten teachers holding membership in the California Kindergarten Association (CKA). Six questions investigating teachers' backgrounds were included in the initial survey. These background questions were chosen because of indications that teacher background variables impact their perceptions of kindergarten readiness beliefs (Lin et al., 2003; Smith & Shepard, 1988; Wesley & Buysse, 2003). The six teacher background variables were: (1) the number of years the teacher has taught kindergarten, (2) the number of years the teacher has taught in grades one or above, (3) the number of years the teacher has taught in a preschool or prekindergarten, (4) the type of school (public or private) the teacher currently teaches in, (5) the kind of school (urban, suburban, or rural) the teacher currently teaches in, and (6) the teacher's racial/ethnic background. These demographic items on the survey provided general background information on the sample population. Descriptive statistics include frequencies and percentages and are shown in Table 2. The majority of respondents were experienced teachers of mostly White racial/ethnic background from a suburban/urban public school setting, having taught kindergarten for at least 7 years and with no or little preschool/prekindergarten teaching experience.

Table 2

Summary of Demographic Background Variables of the Kindergarten  
Teachers in the Sample (N=653)

Variable	Frequency	Percent
<b>Number of Years taught Kindergarten</b>		
3 or less	94	14.4
4-6	108	16.5
7 or more	440	67.4
Missing Response	11	1.7
Total	653	100.0
<b>Number of years taught in grades one or above</b>		
0	149	22.8
1-3	214	32.8
4-7	116	17.8
8 or more	166	25.4
Missing Response	8	1.2
Total	653	100.0
<b>Number of years taught in preschool/prekindergarten</b>		
0	364	55.7
1-3	137	21.0
4-7	69	10.6
8 or more	76	11.6
Missing Response	7	1.1
Total	653	100.0
<b>Type of School</b>		
Public	564	86.4
Private	69	10.6
Missing	20	3.1
Total	653	100.0
<b>Kind of School</b>		
Rural	105	16.1
Suburban	389	59.6
Urban	145	22.2
Missing	14	2.1
Total	653	100.0
<b>Racial/Ethnic background</b>		
Multi-ethnic	63	9.6
Asian	38	5.8
Black or African American	9	1.4
American Indian or Alaskan Native	2	.3
White	472	72.3
Native Hawaiian or other Pacific Islander	6	.9
Missing	11	1.7
Total	653	100.0

Research Question 1: To what extent can the seven theorized constructs be measured reliably?

The current study sought first to assess the degree to which the researcher-developed survey instrument possessed internal consistency. Cronbach's coefficient alphas were calculated to measure the intercorrelation among the items, to measure the extent to which the items functioned homogeneously, and to determine if there was consistency in the scores among the individual items. The minimal acceptable level of each scale was set to .70.

Internal consistency of the survey was tested twice: The first time after the second pilot study (see Chapter III and Table 1), and the second time after the administration of the final instrument, which is reported below.

Cronbach's coefficient alphas were computed for each of the seven theorized constructs and are shown in Table 3. The coefficient alphas computed between .70 and .90, well above the minimal acceptable level for each scale. These coefficients were either equal to or higher than the first time they were tested for internal consistency (except for Physical Well-Being and Motor Development which lowered from .73 to .70), likely due to the greater sample size, as the items were identical. The results suggest good to strong reliability and that the items in the individual scales are highly correlated. The high correlations suggest interrelatedness and homogeneity among items in the same scale.

Table 3

Reliability Coefficients using Cronbach's Coefficient Alphas for the Seven Scales after the Final Administration of the Survey

Theorized Construct	# of items	Alpha
Physical Well-Being and Motor Development	5	.70
Language Development and Communication	6	.79
Emotional Development	5	.80
Cognitive Development and General Knowledge	7	.83
Social Development	6	.84
Approaches Towards Learning	7	.85
Emerging Literacy Development	7	.90

Correlations among the seven scales were computed and are shown in Table 4. Correlations ranged from .41 to .87, from moderate to high (Shavelson, 1996). The constructs with the lowest correlations were Emerging Literacy and Emotional Development ( $r = .41$ ) and Emerging Literacy and Approaches Towards Learning ( $r = .51$ ), indicating that there were relatively strong distinctions between the variables representing those constructs. The constructs with the highest correlations were between Social Development and Emotional Development ( $r = .84$ ), between Emergent Literacy and Cognitive Development/General Knowledge ( $r = .87$ ), and between Emotional Development and Approaches Towards Learning ( $r = .80$ ). This finding, indicating that these three sets of constructs may have been fairly similar in what they measured, is to be expected, given that in prior studies and in the research literature social and emotional

development were often grouped together as one construct (Kagan et al., 1995; Lin et al., 2003; Scott-Little et al., 2003b, 2005), and skills and abilities pertaining to emergent literacy were often grouped together with those pertaining to cognitive abilities, such as early math skills (Lin et al., 2003; Piotrkowski, Botsko, & Matthews, 2000; Rimm-Kaufman et al., 2000). The high correlations among these sets of constructs suggest that an alternative grouping of items may offer a better conceptualization of the way in which these original seven theorized constructs are configured, which is exactly what the factor analysis found. This is addressed and discussed next in Research Question 2.

Table 4  
Correlations Between the Seven Theorized Constructs

Construct	App	Cog/GK	Em Lit	Emot	Lang/Com	Phys/M	Social
App	1.0						
Cog	.64	1.0					
EmLit	.51	.87	1.0				
Emot	.80	.58	.41	1.0			
Lang/Com	.78	.73	.61	.71	1.0		
Phys/M	.71	.70	.60	.63	.68	1.0	
Social	.78	.61	.43	.84	.73	.70	1.0

Note: App = Approach; C/GK = Cognition/General Knowledge; EmLit = Emerging Literacy; Emot = Emotional; Lang/Com = Language/Communication; Phys/M = Physical/Motor

Research Question 2: To what extent are the seven theorized constructs statistically distinct from one another?

The current study applied an unconstrained, exploratory factor analysis to study the construct validity of the survey items and analyzed patterns of intercorrelation among the variables. The most common factor analysis assumptions are that there are notable correlations between the variables and adequate sample size (Garson, 2010). The data in

this study meet these basic assumptions, so that the application of an exploratory factor analysis was considered valid. The factor analysis used an oblique Promax with Kaiser Normalization rotation method, an approach that is valid with the assumption of correlations between factors (Garson, 2010). By using the Maximum Likelihood extraction method for this study, it was also assumed that there would be correlations between factors.

The main purpose of this factor analysis was not necessarily to reduce the number of survey items, but to determine whether the factors that emerged through unforced statistical analysis matched the seven theorized constructs. The method for extracting the factors was used one using a Maximum Likelihood analysis with oblique rotation which enabled the large number of items (43) to be reduced to a smaller number of factors (6) that could be conceptually and statistically grouped together (Garson, 2010). This served in part as a data-reduction technique (Green & Salkind, 2008) in which the factors represent a more succinct set of measures (Green & Salkind, 2008; Vogt, 2005). The first extracted factor accounted for the largest amount of the variability among the measured variables (38.30%), and the second factor accounted for the next most (10.30%). These first two factors were the primary factors, and the following four factors represented minor factors, accounting for 12.30% cumulatively. Together the six factors explained 61% of the variance in relation to the total variance for all the 43 items (as shown in Table 5).

Table 5

Factor Analysis: Initial Eigenvalues and % of Variance of Factors  
with Values of 1.00 or Greater

Factor	Eigenvalue	% of Variance	Cumulative %
1	16.47	38.30	38.30
2	4.43	10.30	48.90
3	1.75	4.08	52.67
4	1.48	3.45	56.12
5	1.17	2.60	58.71
6	1.07	2.48	61.20

By setting the minimum value of the factor loadings to a power of .40, only four variables crossloaded, or overlapped, between two factors (items 9, 13, 18, and 25). Therefore, items 9 and 13 were removed from Factor 1 and retained with their higher values in Factor 5. Similarly, item 18 was removed from Factor 4 and retained with a higher value in Factor 5, whereas item 25 was removed from Factor 6 and retained with a higher value in Factor 2. Factor 5 had three of the four crossloadings, and Factor 6 had one. The individual variables that contributed to the factor analysis along with their factor loadings are shown in Table 6. Upon examination of the variables in each factor, it was found that these six factors did not necessarily fit closely with the seven theorized constructs; in fact, they appeared to present a different configuration altogether. (However, they also appeared to rank similarly as to their importance in the teachers' perception of kindergarten readiness; for further details see Research Question 3 below).

Table 6  
Factor Analysis Pattern Matrix Showing Factor Loadings for Individual Items in Six Factors, with Factor Labels

Variable (item #)	1	2	3	4	5	6
	EmtMat/SR	EarAcad	Enthu/Eagr	Mem/Reas	Sens/Res	F Motor/Sh
1			0.66			
17	0.42					
21	0.51					
26	0.61					
28	0.60					
30	0.70					
39	0.57					
6			0.45			
12						0.42
14	0.50					
19				0.69		
32		0.68				
36		0.90				
40		0.89				
5		0.68				
7		0.75				
11		0.80				
25		0.45				
29		0.52				
37		0.96				
41		0.57				
10						
16					0.50	
27	0.72					
42	0.52					
43	0.74					
4			0.40			
20				0.74		
22	0.63					
31	0.50					
33	0.44					
35	0.71					
2			0.62			
8						
15						
23						0.42
38	0.65					
3			0.72			
9					0.47	
13					0.58	
18					0.43	
24	0.57					
34	0.62					

Note: Emt/Mat/SR = Emotional Maturity and Self-Regulation; EarAcad = Early Academic Abilities; Entthu/Eagr = Enthusiasm and Eagerness to Learn; Mem/Reas = Memory and Reasoning; Sens/Res = Sensitivity to and Respect for Others; F Motor/Sh = Fine Motor, Shapes, and Colors



Labeling of the factors was based on an examination of the specific items loaded within each of the factors. Inputting factor labels from factor loading can be a very subjective process, and there is no one definitive way to achieve this (Garson, 2010). An explanation of the items loaded into each of the six factors and the subsequent labeling of each factor follows.

Factor 1 (eigenvalue = 16.47), is comprised of 17 items related to children's emotional maturity and self-regulation. This factor includes items reflecting independence (self-control, self-confidence, separation, transition, and self-help skills), attention (persistence and initiative), compliance and cooperation, and the communication of needs. Factor 1 explained 38.30 % of the variance in relation to the total variance explained by all the six factors. It appears to be qualitatively distinct and easy to interpret. It also had the highest averaged scale mean on the 5-point Likert scale of all the factors ( $M = 3.55$ ), indicating that teachers felt this factor to be "Very Important," the most important factor of all. Factor 1 was labeled "Emotional Maturity and Self-Regulation."

Factor 2 (eigenvalue = 4.43), explained 10.30 % of the variance in relation to the total variance explained by all the six factors. It is comprised of 10 items reflecting early academic abilities. These include skills related to early numeracy (counting, concepts of time, and writing numbers), phonemic awareness (letter sounds, letters of the alphabet, rhyming) and early literacy (writing name, story structure, and sight words). The averaged scale mean of this factor on the 5-point Likert scale ( $M = 2.06$ ) indicates that kindergarten teachers perceived these academic skills and abilities to be "Somewhat Important" for kindergarten readiness. Factor 2 was labeled "Early Academic Abilities."

Factor 3 (eigenvalue = 1.75) explained 4.08 % of the variance in relation to the total variance explained by all the six factors. Factor 3 included five items that reflected how students approached new activities and tasks (with enthusiasm, eagerness, inquisitiveness), their interactions with adults, and their ability to follow directions. The item (#2), “Child appears to be in overall good physical health,” which is part of this factor, appears out of place here and suggests that this factor was less distinct than the other factors and more difficult to interpret. However, an alternative explanation is that overall physical health is a pre-requisite for a student’s positive approach to learning new activities and tasks. The averaged scaled mean of this factor was 3.48 on the 5-point Likert scale, indicating that teachers felt this factor was either “Important” or “Very Important.” Factor 3 was labeled “Enthusiasm and Eagerness to Learn.”

Factor 4 (eigenvalue = 1.48) explained 3.45 % of the variance in relation to the total variance explained by all the six factors. Factor 4 included only two items that both reflected cognitive skills related to reasoning and working memory. This factor’s averaged scale mean of 2.50 on the 5-point Likert scale indicates that teachers felt these items were only “Somewhat Important” for kindergarten readiness. Factor 4 was labeled “Memory and Reasoning.”

Factor 5 (eigenvalue = 1.12) explained 2.60 % of the variance in relation to the total variance explained by all the six factors. The four items in Factor 5 reflected the child’s sensitivity towards and respect for others, including the ability to share, take turns, and resolve conflict. The averaged scale mean of this factor on the 5-point Likert scale (3.53) was the second highest of the six factors, indicating that teachers felt the items in

this factor were “Important” or “Very Important.” Factor 5 was labeled “Sensitivity to and Respect for Others.”

Factor 6 (eigenvalue = 1.07) explained 2.48 % of the variance in relation to the total variance explained by all the six factors. Factor 6, comprised of only two items, was difficult to interpret, as it pertained to both fine motor skills and recognizing colors and shapes. The averaged scale mean of Factor 6 on the 5-point Likert scale ( $M = 2.96$ ) indicates that teachers felt these were “Important” items. Factor 6 was labeled “Fine Motor, Shapes, and Colors.”

Together, the six factors explained 61% of the variance in relation to the total variance for all the 43 items. The first two factors explained 48.30% of the variance in relation to the total variance explained by all the six factors and are therefore the primary factors, accounting for 27 of the variables. The following four minor factors explained 12.30% of the variance and accounted for 13 of the variables. The factor labels and the items in each factor are given below in Table 7.

Table 7

## Factor Labels and Items Loaded into the Six Identified Factors

Factor Number	Factor Label	Item	Item Description
1	Emotional Maturity/Self-Regulation	43	Separates from parent without anxiety
		27	Self-control and positive classroom behavior
		35	Listens attentively to story for 10 or more minutes
		30	Attentiveness to activity/task for 10+ minutes
		38	Demonstrates self-help skills
		22	Communicates needs/wants/thoughts in primary language
		34	Forms new friendships with peers
		26	Transitions from one activity to another without problems
		28	Uses classroom materials appropriately
		39	Shows initiative: begins tasks on own
		24	Cooperates and plays with other children
		42	Self-confidence in abilities and pride in work
		21	Demonstrates independence: completes activity/task on own
		14	Compliance with teacher and authority figures
		31	Understands word meaning/uses age-appropriate vocabulary
		33	Communicates needs/wants/thoughts in English
		17	Task persistence: follows through on difficult tasks
2	Early Academic Abilities	37	Identifies most letter sounds
		36	Counts to 20 or above
		40	Recognizes and writes numbers to 10 or above
		11	Can read five or more sight words

Factor Number	Factor Label	Item	Item Description
		7	Can write most letters of the alphabet
		32	Understands concepts of time/associates activities with time of day
		5	Recognizes and knows most letter names
		41	Can state story structure after listening to a story
		29	Produces rhyming words
		25	Can write own name
3	Enthusiasm and Eagerness to Learn	3	Communicates and interacts with adults effectively
		1	Shows enthusiasm, eagerness, and curiosity
		2	Appears to be in overall good physical health
		6	Child observes, asks questions, solves problems
		4	Follows 2-step directions
4	Memory and Reasoning	20	Retells familiar story and sequences events
		19	Recognizes and states similarities and differences between two objects
5	Sensitivity/ Respect Others	13	Shares and takes turns
		16	Shows sensitivity to other children's' feelings
		9	Respects rights of others by keeping hands to self/keeps to own "space"
		18	Resolves conflict by using compromise strategies
6	Fine Motor, Shapes, Colors	12	Identifies colors and basic geometric shapes
		23	Good fine motor skills: scissors, Legos, glue stick

Three variables with factor loadings less of than .40 were unrelated to and therefore not loaded into any of the six factors (items 15, 8, and 10) as shown in Table 8. Although not part of any of the six factors, they contribute to the variance not explained by the six factors, and kindergarten teachers rated them as important, particularly item 10, “Expresses emotions and feelings effectively” ( $M = 3.38$ ).

Table 8

Variables Not Loaded Into Any of the Six Factors with Individual Means and Percentages of Kindergarten Teachers Choosing “Very Important” or “Essential”

Item #	Variable	Factor Loading	M	%
15	Good graphomotor skills: correct pencil grip, traces	.34	2.85	25.9
10	Expresses emotions and feelings effectively	.35	3.38	43.5
8	Good gross motor skills: jump, hop, skip, run	.23	2.87	23.3

Factor intercorrelations are reported in Table 9. The correlations among the six factors ranged from between .07 (non-existent) to .63 (moderately high) (Shavelson, 1996). The correlations between Factor 6 and the other factors included the lowest correlations ( $r = .07 - .32$ ), suggesting that Factor 6 was more heterogeneous and distinct from the other factors. Correlations between Factor 1 and the other factors and between Factor 4 and the other factors included the highest correlations ( $r = .57 - .63$ ), suggesting that both Factors 1 (Emotional Maturity and Self-Regulation) and 4 (Memory and Reasoning) were less distinct from the other factors and that there were overlaps in what they were measuring. Overall, this set of correlations between the factors is lower than the set of correlations among the seven theorized constructs ( $r = .41 - .84$ , see Table 4). This suggests that the factor analysis, by virtue of it being unconstrained, yields more

distinct and independent factors than are represented by the seven *a priori* theorized constructs.

Table 9  
Factor Correlation Matrix Among the Six Factors

Factor	1	2	3	4	5	6
	EmtMat/SR	EarAcad	Enthu/Eagr	Mem/Res	Sens/Res	FMotor/Sh
1 EmtMat/SR	1.00					
2 EarAcad	.45	1.00				
3 Enthu/Eagr	.57	.40	1.00			
4 Mem/Res	.63	.59	.57	1.00		s
5 Sens/Res	.52	.24	.54	.38	1.00	
6 FMotor/Sh	.27	.31	.17	.07	.32	1.00

Note: Emt/Mat/SR = Emotional Maturity and Self-Regulation; EarAcad = Early Academic Abilities; Enthu/Eagr = Enthusiasm and Eagerness to Learn; Mem/Reas = Memory and Reasoning; Sens/Res = Sensitivity to and Respect for Others; F Motor/Sh = Fine Motor, Shapes, and Colors

Cronbach's coefficient alphas were computed for each of the six factors. The coefficient alphas are shown in Table 10. The coefficient alphas were computed between .67 and .93, suggesting good reliability for Factors 1 through 5 and an acceptable but weaker reliability for Factor 6.

Table 10

Reliability Coefficients using Cronbach's Coefficient Alphas for the Six Factors

Factor	Factor Name	# of variables	Alpha
1	Emotional Maturity and Self-Regulation	17	.93
2	Early Academic Abilities	10	.93
3	Enthusiasm and Eagerness to Learn	5	.77
4	Memory and Reasoning	2	.78
5	Sensitivity To and Respect for Others	4	.84
6	Fine Motor, Shapes, and Colors	2	.67
	Total Number of Variables	40	

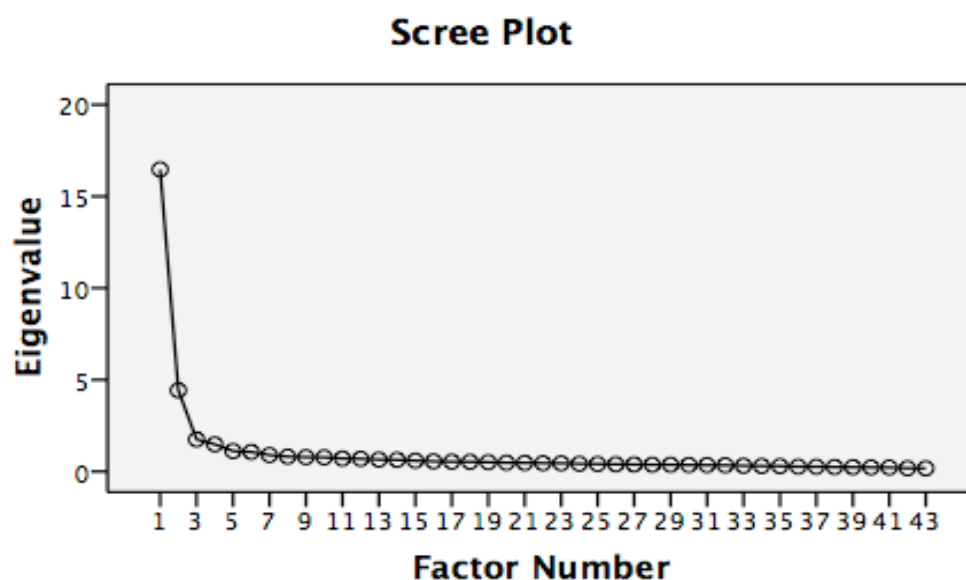
*Alternative Considerations for Additional Analyses*

The findings described above resulted from an unconstrained factor analysis and yielded six distinct and separate factors to be compared to the theorized constructs. Since the aim of the factor analysis was to summarize the interrelationships among the variables in a concise but accurate manner as an aid in conceptualization of the main constructs describing kindergarten readiness, alternate solutions were considered to assist in the “ease of interpretation” (Gorsuch, 1983, p.193). In searching for alternative ways to conceptualize the constructs and reduce them to the smallest number of meaningful and interpretable factors, additional factor analyses were conducted in which the number of factors was constrained to two, three, four, and five factors.

Green and Salkind (2008) suggested that another criteria for deciding how many factors to retain is by examining the plot of the eigenvalues, known as the scree plot. The authors maintained that all factors with eigenvalues in the sharp descent part of the plot



before the eigenvalues start to level off should be retained. Inspection of the scree plot (Figure 1) indicates that only two factors are in this sharp descent. These two factors account for 49 % of the variance, as opposed to 61 % for the six unconstrained factors. Although two factors are easier to interpret than six, this method, which results in fewer factors, is sometimes criticized as being subjected to researcher bias for the purpose of ease of interpretation or desired results (Garson, 2010; Gorsuch, 1983).



*Figure 1.* Scree plot for all 43 variables included in the factor analysis

Consistent with the indications of the scree plot (Figure 1), the constrained solution for two factors yielded two distinct and interpretable factors, similar to Factors 1 and 2 in the unconstrained analysis described earlier. In the cases with three, four, and five constrained factors, the factors were subsets of the first and second factors and did not offer any greater ease in interpretation. Although the set of only two constrained factors was more distinct and easier to interpret, a decision was made to retain Factors 1 through 6 from the unconstrained factor analysis for the following reasons. First, the six

factors accounted for the greatest amount of cumulative variance of the model (61%). Second, by not constraining the factors to a predesignated number, a more objective procedure was used that yielded a result based on the intrinsic characteristics of the data.

Finally, the researcher of the current study may be biased toward a more easily, interpretable solution and therefore influence the decision for choosing a solution that supports a theoretical position. Using an unconstrained factor analysis protects against subjectivity in choosing the number of factors (Garson, 2010). Therefore, in the current study, the unconstrained factor analysis provided an alternative conceptualization for the grouping of the items. Although problems for interpretation arose with some of the factors containing a wide range of variables that were at times not completely understood, the decision was made to retain Factors 1 through 6.

Research Question 3: What degree of emphasis do kindergarten teachers place on each of the seven theorized constructs?

To address this research question, two different summaries and tables will be presented. First, the means and standard deviations of the seven original theorized constructs as shown in Table 11 will be presented and discussed. Then, the means and standard deviations for the six factors that emerged from the factor analysis will be presented and discussed based upon Table 12.

A summary of the descriptive statistics obtained for each of the seven constructs is presented in Table 11. A comparison of the means and standard deviations for each of the seven constructs on a 5-point Likert scale shows that kindergarten teachers placed the least degree of importance on the construct Emerging Literacy ( $M = 2.12$ ,  $SD = .79$ ) followed by Cognitive Development and General Knowledge ( $M = 2.63$ ,  $SD = .68$ ). They

placed the greatest importance on Emotional Development ( $M = 3.64$ ,  $SD = .64$ ) and Social Development ( $M = 3.55$ ,  $SD = .66$ ). The relatively small standard deviations in the constructs of greatest importance indicated that teachers as a group agreed in their overall perception of the most important kindergarten readiness skills. On the other hand, the relatively high standard deviations for constructs of lower perceived importance indicated that teachers as a group were more divided in their opinion about the importance of these constructs, or, alternatively, these constructs elicited more varied responses. These findings are largely consistent with prior research that suggests kindergarten teachers place greater importance on the social and emotional constructs of kindergarten readiness than on academic skills, such as cognitive abilities and early literacy (Heaviside & Farris, 1993; Lin et al., 2003; Piotrkowski et al., 2000; Wesley & Buysse, 2003).

Table 11

Means and Standard Deviations for the Seven Original Theorized Constructs (on a 5-Point Likert Scale)

Construct	# of Items	Mean	SD
Emotional Development	5	3.64	.64
Social Development	6	3.55	.66
Physical Well-Being and Motor Development	5	3.42	.61
Approaches Toward Learning	7	3.36	.67
Language Development and Communication	6	3.18	.69
Cognitive Development and General Knowledge	7	2.63	.68
Emerging Literacy Development	7	2.12	.79
Total Items in Seven Constructs	43		

The averaged means and standard deviations for the items with factor loadings greater than .40 in the six factors from the unconstrained factor analysis (see Table 7) are shown in Table 12. A comparison of the means and standard deviations for each of the six factors shows that kindergarten teachers placed the greatest and almost equal importance on Emotional Maturity and Self-Regulation ( $M = 3.55$ ,  $SD = .63$ ), Sensitivity To and Respect for Others ( $M = 3.53$ ,  $SD = .84$ ), as well as Enthusiasm and Eagerness to Learn ( $M = 3.48$ ,  $SD = .66$ ). The relatively small standard deviations in the factors, Emotional Maturity and Self-Regulation and Enthusiasm and Eagerness to Learn ( $SD = .63$  and  $.66$ , respectively) indicated that teachers as a group agreed in their overall perception of the most important kindergarten readiness skills. Teachers placed the least degree of importance on the factor, Early Academic Abilities ( $M = 2.06$ ,  $SD = .79$ ),

followed by Memory and Reasoning ( $M = 2.50$ ,  $SD = .86$ ). The relatively high standard deviations for these two factors of lower perceived importance indicated that the teachers as a whole were less homogeneous in their opinion about the importance of these factors.

Table 12  
Means and Standard Deviations for the Six Factors

Factor	Factor	# of Variables	Mean	SD
1	Emotional Maturity and Self-Regulation	17	3.55	.63
2	Early Academic Abilities	10	2.06	.79
3	Enthusiasm and Eagerness to Learn	5	3.48	.66
4	Memory and Reasoning	2	2.50	.86
5	Sensitivity to and Respect for Others	4	3.53	.84
6	Fine Motor, Shapes, and Colors	2	2.96	.79
Total Variables in Six Factors		40		

Research Question 4: What degree of importance do kindergarten teachers place on the specific indicators within each of the seven theorized constructs?

Kindergarten teachers ranked the degree of importance they placed on each of 43 different characteristics, skills, and abilities demonstrating kindergarten readiness on a 5-point Likert-type response scale constructed for the purpose of this study. The response scale showed descriptors for each of the five points, which clarified the meaning of each point. The response options included the following: “Not Too Important”, “Somewhat Important”, “Important”, “Very Important”, and “Essential”. Table 13 shows the results of participants’ responses to the survey items in ranked order. The table ranks the items in descending order from the highest percentage of teachers choosing the response, “very important” or “essential” to the lowest.

Findings indicate that teachers were unanimous in their beliefs (92.5% of the teachers rated this as “Very Important” or “Essential”) that *self-help skills* was the most important of all the kindergarten readiness variables ( $M = 4.65$ ,  $SD = .63$ ). The relatively low standard deviation suggests that there was great homogeneity in the group’s responses to this item. Between 60 % and 74 % of the teachers also rated items regarding compliance with authority, ability to separate from parents, respecting others, cooperation, enthusiasm towards learning, self-control, sharing, and taking turns as “Very Important or “Essential.” Teachers ranked abilities and skills pertaining to academic areas as much less important. These included items relating to math concepts, early literacy, phonemic awareness, memory, and logic. These more academic items were all from the constructs of Cognitive Development and General Knowledge and Emerging Literacy.

Table 13  
 Ranked Order of Survey Items (1-43) Showing Means, Standard Deviations, and  
 Percentages of Kindergarten Teachers Choosing  
 “Very Important” or “Essential” (N=653)

Item	Variables	Percent of Teachers*	Mean	SD
38	Demonstrates self-help skills	92.5	4.65	0.63
14	Compliance with teacher and authority figures	73.6	4.05	0.87
43	Separates from parent without anxiety	71.5	4.06	0.92
9	Respects rights of others by keeping hands to self/keeps to own “space”	67.9	3.88	0.92
24	Cooperates and plays with other children	66.5	3.85	0.82
1	Shows enthusiasm, eagerness, and curiosity	64.5	3.75	0.89
27	Self-control and positive classroom behavior	64.2	3.82	0.87
13	Shares and takes turns	61.9	3.76	0.91
2	Appears to be in overall good physical health	60.9	3.76	0.91
22	Communicates needs/wants/thoughts in primary language	59.3	3.78	0.91
16	Shows sensitivity to other children’s’ feelings	49.2	3.52	0.79
4	Follows 2-step directions	48.2	3.45	1.01
35	Listens attentively to story for 10 or more minutes	47.6	3.45	1.02
42	Self-confidence in abilities and pride in work	45.6	3.43	0.91
30	Attentiveness to activity/task for 10+ minutes	45.0	3.41	1.06
28	Uses classroom materials appropriately	44.6	3.42	0.89
10	Expresses emotions and feelings effectively	43.5	3.38	0.83
3	Communicates and interacts with adults effectively	43.5	3.42	0.87
34	Forms new friendships with peers	43.3	3.43	0.87
26	Transitions from one activity to another without problems	39.4	3.31	0.91
21	Demonstrates independence: completes activity/task on own	39.2	3.23	0.97

Item	Variables	Percent of Teachers*	Mean	SD
31	Understands word meaning/uses age-appropriate vocabulary	35.8	3.22	0.92
17	Task persistence: follows through on difficult tasks	34.2	3.18	0.89
39	Shows initiative: begins tasks on own	33.9	3.19	0.87
25	Can write own name	31.2	2.99	1.16
6	Observes, asks questions, solves problems	30.5	3.05	3.05
12	Identifies colors and basic geometric shapes	29.4	2.92	1.09
33	Communicates needs/wants/thoughts in English	28.5	2.86	1.14
23	Good fine motor skills: scissors, Legos, glue stick	28.3	3.00	0.94
18	Resolves conflict by using compromise strategies	27.6	2.98	0.88
15	Good graphomotor skills: correct pencil grip, traces	25.9	2.85	1.00
8	Good gross motor skills: jump, hop, skip, run	23.3	2.87	0.94
5	Recognizes and knows most letter names	21.6	2.59	1.10
19	Recognizes and states similarities and differences between two objects	16.5	2.65	0.94
20	Retells familiar story and sequences events	10.7	2.35	0.95
7	Can write most letters of the alphabet	10.4	2.07	1.03
40	Recognizes and writes numbers to 10 or above	10.1	2.05	1.07
29	Produces rhyming words	8.5	2.09	0.97
36	Counts to 20 or above	7.7	1.95	1.03
37	Identifies most letter sounds	6.7	1.84	1.01
41	Can state story structure after listening to a story	4.3	1.78	0.88
11	Can read five or more sight words	3.7	1.49	0.85
32	Understands concepts of time/associates activities with time of day	3.1	1.77	0.84

\* Percent of Teachers Choosing “Very Important“ or “Essential”



## Summary

Responses to 43 items in the survey, Kindergarten Teachers' Perceptions of Kindergarten Readiness, collected from 653 kindergarten teachers, provided the data for the current study. The data analysis revealed several significant findings.

First, tests for internal reliability of the seven *a priori* theorized constructs indicated that they can be measured reliably. The moderate to large correlations among these constructs suggest that they are strongly interrelated and that they may represent similar concepts.

Second, an unconstrained exploratory factor analysis yielded six factors that grouped the majority of items somewhat differently than in the theorized constructs. The newly derived factors are less correlated and therefore presumably more distinct than the theorized constructs. Although there appears to be considerable overlap between the content of the seven theorized constructs and the six resulting factors, there are also some noticeable differences (which will be discussed further in Chapter V). The factor analysis found that the teachers grouped items differently from what had been originally hypothesized in the development of the seven constructs.

Third, consistent with prior research, kindergarten teachers indicated that, overall, they perceived the non-academic abilities and characteristics of kindergarten readiness (such as skills and abilities relating to emotional maturity and self-regulation) as having the greatest importance. At the item-level, kindergarten teachers perceived that the most important characteristic for kindergarten readiness is having self-help skills. Following this item, teachers ranked items pertaining to emotional maturity, self-regulatory behavior, social relationships and interactions, enthusiasm toward learning, and

sensitivity and respect toward others also as "very important" or "essential." They rated items pertaining to early literacy, numeracy, and other cognitive abilities pertaining to memory and reasoning as the least important.

Finally, the six individual factors that emerged from the unconstrained factor analysis provide a new conceptualization of kindergarten readiness from the perspective of kindergarten teachers. These major findings will be discussed further in Chapter V.

## CHAPTER V

## DISCUSSION

Readiness for school has become a growing concern in this country. Entering kindergartners begin school with considerable variation in their range of general knowledge, skills, and abilities. They come from increasingly diverse ethnic, racial, cultural, social, economic, and language backgrounds, and they differ in the types of early care and educational experiences prior to kindergarten (West, Denton, & Germino-Hausken, 2000; West, Denton, & Reaney, 2001; Zill & West, 2001). Many children begin school unprepared for the increasing demands of kindergarten. Kindergarten readiness has received increased attention from parents, educators, researchers, and legislators, who together promote efforts to raise the quality of early learning programs to facilitate children's better preparation for school success.

Prior studies indicated that many children enter kindergarten at-risk for school failure (West, Denton, & Germino-Hausken, 2000; West, Denton, & Reaney, 2001; Zill & West, 2001). Further, kindergarten teachers report that more than half of children enter school with a number of problems (Pianta, Cox, Taylor, & Early, 1999; Rimm-Kaufman, Pianta, & Cox, 2000), and that a significant number of children enter kindergarten not optimally ready to learn (Hains, Fowler, Schwartz, Kottwitz, & Rosenkoetter, 1989; Piotrkowski, Botsko, & Matthews, 2000; Smith & Shepard, 1988).

Although kindergarten teachers' readiness views and expectations have been shown to impact the emphasis of their instructional strategies, intervention, retention practices, and transitional practices (Bowman, Donovan, & Burns, 2001; Lin, Lawrence, & Gorrell, 2003; Rimm-Kaufman et al., 2000; Snider & Roehl, 2007), their views and

beliefs about kindergarten readiness, early learning standards, and transitional practices have rarely been solicited.

The purpose of the current study was to examine kindergarten teachers' perceptions of kindergarten readiness and the degree of importance they placed on various characteristics, skills, and abilities demonstrating kindergarten readiness. For the purpose of this study, the following seven constructs were defined, based on the research literature: (1) *Physical Well-Being and Motor Development*, (2) *Emotional Development*, (3) *Social Development*, (4) *Approaches Toward Learning*, (5) *Language Development and Communication*, (6) *Emerging Literacy*, and (7) *Cognitive Development and General Knowledge*. These constructs represented the seven scales in the survey instrument, which was designed by the researcher specifically for this study. Surveys were collected from 653 kindergarten teachers, consisted of 5-point Likert scale responses to the 43 survey items, and formed the basis for investigating the four research questions.

This chapter discusses the results of the data analysis. The discussion of the study results is presented according to the four research questions. Recommendations for future research, implications for practice, and concluding remarks are presented after the discussion of the results.

## Discussion of the Findings

### *Research Question 1*

The first research question addressed the reliability of the survey instrument and the intercorrelations among the original seven theorized constructs. The coefficient alphas, computed between .70 and .90, suggest good reliability of the survey instrument. The moderate to large positive correlations among these constructs (ranging from .41 to

.87) suggest that although the scales can be measured reliably, they are not entirely distinct. They are strongly interrelated, suggesting that they may be measuring similar things. The existence of an overlap between constructs is consistent with the research literature and suggests that kindergarten readiness, as seen through these constructs, is comprised of highly interconnected and interrelated dimensions of early learning and development (Bowman, Donovan, & Burns, 2001; Kagan, Moore, & Bredekamp, 1995; Scott-Little, Kagan, & Frelow, 2003b, 2005; Shonkoff & Phillips, 2000). This is particularly important because this interconnectedness among the constructs is consistent with the multidimensional theoretical rationale for the current study, suggesting that there are multiple factors and interrelated constructs that contribute to a child's readiness.

### *Research Question 2*

The second research question addressed the way in which the seven theorized constructs were statistically distinct from one another and investigated the relationships among them. An unconstrained exploratory factor analysis was conducted on the 43 survey items, which yielded six factors that statistically explained 61% of the variance explained by the total number of items. Upon close inspection of the specific items loaded into each factor, it was found that the six factors that emerged configured the teachers' responses to the survey items differently than in the seven theorized constructs as well as in any prior studies. Overall, the correlations among the six factors ( $r = .07$  to  $.63$ ) were lower than the correlations among the seven theorized constructs and therefore are presumably more distinct than the original constructs. Although there appears to be considerable overlap between the seven theorized constructs and the six resulting factors, there are also some noticeable differences.

This study's factor analysis unveiled a new conceptualization of readiness as configured by kindergarten teachers' perceptions. Most important, underlying this new conceptualization is the emergence of different kinds of relationships among previously theorized constructs of readiness. Items that had previously appeared conceptually different and unrelated are now shown to be associated with one another. As such, the kindergarten teachers grouped items together in a conceptually different way, suggesting new relationships among characteristics of readiness. This new conceptualization led the researcher of the current study to seek a greater understanding of the way kindergarten teachers perceive readiness. Upon deeper consideration, these relationships have been interpreted as meaningful and important, and they bring new meaning to the concept of kindergarten readiness. Following is a discussion and interpretation of these new relationships.

Factor 1, Emotional Maturity and Self-Regulation, the first of two primary factors, accounted for 40% of the total number of items and accounted for the greatest percentage (38%) of the variance explained by the total number of items. Factor 1 had the highest averaged scale mean of all the factors ( $M = 3.55$ ), indicating that the teachers rated this factor the most important. Many of the 17 items in Factor 1 had been identified as very important or essential by kindergarten teachers in prior studies, as well, such as a child's self-control, self-help skills, and the ability to communicate needs and wants (Heaviside & Farris, 1993; Lin et al., 2003; Piotrkowski, 2000).

The most illuminating finding in Factor 1 is that teachers perceived strong relationships among the 17 items in this factor. Teachers recognized that many of the skills represented in this factor operate collaboratively—a child's attentiveness, initiative,

task persistence, and ease in making transitions are not only associated with, but are in part dependent upon the child's independence; the child's ability to communicate needs and use appropriate vocabulary are skills helpful in developing friendships, playing, and cooperating with other children; a child's self-control and independence are linked to the child's self-help skills; and positive classroom behavior is linked to compliance with authority and appropriate use of materials and language. These connections between items that have previously represented different constructs brings new meaning to the way the kindergarten teachers in this study conceptualized characteristics of readiness—mainly that these characteristics, abilities, and skills do not operate alone, but collectively.

Many of the items in Factor 3, Enthusiasm and Eagerness to Learn, had also been identified in prior studies as “very important” or “essential” by kindergarten teachers. These include items related to a child's enthusiasm and curiosity towards learning, interactions with adults, following directions, as well as overall good physical health (Heaviside & Farris, 1993; Lin et al., 2003; Piotrkowski, 2000). The teachers in the current study made some interesting connections between the five items in this factor. Upon initial examination, item (#2), “Child appears to be in overall good physical health,” appears qualitatively different from the other items in this factor (items related to a child's enthusiasm and curiosity towards learning, interactions with adults, following directions, and observing and asking questions). However, overall physical health is arguably a pre-requisite and an underlying necessity for a child's positive approach to and engagement in learning. It may also impact a child's ability to effectively interact with adults and actively engage in strategies such as observation, questioning, and

problem solving. In this factor, kindergarten teachers have conceptualized important interrelationships between these items that have been previously theorized as separate and distinct constructs.

Kindergarten teachers also recognized the association between the two items in Factor 4, Memory and Reasoning. The pairing of these two items in this factor, sequencing of events in a story and recognizing similarities and differences between objects, suggests that these two skills operate in tandem. This interesting connection between two seemingly different tasks from the constructs of emerging literacy and cognitive development suggest that a child's ability to conceptualize the sequencing of events in a story is related to the child's ability to recognize similarities and discriminate differences in physical objects, people, and events.

The relationship of the four items in Factor 5, Sensitivity to and Respect for Others, is very apparent. These items all pertain to a child's social skills—sharing, taking turns, sensitivity to other's feelings, and resolving conflict. These social skills are clearly associated with one another in the way that a child interacts with peers. Prior studies have indicated that items very similar to these-- respecting other children, sharing and taking turns, and expressing feelings, and showing sensitivity to peers, were among social and emotional constructs also rated as "very important" or "essential"-- by over half the kindergarten teachers (56%) in the Heaviside and Farris (1993) study, by 76% of the kindergarten teachers in the Lin et al. (2003) study, by 68% of the kindergarten teachers in the Piotrkowski et al. (2000) study, and by the kindergarten teachers in the Wesley and Buisse (2003) focus groups.



Factor 6, Fine Motor, Shapes, and Colors, was comprised of only two items-- identification of colors and basic shapes and demonstrating good fine-motor skills. This finding indicates that teachers conceptually associated these two items with each other, suggesting that the ability to manipulate small objects, such as Legos, scissors, and paintbrushes, is related to a child's knowledge of colors and shapes, which may develop simultaneously through the process of exploration and learning.

Factor 2, the second primary factor, Early Academic Abilities, grouped together 10 items from the original Emerging Literacy and Cognitive Development constructs reflecting math and early literacy skills and abilities. The relationship of the items in Factor 2 is easily understood. These items all pertain to knowledge of phonemic awareness, print awareness, counting, writing numbers and letters, and story structure. In prior studies, items such as these have also been grouped together and referred to as "academic" skills (Hains, Fowler, Schwartz, Kottwitz, & Rosenkoetter, 1989; Heavyside & Farris, 1993; Lin et al., 2003; Rimm-Kaufman et al., 2000) or "basic" or "advanced knowledge" (Piotrkowski et al., 2000). It is interesting to note that despite the increased accountability and the "push down" of higher academic benchmarks and expectations in kindergarten, kindergarten teachers' beliefs regarding these academic abilities have changed little over time.

In summary, the factor analysis found a better organization for the 43 items than the initial organization of the items in the seven original theorized constructs. The new grouping of six constructs that emerged from the factor analysis can be used as an alternative conceptualization of constructs of kindergarten readiness. These six new constructs have been shown not only to be generally more distinct from each other than

the original seven theorized constructs, but they represent a new perspective in the way kindergarten teachers view readiness. New relationships between previously recognized important, yet distinctively different constructs emerged. The difference in the way kindergarten teachers conceptualized readiness in the current study is reflected in the way in which the factor analysis grouped items into six factors.

This important finding reflects differences from prior studies that used a factor analysis to investigate kindergarten teachers' perceptions of readiness. The factor analysis by Lin et al. (2003) identified only two factors based on 13 variables, although these two factors, Social and Academic, are similar to Factors 1 and 2 in the current study in their clear differentiation of social and emotional attributes as compared to academic, cognitive attributes. The factor analysis by Piotrkowski et al. (2000) resulted in 10 factors (based on 46 items) that also clearly differentiated academic readiness and social and emotional readiness.

The results of the current study indicate that kindergarten teachers may have a different way of prioritizing and conceptually organizing readiness skills, abilities and characteristics. The grouping of items into these six factors suggests that kindergarten teachers recognize important relationships, associations, and distinctions among the items that impact the way they perceive readiness. One can conclude that the factors' new grouping of items and the relationships, interactions, and overlaps between the constructs are more important and representative of teachers' perceptions of importance than are the original seven theorized constructs. Additionally, the configuration of these six new factors is different than what has been found in prior research.

### *Research Question 3*

The third research question addressed the degree of emphasis the kindergarten teachers placed on the seven original theorized constructs. Upon examination of the means and standard deviations of both the seven original theorized constructs and the six new constructs that emerged from the unconstrained exploratory factor analysis, it can be concluded that kindergarten teachers in this study placed a strong emphasis on the social and emotional characteristics of readiness and perceived the non-academic abilities as having the least importance. This is consistent with findings in past studies (Hains et al., 1989; Heaviside & Farris, 1993; Lin et al., 2003; Piotrkowski et al., 2000; Wesley & Buysse, 2003) that indicated that kindergarten teachers held similar beliefs.

When examining the means and standard deviations of the seven original theorized constructs, it is to be expected, therefore, to find that teachers in the current study rated two of the original constructs, Emotional Development ( $M = 3.64$ ,  $SD = .64$ ) and Social Development ( $M = 3.55$ ,  $SD = .66$ ) the highest importance. This also explains, logically, that consistent with prior studies, the teachers in the current study rated the original constructs pertaining to academic skills and abilities, Emerging Literacy ( $M = 2.12$ ,  $SD = .79$ ) and Cognitive Development and General Knowledge ( $M = 2.63$ ,  $SD = .68$ ) as having the least importance.

When interpreting the means of the seven original theorized construct's scales, it is also important to examine the items comprising each scale. Prior to the current study, specific indicators of readiness had not been agreed upon in the research literature. Items for the current study were adapted from prior studies (Heaviside & Farris, 1993; Lin et al., 2003; Piotrkowski et al., 2000), and from the Scott-Little et al. (2005) study

examining state's indicators for early learning standards. Some of the constructs in prior studies were slightly ambiguous and not as clearly defined as others (Social, Emotional, and Approaches Towards Learning), and other constructs included sub-scales to differentiate what was being measured (Cognitive Development and General Knowledge, and Language Development and Communication) (Scott-Little et al., 2005). Therefore, there may have been some overlap in what the seven original theorized constructs in the current study specifically measured.

The six new constructs that emerged from the factor analysis conceptually reorganized the grouping of the same items in the original seven constructs while still indicating teachers' perceptions of their importance. This may explain, therefore, the degree of emphasis the teachers placed on the factors. The lowest factor mean was that of Factor 2, Early Academic Abilities ( $M = 2.06$ ,  $SD = .79$ ), followed by Factor 4, Memory and Reasoning ( $M = 2.50$ ,  $SD = .86$ ). The highest factor mean was that of Factor 1, Emotional Maturity and Self-Regulation ( $M = 3.55$ ,  $SD = .63$ ), followed closely by Factor 5, Sensitivity to and Respect For Others ( $M = 3.53$ ,  $SD = .84$ ), and Factor 3, Enthusiasm and Eagerness to Learn ( $M = 3.48$ ,  $SD = .66$ ).

Consistent with prior studies, kindergarten teachers in the current study rated Factor 2, Early Academic Abilities ( $M = 2.06$ ), the least important of all, indicating that they felt these readiness skills were only "Somewhat Important." This finding is consistent with an emerging theme found in prior research, suggesting that kindergarten teachers believe social aspects of readiness are more important than academic ones (Heaviside & Farris, 1993; Lin et al., 2003; Piotrkowski et al., 2000; Rimm-Kaufman et al., 2000; Wesley & Buysse, 2003). However, an alternative interpretation should be

considered. The relatively low mean for Early Academic Abilities does not necessarily imply that teachers do not consider academic readiness an important prerequisite for kindergarten readiness. They might, instead, perceive academic skills to be more appropriately taught in kindergarten rather than social skills and emotional development, which they believe children should be taught and experience prior to kindergarten.

In summary, the means of the original seven constructs inform us of the way in which kindergarten teachers in the current study rated the importance of the constructs overall. A more accurate analysis of the importance the teachers placed on kindergarten readiness, however, is through examining the means of the six new factors. Overall, kindergarten teachers did not make the same kind of distinctions as has been shown in prior research and in early learning standards.

#### *Research Question 4*

The study's final research question addressed the degree of importance that kindergarten teachers placed on the individual items within each of the seven original theorized constructs. Results of the current study indicate that the way in which teachers rated the importance of individual items is consistent with prior studies. Prior research has indicated that kindergarten teachers believe a child's self-help skills, overall health, compliance with authority, interactions with others, enthusiasm and curiosity towards learning, self-control, and communication skills were far more important for readiness than academic skills and abilities (Heaviside & Farris, 1993; Hains et al., 1989; Lin et al., 2003; Piotrkowski et al., 2000; Wesley & Buysse, 2003).

In the current study, the item with the greatest percentage (92.5%) of teachers choosing a rating of either "very important" or "essential" was (item #38), "Child

demonstrates self-help skills: feeds self, takes care of bathroom needs, cleans up after self.” This finding is particularly interesting when considering the current educational climate of increased accountability, more rigorous K-12 state content standards, and more specifically, the demanding academic expectations in kindergarten. The fact that there has been little change over time in what kindergarten teachers believe to be important, despite current pressures for students to perform to higher grade level standards, is impressive. This recognition of the importance of social and emotional development on early learning and later academic success confers with research findings in early childhood development.

Consistencies with prior research are also found in the items rated as having the least importance in the current study (Heaviside & Farris, 1993; Hains et al., 1989; Lin et al., 2003; Piotrkowski et al., 2000; Wesley & Buysse, 2003). Only 10% or less of all teachers (from 10.4% - 3.1%) rated items from both the constructs of Cognitive Development and Emerging Literacy, corresponding with items in Factor 2 (Early Academic Abilities) and Factor 4 (Memory and Reasoning) as “very important” or “essential.” These same items (items # 20, 7, 40, 29, 36, 37, 41, 11, and 32) were rated by kindergarten teachers as “not too important” or only “somewhat important” by 70.3% to 80.9% of the teachers. Even more impressive is the finding that the item (#11), “Child can read five or more sight words,” was rated by 88% of the teachers as “not too important” or “somewhat important,” suggesting that academic skills should be taught once children *enter* kindergarten rather than as preparation *for* kindergarten.

Upon close inspection of the teachers’ ratings of the 43 individual items in the current study, it can be concluded that kindergarten teachers believe that characteristics

from *all* the constructs are important to varying degrees. Over half the kindergarten teachers (from 59.3% - 92.5%) rated some items from all of the seven original constructs (except for Emerging Literacy) as “very important” or “essential.” This suggests that kindergarten teachers believe that a well-balanced developmental approach to learning and readiness for should strengthen a child’s skills in *all* constructs without focusing on narrowly defined skills. Additionally, this suggests that kindergarten teachers may believe, as has been found in prior studies (Heaviside & Farris, 1993; Wesley & Buysse, 2003) that teaching academic skills is part of kindergarten teachers’ jobs.

#### *Summary of the Findings*

Few studies have investigated kindergarten teachers’ perceptions of kindergarten readiness (Hains et al., 1989; Heaviside & Farris, 1993; Lin et al., 2003; Piotrkowski et al., 2000; Smith & Niemi, 2007; Smith & Shepard, 1988; Wesley & Buysse, 2003), and few studies have investigated kindergarten teachers’ perceptions of problems that kindergarten students experience during the transition to kindergarten (Early, Pianta, Taylor, & Cox, 2001; LoCasale-Crouch, Mashburn, Downer, & Pianta, 2008; Pianta, Cox, Taylor, & Early, 1999; Rimm-Kaufman et al., 2000). Of those studies investigating kindergarten teachers’ perceptions of readiness, only four have used surveys in their research designs (Hains et al., 1989; Heaviside & Farris, 1993; Lin et al., 2003; Piotrkowski, 2000), and of those four, two used a factor analysis as part of the analysis of the data (Lin et al., 2003; Piotrkowski, 2000).

The first study included in the group of survey designs examining kindergarten teachers’ beliefs about readiness was a large-scale study conducted by the National Center for Education Statistics (NCES) in 1993 (Heaviside & Farris, 1993), had a sample

size of 1,339 kindergarten teachers from a stratified sample of 860 schools. Responses to 15 items about kindergarten readiness were collected in a survey format on a 5-point Likert type scale. The second study was another large-scale NCEES study that examined kindergarten teachers' qualifications, background characteristics, practices, and beliefs. Data from this Early Childhood Longitudinal Study (ECLS-K) (West et al., 2000) were collected from 3,305 kindergarten teachers in both public and private schools across the country in a survey format on a 5-point Likert type scale. Lin et al. (2003) used the kindergarten teacher data (N = 3,305) collected in the ECLS-K study to examine the teachers' responses to 13 items of readiness characteristics. Hains et al. (1989) investigated the extent to which preschool teachers' perspectives on and expectations for readiness matched kindergarten teachers' perspectives. A convenience sample of 28 kindergarten teachers from two school districts responded to 153 items on a 3-point Likert-type scale. Lastly, in a study investigating readiness beliefs of parents, preschool teachers, and kindergarten teachers (Piotrkowski et al., 2000), 57 kindergarten teachers from one public school district responded to 45 survey items on a 4-point Likert-type scale.

There are a number of similarities and differences between the current study and the previous studies. Key consistencies between the current study and previous studies is the use of a survey design with Likert-type scale (Hains et al., 1989; Heaviside & Farris, 1993; Lin et al., 2003; Piotrkowski et al., 2000) and the use of a factor analysis in the analysis of the data (Lin et al., 2003; Piotrkowski et al., 2000). Yet, the current study was also different in the design of the survey items, drawing from the organization of indicators from states' early learning standards (Scout-Little et al., 2005) besides drawing



from prior studies. Further, the unconstrained exploratory factor analysis in the current study grouped items together in a different way than has been done in the past, and therefore suggests an alternative conceptualization of the constructs of kindergarten readiness and the way kindergarten teachers view readiness.

One of the differences in the current study is the number of items used in the survey (43) which was similar to the number of items in the Piotrkowski et al. (2000) study (45 items), but much larger than the number of items in the Heaviside and Farris (1993) study (15 items) and the Lin et al. (2003) study (13 items), and much less than the number of items in the Hains et al. (1989) study (153 items). Another difference is that the sample population from the current study was much more diverse than in all the previous studies (with the exception of the 1993 and 1999 NCES studies which had access to nationally represented samples). Although also a convenience sample, the teachers in the current study were from both public and private schools from 11 states and 3 countries. Additionally, the current survey included some new items that had been added during the validity and pilot studies that added new data to examine. These included items about transitions between activities (#26), separation from parents (#43), task persistence (#17), conflict resolution (#18), and appropriate use of materials (#28).

One of the key differences in the current study, however, was the large sample size. The sample in the current study, consisting of 653 respondents, was a much larger sample relative to the previous studies attempting to investigate the same area (with the exception of the NCES studies of 1993 and 1999) using survey design. This large sample size helps support consistent findings in the Hains et al. (1989) and the Piotrkowski et al. (2003) studies with much smaller sample sizes of only 28 and 57 kindergarten teachers

respectively. Additionally, the high response rate in this study suggests that kindergarten teachers were interested in the topic and seized the rare opportunity to share their views on readiness.

One of the most significant findings of the current study is the similar trend in what kindergarten teachers now report as being important for kindergarten readiness and in what they have reported in past studies--that the most important skills and abilities that prepare children for kindergarten encompass characteristics pertaining to their emotional maturity, self-regulation, eagerness to learn, compliance with authority, respect for others, communication and interactions with peers and adults, and overall good physical health. Teachers in the current study were consistent with teachers' views in prior studies indicating that academic abilities are not important readiness skills, suggesting instead that these skills are more appropriately taught during, not prior to, kindergarten. Children's effective functioning in the kindergarten classroom and early academic success is dependent upon strengths in all areas of learning and development prior to kindergarten.

## Recommendations

### *Recommendations for Future Research*

Prior studies have indicated that teacher background variables impact teachers' perceptions of kindergarten readiness (Lin et al., 2003; Smith & Shepard, 1988; Wesley & Buysse, 2003). Studies have also revealed relationships between kindergarten teachers' background experiences with their expectations of students' readiness for school, and studies have examined problems that kindergarten teachers believe entering kindergarten students encounter during the transition to kindergarten (Guarino et al., 2006; Heaviside

& Farris, 1993; Lin et al., 2003; Rimm-Kaufman et al., 2000). Future research could investigate relationships between teacher and school characteristics and teachers' perceptions of readiness. The extent to which kindergarten teachers' perceptions and beliefs about readiness directly impacts their instructional practice would also be valuable to investigate.

The results of this study were based on kindergarten teachers' responses to 43 closed-ended questions, therefore findings are limited by the study's design. In future studies, open-ended questions probing further into kindergarten teachers' beliefs about readiness might bring a deeper understanding of teachers' perceptions through more detailed and personal responses.

#### *Implications for Practice*

By investigating and subsequently gaining a better understanding of kindergarten teachers' perceptions of kindergarten readiness, the results of current study support implications for practice in at least three main areas: (1) to further the research knowledge base regarding kindergarten readiness by focusing on the perceptions of kindergarten teachers, (2) to help inform policy decisions about developmentally appropriate and balanced early learning standards and to promote greater vertical alignment between preschool and kindergarten, and (3) to aid in the development of stronger transition practices aimed at preparing children for the adjustment to kindergarten through greater collaboration, communication, and consistency between preschools, families, and kindergarten.

First, focusing on the ways in which kindergarten teachers perceive readiness and giving greater merit to their views adds important perspective to the complexity of

kindergarten readiness. Kindergarten teachers' views have not been regularly solicited. The findings in the current study suggest that their perceptions can be of great value and provides needed credibility. The veracity of the current findings can give kindergarten teachers a stronger voice in playing a more pivotal role in determining how best to prepare children for early academic success. Their views can be instrumental in developing a common language among administrators, teachers, parents, policy makers, and legislators involved in early childhood education. Furthermore, the new conceptualization of readiness that emerged from this study can impact future steps taken by these stakeholders that determine curriculum, instructional methodology, and school readiness policies and practices, as well as extend the research on kindergarten readiness.

Second, this study illuminates the large discrepancy between the degree of importance that kindergarten teachers place on the social, emotional, and behavioral components of readiness and the emphasis states place on the academic constructs of early learning standards. Therefore, the study's findings may aid in the development of a more balanced and comprehensive approach to early learning standards that reflects the importance of supporting proficiencies in *all* the constructs. Since almost all states in the United States have developed, or are in the process of developing early learning standards, greater attention should be paid to encompassing a broader, more balanced approach to these standards. Early learning standards should not simply be a "push down" of the K-12 state academic standards, but more effectively aligned to address the developmental needs of young children as supported by recent research in neuroscience and the views that kindergarten teachers hold toward readiness.

Finally, prior research has suggested that transition practices aimed at easing the child's adjustment to kindergarten are instrumental in preparing a child for school (Early et al., 2001; LoCasale-Crouch et al., 2008; Pianta & Cox, 1999; Pianta et al., 1999; Pianta, Cox, et al., 1999; Rimm-Kaufman et al., 1999; Rimm-Kaufman et al., 2000). The results of the current study support the position that effective transition practices address the child's social and emotional needs during a challenging time of adjustment from preschool to kindergarten. These practices can help bridge the gap between preschool and kindergarten. They can help strengthen the communication and collaboration between instructional practices in preschools and kindergarten and provide consistency among the expectations that kindergarten teachers, preschool teachers, and families hold about readiness. Transition practices will help facilitate the move and adjustment to kindergarten so that children start school ready to learn.

#### Concluding Remarks

This study sought to better understand kindergarten readiness from the unique and important perspective of kindergarten teachers. The theoretical framework of this study, grounded in the work of the NEGP (Kagan et al., 1995) and the ecological model on the transition to kindergarten (Pianta, Rimm-Kaufman, & Cox, 2000; Rimm-Kaufman & Pianta, 2000) supports the findings of the current study by conceptualizing readiness as a multidimensional model that incorporates the interrelatedness of families, early childhood education programs, schools, teachers, and the broader community to support children's early learning and development. The particular skills, abilities, characteristics, and knowledge that each individual child brings to school are a function of both the readiness of the child's environments before beginning kindergarten and the readiness of the

schools in which they enroll (Copple, 1997; Kagan et al., 1995; NAEYC, 2004; NEGP, 1997; Shore, 1998). The views that kindergarten teachers hold as illuminated by the current study give further support to the originally designed theoretical framework of this study by recognizing the interconnectedness between and interrelationships among the items in these new constructs.

The results of this study suggest that kindergarten teachers perceive readiness in a fundamentally different way than has previously been examined. A new conceptualization of readiness emerged from this study, as well as a new knowledge base from which new policies and practices pertaining to kindergarten readiness can be implemented. This study suggests that greater attention should be paid to a broader, more integrated nurturing of children's development during the preschool years with exposure to learning experiences in *all* constructs. Kindergarten benchmarks should be established so that certain important academic abilities are recognized as *exit* skills, not *entry* skills. Kindergarten students should be given the opportunity to continue to grow in all areas of early learning and development during the kindergarten year without being expected to perform isolated tasks measuring their cognitive and literacy abilities to the exclusion of assessing growth in other areas. With the availability of early learning standards that reflect a more balanced approach with an emphasis on *all* constructs of early learning and development; effective transition practices between preschool, home, and kindergarten; and greater attention paid to the *new* way in which kindergarten teachers perceive readiness, *all* children in this country will enter kindergarten more prepared for the rigorous curriculum and standards they face, and schools and teachers will show readiness for *all* entering kindergartners.

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APPENDIXES

## APPENDIX A

## KINDERGARTEN TEACHERS' PERCEPTIONS OF KINDERGARTEN READINESS SURVEY

## Kindergarten Teachers' Perceptions of Kindergarten Readiness

## 2. Section I: Kindergarten Readiness

INSTRUCTIONS: For each item below, rate the level of importance you believe should be placed on each characteristic, skill, or ability that a child should demonstrate upon entry into kindergarten.

**1. Child shows enthusiasm, eagerness, and curiosity in approaching new activities.**

Not Too Important     
  Somewhat Important     
  Important     
  Very Important     
  Essential

**2. Child appears to be in overall good physical health.**

Not Too Important     
  Somewhat Important     
  Important     
  Very Important     
  Essential

**3. Child communicates and interacts with adults effectively.**

Not Too Important     
  Somewhat Important     
  Important     
  Very Important     
  Essential

**4. Child follows 2-step directions.**

Not Too Important     
  Somewhat Important     
  Important     
  Very Important     
  Essential

**5. Child recognizes and knows most letter names.**

Not Too Important     
  Somewhat Important     
  Important     
  Very Important     
  Essential

**6. Child observes, asks questions, and solves problems.**

Not Too Important     
  Somewhat Important     
  Important     
  Very Important     
  Essential

**7. Child can write most letters of the alphabet.**

Not Too Important     
  Somewhat Important     
  Important     
  Very Important     
  Essential

**8. Child demonstrates good gross motor skills: can jump, hop, skip, climb, kick, run, and throw a ball.**

Not Too Important     
  Somewhat Important     
  Important     
  Very Important     
  Essential

# Kindergarten Teachers' Perceptions of Kindergarten Readiness

**9. Child respects the right of others by keeping hands to him/herself; does not take or use other's property; keeps to his/her own "space."**

Not Too Important       Somewhat Important       Important       Very Important       Essential

**10. Child is able to express emotions and feelings effectively to others.**

Not Too Important       Somewhat Important       Important       Very Important       Essential

**11. Child can read 5 or more sight words.**

Not Too Important       Somewhat Important       Important       Very Important       Essential

**12. Child identifies colors and basic geometric shapes.**

Not Too Important       Somewhat Important       Important       Very Important       Essential

**13. Child shares and takes turns.**

Not Too Important       Somewhat Important       Important       Very Important       Essential

**14. Child demonstrates compliance with teacher and other authority figures.**

Not Too Important       Somewhat Important       Important       Very Important       Essential

**15. Child demonstrates good graphomotor skills: uses correct pencil grip, traces shapes and letters.**

Not Too Important       Somewhat Important       Important       Very Important       Essential

**16. Child shows sensitivity to other children's feelings.**

Not Too Important       Somewhat Important       Important       Very Important       Essential

**17. Child demonstrates task persistence: child follows through on difficult tasks.**

Not Too Important       Somewhat Important       Important       Very Important       Essential

## Kindergarten Teachers' Perceptions of Kindergarten Readiness

### 18. Child resolves conflict by using compromise strategies.

- Not Too Important    
  Somewhat Important    
  Important    
  Very Important    
  Essential

### 19. Child recognizes and states differences and similarities between two objects.

- Not Too Important    
  Somewhat Important    
  Important    
  Very Important    
  Essential

### 20. Child retells familiar story, sequencing events in order they occurred.

- Not Too Important    
  Somewhat Important    
  Important    
  Very Important    
  Essential

### 21. Child demonstrates independence: child completes an activity/task on his/her own.

- Not Too Important    
  Somewhat Important    
  Important    
  Very Important    
  Essential

### 22. Child communicates needs, wants, and thoughts clearly in primary language.

- Not Too Important    
  Somewhat Important    
  Important    
  Very Important    
  Essential

### 23. Child demonstrates good fine-motor skills: can use paintbrush, scissors, Legos, glue stick.

- Not Too Important    
  Somewhat Important    
  Important    
  Very Important    
  Essential

### 24. Child cooperates and plays with other children.

- Not Too Important    
  Somewhat Important    
  Important    
  Very Important    
  Essential

### 25. Child can write his/her own name.

- Not Too Important    
  Somewhat Important    
  Important    
  Very Important    
  Essential

### 26. Child transitions from one activity to the next without any problems.

- Not Too Important    
  Somewhat Important    
  Important    
  Very Important    
  Essential

# Kindergarten Teachers' Perceptions of Kindergarten Readiness

**27. Child demonstrates self-control and positive classroom behavior throughout the day.**

- Not Too Important       Somewhat Important       Important       Very Important       Essential

**28. Child uses classroom materials as they are supposed to be used.**

- Not Too Important       Somewhat Important       Important       Very Important       Essential

**29. Child produces rhyming words.**

- Not Too Important       Somewhat Important       Important       Very Important       Essential

**30. Child demonstrates attentiveness to an activity or task for 10 or more minutes.**

- Not Too Important       Somewhat Important       Important       Very Important       Essential

**31. Child understands word meaning and uses age-appropriate vocabulary.**

- Not Too Important       Somewhat Important       Important       Very Important       Essential

**32. Child understands concepts of time and associates activities with time of day; knows days of week.**

- Not Too Important       Somewhat Important       Important       Very Important       Essential

**33. Child communicates needs, wants, and thoughts clearly in English.**

- Not Too Important       Somewhat Important       Important       Very Important       Essential

**34. Child is able to form new friendships with peers.**

- Not Too Important       Somewhat Important       Important       Very Important       Essential

**35. Child listens attentively to a story for 10 or more minutes.**

- Not Too Important       Somewhat Important       Important       Very Important       Essential



## Kindergarten Teachers' Perceptions of Kindergarten Readiness

### 36. Child counts to 20 or above.

- Not Too Important    
  Somewhat Important    
  Important    
  Very Important    
  Essential

### 37. Child identifies most letter sounds.

- Not Too Important    
  Somewhat Important    
  Important    
  Very Important    
  Essential

### 38. Child demonstrates self-help skills: feeds self, takes care of bathroom needs, cleans up after self.

- Not Too Important    
  Somewhat Important    
  Important    
  Very Important    
  Essential

### 39. Child shows initiative: child begins tasks on his/her own.

- Not Too Important    
  Somewhat Important    
  Important    
  Very Important    
  Essential

### 40. Child recognizes and writes numbers to 10 or above.

- Not Too Important    
  Somewhat Important    
  Important    
  Very Important    
  Essential

### 41. Child can state story structure (main idea, characters, events) after listening to a story.

- Not Too Important    
  Somewhat Important    
  Important    
  Very Important    
  Essential

### 42. Child demonstrates self-confidence in his/her abilities and shows pride in his/her work.

- Not Too Important    
  Somewhat Important    
  Important    
  Very Important    
  Essential

### 43. Child has the ability to separate from parent without undue anxiety.

- Not Too Important    
  Somewhat Important    
  Important    
  Very Important    
  Essential

## Kindergarten Teachers' Perceptions of Kindergarten Readiness

### 3. Section II Demographic Questions

**1. How many years have you taught kindergarten including this year?**

- Three years or less
- Four to six years
- Seven or more years

**2. How many years have you taught in grades one or above?**

- 0
- 1-3 years
- 4-7 years
- 8 or more years

**3. How many years have you taught in a Preschool or Prekindergarten?**

- 0
- 1-3 years
- 4-7 years
- 8 or more years

**4. What type of school do you teach in?**

- Public
- Private

**5. What kind of school do you teach in?**

- Rural
- Suburban
- Urban

**Kindergarten Teachers' Perceptions of Kindergarten Readiness****6. What best describes your racial/ethnic background?**

- Multi-ethnic
- Asian
- Black or African American
- Hispanic or Latino
- American Indian or Alaskan Native
- White
- Native Hawaiian or other Pacific Islander



## APPENDIX B

## Expert Panel Qualifications

Title	Degrees	Other Areas of Expertise	Experience with Kindergarten
School Psychologist, Marin County public school district, grades K-8	Ph.D. in Educational Psychology, University of California, Berkeley; Nationally Certified School Psychologist	California Pupil Personnel Services Credential, California Outstanding School Psychologist, 1991	34 years as School Psychologist working with Kindergarten through 8th grade students and consulting with teachers and parents.
Administrator, Marin County public primary school	B.A. English; Administrative Credential; California Elementary and Single Subject Credentials	6 years teaching preschool and Kindergarten; 32 years teaching middle school, higher ed. and adult ed.	11 years as administrator (4 in middle school and 7 in primary)
Kindergarten Grade Level Coordinator, Marin County public primary school	B.A. Comparative Cultures; California Elementary Credential	4 years head teacher, Marin Head Start; Mentor Teacher; Curriculum Specialist; BTSA facilitator; 22 years teaching grades 1-5	8 years teaching Kindergarten
Reading Specialist, Marin County public primary school	M.A. Education; Reading Specialist Credential; California Elementary Credential	6 years working as Reading Specialist K-2; Professional Development Facilitator	11 years teaching Kindergarten
Adjunct Instructor, School of Education, University of San Francisco and Dominican University; Second Grade Teacher	Ed.D. in Learning and Instruction, University of San Francisco, in progress; M.A. Curriculum and Instruction; California Elementary Credential	18 years teaching elementary education; 7 years teaching in Higher Ed; Beginning Teacher Support and Assessment Provider (BTSA)	Early Literacy Training Facilitator and Mentor; Supervisor of Student teachers
Resource Specialist, Marin County public primary school	M.A. Learning Disabilities; M.S. Speech Pathology & Audiology; California Elementary Credential	35 years in education; 12 years as Resource Specialist grades K-5; Certificate of Clinical Competence in Speech and Hearing	Assessment and Diagnoses for eligibility for special ed; Intervention for at-risk kindergarten students

## APPENDIX C

## Cover Letter to Expert Panel

Nancy L. Cappelloni

November xx, 2009

Name and Address

Dear Panel Expert,

As an expert in the field of primary education, I am requesting your assistance as a member of the Validity Panel for my doctoral study at the University of San Francisco, School of Education. I am doing research on kindergarten readiness. The focus of my study is to examine kindergarten teachers' perceptions of kindergarten readiness and the degree of importance they place on various characteristics, skills, and abilities demonstrating kindergarten readiness in each of seven theoretical constructs of early learning and development: (1) Physical Well-Being and Motor Development, (2) Emotional Development, (3) Social Development, (4) Approaches Toward Learning, (5) Language Development and Communication, (6) Emerging Literacy, and (7) Cognition and General Knowledge.

Your contribution will involve input regarding the content-related evidence of the survey instrument. You will be given the list of 61 indicators within each of the seven constructs that will be used in the final survey. Your feedback regarding the effectiveness of the format, the clarity of the items, the language used, the appropriateness of the response scale, the accuracy of the items reflecting the constructs they represent, and identifying any ambiguous or redundant items will be incorporated into the final version of the survey instrument. Please note that the final survey instrument will be comprised of approximately 50 items listed in a random fashion rather than categorized by the construct as in the survey you are reviewing.

Enclosed are (1) the seven scales with the list of items representing each construct with the response scale and directions, (2) one open ended question, and (3) six demographic questions intended to collect background information on teachers and their schools. Please feel free to write comments anywhere on the survey. Additional questions are attached in order to aid in the review process.

Once you have completed your responses, please send the survey and the expert panel review question form back to me in the enclosed envelope. I would appreciate your feedback by November xx, if possible. Please feel free to reach me at the above email or phone for further clarification or comments.

Many thanks for your time as serving as a member of the Validity Panel for my study. I am extremely grateful to you for sharing your expertise to help me in my research endeavors.

Best Regards,

Nancy L. Cappelloni  
Doctoral Student, School of Education, Learning and Instruction  
University of San Francisco



## APPENDIX D

## Cover Letter to Pilot Group

Nancy L. Cappelloni

November xx, 2009

Dear Pilot Test Group Member,

My name is Nancy Cappelloni, and I am a doctoral student at the University of San Francisco in the School of Education. As part of my doctoral work, I am conducting a research study on kindergarten teachers' perceptions of kindergarten readiness. I am particularly interested in examining the degree of importance kindergarten teachers place on specific skills, abilities, and characteristics that they feel children should demonstrate as they enter kindergarten.

I am requesting your assistance as a member of the Pilot test group for this study. Your participation in this pilot test will help check for clarity of the items and the language used, the appropriateness of the response scale, the identification of any ambiguous or redundant items, and will provide an estimate of the amount of time necessary to complete the survey. During the process of taking the survey, I will request that you think aloud as you proceed through the survey items, verbalizing your thoughts about the questions as well as their answers. Although I will not be in the room while you are working, I will set up an audio recorder to record the think-aloud session, enabling me to identify potential problems in the questions that might not have otherwise been apparent. Please feel free to write comments anywhere on the survey, as well. I will make any necessary changes to the final survey instrument based on your feedback.

If you agree to be in this study, you will complete the attached survey. The first section asks you to respond to items about kindergarten. The second part asks one optional open-ended question about readiness. The third part lists eight items requesting demographic information (i.e. years of teaching experience, type of school). The entire survey should take about 10-15 minutes to complete.

Your identity will remain strictly anonymous. While there will be no direct benefit to you from participating in this study, the anticipated benefit of this study is a better understanding of kindergarten teachers' perspectives towards readiness and can help in the process of establishing greater communication and better alignment of curriculum, learning standards, and transitional practices between preschool, home and kindergarten. There will be no costs to you as a result of taking part in this study, nor will you be reimbursed for your participation in this study.

If you have questions about the study, you may contact me at xxxxxx. If you have further questions about the study, you may contact the IRBPHS at the University of San Francisco, which is concerned with protection of volunteers in research projects. You may reach the IRBPHS office by calling (415) 422-6091 and leaving a voicemail message, by emailing [IRBPHS@usfca.edu](mailto:IRBPHS@usfca.edu), or by writing to the IRBPHS, Department of Psychology, University of San Francisco, 2130 Fulton Street, San Francisco, CA 94117-1080.

**PARTICIPATION IN THIS RESEARCH IS VOLUNTARY.** You are free to decline to be in this study, or to withdraw from it at any point.

Many thanks for your time serving as a member of the Pilot group for my study. I am extremely grateful to you for sharing your expertise to help me in my research endeavors.

Best Regards,

Nancy L. Cappelloni  
Doctoral Student  
University of San Francisco

## APPENDIX E

## Cover Letter to On-line Pilot Test Group

Nancy L. Cappelloni

November xx, 2009

Dear Pilot Test Group Member,

My name is Nancy Cappelloni, and I am a doctoral student at the University of San Francisco in the School of Education. As part of my doctoral work, I am conducting a research study on kindergarten teachers' perceptions of kindergarten readiness. I am particularly interested in examining the degree of importance kindergarten teachers place on specific skills, abilities, and characteristics that they feel children should demonstrate as they enter kindergarten.

I am requesting your assistance as a member of the Pilot test group for this study. Your participation in this pilot test will help check for clarity of the items and the language used, the appropriateness of the response scale, the identification of any ambiguous or redundant items, and the smoothness of the procedures.

If you agree to be in this study, you will complete the attached survey that follows this letter. The first section asks you to respond to items about kindergarten. The second part asks one optional open-ended question about readiness. The third part lists eight items requesting demographic information (i.e. years of teaching experience, type of school). The entire survey should take about 10 minutes to complete.

Please complete the survey and submit it no later than December 12. Please notify me by email that you have completed the survey by that date, and you will be entered into a drawing for a \$75.00 Barnes and Noble gift card in appreciation for your time and attention to this study. If you request, you will be notified of the study's results. I will notify the winner of the gift certificate by email.

Your identity will remain strictly anonymous. While there will be no direct benefit to you from participating in this study, the anticipated benefit of this study is a better understanding of kindergarten teachers' perspectives towards readiness and can help in the process of establishing greater communication and better alignment of

curriculum, learning standards, and transitional practices between preschool, home and kindergarten. There will be no costs to you as a result of taking part in this study, nor will you be reimbursed for your participation in this study.

If you have questions about the study, you may contact me at xxxxxxxx or xxxxx. If you have further questions about the study, you may contact the IRBPHS at the University of San Francisco, which is concerned with protection of volunteers in research projects. You may reach the IRBPHS office by calling (415) 422-6091 and leaving a voicemail message, by emailing [IRBPHS@usfca.edu](mailto:IRBPHS@usfca.edu), or by writing to the IRBPHS, Department of Psychology, University of San Francisco, 2130 Fulton Street, San Francisco, CA 94117-1080.

PARTICIPATION IN THIS RESEARCH IS VOLUNTARY. You are free to decline to be in this study, or to withdraw from it at any point.

Many thanks for your time serving as a member of the Pilot group for my study. I am extremely grateful to you for sharing your expertise to help me in my research endeavors.

Best Regards,

Nancy L. Cappelloni  
Doctoral Student  
University of San Francisco

Please take the attached survey. When you have finished answering all the questions, click on “Done” to submit. Thank you again!

Kindergarten Teachers’ Perceptions of Kindergarten Readiness Survey  
copyright Nancy Cappelloni, 2009



## APPENDIX F

## Introductory Cover Letter to Survey Participants

Nancy L. Cappelloni

January 15, 2010

Dear Participant,

My name is Nancy Cappelloni, and I am a doctoral student at the University of San Francisco in the School of Education. As part of my doctoral work, I am conducting a research study on kindergarten teachers' perceptions of kindergarten readiness. I am particularly interested in examining the degree of importance kindergarten teachers place on specific skills, abilities, and characteristics that they feel children should demonstrate as they enter kindergarten. The California Kindergarten Association has given me permission to request your participation in this study during the annual Conference.

If you are currently a kindergarten teacher and agree to be in this study, you will complete the attached survey. The first section asks you to respond to 43 items about kindergarten readiness. The second section lists 6 items requesting demographic information (i.e. years of teaching experience, type of school). The entire survey should take between 5 and 10 minutes to complete. Please complete the survey during the Conference. When you are finished, return the completed survey and the postcard to me at my designated table near the registration table in order to be entered into a drawing for a \$75.00 Barnes and Noble gift card in appreciation for your time and attention to this study. If you request, you will be notified of the study's results. I will notify the winner of the gift certificate by email.

Your identity will remain strictly anonymous. While there will be no direct benefit to you from participating in this study, the anticipated benefit of this study is a better understanding of kindergarten teachers' perspectives towards readiness and can help in the process of establishing greater communication and better alignment of curriculum, learning standards, and transitional practices between preschool, home and

kindergarten. There will be no costs to you as a result of taking part in this study, nor will you be reimbursed for your participation in this study.

If you have questions about the study, you may contact me during the conference, at xxxxx, or at xxxxxx. If you have further questions about the study, you may contact the IRBPHS at the University of San Francisco, which is concerned with protection of volunteers in research projects. You may reach the IRBPHS office by calling (415) 422-6091 and leaving a voicemail message, by emailing [IRBPHS@usfca.edu](mailto:IRBPHS@usfca.edu), or by writing to the IRBPHS, Department of Psychology, University of San Francisco, 2130 Fulton Street, San Francisco, CA 94117-1080.

PARTICIPATION IN THIS RESEARCH IS VOLUNTARY. You are free to decline to be in this study, or to withdraw from it at any point.

If you are unable to complete this survey during the conference and would like to take it on-line, the link to the on-line version is <https://www.surveymonkey.com/s/H66QTG8>. The survey will be available to complete through January 30.

Thank you very much for your contribution to this research.

Nancy Cappelloni  
Doctoral Student  
University of San Francisco

## APPENDIX G

## Introductory Cover Letter to On-line Survey Participants

Nancy L. Cappelloni

January 2010

Dear Participant,

My name is Nancy Cappelloni, and I am a doctoral student at the University of San Francisco in the School of Education. As part of my doctoral work, I am conducting a research study on kindergarten teachers' perceptions of kindergarten readiness. I am particularly interested in examining the degree of importance kindergarten teachers place on specific skills, abilities, and characteristics that they feel children should demonstrate as they enter kindergarten.

If you agree to be in this study, you will complete the attached survey that follows this letter. The first section asks you to respond to 43 items about kindergarten readiness. The second section has 6 items requesting demographic information (i.e. years of teaching experience, type of school). The entire survey should take between 5 and 10 minutes to complete. Please complete the survey and submit it no later than January 30. If you notify me by email that you have completed the survey by that date, you will be entered into a drawing for a \$75.00 Barnes and Noble gift card in appreciation for your time and attention to this study. I will notify the winner of the gift certificate by email. If you request, you will be notified of the study's results.

Your identity will remain strictly anonymous. While there will be no direct benefit to you from participating in this study, the anticipated benefit of this study is a better understanding of kindergarten teachers' perspectives towards readiness and can help in the process of establishing greater communication and better alignment of curriculum, learning standards, and transitional practices between preschool, home and kindergarten. There will be no costs to you as a result of taking part in this study, nor will you be reimbursed for your participation in this study.

If you have questions about the study, you may contact me at xxxxxx or xxxxx. If you have further questions about the study, you may contact the IRBPHS at the

University of San Francisco, which is concerned with protection of volunteers in research projects. You may reach the IRBPHS office by calling (415) 422-6091 and leaving a voicemail message, by emailing [IRBPHS@usfca.edu](mailto:IRBPHS@usfca.edu), or by writing to the IRBPHS, Department of Psychology, University of San Francisco, 2130 Fulton Street, San Francisco, CA 94117-1080.

PARTICIPATION IN THIS RESEARCH IS VOLUNTARY. You are free to decline to be in this study, or to withdraw from it at any point.

Thank you very much for your contribution to this research.

Nancy Cappelloni  
Doctoral Student  
University of San Francisco

Please take the attached survey. When you have finished answering all the questions, click on “Done” to submit. Thank you again!

Kindergarten Teachers’ Perceptions of Kindergarten Readiness Survey  
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## APPENDIX H

## Survey Participant Drawing Entry Form

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Dear Participant,

Thank you for taking the time to complete the Kindergarten Readiness Survey for my research study. By returning this card, your name will be entered into a drawing for a \$75.00 Barnes and Noble gift card. If you are interested in receiving the results of the study, please check the box below. Please complete the opposite side of this card with your name and email address. If you are the lucky recipient of the gift card, you will be notified at the email address you provide on this card.

Thank you for your participation! Nancy Cappelloni

Yes, I wish to receive the results of this study.

---

Participant's Name

Email Address

## APPENDIX I

## Acceptance Letter to Administer Survey at Kindergarten Conference

From: Meredith  
Subject: Re: California Kindergarten Conference  
Date: September 17, 2009 9:45:52 PM PDT  
To: Nancy  
Hi Nancy,

I apologize for the delay in responding...  
Anyway, the survey sounds very interesting and we would like to help you get the response rate that you are after. What if we have a spot for you to sit in the lobby (probably by the registration tables) where you can pass out/collect the surveys and answer any questions. We can figure out the exact logistics as the conference gets closer.  
Let me know if you think this would work.

Thanks,  
Meredith

----- Original Message ----- From: "Nancy Cappelloni"  
To: "Meredith"  
Sent: Thursday, September 10, 2009 12:48 PM  
Subject: Re: California Kindergarten Conference

Dear Meredith,  
Many thanks for your reply. I am most appreciative of your offer to put out my teacher survey at the CKC. The survey is a research study I am doing for my dissertation for the University of San Francisco Department of Education. The topic of my dissertation is Kindergarten Readiness. I am investigating kindergarten teachers' perceptions of kindergarten readiness. Kindergarten teachers are not frequently asked to give their opinions on this important topic, and the findings will make a contribution to the developing research in this area. For the purpose of survey methodology, I am hoping for a response rate of about 150 teachers. The survey should take about 10 minutes to complete. Having it at the registration table would be excellent. Is there any way I could help prepare it to be part of the registration materials handed out? I could prepare as many surveys as you have participants in the conference. Many thanks again for helping me with this study. Best regards,  
Nancy Cappelloni