

EXAMINING PROTECTIVE AND AT-RISK FACTORS ON CHILDREN'S SOCIAL
EMOTIONAL DEVELOPMENT AND SCHOOL READINESS

by

Margaret Ariana Medina

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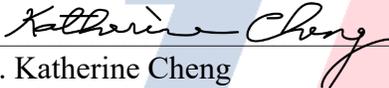
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As members of the Dissertation Committee, we certify that we have read the dissertation prepared by Margaret Medina, titled *Examining Protective and At-Risk Factors on Children's Social and Emotional Development and School Readiness* and recommend that it be accepted as fulfilling the dissertation requirement for the Degree of Doctor of Philosophy.



Date: 6/10/2021
Dr. Adriana Cimetta



Date: 6/10/2021
Dr. Katherine Cheng



Date: 6/10/2021
Dr. Eric Smith

Final approval and acceptance of this dissertation is contingent upon the candidate's submission of the final copies of the dissertation to the Graduate College.

I hereby certify that I have read this dissertation prepared under my direction and recommend that it be accepted as fulfilling the dissertation requirement.



Date: 6/10/2021 
Dr. Adriana Cimetta
Dissertation Committee Chair
Department of Educational Psychology

ARIZONA

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ABSTRACT

Early childhood is critical for a child's healthy development. Such development can affect children throughout the lifespan. In particular, social emotional development has been used as a predictor for school readiness, delinquency, career outcomes and earnings, and overall quality of life (Denham et al., 2009). This study examined the relationships of protective factors and at-risk factors on 3,988 children between the ages of two to six years on children's social emotional development and if these variables are also predictive of a child's social emotional development. Additionally, this study assessed if children's social emotional development is predictive of children's literacy and math school readiness. This study intended to investigate a strength-based model by examining moderating effects of poverty on a child's social emotional development in determining methods for assisting children living in poverty. Pearson's *R* correlations and stepwise linear regression models were run. Results indicated that protective factors have statistically significant relationships and predict higher social emotional development scores and at-risk factors have statistically significant relationships and predict lower social emotional development scores. Lastly, implications, limitations, and future directions for research are also discussed.

Keywords: social emotional development, school readiness, protective factors, at-risk factors

CHAPTER ONE: INTRODUCTION

Statement of the Problem and Purpose

Approximately nine to fifteen percent of children experience cognitive delays and social emotional developmental delays (Cooper et al., 2009). As a result of such delays, schools have begun to implement social emotional learning and interventions (i.e., Collaborative, Academic, Social, Emotional Learning) into curriculum. Federal and state education efforts have also emerged to assist children with their social emotional development. A particular study noted that social emotional skills in kindergarten are correlated with young adult outcomes (Jones et al., 2015). These outcomes include: higher education enrollment and graduation, employment, income, and mental health (Jones et al., 2015). In addition, parents serve as a source to guide healthy development for their children (Kagan, 1999). Existing literature has concluded that social emotional development has lifelong implications for students' success in academics and other life skills (Jones et al., 2015; Zahn-Waxler et al., 1990).

Furthermore, children who live in poverty are more at-risk for cognitive delays, social emotional developmental delays, and lack of school readiness (Blau, 1999). Due to the implications that poverty has on children, the present study intends to examine a strength-based model in determining protective factors for children living in poverty. This study will also examine risk factors for children living in poverty and for children who do not live in poverty.

The purpose of this study is to a) measure the relationships between protective factors and at-risk factors and children's social emotional development, b) to determine if these factors are predictive of children's social emotional development, and c) to determine if social emotional development is predictive of children's literacy and math school readiness. Using

Bronfenbrenner's Ecological Systems Theory (1979) and Erikson's Psychosocial Theory (1977) as theoretical frameworks, this study will determine factors in a child's microsystem and macrosystem that effect their social emotional development through trust, autonomy, and initiative. As noted, the importance of parenting on children's social emotional development is paramount. However, poverty status, and specific parenting practices such as parental depression, alcohol/cigarette consumption, discipline, rewarding practices, social support, and parental engagement in the home may contribute to a child's social emotional development as well. Lastly, assessing if these protective factors and at-risk factors predict social emotional development will provide a more comprehensive outlook on the role of parenting and children's social emotional development.

Significance of Study

This study was designed to investigate the relationships and effects of several variables to provide an examination of several constructs (e.g., parental depression, negative discipline practices, positive discipline practices, rewarding practices, social support, parental cigarette consumption, parental alcohol consumption, poverty, parental warmth, routines, resources, parental behaviors, and parental efficacy) as predictors of children's social emotional development and school readiness. However, this study intends to examine the interaction between poverty and several variables to determine potential moderators for assisting children who are living in poverty. This study has the potential to assist parents, psychologists, and teachers with understanding the factors effecting a child's social emotional development to develop comprehensive social emotional learning interventions assisting children in their development. The toddler to preschool age is a critical time period for development in a child's life. Children who have strong social emotional development are able to display resiliency, have

stronger academic and job performances, and mental health. There are potential lifelong implications due to this critical time period in a child's development and these potential relationships and effects will be examined to determine protective factors and at-risk factors.

Additionally, this study has a unique demographic as it will include participants from the Southwest. The Southwest has a large Hispanic population, which will allow for insight into the social emotional development of an underrepresented minority population that may be generalizable to similar populations.

Key Definitions

Social Emotional Development

Social emotional development is often times described as young children's early childhood mental health (Nelson et al., 2015). Social emotional development refers to "a desirable, sustainable enhancement of personal capacity to utilize emotional information, behaviors, and traits to facilitate desired social outcomes" (Seal et al., 2009, p. 6). Some characteristics of children who have healthy social emotional development generally have the ability to form positive relationships, manage, regulate, and express their emotions, express ideas, display empathy, and feel more self-confident. This study used the Devereux Early Childhood Assessment (DECA) as the assessment to measure children's social emotional development (leBuff & Nagleiri, 1999; Barbu et al., 2013). The DECA utilized two scales: Total Protective Factors as positive social emotional development outcomes, and Behavioral Concerns as negative social emotional development outcomes.

Protective Factors

Protective factors are constructs that attenuate risk for child developmental delays. These include several qualities that are present in a child's environment that impact and affect a child's

development in a more positive manner. These protective factors are linked with academic achievement, social emotional skills, health, and mental health. Existing literature describes several protective factors such as: social support, parent education, and parent engagement (Ridings et al., 2017). Protective factors for this study include: a resource rich home (a home with many resources for learning), positive discipline practices, rewarding behavior practices, strong social support for parents, weekly routines, a resource rich home for child learning, positive parental behaviors, and strong parental efficacy.

At-Risk Factors

Existing literature describes several constructs that cause an increased risk for child developmental delays. At-risk factors are qualities in a child's environment that adversely affect a child's development. These factors are often linked with abuse, behavioral problems, academic difficulties, delinquency, and other life outcomes. Ridings et al. (2017) describe several at-risk factors including: parental depression, parental alcohol consumption, parental cigarette consumption, negative discipline practices (i.e., spanking), little parent-child engagement, and poverty. Understanding at-risk factors for a child's social emotional development can assist with the guidance of potential interventions and strategies for ensuring strong social emotional development in children. At-risk factors for this study include: parental depression, negative discipline practices, parental cigarette consumption, parental alcohol consumption, and poverty.

School Readiness

School readiness has been defined as, "the stage of human development that enables a child to engage in, and benefit from, primary learning experiences" (Forry & Wessel, 2012, p. 1). Assessing a child's ability to learn and benefit from learning experiences have strong implications for how well a child will do in early education (McWayne et al., 2012). There are

several domains that can be used to assess a child's school readiness; however, this study intends to measure a child's literacy and math school readiness.

Research Questions and Hypotheses

Existing literature has determined that there are several factors that influence a child's social emotional development and school readiness. When examining components of a child's immediate home environment and external environment as highlighted in Bronfenbrenner's Ecological Systems Theory (1979). These factors might have strong relationships and effects based on protective and at-risk factors on a child's social emotional development. This study intends to answer the following research questions:

Research Question 1: What are the relationships between protective factors and two- to six-year-old children's social emotional development in terms of Total Protective Factors and Behavioral Concerns as measured by the Devereaux Early Childhood Assessment (DECA)?

Hypothesis 1: There will be negative statistically significant relationships between the protective factors and children's social emotional development on the DECA Behavioral Concerns scale. There will be positive statistically significant relationships between the protective factors and the DECA Total Protective Factors scale. Children who have parents who are more engaged will have stronger social emotional development.

Research Question 2: What are the relationships between at-risk factors and two- to six-year-old children's social emotional development in terms of Total Protective Factors and Behavioral Concerns as measured by the DECA?

Hypothesis 2: There will be negative statistically significant relationships between the at-risk factors and children's social emotional development on the DECA Total Protective Factors scale. There will be positive statistically significant relationships between the at-risk

factors and the DECA Behavioral Concerns scale. Children who have parents who are less engaged will have weaker social emotional development.

Research Question 3: Are protective factors predictive of two- to six-year-old children's social emotional development in terms of Total Protective Factors and Behavioral Concerns as measured by the DECA?

Hypothesis 3: Children with higher levels of protective factors will predict higher levels of social emotional development in children. Children with higher levels of protective factors will have higher scores on the DECA Total Protective Factors scale and lower scores on the DECA Behavioral Concerns scale. The effects of the various protective factors will predict higher social emotional development.

Research Question 4: Are at-risk factors predictive of two- to six-year-old children's social emotional development in terms of Total Protective Factors and Behavioral Concerns as measured by the DECA?

Hypothesis 4: Children with higher levels of at-risk factors will predict lower levels of social emotional development in children. Children with higher at-risk factors will have lower scores on the DECA Total Protective Factors scale and higher scores on the DECA Behavioral Concerns scale. Children who have parents who are less engaged or demonstrate other at-risk factors will have lower social emotional development.

Research Question 5: Does social emotional development in terms of the DECA Total Protective Factors and Behavioral Concerns predict three- to -six-year-old children's literacy school readiness?

Hypothesis 5: Children with higher social emotional development on the DECA Total Protective Factors scale will predict higher literacy school readiness in children. Children with

higher scores on the DECA Behavioral Concerns scale will predict lower literacy scores. Print and phonological awareness scores and alphabet knowledge scores are predicted by social emotional development.

Research Question 6: Does social emotional development in terms of the DECA Total Protective Factors and Behavioral Concerns predict three- to six-year-old children's math school readiness?

Hypothesis 6: Children with higher social emotional development in terms of the DECA Total Protective factors scale will predict higher math school readiness. Children with higher scores on the DECA Behavioral Concerns scale will have lower Test of Early Mathematics Ability (TEMA) math scores.

Organization of the Study

Chapter One of this study provided a brief introduction of the proposed study by discussing background information, the significance of the study, key definitions, and the research questions and hypotheses. Chapter Two presents a review of literature related to the various aspects of this study, including the various research on the variables of interest and the theoretical framework. Chapter Three provides details of the participants, methods of data collection, variables, data assumptions, coding, and statistical analyses that were employed. Results from the data analyses of the study are presented in Chapter Four, including descriptive statistics, and statistically significant and practically significant results. Chapter Five discusses a summary of the findings and results including key statistically and practically significant results. Lastly, Chapter Five also discusses implications for the research findings, limitations of the study, recommendations for future research, and conclusions.

CHAPTER TWO: REVIEW OF THE LITERATURE

Social Emotional Development

Perhaps no other time is as critical to a child's development than infancy to kindergarten age (Roeser et al., 2000). Infants and young children experience pivotal development socially, emotionally, biologically and in the areas of cognition and motor skills. Social emotional development is especially important because it often predicts and is associated with mental health, work place performance, academic performance, delinquency, and substance abuse (Denham et al., 2008). Children who have not met social emotional development milestones are at greater risk for poor academic performance, behavioral issues, and potential drug problems (Zahn-Waxler et al., 1990). In contrast, those who have successful social emotional development are able to display adaptive resiliency when encountering stressful circumstances and events (Saarni, 2000).

Given its potential implications for children, social emotional development is often at the forefront of children's needs. However, what exactly does social emotional development refer to? While there might be slight variations in definitions, social emotional development often refers to "cooperative and pro-social behavior, initiation and maintenance of peer friendships and adult relationships, management of aggression and conflict, development of a sense of mastery and self-worth, and emotional regulation and reactivity" (Squires, 2002, p. 82).

Furthermore, social emotional development is categorized into five dimensions that enumerate developmental milestones during an individual's life (Denham et al., 2008). The dimensions are 1) social competence, 2) attachment, 3) emotional competence, 4) self-perceived competence, and 5) temperament/personality.

The first dimension, social competence, refers to a child's ability to have effective and appropriate social interactions, though what constitutes as effective often differs by age group (Rose-Krasnor, 1997). For example, children who are preschool aged often start to develop social competence by establishing further relationships with adults and fostering relationships with their peers (Denham et al., 2009). In peer relationships during this time frame, children are noted to have peer-status and hierarchical friend groups. As a result, it is crucial children have the ability to regulate the emotional arousal that is frequent with peer groups.

The second dimension is attachment, which begins early in life as infants develop a connection with their caregivers. Attachment refers to the strength of the relationship between a child and their caregiver (or other adults) and feeling more secure (LeBuffe & Naglieri, 1999). Caregivers serve as the foundation for children to develop close relationships with others due to many basic needs being fulfilled by caregivers in early life (Denham et al., 2009). Often young children may develop adverse attachment avoid separation from their caregivers, which can potentially hinder exploration (Denham et al., 2009). During the preschool period, children often begin to develop attachment and relationships to adults other than their parents, but the relationships with parents remain pivotal.

The third dimension of social emotional development is emotional competence. Emotional competence refers to one being aware of their own and others' emotions and to act on this awareness, to have the ability to negotiate interpersonal exchanges, and to regulate one's emotions (Denham et al., 2009). Emotional competence is especially important because it prevents an individual becoming incapacitated with their emotions, prevents their emotions from interfering with their goals, and provides an understanding of one's and others' emotions (Denham & Auerbach, 1995). Children who are two to five are generally capable of expressing

emotions, particularly happiness, sadness, anger, and fear (Denham, & Auerbach, 1995).

Arguments can be made that children are also able to comprehend others' emotions as evidenced by social referencing. However, children of this age group tend to have difficulty with regulation and begin to express more guilt, shame, and empathy (Denham, 1998).

The fourth dimension of social emotional development is self-perceived competence. A child's self-perception of competence is a construct that differs greatly by age (Denham et al., 2009). However, self-perception can generally be defined as an individual's evaluations of their own abilities that includes one's assessments of their cognitive, social, and physical abilities (Kurdek & Krile, 1982). Self-perception is especially important in young children due to its influence on their motivations and performance (Cauce, 1984). Furthermore, it is important to note that self-perceived competence differs from self-esteem and self-concept in that self-esteem refers to the affective evaluations of one's self (Denham et al., 2009) and self-concept refers to the descriptive that a child uses to answer "Who am I?". Preschool aged children tend to start to develop their own perceived competences that are domain specific. For example, a child might assert that they are proficient at math but struggle with writing. As noted, these competences then have implications for their motivations and performance.

The fifth dimension of social emotional development is temperament/personality. Temperament has to do with individual reactivity and self-regulation in terms of an individual's emotional reactions, emotional nature, and susceptibility to emotional stimuli (Allport, 1961; Ortiz & Barnes, 2019). More specifically, emotional reactivity refers to the speed and intensity with which individuals respond to stimulation (Diamond, 2013). Executive function is also an important component of temperament as it refers to modifications and inhibition of behaviors (Lengua et al., 2019). Throughout a child's life, their ability to self-regulate begins to mature

cognitively and as a result, affective representations are activated (Denham et al., 2009).

Ultimately, these representations consist of personality traits and characteristics. There are five major personality traits which include: extroversion, agreeableness, conscientiousness, neuroticism, and openness (Caspi & Shiner, 2008). Typically, children who are two to five years old begin to exhibit self-regulation and reactivity, but the regulatory aspects become much more important due to brain development (Denham et al., 2009). Patterns regarding a child's temperament also begin to emerge based on personality during this time period.

Why is Social Emotional Development Important?

Gaining an understanding of social emotional development is important for several reasons. First, it is important due to the link between social emotional development and children's mental health. Social emotional development has been linked to depression, anxiety, behavioral problems, and attention problems in young children (Malti & Noam, 2016).

Furthermore, having a strong understanding of social emotional development can also protect against child psychopathology (Malti & Noam, 2016). While all of these potential mental health impacts should be addressed, especially in young children, they have also been shown to affect children's academic motivation and functioning.

Secondly, social emotional development can have biological, emotional, and behavioral consequences that can all hinder a child's ability to learn. Many children who have social emotional developmental delays have difficulties regarding academic success and school performance levels, such as grades (Eckenrode et al., 1993). This is especially true for subjects that require high executive functioning and attentional demand (e.g., math and science). While many of the specific causes of decreased school performances for children with social emotional delays are largely unknown, Eckenrode et al. (1993) attribute this to the lack of motivation,

depression, and other cognitive processing that may be exhausting a child's executive functioning and attention. Moreover, many children living in poverty might also feel alienated and disenfranchised as a result of their poverty status (Dyregrov, 2004). Children may not feel they have social support from teachers, classmates, parents, and/or caregivers, which could also delay their social emotional development even more (Dyregrov, 2004; Hall, 2000).

Social emotional development is also important due to its link in identity development in children. Hoffman (2000) describes identity development as an emotional, cognitive, and social process. Due to the importance of social emotional development in emotional regulation, expression, and understanding, children begin to develop an increase in their understanding of his or her experiences and the experiences of others (Hoffman, 2000). Understanding one's experiences is especially important in the identity development of young children due to children beginning to navigate the world around them.

Social Emotional Learning

There has been an emergence of social emotional learning programs in schools as they serve as a foundation for gaining not only academic skills, but also social skills. Social emotional learning programs provide instruction to students on managing emotions, recognizing the perspectives of others, developing prosocial goals, and developing problem solving approaches (Payton et al., 2000). One such program is the Collaborative to Advance Social and Emotional Learning (CASEL), which is an evidence-based program. CASEL defines social emotional learning as, "the process through which all young people and adults acquire and apply the knowledge, skills, and attitudes to develop healthy identities, manage emotions, and achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions" (Payton et al., 2010, p. 1).

Social emotional learning and social emotional development differ in that social emotional learning focuses on the acquisition of knowledge and skills whereas social emotional development focuses on the development of such knowledge and skills.

Social emotional learning is important to consider when discussing social emotional development because it provides children instruction on how to develop and apply the skillsets associated with healthy social emotional development. As mentioned, CASEL is one such program that has five competencies for social emotional learning. The five competencies are: self-awareness, self-management, social awareness, relationship skills, and responsible decision making (Payton et al., 2000). Self-awareness refers to the ability to understand one's emotions, thoughts and values. Self-management refers to the ability to manage one's emotions, thoughts, and behaviors to achieve goals. Social awareness refers to the ability to understand the perspective of others and being able to empathize with others. Relationship skills refer to the ability to establish and maintain healthy relationships. Lastly, responsible decision-making refers to the ability to make caring choices regarding one's behavior and social interactions (Payton et al., 2000). These five competencies of CASEL are similar to Denham et al.'s (2009) competencies of social emotional development.

It is important to consider the process of which social emotional development occurs because some children may not have the same resources available through school programs like CASEL. Lack of preschool education prior to entering kindergarten may account for some children's discrepancies in their social emotional development. This study aims to address some of these factors by assessing resources in the home, parental engagement, and poverty status. Such factors may provide explanations to not only children's social emotional development, but also their school readiness as well. Therefore, the home environment and parenting could be

even more critical for children's social emotional development and especially for children who do not have equitable or equal access to social emotional learning school programs prior to entering kindergarten.

Theoretical Framework

Bronfenbrenner's Ecological Systems Theory

In the process of reviewing the literature, a potential theoretical framework for the proposed study is Bronfenbrenner's Ecological Systems Theory (1979). This theory explains how the inherent qualities of children and their environments interact to affect their development. Bronfenbrenner's theory proposes that children are in a variety of systems that includes the most intimate home environment to the most expansive system, which includes society and culture. In turn, all of these systems inevitably interact and influence the development of a child. First, Bronfenbrenner's theory discusses the Microsystem which includes intimate components of a child's daily life. For example, the home environment, school, and some peer groups. Children usually have interactions within the Microsystem that consist of close relationships with parents or guardians, siblings, teachers, classmates, and other caregivers. The proposed study looks to examine the interactions of the relationships involved with a child's microsystem by assessing the level of engagement a parent might have with their child, parent discipline practices, parent rewarding practices, parental depression, parent alcohol and cigarette consumption, and parent engagement (i.e., parental warmth and routines).

The second system of Bronfenbrenner's theory (1979) involves the Mesosystem. The Mesosystem includes the interactions of the different Microsystems such as, a linkage between a child's home environment and their school environment or between a peer-group and a child's community. Bronfenbrenner proposed that if a child's parents are more involved with the

linkages between their child's Microsystems, the child's development is positively affected. This is important to consider as children's parents serve as the primary linkage between the home environment and the external environment.

The next system of Bronfenbrenner's theory (1979) is the Exo-system, which includes potential linkages between different settings that may not involve the child, but still may indirectly affect their development nonetheless. An example of this includes a parent's work environment, a child's neighborhood, and extended family members outside of the child's home. The proposed study will examine the role of poverty, parental social support, and resources in the home on a child's social emotional development, which makes up their Exo-system. Though the child is not directly involved with their poverty level, it may still impact their overall development as Bronfenbrenner proposed. However, the key is the connections, supports, and resources available to positively assist and support a child's social emotional development and overall development.

The next system is the Macrosystem (1979). The Macrosystem includes distant people and places that can still have significant impacts on children. This system includes a child's cultural values, religious beliefs and ideas, and political and economic systems. The last system of Bronfenbrenner's theory is the Chronosystem. The Chronosystem includes change in a child's environment such as a change in family structure, economic cycles, or societal events (e.g., war). The proposed study will examine a child's parents' marital status and parents' education level. Bronfenbrenner's Ecological Systems Theory provides a variety of interactions and influences that affect a child's development. This study will largely encompass components of a child's Microsystem and Macrosystem in determining what predicts their social emotional development.

Erikson's Psychosocial Development Theory

Another potential theory emerged as Erikson's Psychosocial Development theory (1977). The five dimensions of social emotional development coincide with Erikson's stages of development. Erikson's Psychosocial Theory (1977) consists of eight psychosocial stages that are key in the healthy development of an individual from infancy to late adulthood. Erikson's (1977) theory is utilized because it discusses development based on the impact of various experiences encountered throughout children's lives that are key to healthy social emotional development.

The first three stages of Erikson's (1977) theory will be discussed in relation to various stages of development (infancy to early adolescence). Each stage in this theory consists of two conflicting crises that are influenced by sociocultural and environmental factors. Furthermore, if an individual does not resolve each stage, the corresponding stages are affected. However, if the more favorable outcome at a particular stage is not achieved, it does not need to be a permanent deficiency. Instead, such resolution can occur during a subsequent stage in life in order to resolve the still active psychosocial crisis.

The first psychosocial crisis stage in Erikson's theory is *Trust versus Mistrust*, which occurs from infancy to about one-year old (1977). In this stage, infants and young children are determining if they can trust those around them to take care of their basic needs. This stage relates to children's social emotional development in children's attachment. If a child's needs are neglected, infants develop mistrust and do not develop healthy attachment to their caregivers. This stage revolves around the infants' caregivers, predominately their mothers.

The second stage is *Autonomy versus Shame/Doubt*, which is commonly associated with children aged two- to four-years old (Erikson, 1977). Children of these ages are developing

motor skills and are gaining control over their immediate environment. This stage relates to social emotional development in the self-competence dimension. The primary social influence in this stage are children's parents. If parents and caregivers encourage their children to be self-sufficient and assert their will, children will develop a sense of autonomy. In contrast, if parents or caregivers prohibit or limit self-sufficient behaviors, children will develop shame and/or doubt and codependent behaviors.

The third stage is *Initiative versus Guilt*, which occurs from about five- to eight-years old (Erikson, 1977). The previous stage of *Autonomy versus Shame/Doubt* builds onto this stage when children begin to take initiative. The primary social influences are children's families. Similarly, this stage relates to a child's social emotional development in the social-competence, emotional competence, and self-perceived competence dimensions. Children are learning more about the world around them and complete tasks with purpose. Although, children may feel a sense of guilt if things produce undesired results after taking initiative.

The last five stages of Erikson's (1977) theory are: *Industry versus Inferiority*, *Identity versus Role Confusion*, *Intimacy versus Isolation*, *Generativity versus Stagnation*, and *Ego Integrity versus Despair*. The ages of the children this study intends to examine are children between the ages of two and six. As such, these stages are important in the continuous development across an individual's lifespan but are not discussed in this study because these stages occur in later childhood and adulthood. Erikson's (1977) theory will be utilized as a theoretical framework due to its importance for children's social emotional development, particularly for children's attachment and competence. Lastly, the theory also posits that each stage affects subsequent stages and should be addressed before the next stage is negotiated. However, it is possible that the stage be negotiated at a later time than the time periods Erikson

(1977) described. For example, according to Erikson (1977) if a young child develops a sense of mistrust in early life, they will have more difficulty developing a strong sense of autonomy or initiative, but that mistrust can be addressed later in childhood or adolescence.

School Readiness

Early childhood assessment and its relationship to a child's school readiness has remained and been used as a threshold for school interventions and policies (Horton & Bowman, 2002). School readiness is often used as a predictor for determining how well a child will do in school and academics (McWayne et al., 2012). When examining a child's school readiness, often there are five domains of development that are assessed, which are: language and literacy development, cognition and general knowledge, approaches towards learning, physical well-being, and social emotional development (U.S. Department of Education, n.d.). Social emotional development has been examined as a predictor for school readiness (Denham, 2006) with recent efforts calling for social emotional development to be implemented into curriculum. Cooper, Masi, and Vick (2009) estimated between 9.5 and 14.2% of children between birth and five years old experience social emotional problems that negatively impact their functioning, development, and school readiness. There are many potential factors that can affect a child's school readiness such as parenting, lack of resources, social support, and social emotional development. Given the potential impacts of social emotional development in predicting school readiness, the present study proposes examining children's microsystems, mesosystems, and macrosystems and relationships between a child's social emotional development and school readiness in the areas of literacy and math.

Literacy

Children's literacy skills and learning to read often emerge during the preschool years. Such time period is especially critical for children as it assists with further reading skills later in life. Due to many children not being placed in formal education until kindergarten, the home environment is where many children develop early literacy skills. In fact, parents home literacy involvement (book reading) has been shown to positively contribute to children's cognitive and social emotional development (Cook et al., 2017; Anthony et al., 2020). Scholars suggest that parent's function as the primary agents of socialization during early childhood and early parent-child literacy interactions in a child's microsystem can increase children's ability to pay attention and follow directions (Jackson et al., 2021). Literacy skills are often broken up into two categories: print and phonological awareness and alphabet knowledge. Print and phonological awareness refers to being able to manipulate the sounds of words and having an understanding of the structure of print (i.e., reading from the top of the page and from left to right in the English language) (O'Brien et al., 2019). Alphabet knowledge refers to having an understanding of the letter sounds, shapes, and names (O'Brien et al., 2019). Both components are important when children are learning to read.

Math

A child's understanding of early math concepts are subsequent predictors of learning later in life (Fisher et al., 2012). Early math concepts are also predictive of later career earnings. Due to the importance of early math concepts, many students have examined the role of math development in children and more specifically for children living in poverty. Freedman and McGavock (2015) showed evidence that children who live in poverty are less likely to develop math skills and that poverty has a relationship with children's cognitive development as well

(Freedman & McGavock, 2015). A child's social emotional development relates to their math development through interactions in the microsystem with parents, school, and peers, and the connections between components in the child's microsystem (e.g., the connection between parents and school) are largely based in the mesosystem as well. Lastly, the macrosystem also relates to their math development with their economic situations with poverty status.

Parenting

The five dimensions of social emotional development are important when evaluating the social emotional functioning of children. However, the behavior of adults in children's lives is also pivotal due to the influence on children's development through their microsystem. Denham et al. (2009) argue that parents' social competence, attachment, emotional competence, self-perceived competence, and temperament/personality have implications for a child's social emotional development. Furthermore, parenting research has provided strong evidence that family is the primary context for children to develop social emotional skills (Bornstein et al., 2006; Collins et al., 2000).

The majority of research examining effects and potential predictors of children's social emotional development involves parenting in one aspect or another (Bornstein, 2006; Collins et al., 2000). Defining parenting differs among studies; however, it generally involves the process of supporting a child from infancy to adulthood in their physical, emotional, social, and intellectual development (Feldman, 2012). Moreover, it is important to note that parenting does not exclusively belong to biological relationships between children and adults (Feldman, 2012).

During preschool years, children are obtaining critical information on behaviors and socialization. Children observe their parents and others in their immediate environments for cues and referencing on how to respond behaviorally and emotionally in certain situations that involve

socialization (Halberstadt & Eaton, 2002). Given this, parents assist children with comprehending social situations, emotions, and appropriate behaviors. Children are not born with the ability to understand emotion, so much of the learning takes place through parenting, culture, and other influences, as is the case with the different system levels in Bronfenbrenner's theory (Denham et al., 2009). Therefore, the role of the parent is crucial in the social emotional developmental process of children and throughout the lifespan and through the development of trust.

As research pertaining to parenting has been thoroughly examined, there has been an emergence of variables used to assess predictors of children's social emotional development. For instance, parental marital status, parental depression, parental consumption of alcohol and/or cigarettes, and parental discipline practices. As a result, these various variables will be discussed in further detail.

Parental Marital Status

Huang et al. (2017) conducted a study that examined how children's social emotional development was impacted by the divorce of their parents and being raised by single mothers. Their study also examined how single parent family households differ from dual-parent households. Results indicated that children who are in single-parent households or whose parents are divorced have more challenges to their social emotional development than parents who remain married. Hetherington et al. (1978) conducted similar studies and hypothesized that this effect was due to the lack of parent-child interaction with both parents in divorced families. Lastly, it was determined that mothers have a stronger effect on a child's social emotional development than fathers (Huang et al., 2017; Hetherington et al., 1978). This coincides with

Erikson's theory that suggests the importance of trust in infancy as infants tend to develop attachment with their mothers during this first stage.

Parental Depression

Depression among parents has been studied in relation to child development (Pavan et al., 2012; Evans, et al., 2012; Soltis, et al., 2015). The aforementioned studies confirmed that parental depression remained a significant predictor of children's cognitive development and subsequent academic success. Parental depression has been associated with an increased risk for children in regard to their development (Paven et al., 2012; Barnett et al., 2020). In fact, children who have depressed parents are more likely to develop social, behavioral, and emotional problems, which then lead to decreased school readiness and school success (Welsh-Allis & Ye, 1988; Soltis et al., 2015). This could be a direct result of depression undermining the parent-child attachment (Cummings & Davies, 1993; Skibo et al., 2020). This idea relates to influences in a child's microsystem and the development of trust.

While there are many ways parental depression has been assessed, Cummings and Davies (1993) determined parental depression is made up of parental characteristics, parent-child relations, and parent functioning, which in turn effect a child's development. An example of parental characteristics includes emotional unavailability, emotional insensitivity, and withdrawal. As noted, parents maintain a key role in the healthy development of a child's emotional competence and having a parent be withdrawn can significantly hinder this development. In fact, a study conducted by Cohn and Campbell (1993) determined that children who had mothers who displayed withdrawn behaviors displayed more anger, reduced activity, and social withdrawal.

Another study conducted by Treyvaud, Anderson, and Lee (2009) examined the relationship between mothers' mental health, specifically postpartum depression and their children's development. Mothers who experienced postpartum depression had difficulty meeting the attachment needs of their infants that are very critical early in life. This could have led to the development of mistrust as Erikson's (1977) theory supports. As children grew up, children had difficulty with emotional regulation (Treyvaud et al., 2009).

Furthermore, emotional insensitivity by parents has been linked to an increase of behavioral problems with children (Parke & Slaby, 1983). These children displayed more aggression, had more anxiety, acted out, and developed depression themselves. Additionally, parental depression has also been linked to parental alcohol/cigarette consumption, and inconsistent parenting practices (Summings & Davies, 1993). Depressed parents tended to be more inconsistent or lax with discipline, including spanking or not disciplining at all, and are more likely to consume more alcohol and cigarettes than nondepressed parents. Children's thoughts, feelings, perceptions, and behaviors are all effected by parental depression, which also effects children's school readiness (Cummings & Davies, 1993).

Parental Alcohol/Cigarette Consumption

People who use various substances excessively often have other risk factors such as poor family relationships, and poor personality characteristics such as low self-esteem, and poor impulse control (Ritcher & Ritcher, 2001). While literature has examined how children using substances effects their development, few have examined how direct and indirect exposures from their parents using substances have impacted their development (Ritcher & Ritcher, 2001). The direct and indirect exposure of parental cigarette consumption has obvious health implications on children, however, there are other social and emotional problems as well. For example, children

who were raised by cigarette smokers and parents who frequently consumed alcohol had more emotional and behavioral problems compared to children who had parents who did not consume alcohol or cigarettes frequently (Brenner & Fox, 1998). However, it is important to note that this study also addressed other potential factors in conjunction with parent's consumption of alcohol and/or cigarettes such as family dynamics, poverty, and parental psychopathology (Brenner & Fox, 1998). In addition, a study conducted by Goodman and Capitman (2000) determined that smokers and heavy drinkers are likely to suffer more from depression and anxiety in comparison to nonsmokers and non-heavy drinkers. Some of the risky parenting behaviors may co-exist, therefore, it is important to understand the connections and impacts of the risky parenting behaviors.

Discipline Practices

Parenting practices, including parental discipline play a fundamental role in children's social emotional development (Mackenbach et al., 2014). For instance, corporal discipline has been associated with mental outcomes including poorer school achievement, behavioral problems, and lower self-esteem (Teicher et al., 2006). More specifically Mackenbach and colleagues (2014) assessed how harsh discipline led to children's emotional and behavioral problems. Harsh punishment included shouting/scolding their child, threatening to physically hit their child, actually hitting their child, or calling their child names such as lazy or dumb. The study determined that parental harsh discipline whether by the mother or father increased the risk of behavioral problems in children. It is important to note that 77% of parents involved with the study reported that they used some variation of harsh punishment with their child in the two weeks prior. Children who are disciplined harshly also experienced lower self-worth and developed anxiety and depression, thus indicating potential problems issues with their social

emotional development (Mackenbach et al., 2014). While there are other types of discipline rather than just harsh discipline, harsh discipline is the strongest predictor of potential problems with a child's social emotional development (Snyder et al., 2009). Thus, this shows the necessity of balance of discipline for a child's social emotional development.

Rewarding Practices

In contrast to harsh discipline, parents who reward their children for good behaviors showed positive influence on their development of life skills and their sense of belonging and trust (Gfroerer et al., 2013). Rewards come in a variety of ways such as verbal praise, a gift, and hug or other physical affection. Often parents provide some type of discipline and some type of reward, which results in better child behavior, emotional regulation, and social skills (Snyder et al., 2009). In addition to the social and emotional skills, children also performed better in math and reading in school. Both parental discipline practices and parental reward practices take place in a child's microsystem and also have implications on a child's development of trust, autonomy, and initiative.

Parental Engagement

The quality of parenting is critical to the development of children and a key component of parenting involves the level of which parents are engaged with their children (Morawska & Sanders, 2006). Parental engagement can include three dimensions: a) parental warmth and sensitivity, b) support for a child's emerging autonomy, and c) active participation in learning, which all have implications for a child's development of trust, autonomy, and initiative (Sheridan et al., 2010). Existing literature suggests that children who have parents who are more engaged are likely to have higher self-esteems, increased motivations for learning, and increased learning outcomes. Beyond academic outcomes, parental engagement can benefit children with

self-regulation, self-confidence, resilience, determination, and aspirations for future success (Emerson et al., 2012). Furthermore, a strong academic experience contributes to a child's social emotional development that this study intends to examine.

In a learning environment, parental engagement could include a parent assisting with their children's homework, reading with them, or engaging in other learning activities, all of which include resources in the home (Goodall, 2013). These resources include books, music, and technology to assist children in the learning process. Bronfenbrenner's Ecological Systems Theory (1979) discusses a child's immediate environment including the interactions of a child and their parent/caregiver through a child's microsystem (1979). This level of interaction between a parent and child will be examined further in this study by assessing parental warmth, routines, resources in the home, and parents' behaviors.

Parental Efficacy

Parental efficacy refers to a parent's thoughts regarding their ability to parent successfully (Jones & Prinz, 2005). Bandura (1997) links self-efficacy to a person's perceptions of exercising influence over what they do and such actions will result in their intended outcomes. In relation to parenting, parents who have high self-efficacy are more likely to exhibit confidence in acquiring and exercising effective parenting skills (Jones & Prinz, 2005). As a result, such parents are likely to engage with their children, display consistent rewarding and discipline practices. In contrast, parents who have lower self-efficacy beliefs are less likely to engage with their children and when they do engage with their children, it is inconsistent. Furthermore, parental self-efficacy has been associated with children's outcomes. If a parent displays high self-efficacy, their children are likely to have higher outcomes leading to an even greater

increase in a parent's efficacy. When a parent has lower self-efficacy, their child is likely to experience lower outcomes furthering their low self-efficacy.

Social Support

Social support can be defined in many ways and include many potential components. Marks and McLanahan (1993) defined social support as support coming from outside the immediate family (e.g., extended family and friends) largely based within a child's macrosystem. A study conducted by Serrano-Villar et al. (2016) assessed parental social support and its association with child developmental outcomes. The study determined that mother's perceived social support for parenting had relationships with child behaviors and emotional outcomes. For example, if a mother felt they had positive social support, their child also had positive behaviors. This study supports the notion that women as mothers typically receive more social support than men do as fathers (Brody, 1990; Rossi & Rossi, 1990). Additionally, a study conducted by Huang et al. (2014) determined that mothers who receive less social support are more likely to be depressed and therefore impact their children's development.

Poverty

The effects of poverty on a child's development have been well examined. While there are several factors that contribute to a person's poverty status, a general definition of "lack of the means of providing material needs or comforts" (Yoshikawa et al., 2012) is commonly used. A conceptual framework from Gershoff et al. (2003) describes potential predictors of poverty as a) parent education, b) parental marital status, c) parent work status, d) job prestige, and e) race and ethnicity. Furthermore, there are dimensions of poverty that include a) material hardship, b) relative poverty, c) asset poverty, and d) social exclusion. Poverty status is a component of a child's macrosystem, but poverty status can also impact children's microsystems and

mesosystems. For children, poverty is living with limited income and resources. The lack of resources and income then leave children unable to enjoy their rights or achieve their full potentials (Airini, 2015). Several studies have determined that poverty is a predictor of developmental delays, and the lack of resources impact children's development and provides one explanation for achievement gaps and social emotional developmental delays (Akee et al., 2010; Harding, 2003; Kling et al., 2007).

In the United States, poverty has a negative relationship with children's cognitive development, mental health, physical health, and school readiness (Yoshikawa et al., 2012). In other words, children living in poverty had lower cognitive development, more mental and physical health problems, and were less ready for school when compared to children who were not living in poverty. While poverty status alone does not explain how parents choose to engage with their children, income does affect the amount of time a parent has to spend with their child (Gullo, 2018). Parents who live in poverty tend to spend less time reading with their children and also have fewer reading materials in the home. The lack of time to engage with these materials and lack of actual reading and learning resources in the home also impact a child's social emotional development and school readiness.

Moreover, a study conducted by Janu and Duku (2007) determined that family income has a stronger effect on a child's school readiness than the child's parent education and found that parents who live in poverty are likely to have lower education as well. This study also showed that children living in poverty tend to have a gap in terms of their school readiness in comparison with children who are not living in poverty. This gap means that children living in poverty had lower school readiness when compared to children not living in poverty. As mentioned earlier, this might be contributed to the many effects of poverty on a child's

development such as mental and physical health, social emotional development, and cognitive development.

While the effects of poverty have been well documented, there are protective factors for children living in poverty that may contribute to closing the achievement gap by improving a child's school readiness (Holliday et al., 2014). The protective factors and perseverance are attributable to mitigating the negative effects of stressful environments (Webster-Stratton et al., 2008). Duncan & Brooks-Gunn (2000) suggest that the impact of poverty can be mediated by interventions that target parenting. These potential parenting interventions may include protective factors and perseverance to mediate the effects of poverty. Protective factors include elements of a child's microsystem and macrosystem through support from friends, family, and institutions (Werner, 1990). However, there are internal protective factors that include a child's social, emotional, and cognitive abilities (Werner, 1990). Additionally, resilience is especially important for children living in poverty due to the obstacles they may encounter. This study intends to examine the effect of poverty through a strength-based model by examining protective factors that can be assessed in children's social emotional development and ultimately their school readiness.

CHAPTER THREE:

METHODOLOGY

Method

Participants

This study used data from the Longitudinal Child Study of Arizona (LCSA), which involved a total sample of 7,396 children ages one month to seven years old prior to starting kindergarten. The LCSA was a convenience and purposive sample drawn from various regions of Arizona. This sample included children from a variety of community and childcare settings throughout Arizona. Several instruments were used to assess children's gross and fine motor development, height and weight, social emotional development, language and literacy, executive functioning, and math concepts (Marx, 2011). A subsample of 3,988 children ages 2-5 years old who completed the assessment of social emotional functioning assessment was drawn from the larger sample for this study. Additional subsamples were drawn to examine the effects of children's social emotional development on two dimensions of school readiness: 1) a subsample of 3,064 children to examine literacy skills, and 2) a subsample of 2,802 children to examine math skills.

Instruments

Mail Ahead Primary Caregiver Questionnaire

The Mail Ahead Primary Caregiver Questionnaire (MAPCQ) is a 60-item questionnaire developed for the LCSA that was completed by the children's parents or caregivers. The questionnaire is separated into seven sections to gain an understanding of various aspects of a child's development and parental influences. The seven sections include: About You, Family Life, Discipline, Social Support, Food in the Home, Neighborhood and Community, and

Employment (see Appendix A). For the purposes of this study, questions from the About You, Family Life, Discipline, Social Support, Food in the Home, and Neighborhood and Community were all used. The questions throughout each section included various “Yes/No” questions, the frequency of which something occurs/you do something, to Likert scale responses. Questions that involved filling in a response include: 1) How many books are in the home?, and 2) When someone is reading to your child how many minutes are they typically read to?. Questions that involved Likert scale responses involved a list of what a parent did with a rating of the frequency of that type of behavior. For example, a discipline question stated, “How often do you get your child to correct the problem?”. Parents had a Likert scale with these possible responses: “Never”, “Rarely”, “Sometimes”, “Often”, and “Always”. Other questions included list type responses that would indicate how certain things were done with the child. For example, a question stated: “How often do you read books to your child?”. Possible responses included “Not at all”, “1 to 2 times”, “3 to 6 times”, or “7 or more times in a week”.

Parent Caregiver Interview

The Parent Caregiver Interview is an interview that was with the children’s parents and also took place during the LCSA. The interview involved ten separated questions: Pre-Interview, Respondent and Child Demographics, Child Development, Child Health, Health Services Used, Insurance, Welfare and other Public Assistance, Support Services, Child Care, Father/Spouse/Partner/Parent Figure Information (FSP), and a closing section. The interviews were used to supplement the Mail Ahead Primary Caregiver Questionnaire by providing a more in depth look into a family’s life situations. For this study, demographic information (child’s gender, parent education level, and marital status) was taken from the Respondent and Child Demographics and FSP sections.

Social Emotional Development (DECA)

The Devereux Early Childhood Assessment (DECA) is a social emotional assessment that has been widely used for early childhood programs (Bulotsky-Shearer et al., 2013). The DECA adequately assesses the presence of such factors as a strength-based assessment for preschool-aged children (LeBuff & Naglieri, 1999). The DECA was used as a measure of a child's protective factors and behavioral concerns. The DECA consists of 37-items. Scores are grouped into Behavioral Concerns (*Cronbach's* $\alpha = .737$) and Total Protective Factors (*Cronbach's* $\alpha = .815$). The Total Protective Factors scale consists of three components: initiative, self-control, and attachment (LeBuff & Naglieri, 1999; Barbu et al., 2013). The three components of the Total Protective Factors scale relate to Denham et al.'s (2009) five dimensions. The DECA measures attachment and through the initiative and self-control components, DECA measures a child's social competence, emotional competence, and perceived competence. The DECA Behavioral Concerns scale addresses issues of temperament as well.

The DECA Total Protective Factors scale represent the positive social emotional development outcomes and the DECA Behavioral Concerns scale represent the negative social emotional development outcomes. Both the Total Protective Factors and Behavioral Concerns were self-report measures that were completed by a parent or primary caregiver of the child. Parents or primary caregivers were instructed to base their responses on direct observations and to only report the behaviors which have been witnessed within the last four weeks.

School Readiness: Literacy (PALS Pre-K)

The literacy component of school readiness was assessed by using the Phonological Awareness Literacy Screening (PALS-Pre-K) assessment (*Cronbach's* $\alpha = .741$). The PALS-Pre-K focuses on the fundamental literacy skills through six subsets: uppercase alphabet knowledge,

lowercase alphabet knowledge, letter sounds, name writing, print and word awareness, and rhyme awareness. The PALS-Pre-K assesses two literacy constructs: 1) Print/Phonological Awareness and 2) Alphabet Knowledge (Cimetta et al., 2017; Townsend & Konold, 2010). Uppercase alphabet knowledge, lowercase alphabet knowledge, and letter sounds subsets make up the Alphabet Knowledge construct. Name writing, print and word awareness, and rhyme awareness subsets make up the Print/Phonological Awareness construct. Each construct literacy construct was examined separately in this study.

All children either completed the PALS-Pre-K in Spanish or English. Parents indicated which language was the child's primary language and the test was given to the child in that language as indicated by their parents. A total of 979 children completed the PALS-Pre-K in Spanish and a total of 2,085 children completed the PALS-Pre-K in English. To get a PALS Print/Phonological Awareness score and a PALS Alphabet Knowledge score, children's scores on the PALS Pre-K English and Spanish tests were converted to Z-scores to standardize scores due to the differing alphabets between the English and Spanish languages. Then, the groups of Z-scores from each subset were combined to create a PALS Pre-K Print/Phonological Awareness score and a PALS Pre-K Alphabet Knowledge score.

School Readiness: Math (TEMA)

The math component of school readiness was assessed using the Test of Early Mathematics Ability (TEMA) (*Cronbach's $\alpha = .751$*). Children either took the English or Spanish version of the TEMA based on the parent's indication of language proficiency. A total of 919 children took the TEMA in Spanish and a total of 1,884 children took the TEMA in English. The TEMA consisted of 72 items measuring informal and formal mathematical knowledge. Informal mathematical knowledge refers to concepts that children learn outside of

school (formal) learning environment such as verbal counting by ones: 1 to 10. This was done by placing ten tokens in front of the child. The tester counts the first three tokens with the child, then the child is asked to point to the rest of the tokens and count on their own. Formal mathematical knowledge refers to concepts a child learns while in school such as reading numerals: single digit numbers. This was done by the child being shown cards with numerals on them and the tester asking the child what number is represented on the card.

The TEMA is scored with a raw score (the number of questions a child got correct). Then the score is converted to a standardized score that has a mean of 100 and a standard deviation of 15. This standardized score includes seven brackets that range from very poor to very superior. The Spanish version of the TEMA includes the same concepts as the English version but has language differences in the way questions are asked. Lastly, the standardized score is based on the age of the child.

Covariates

The child's gender was included as a covariate because boys are found to have a greater prevalence of behavior problems than girls (Cooper et al., 2009). The child's ethnicity was included as a covariate as ethnicity has been found to be associated with social emotional development (Barbarin, 2002). The child's age was included as a covariate because social emotional development differs by age (Denham et al., 2009). Lastly, parents' marital status, parents' education level, and poverty status were also included as covariates because single-parent households, parent education level, and poverty status have also been found to have relationships with children's social emotional development (Duncan et al., 1994). The coding for the covariates can be found in Table 1.

Independent Variables

To understand the impact of a set of protective and at-risk factors on children's social emotional development, several composite variables were created. The protective factors include: positive discipline, rewarding practices, social support, parental warmth, routines, resources, parental behavior, and parental efficacy. The at-risk factors include: parental depression, negative discipline, parent cigarette consumption, parent alcohol consumption, and poverty. Reliability was examined for each variable by assessing the *Cronbach's alpha* values. According to Santos (1999), a *Cronbach's alpha* value of $\geq .50$ is sufficient for reliability, but a more common cutoff is $\geq .70$. Table 1 provides a summary of coding for the demographic and predictor variables created. The explanation for each predictor variable is discussed below.

Protective Factors

Discipline Practices: Positive

The positive discipline practices variable was created from questions answered by parents/caregivers on the MAPCQ (*Cronbach's alpha* = .638). The questions included how parents discipline their child and the frequency of that type of discipline on a Likert scale of: "0 = Never", "1 = Rarely", "2 = Sometimes", "3 = Often", and "4 = Always". The positive discipline practices included five items: 1) Get your child to correct the problem, 2) A brief time out away from family, 3) Time out for more than 6 minutes, 4) Take away privileges (like TV, playing with friends), and 5) Discuss the problem with child or ask questions. Possible scores ranged from 0 to 20 with 0 indicating never providing positive discipline and 20 indicating always providing positive discipline.

Rewarding Practices

The parental reward variable was created from questions answered by parents/caregivers on the MAPCQ (*Cronbach's* $\alpha = .691$). The questions included how parents reward their child and the frequency of that type of reward on a Likert scale of “0 = Never”, “1 = Rarely”, “2 = Sometimes”, “3 = Often”, and “4 = Always”. The parental reward variable included five items: 1) Ignore it, 2) Give child a hug, kiss, pat, handshake or ‘high five,’ 3) Buy something for child (e.g., special food, small toy), 4) Give him/her an extra privilege (such as cake, go to the movies, special activity for good behavior), and 5) Give points or stars on a chart. This variable utilized a similar scale as the parental discipline score of 0 indicating never and 4 indicating Always. One item was reverse scored, which was “Ignore the behavior”. Each item was then scored and added up to create a total reward score. The scale ranged from 0, which represents never rewarding good behaviors and always ignoring good behavior, to 20, which represents always rewarding good behavior and never ignoring good behavior.

Social Support

The social support variable was created from three questions answered by parents/caregivers on the MAPCQ (*Cronbach's* $\alpha = .862$). The items include: 1) People in this neighborhood help each other out, 2) There are people I can count on in this neighborhood, and 3) If my child were outside playing and got hurt or scared, there are adults nearby who I trust to help my child. Possible responses included “4 = Strongly Agree”, “3 = Somewhat Agree”, “2 = Somewhat Disagree”, and “1 = Strongly Disagree”. Responses were assigned a numeric value and added up to create a total social support item. The scale ranged from 1, which represents having no social support to 12, which represents having strong social support.

Parental Warmth

The parental warmth variable was created from four questions answered by parents or primary caregivers on the MAPCQ (*Cronbach's* $\alpha = .629$). Parents were asked, "In a typical week, how often do you or someone in the household do the following things" with a scale ranging from "0 = not at all", "1 = indicating one to two times", "2 = indicating three to six times", and "3 = indicating seven or more times". The three items included 1) Hold, hug, or kiss your child, and 2) Play with your child and 3) Take you child outside for a walk, or to play in the yard, a park, or playground. The parental warmth variable was scored with each of frequency of each item and added up to create a total parental warmth score. The scale ranged from 0, indicating parents did not engage with their child on any of the activities to 12 indicating parents engaged with their child seven or more times on each activity.

Routines

The routines variable included some level of routines involved with a child (*Cronbach's* $\alpha = .533$). This included the items that addressed whether the child's family eats together and whether the family eats at a regular time period. Parents were asked "In a typical week, please enter the number of days: a) At least some of the family eats breakfast together, and b) The evening meal is served at a regular time. These items were scored by adding up the number of days for each event per week. The scale ranged from 0 indicating the family does not eat breakfast or evening meals together in a typical week to 14, meaning they eat breakfast together and their evening meal everyday per week.

Resources

The resources in the home variable included a parent or primary caregiver's amount of children's resources in the home (*Cronbach's* $\alpha = .531$). The items included "About how many

children's records, audiotapes, and CDs do you have at home, including from the library?" and "About how many children's books are there in your home now, including library books?". The materials included the number of children's books in the home, the number of children's records, audiotapes, and/or CDs. The resources of each type were added to determine whether the number of resources in the home that are used to support a child's learning. If a person was in the top twenty-fifth percentile for both types of resources (books and audio stimuli) they were categorized as living in a resource rich household. The top 25% of scores for the number of books in the home included between 147-200 children's books. The top 25% of scores for the numbers of audio stimuli included between 16-200 children's audio stimuli. If the child's home did not have the top 25% of both books and audio stimuli, they were categorized as not living in a resource rich home. Thus, a dichotomous resource variable was created.

Parental Behavior

The parent's behavior variable was created from items answered by parents on the MAPCQ (*Cronbach's* $\alpha = .824$). Parents were asked to rate the frequency for various behaviors with their child by stating "In a typical week, how often do you or someone in the household do the following things". This included eight items: 1) Read books to your child, 2) Tell stories to your child, 3) Sing songs to your child, 4) Take your child along while doing errands, 5) Talk about size or weight of things, 6) Count, 7) Play sorting or matching games, and 8) Play with toys or blocks to build things. Responses included the number of days per week a parent spends doing the various activities with their child with "0 = Not at all", "1 = 1-2 times", "2 = 3-6 times", and "3 = 7 or more times". Possible scores ranged from 0 to 3 for each item. Scores on each item were added and then divided by seven to create an average number of activities a parent spends with their child per week. Scores ranged from 0 to 8. A score of 0 would indicate

that parents do an average of 0 of any of the activities with their child per week. A score of 8 would indicate that parents do an average of any of the 8 activities with their child per week.

Parental Efficacy

The parental efficacy variable was created from questions answered by parents on the MAPCQ (*Cronbach's* $\alpha = .759$). The questions included how parents feel they are managing parenting their child or children. The responses were in the form of a Likert scale ranging from: "1 = Strongly Disagree", "2 = Somewhat Disagree", "3 = Somewhat Agree", and "4 = Strongly Agree". The items included five items: 1) Being a parent is harder than I thought it would be, 2) I enjoy my role as a parent, 3) I find that taking care of my child/children is much more work than pleasure, 4) I often feel tired, worn out, or exhausted from raising a family, and 5) I find myself giving up more of my life to meet my child's needs than I ever expected. Item 2 was reverse coded to indicate 1 being Strongly Agree to 4 being Strongly Disagree. Then, scores on each item were added to create a total parental efficacy score. Scores ranged from 5-20. A score of 5 would indicate that parents have very little parental efficacy. A score of 20 would indicate parents have a high level of parental efficacy.

At-Risk Factors

Parental Depression

The parental depression variable was created using eight questions from the Personal Health Questionnaire Depression Scale (PHQ-8) that were included on the MAPCQ (*Cronbach's* $\alpha = .846$): 1) Little interest or pleasure in doing things? 2) Feeling down, depressed, or hopeless? 3) Trouble falling asleep or staying asleep or sleeping too much? 4) Feeling tired or having little energy? 5) Poor appetite or overeating? 6) Feeling bad about yourself or that you are a failure or have let yourself or your family down? 7) Trouble concentrating on things, such as reading the

newspaper or watching the TV? 8) Moving or speaking slowing that other people could have noticed? Or the opposite: Being so fidgety or restless that you have been moving around a lot more than usual?

The potential responses of these items included: “0 = Not at all”, “1 = Several days”, “2 = More than half the days”, and “3 = Nearly every day”. The scores from each item were then added up to create a continuous parental depression variable. Possible scores ranged from 0, never feeling any of the items and not being depressed, to 24, feeling all of the items nearly every day. A score of 10 or higher indicated the person has major depression.

Discipline Practices: Negative

The negative discipline practices variable was created from questions answered by parents/caregivers on the MAPCQ (*Cronbach's* $\alpha = .644$). The questions included how parents discipline their child and the frequency of that type of discipline on a Likert scale of: “0 = Never”, “1 = Rarely”, “2 = Sometimes”, “3 = Often”, and “4 = Always”. The negative discipline practices included six items: 1) Ignore it, 2) Scold or yell, 3) Threaten to punish (but not really punish him/her), 4) Give a spanking, 5) Slap or hit your child (not spanking), and 6) Give extra chores. Each item was scored out of four. Item 1, ignore it, was reverse coded to indicate a score of 0 being “Always” and 4 being “Never.” Possible scores ranged from 0 to 24 with 0 indicating never providing negative discipline and never ignoring the behavior and 24 indicating always providing negative discipline and always ignoring the behavior.

Parent Cigarette Consumption

The cigarette consumption variable was created from one question answered on the MAPCQ (*Cronbach's* $\alpha = .643$). The question asked, “During the past 30 days, on how many days did you smoke cigarettes?”. If participants reported that they had smoked at least one

cigarette in the past 30 days, their responses were coded as “1 = yes” and no cigarettes was coded as “0 = no” creating a dichotomous variable.

Parent Alcohol Consumption

The excessive alcohol consumption variable was created from one question answered by parents/caregivers on the MAPCQ (*Cronbach's* $\alpha = .731$). The question asked, “Considering all types of alcoholic beverages, how many times during the past 30 days did you have 5 (if you are a man) or 4 (if you are a woman) or more drinks on an occasion?”. If participants reported that they had at least 5 alcoholic beverages as a man or 4 alcoholic beverages as a woman, their responses were coded as “1 = yes” and not drinking 4 or 5 drinks was coded as “0 = no” creating a dichotomous variable.

Poverty

The poverty variable was created using the household income at the time of the study (2010) and the number of people living in the household with the federal poverty level guidelines. At the time of this study, the federal poverty level (FPL) was \$10,830 annually for one person in a household and increased by \$3,740 for each additional person in a household. For a four person household, the FPL was \$22,050. A dichotomous poverty variable coded as “0 = above the 100% federal poverty level” and “1 = at or below the 100% federal poverty level” was created (*Cronbach's* $\alpha = .773$). (Healthcare Federal Poverty Level, 2010).

Table 1.

Variable Coding for Correlations and Regression Models

Coding	
Covariates	
Child Gender	1 = Male

	0 = Female
Child Ethnicity	1 = Hispanic
	0 = Non-Hispanic
Marital Status	1 = Married
	0 = Single/Separated/Divorced/Widowed
Parental Education	1 = 8 th grade or less
	2 = 9-12 grade, no diploma
	3 = GED
	4 = HS Graduate
	5 = Vocational or trade school
	6 = Some college
	7 = Associate's degree
	8 = Bachelor's degree
	9 = Master's degree
	10 = Doctoral or professional degree
Child's Age	0 = 0 months-11 months
	1 = 12 months-23 months
	2 = 24 months-35 months
	3 = 36 months-47 months
	4 = 48 months-59 months
	5 = 60 months-71 months
	6 = 72 months-83 months

Protective Factors

Positive Discipline	Frequency of positive discipline Scale (0-20)
Rewarding Practices	Frequency of rewards Scale (0-20)
Parental Warmth	Frequency of parental warmth Scale (0-20)
Social Support	Level of support Scale (3-12)
Resources	1 = Top 25% 0 = Below Top 25%
Parental Behavior	Frequency of parental behaviors per week Scale (0-24)
Routines	Frequency of eating at a specific time per week Scale (0-14)
Parental Efficacy	Level of parental efficacy Scale (5-20)
At-Risk Factors	
Cigarette Consumption	1 = Smoking 0 = Nonsmoking
Excessive Alcohol Consumption	1 = 5 drinks female, 4 drinks male 0 = < 5 drinks female, < 4 drinks male
Poverty	1 = At/below FPL

	0 = Above FPL
Parental Depression	Level of depression a parent has Scale (0-24)
Negative Discipline	Frequency of negative discipline Scale (0-24)

Outcome Variables

DECA Protective Factors	$M = 52.20; SD = 9.91$
DECA Behavioral Concerns	$M = 57.13; SD = 9.38$
PALS Pre-K Print/Phonological Awareness	$M = .193; SD = .991$
PALS Pre-K Alphabet Knowledge	$M = .060; SD = 1.00$
TEMA	$M = 93.63; SD = 13.72$

Note. PALS Pre-K Print/Phonological Awareness and PALS Pre-K Alphabet Knowledge scores have been standardized. DECA = Devereaux Early Childhood Assessment; PALS Pre-K = Phonological Awareness Literacy Screening; TEMA = Test of Early Mathematics Ability; FPL = Federal Poverty Level.

Interaction

Existing literature claims that living in poverty is a stronger predictor of a child's social emotional development than a parent's education level (Yoshikawa et al., 2012). Furthermore, poverty is strongly associated with behavioral outcomes, academic achievement, and development of children (Akee et al., 2010; Harding, 2003; Kling et al., 2007). Due to the implications of poverty, an interaction between poverty and the covariates, protective factor predictor variables, and the at-risk predictor variables was added to the regression models. Doing so allowed a stronger understanding of the effects of the variables of interest for a child living in poverty (i.e., if protective factors can be used for resiliency as a strength-based approach) and allowed comparison of these variables to a child who is not living in poverty.

Data Analysis

Data for this study were screened for missing data and univariate and multivariate normality to determine the data imputation method. Variables were mean-centered to reduce multicollinearity. Descriptive analyses were run on the background/demographic variables of the participants which included: gender, age, ethnicity, parents' marital status, and poverty status. Descriptive analyses were also carried out on participants' DECA Total Protective Factors scores, DECA Behavioral Concerns scores, the PALS-Pre-K Print/Phonological Awareness scores, the PALS-Pre-K Alphabet Knowledge scores, and the TEMA scores. Descriptive analyses were also run on each predictor variable.

To analyze research questions one and two, zero-order bivariate correlations were run. Pearson's Correlation Coefficient measures the strength of a linear relationship between two variables (McGraw & Wong, 1996). Skew and kurtosis values were examined for univariate normality. According to Kline, (1998) skew and kurtosis values should range between -1 to 1. Correlations were run to examine if there were statistically significant relationships between the variables created and the DECA Total Protective Factors scale and the DECA Behavioral Concerns scale.

To analyze research questions three and four, stepwise linear regression models were run. Linear regression models are used to determine the strength of predictors and predicting an effect (Montgomery et al., 2021). First, data was examined for multicollinearity by assessing the variance-inflation factor (*VIF*) values before linear regressions were run. *VIF* values indicate the correlations between two or more predictors in the model. *VIF* values were compared with a cutoff of 2.5 or less as proposed by Alin (2010). Results for the *VIF* values for each model are presented in the Results Chapter.

The stepwise linear regression models were run to determine if the created variables are predictors of scores on the DECA Total Protective Factors scale and the DECA Behavioral Concerns scale. Variables were entered into the regression models in three steps. The baseline model (block 1) included the covariates (child's gender, child's age, child's ethnicity, parent's marital status, parent's education, and poverty status). The covariates were held constant for the multiple regression models and allows data to be compared across the demographic variables. The protective factors or at-risk factors were entered into block 2. The protective factors included: positive discipline, rewarding practices, social support, parental warmth, routines, resources, parental behaviors, and parental efficacy. The at-risk factors included: parental depression, negative discipline, parent cigarette consumption, parent alcohol consumption, and poverty. Lastly, the interaction between poverty and the predictor variables were entered into block 3. Covariates and predictors that were statistically significant ($\alpha < .05$) were retained in the model as the final model. All predictors were mean-centered to reduce multicollinearity.

Lastly, to answer research questions five and six stepwise linear regressions were run to determine if the DECA Total Protective Factors scale and the DECA Behavioral Concerns scale were predictors of children's school readiness for three constructs: the PALS-Pre-K Print/Phonological Awareness, the PALS-Pre-K Alphabet Knowledge, and the TEMA. Variables were entered into the models in two steps. The baseline model (block 1) included the covariates (child's age, child's gender, child's ethnicity, parent's marital status, parent's education, and poverty status). The covariates were held constant and allows data to be compared across the demographic variables. The DECA Total Protective Factors scale and the DECA Behavioral Concerns scale were entered in block 2. Covariates and predictors that were statistically significant ($\alpha < .05$) were retained in the model. Effect size was calculated by utilizing the

following equation: Effect Size = $ES = b * SD_x / SD_y$, and was interpreted as small = .1, medium = .3, large = .5 (Cohen, 1988).

Missing data were imputed for all variables used in the analyses using the Markov Chain Monte Carlo (MCMC) multiple imputation procedure (SPSS 27 User's Guide, 2020). The pattern of missing data was examined prior to imputation. Little's MCAR test, $\chi^2(90, 1168) = 316.41, p < .001$, based on the evaluation of the homogeneity of the available means for different patterns of incomplete data (Little, 1988), was statistically significant, indicating that the data for PALS Pre-K subtests and covariates were not missing completely at random. However, the Separate Variance Test indicated no relationship between missingness and the study variables, and thus was proceeded under MAR assumptions (Tabachnick & Fidell, 2013). The MCMC imputations were based on generation of five imputed data sets.

All statistical analyses were run in the program IBM Statistical Package for Social Sciences (*SPSS*) Version 27.

CHAPTER FOUR:

RESULTS

Preliminary Analyses

Missing Data

Missing data for the outcome variables (DECA Total Protective Factors, DECA Behavioral Concerns, TEMA, PALS-Pre-K Alphabet Knowledge, and PALS-Pre-K Print/Phonological Awareness) ranged from 3.1% to 17.9%. The DECA Behavioral Concerns subscale had the least missing data at 3.1% and the PALS Pre-K Print/Phonological Awareness scale had the highest at 17.9%. Missing data for the covariates of the sample ranged from 2.9% to 9.9%. Parent education had the least amount of missing data, 2.9%, and child's ethnicity having the highest amount, 9.9%. Missing data for the protective factors ranged from 10.5% to 23%. Parental warmth had the least amount of missing data, 10.5%, and routines had the highest amount, 23%. Missing data for the at-risk factors ranged from 11.8% to 16.3%. Excessive alcohol consumption had the least amount of missing data, 11.8%, and poverty status had the highest amount, 16.3%.

Descriptive Statistics

All variables were examined for univariate normality by inspecting the skew and kurtosis values. All skew and kurtosis values were within the ± 1 range indicating that the variables are all normally distributed (Kline, 1998). The data was also examined for outliers and there were no outliers. The total population was a total of 3,988 children. Table 6 displays the descriptive statistics of the population. Of 3,988 children, 48.5% ($n = 1935$) were male and 51.5% ($n = 2053$) were female. The average age of the children was 3.85 years with a standard deviation of .747. The children's ethnicity was 49.6% ($n = 1978$) Hispanic and 50.4% ($n = 2010$) non-

Hispanic. The mean for the DECA Total Protective Factors was 52.20 ($SD = 9.91$). The mean for the DECA Behavioral Concerns was 57.13 ($SD = 9.38$). The remainder of descriptive statistics can be found in Table 2 below.

Table 2.

Descriptive Statistics for Covariates, Predictor Variables, and Outcome Variables

	<i>N</i>	<i>%</i>	<i>M</i>	<i>SD</i>
Covariates				
Child Gender				
Male	1935	48.5		
Female	2053	51.5		
Child Ethnicity				
Hispanic	1978	49.6		
Non-Hispanic	2010	50.4		
Child Age (years)				
			3.85	.747
12 months-23 months	44	1.1		
24 months-35 months	639	16.0		
36 months-47 months	1143	28.7		
48 months-59 months	1240	31.1		
60 months-71 months	583	16.6		
72 months-83 months	13	.3		
Parental Marital Status				
Married	2490	62.4		
Single/Separated/ Divorced/Widowed	1498	37.6		

Parent Education

8 th grade or less	254	.08
9-12 grade, no diploma	864	11.5
GED	96	2.6
HS Graduate	494	12.4
Vocational or trade school	209	.05
Some college	852	21.4
Associate's degree	309	.08
Bachelor's degree	788	20.0
Master's degree	413	10.4
Doctoral or professional degree	114	.03

Protective Factors

Positive Parental Discipline		11.17	2.47
Rewarding Practices		12.36	2.60
Parental Warmth		7.77	1.26
Parental Support		8.66	2.71
Parental Behavior		3.50	.703
Routines		10.72	2.89
Parental Efficacy		10.76	2.69
Resource Rich			
Top 25%	3468	87.0	
Below top 25%	520	13.0	

At-Risk Factors

Parent Cigarette Consumption

Non-Smoking	3178	94.8
Smoking	206	5.2

Parent Excessive Alcohol Consumption

Yes	196	4.9
No	3320	95.1

Poverty

At or below FPL	1063	26.7
Above FPL	2925	73.3

Parental Depression	2.92	3.69
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Negative Parental Discipline	6.04	2.41
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Outcome Variables

DECA Total Protective Factors	52.20	9.91
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DECA Behavioral Concerns	57.13	9.38
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PALS Pre-K Print/Phonological Awareness	.193	.991
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PALS Pre-K Alphabet Knowledge	.060	1.00
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TEMA	93.63	13.72
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Note. PALS Pre-K Print/Phonological Awareness and PALS Pre-K Alphabet Knowledge scores have been standardized. DECA = Devereaux Early Childhood Assessment, PALS = Phonological Awareness Literacy Screening; TEMA = Test of Early Mathematics Ability; FPL = Federal Poverty Level.

Analyses

The purpose of this study was to examine the relationships and predictors of various protective factors and at-risk factors on children's social emotional development and school

readiness. This chapter presents the results of the analyses conducted for each of the research questions by including correlation matrices and regression tables. Due to the two constructs for social emotional development through the DECA, Total Protective Factors and Behavioral Concerns, the results present each construct separately. DECA Total Protective Factors will be referred to as positive social emotional development outcomes. DECA Behavioral Concerns will be referred to as negative social emotional development outcomes. This chapter also includes the statistically significant interaction graphs for the statistically significant interactions between poverty and the predictor variables of interest. Statistical significance and practical significance is discussed. Table 3 below displays a correlation matrix for all the covariates, predictor variables, and the social emotional development outcomes.

Table 3.

Correlation Matrix for all Covariates and Predictors

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Gender	1																			
Ethnicity	.038**	1																		
Age	.015	-.006	1																	
Marital Status	-.008	-.171**	.002	1																
School Completed	-.012	-.486**	-.031**	.288**	1															
Poverty	.000	.349**	-.023	-.300**	-.533**	1														
Alcohol Consumption	-.033*	-.003	.040**	-.036**	.034*	-.023	1													
Cigarette Consumption	-.002	-.019	.027*	-.092**	-.081**	.054**	.096**	1												
Depression	-.009	.041**	.026	-.145**	-.098**	.096**	.022	.087**	1											
Positive Discipline	-.010	-.070**	.371**	.036*	.040**	-.054**	.036*	.006	.034*	1										
Negative Discipline	-.019	.061**	.237**	-.061**	-.102**	.065**	.041**	.039**	.200**	.297**	1									
Routines	-.001	-.072**	-.033*	.083**	.071**	.004	.000	-.056**	-.122**	.031*	-.158**	1								
Efficacy	-.009	.027*	.018	-.008	-.058**	.047**	.020	.020	.249**	-.012	.286**	.101**	1							
Rewards	.006	.202**	.180**	-.097**	-.251**	.170**	.012	-.005	-.012	.286**	.101**	.027	-.064**	1						
Support	.020	-.036**	.022	.141**	.032*	-.037**	-.023	-.033*	-.195**	.028*	-.041**	.088**	-.043**	.045**	1					
Behavior	.002	-.282**	.064**	.154**	.335**	-.237**	.021	-.023	-.067**	.167**	-.159**	.253**	-.147**	.065**	.035*	1				

Warmth	-.031*	-.180**	-.102**	.085**	.216**	-.132**	.022	-.043**	-.050**	.071**	-.019	.098**	-.006	-.064	.069**	.180**	1			
Resources	.012	-.191**	.073**	.143**	.246**	-.164**	-.023	-.043**	.050**	.071**	-.019	.098**	-.006**	.064**	.069**	.180**	.107**	1		
Protective Factors	.090**	-.160**	.124**	.081**	.228**	-.112**	.023	-.025	-.167**	.197**	-.160**	.140**	-.195**	.146**	.126**	.403**	.245**	.114	1	
Behavioral Concerns	.088**	.063**	-.055**	-.081**	-.137**	.0082**	-.024	.036*	.240**	.043*	.278**	-.103**	.229**	-.020	-.097**	-.136**	-.071**	-.039*	-.326**	1

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

Research Question One

What are the relationships between protective factors and two- to six- year-old children's social emotional development in terms of Total Protective Factors and Behavioral Concerns as measured by the DECA?

DECA Total Protective Factors

Covariates. Zero-order bivariate correlations were run to examine the relationships between the covariates, the independent protective factor variables of interest, and the positive social emotional development outcomes (DECA Total Protective Factors scale). Results are presented in Table 4. The relationships between the covariates and the positive social emotional development outcomes were all small statistically significant relationships with r values ranging from .090 to .228. The child's gender (dummy coded as 0 = male, 1 = female) was a small positive statistically significant relationship with positive social emotional development outcomes, $r(14) = .090, p < .01$. Parent's level of education completed was a small positive statistically significant relationship with positive social emotional development outcomes $r(14) = .228, p < .01$, but was the largest statistically significant relationship between the covariates and the positive social emotional development outcomes. There were also two negative statistically significant correlations with poverty status (dummy coded as 0 = above poverty, 1 = at or below poverty) having a small relationship with positive social emotional development outcomes $r(14) = -.112, p < .01$ and the child's ethnicity (dummy coded as 0 = Non-Hispanic, 1 = Hispanic) being a small negative statistically significant relationship with positive social emotional development outcomes $r(14) = -.160, p < .01$.

Protective Factors. When adding in the independent protective factors variables there were several statistically significant relationships with the DECA Total Protective Factors scale

(positive social emotional development outcomes). Of the independent factors, the r values ranged from .114 and .403. Resources was a small positive statistically significant relationship with positive social emotional development outcomes $r(14) = .114, p < .01$ and parental behavior was a moderate positive statistically significant relationship with positive social emotional development outcomes, $r(14) = .403, p < .01$. The remaining relationships between the protective factor variables and the positive social emotional development outcomes were all small statistically significant relationships and results are presented in Table 4 below.

Positive discipline was a positive statistically significant relationship with positive social emotional development outcomes, $r(14) = .197, p < .01$. There was a positive statistically significant relationship between rewarding practices with positive social emotional development outcomes, $r(14) = .146, p < .001$ and explained 2.13% of the variance. Routines was a positive statistically relationship with social emotional development outcomes, $r(14) = .140, p < .01$ and explained 2.1% of the variance. Parental efficacy was a positive statistically significant relationship with positive social emotional development outcomes, $r(14) = .195, p < .01$ and explained 3.8% of the variance. Parental support was a positive statistically significant relationship with positive social emotional development outcomes, $r(14) = .126, p < .01$ and explained 1.6% of the variance. Parental warmth was a positive statistically significant relationship with positive social emotional development outcomes, $r(14) = .245, p < .01$ and explained 6.1% of the variance. Lastly, resources was a positive statistically significant relationship with positive social emotional development outcomes $r(14) = .114, p < .01$ explained 1.3% of the variance in DECA Total Protective Factors scores.

DECA Behavioral Concerns

Covariates. Zero-order bivariate correlations were run to examine the relationships between the covariates, the independent protective factor variables of interest, and the negative social emotional development outcomes (DECA Behavioral Concerns scale). The r values of the relationships between the covariates and the negative social emotional development outcomes ranged between $-.055$ and $-.137$. The child's age was a small negative statistically significant relationship with negative social emotional development outcomes, $r(14) = -.055, p < .01$ and the parent's level of education completed was a negative statistically significant relationship with negative social emotional development outcomes, $r(14) = -.137, p < .01$. There were two small positive statistically significant relationships. Poverty status was a positive statistically significant relationship with negative social emotional development outcomes, $r(14) = .082, p < .01$ and the child's ethnicity was a small positive statistically significant relationship with negative social emotional development outcomes, $r(14) = .063, p < .01$.

Protective Factors. Of the protective factors, there were several statistically significant relationships between the negative social emotional development outcomes. The r values ranged from $-.020$ to $-.229$. The smallest relationship of the protective factors and the negative social emotional development outcomes was the relationship between rewarding practices and negative social emotional development outcomes though it was a statistically significant relationship, $r(14) = -.020, p < .01$. Parental efficacy, though a small relationship, had the largest relationship between the protective factors and the negative social emotional development outcomes with $r(14) = -.229, p < .01$. Table 4 displays the correlation matrix between the covariates, all of the protective factors predictor variables, and the two social emotional development constructs below.

Table 4.

Correlation Matrix for Protective Factors and Social Emotional Development Outcomes

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Gender	1															
Ethnicity	.038**	1														
Age	.015	-.006	1													
Marital Status	-.008	-.171**	.002	1												
School Completed	-.012	-.486**	-.031*	.288**	1											
Poverty	-.006	.322**	.003	-.285**	-.514**	1										
Positive Discipline	-.010	-.070**	.371**	.036*	.040**	-.066**	1									
Routines	-.001	-.072**	-.033*	.083**	.071**	.009	.031*	1								
Parental Efficacy	-.009	.027*	.018	-.008	-.058**	.032	-.012	-.014	1							
Rewarding Practices	.006	.202**	.180**	-.097**	-.251**	.147**	.286**	.027	-.064**	1						
Parental Support	.020	-.036**	.022	.141**	.032*	-.057**	.028*	.088**	-.043**	.045**	1					
Parental Behavior	.002	-.282**	.064**	.154**	.335**	-.205**	.167	.253**	-.147**	.065**	.035*	1				
Parental Warmth	-.031*	-.180**	-.102**	.085**	.216**	-.087**	.031*	.159**	-.118**	.020	.032*	.665**	1			
Resources	.012	-.191**	.073**	.143**	.246**	-.163**	.071**	.098**	-.006	-.064**	.069**	.180**	.107**	1		
DECA Protective Factors	.090**	-.160**	.124**	.081**	.228**	-.112**	.197**	.140**	.195**	.146**	.126**	.403**	.245**	.114**	1	
DECA Behavioral Concerns	-.088**	.063**	-.055**	-.081**	-.137**	.082**	-.043*	-.103**	.229**	-.020	-.097**	-.136**	-.071**	-.039*	-.326**	1

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

Research Question Two

What is the relationship between at-risk factors and two- to six-year-old children's social emotional development in terms of Total Protective Factors and Behavioral Concerns as measured by the DECA?

DECA Total Protective Factors

At-Risk Factors. Zero-order bivariate correlations were run to examine the relationships between the covariates, the independent at-risk variables of interest, and the positive social emotional development outcomes (DECA Total Protective Factors). Results are presented in Table 5. Of the at-risk factors, three had statistically significant relationships with the positive social emotional development outcomes. Among the at-risk factors, the largest relationship was parental depression. This relationship was a small a negative statistically significant relationship with positive social emotional development outcomes $r(11) = -.167, p < .01$. Poverty, though a small relationship, also had a negative statistically significant relationship with positive social emotional development outcomes, $r(11) = -.112, p < .01$. Cigarette consumption and excessive alcohol consumption did not have statistically significant relationships with the positive social emotional development outcomes. The remainder of the results of the relationships between the at-risk factor variables and the positive social emotional development outcome are presented in Table 5 below.

DECA Behavioral Concerns

At-Risk Factors. Zero-order bivariate correlations were also run to examine the relationships between the covariates, the at-risk factor independent variables of interest, and the negative social emotional development outcomes (DECA Behavioral Concerns scale). Results are presented in Table 5 below. Of the at-risk factor variables, negative discipline had the largest

relationship with the negative social emotional development outcomes. Though a small relationship, the relationship between negative discipline and the negative social emotional development outcome was $r(11) = .278, p < .01$. Additionally, even though the relationship between cigarette consumption and the positive social emotional development outcome was not statistically significant, cigarette consumption did have a small statistically significant relationship with the negative social emotional development outcome with $r(11) = .036, p < .05$. Excessive alcohol consumption did not have a statistically significant relationship with the negative social emotional development outcomes. The remainder of the relationships are presented in Table 5 below.

Table 5.

Correlation Matrix of At-Risk Factors and Social Emotional Development Outcomes

Variable	1	2	3	4	5	6	7	8	9	10	11	12
Gender	1											
Ethnicity	.038**	1										
Age	.015	-.006	1									
Marital Status	-.008	-.171**	.002	1								
School Completed	-.012	-.486**	-.031*	.288**	1							
Poverty	.000	.349**	-.023	-.300**	-.533**	1						
Alcohol Consumption	-.033*	-.003	.040**	-.036**	.034*	-.023	1					
Cigarette Consumption	-.002	.019	.027*	.092**	-.081**	.054**	.096**	1				
Parental Depression	-.009	.041**	.026	-.145**	-.098**	.096**	.022	.087**	1			
Negative Discipline	-.019	.061**	.237**	-.061**	-.102**	.065**	.041**	.039**	.200**	1		

DECA Total Protective	.090**	-.160**	.124**	.081**	.228**	-.112**	.023	-.025	-.167**	-.160**	1	
Factors												
DECA Behavioral	-.088**	.063**	-.055**	-.081**	-.137**	.082**	-.024	.036*	.240**	.278**	-.326**	1
Concerns												

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

Research Question Three

Are protective factors predictive of two- to six-year-old children's social emotional development in terms of Total Protective Factors and Behavioral Concerns as measured by the DECA?

DECA Total Protective Factors

To examine the effect of the various covariates, protective variables, and interactions on the positive social emotional development outcomes (DECA Total Protective Factors scale), stepwise linear regression models were run. Multicollinearity was not an issue for this regression model as all VIF values were in the normal ranges ($VIF < 2$). The baseline model examined the DECA Total Protective Factors scale and the covariates. The baseline model was $F(6, 3980) = 59.90, R^2 = .083, p < .001, \text{Adj. } R^2 = .081, SEE = 10.40$ with 8.3% of variance explained by the model. The next block of the model examined the covariates and added an independent variable during each step. Once all independent variables were added in the model, the model was $F(13, 3973) = 75.47, p < .001, R^2 = .210, \text{Adj. } R^2 = .207, SEE = 9.66$ indicating the model explained 21% of the variance.

Covariates. The next step examined the covariates, independent variables, and interactions. The results are presented in Table 8. With all interactions added, the model was $F(27, 3947) = 51.04, p < .001, R^2 = .224, \text{Adj. } R^2 = .219, SEE = 9.57$ which provided large practical significance with 22.4 % of variance explained. Results indicated that ethnicity ($b = -.640, \beta = -.031, 95\% \text{ CI} = [-1.71, 1.49], p < .001$) predicted a lower score on the positive social emotional development outcomes and uniquely explained 5% of the variance ($ES = .05$), while gender ($b = 1.67, \beta = .082, 95\% \text{ CI} = [.934, 2.55], p < .001$) and uniquely explained 8.7% of the variance ($ES = .087$), child's age ($\beta = 1.38, 95\% \text{ CI} [.988, 2.42], p < .001$) and uniquely explained

13.2% of the variance, poverty status ($b = .122, \beta = .047, 95\% \text{ CI} = [-.008, .369], p < .001$) and uniquely explained 8% ($ES = .080$) of the variance, and parent's level of education completed ($b = .306, \beta = .065, 95\% \text{ CI} = [.036, .527], p = .025$) and uniquely explained 6.9% ($ES = .069$) of the variance all predicted a higher score on the positive social emotional development outcomes. Parent's marital status ($b = -.272, \beta = -.012, 95\% \text{ CI} = [-1.42, .576], p = .408$), uniquely explained .02% ($ES = .020$) of the variance and was not a statistically significant predictor.

Protective Factors. Of the variables of interest, there were several statistically significant results. Positive discipline ($b = .353, \beta = .093, 95\% \text{ CI} = [.204, .503], p < .001$) and uniquely explained 8.9% ($ES = .089$) of the variance, routines ($b = 1.80, \beta = .051, 95\% \text{ CI} = [.043, .317], p = .010$) uniquely explained 4.6% ($ES = .046$) of the variance, rewarding practices ($b = .375, \beta = .098, 95\% \text{ CI} = [.212, .325], p < .001$) uniquely explained 8.6% ($ES = .086$) of the variance, social support ($b = .176, \beta = .046, 95\% \text{ CI} = [.026, .325], p = .021$) uniquely explained 4.6% ($ES = .046$) of the variance, parental behavior ($b = 4.77, \beta = .330, 95\% \text{ CI} = [3.98, 5.57], p < .001$) uniquely explained 22.4% ($ES = .224$) of the variance, parental efficacy ($b = .550, \beta = .146, 95\% \text{ CI} = [.692, .407], p < .001$) uniquely explained 14.5% ($ES = .145$) of the variance, parental warmth ($b = .369, \beta = .044, 95\% \text{ CI} = [.804, .066], p = .046$) uniquely explained 3.2% ($ES = -.032$) of the variance and resources ($b = .372, \beta = .012, 95\% \text{ CI} = [.699, 1.35], p = .031$) uniquely explained 1.4% ($ES = .014$) of the variance were all statistically significant in predicting higher scores on the DECA Total Protective Factors scale.

Interactions. Lastly, there were four statistically significant interaction effects between poverty and the variables predicting positive social emotional development outcomes. The interaction between resources and poverty ($b = 3.23, \beta = .043, 95\% \text{ CI} = [6.63, .175], p < .001$) predicted higher scores on the positive social emotional development outcomes and uniquely

explained 6% ($ES = -.060$) of the variance. The interaction between poverty and parental efficacy ($b = -.269, \beta = -.145, 95\% CI = [-.500, -1.24], p = .010$) uniquely explained 6.8% ($ES = .068$) of the variance, and the interaction between poverty and rewarding practices ($b = .413, \beta = .119, 95\% CI = [.030, .796], p = .035$) uniquely explained 7.3% ($ES = .073$) of the variance. These interactions all predicted higher scores on the positive social emotional development outcomes. The remainder of the interaction terms were not statistically significant and are presented in Table 6. Figure 1 displays the interaction between poverty and parental efficacy. Figure 2 displays the interactions between poverty and rewarding practices. Figure 3 displays the interaction between poverty and resources. The final model results are presented in Table 7 with $F(14, 3971) = 77.02, p < .001, R^2 = .214, Adj. R^2 = .211, SEE = 9.64$.

Table 6.

Regression Model for Protective Factors Predicting DECA Total Protective Factors (Positive Social Emotional Development Outcomes)

	<i>b</i>	β	<i>SE</i>	<i>t</i>	<i>ES</i>	<i>p</i>	<i>95% CI</i>
Covariates							
Gender	1.67	.082	.438	4.49	.087	.00***	(.927, 2.42)
Ethnicity	-.640	-.031	.493	-1.50	-.050	.00***	(-1.48, .198)
Age	1.38	.133	.230	6.91	.132	.00***	(.988, 2.42)
Poverty	.122	.047	.093	1.86	-.080	.00***	(-.007, .251)
Marital Status	-.272	-.012	.547	-.583	-.002	.560	(-1.50, .221)
Educ. Completed	.306	.065	.135	2.66	.069	.008**	(.080, .532)
Protective Factors							

Positive Discipline	.353	.093	.091	4.64	.089	.00***	(.204, .503)
Routines	1.80	.051	.080	2.58	.046	.010**	(.043, .317)
Parental Efficacy	.550	.146	.083	7.56	.145	.00***	(-.692, -.407)
Rewarding Practices	.375	.098	.091	4.45	.086	.00***	(.210, .540)
Social Support	.176	.046	.088	2.30	.046	.021*	(.026, .325)
Parental Behavior	4.77	.330	.472	11.75	.224	.00***	(3.98, 5.57)
Parental Warmth	.369	.044	.259	1.66	.032	.046*	(.804, .066)
Resources	.327	.012	.557	.625	.014	.031*	(-.699, 1.35)
Interactions							
Gender x Poverty	-.383	-.012	.935	-.377	-.011	.076	(-2.38, 1.61)
Ethnicity x Poverty	-1.34	-.044	1.02	-1.12	-.019	.261	(-3.67, .997)
Age x Poverty	-1.43	-.207	.451	-2.77	-.043	.006**	(-2.45, -.417)
MS x Poverty	.385	.011	1.01	.350	-.003	.060	(-2.45, -.417)
Pos. Dis. x Poverty	.012	.005	.163	.065	-.004	.948	(-.340, .364)
Routines x Poverty	-.217	-.099	.156	-1.19	-.011	.234	(-.575, .140)
Efficacy x Poverty	-.269	-.145	.147	-2.58	.067	.010**	(-.500, -1.24)
Rewards x Poverty	.413	.119	.091	2.11	.073	.035*	(.030, .796)
Support x Poverty	.333	.119	.088	1.74	.050	.082	(-.042, .708)
Behavior x Poverty	.180	.025	.472	.179	.038	.858	(-1.79, 2.15)
Warmth x Poverty	.197	.063	.259	.379	.009	.704	(-.823, 1.22)
Resources x Poverty	-3.23	-.043	.557	-1.86	-.060	.036*	(6.631, .175)

Note. *** $p < .001$; ** $p < .01$; * $p < .05$.

Table 7.

*Final Regression Model for Protective Factors Predicting DECA Total Protective Factors**(Positive Social Emotional Development Outcomes)*

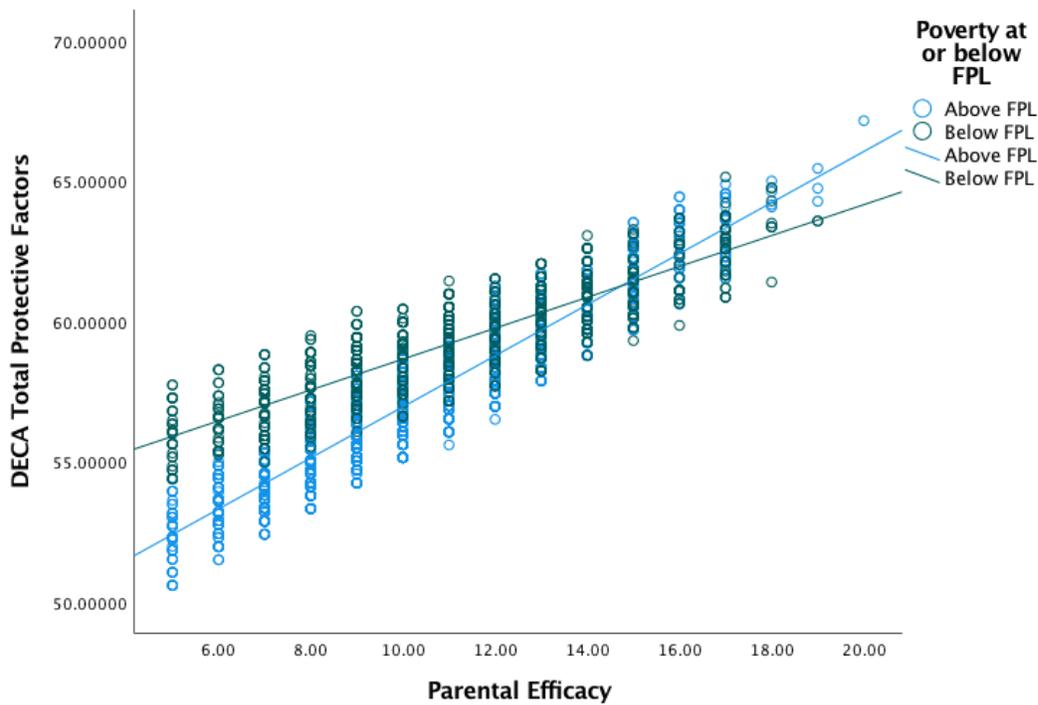
	<i>b</i>	β	<i>SE</i>	<i>t</i>	<i>ES</i>	<i>p</i>	<i>95% CI</i>
Block 1							
Age	1.86	.181	.294	8.62	.140	.00***	(1.45, 2.31)
Gender	2.02	.098	.375	5.40	.083	.00***	(1.28, 2.75)
Ethnicity	-1.08	-.051	.414	-2.61	-.050	.009**	(-1.89, -.267)
Poverty	.290	.111	.076	3.83	-.057	.00***	(.141, .439)
Block 2							
Parental Efficacy	.574	.152	.079	7.30	.159	.00***	(.728, -.420)
Parental Behavior	4.58	.316	.284	15.56	.245	.00***	(3.99, 5.15)
Positive Discipline	.392	.104	.073	5.39	.087	.00***	(.249, .535)
Parental Warmth	5.20	-.050	.084	-8.42	.061	.045*	(-.847, .016)
Rewarding Practices	.290	.075	.082	3.54	.056	.00***	(.129, .451)
Routines	.166	.048	.066	2.52	.050	.012*	(.037, .296)
Social Support	.171	.044	.075	2.26	.054	.009**	(.059, .405)
Resources	.992	.038	.548	1.81	.064	.047*	(-.082, 2.07)
Interactions							
Efficacy x Poverty	-.269	-.145	.104	-2.58	.068	.010**	(-.500, -1.24)
Rewards x Poverty	.413	.119	.211	.211	.059	.035*	(.030, .796)
Resources x Poverty	-3.23	-.043	.519	-1.86	-.053	.036*	(-6.63, .175)

Note. *** $p < .001$; ** $p < .01$; * $p < .05$.

Figure 1 below displays the interaction between poverty and parental efficacy controlling for the covariates predicting the DECA Total Protective Factors scale. This interaction shows that as parental efficacy increases, children living above the federal poverty level have greater gains in the DECA Total Protective Factors scores.

Figure 1.

Interaction Between Poverty and Parental Efficacy Predicting DECA Total Protective Factors

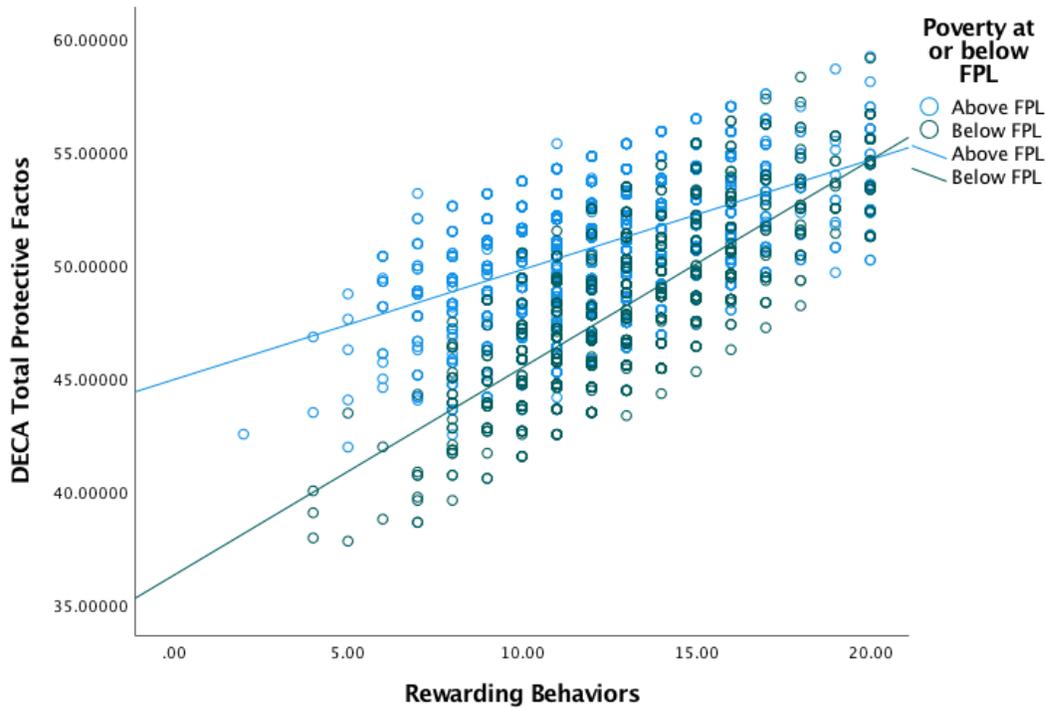


Note. FPL = Federal Poverty Level

Figure 2 below displays the interaction between poverty and rewarding practices controlling for the covariates predicting DECA Total Protective Factors. Children of families below the poverty line with more rewarding practices have greater gains in positive social emotional development.

Figure 2.

Interaction Between Poverty and Rewarding Practices Predicting DECA Total Protective Factors

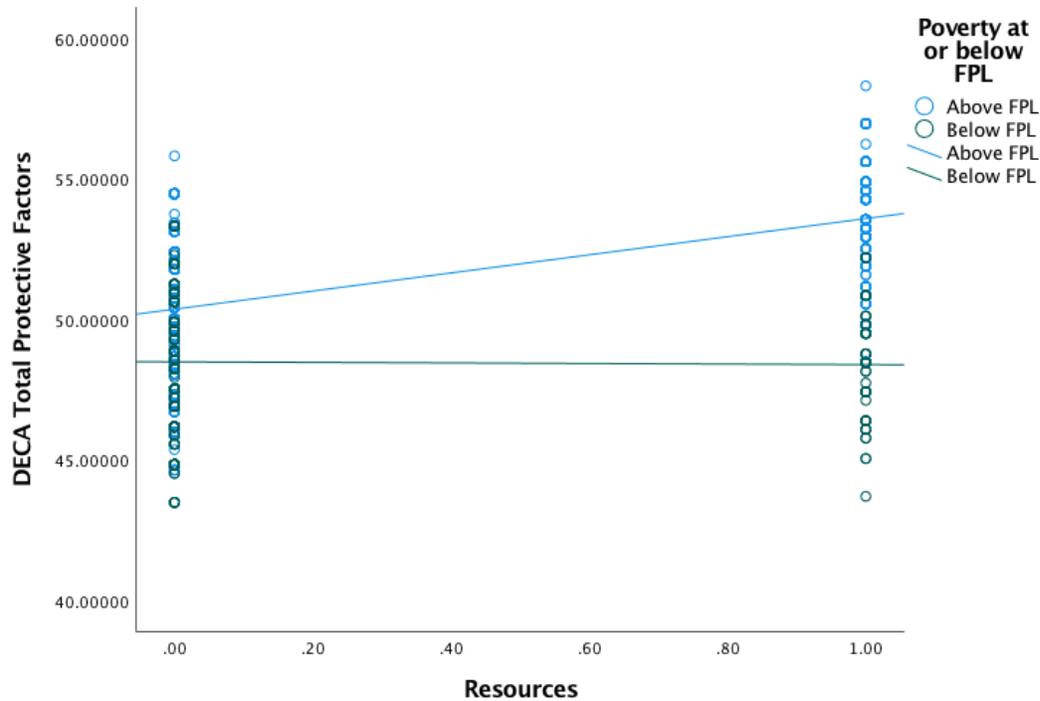


Note. FPL = Federal Poverty Level

Figure 3 below displays the interaction between poverty and resources controlling for the covariates predicting the DECA Total Protective Factors scale. The interaction shows that those who live above the federal poverty level and have resources in the home have greater social emotional development.

Figure 3.

Interaction Between Poverty and Resources Predicting DECA Total Protective Factors



Note. FPL = Federal Poverty Level

DECA Behavioral Concerns

To examine the effect of the various covariates, independent protective factor variables, and interactions on the negative social emotional development outcomes (DECA Behavioral Concerns scale), stepwise linear regressions were run. Multicollinearity was not an issue for this regression model as all VIF values were in the normal ranges ($VIF < 2$). The baseline model examined the negative social emotional development outcomes and the covariates predicting negative social emotional development outcomes. The baseline model explained 20.5% of the variance, $F(6, 3980) = 20.29, p < .001, R^2 = .025, \text{Adj. } R^2 = .024, SEE = 9.40$. The next block examined the covariates and added an independent variable during each step. Once all independent variables were added in the model, the model $F(14, 3972) = 26.22, p < .001, R^2 = .119, \text{Adj. } R^2 = .114, SEE = 8.66$ indicating more practical significance with 11.9% of variance explained.

Covariates. The next step examined the covariates, independent protective factor variables, and the interactions. The results are presented in Table 8. With all interactions added, the model was $F(27, 3959) = 14.75, p < .001, R^2 = .125, \text{Adj}, R^2 = .114, SEE = 9.01$ which provided moderate practical significance and 12.5% of variance explained. Of the covariates, results indicated that gender ($b = -1.55, \beta = -.084, 95\% \text{ CI} = [-2.27, -.831], p < .001$) uniquely explained .06% ($ES = .006$), of the variance, age ($b = -1.01, \beta = -1.09, 95\% \text{ CI} = [-1.39, -.638], p < .001$) uniquely explained 10.6% ($ES = -.106$) of the variance, poverty status ($b = -.106, \beta = -.145, 95\% \text{ CI} = [-.228, .106], p < .001$) uniquely explained 2.6% ($ES = .026$) of the variance, and parent's level of education completed ($b = -.346, \beta = -.081, 95\% \text{ CI} = [-.558, -.133], p = .001$) uniquely explained 7.4% ($ES = -.074$) of the variance and all predicted lower scores on the negative social emotional development outcomes. Ethnicity ($b = -.136, \beta = -.007, 95\% \text{ CI} = [-.941, .670], p = .741$) uniquely explained .02% ($ES = -.002$) of the variance, and marital status ($b = -.061, \beta = .003, 95\% \text{ CI} = [-.802, .923], p = .891$) uniquely explained 6.7% ($ES = .067$) of the variance, both were not statistically significant.

Protective Factors. Of the variables of interest, there were several statistically significant results. Positive discipline ($b = -.288, \beta = -.085, 95\% \text{ CI} = [-.149, .426], p < .001$), parental efficacy ($b = -.809, \beta = -.237, 95\% \text{ CI} = [-.675, .944], p < .001$) uniquely explained 23.3% ($ES = .233$) of the variance routines ($b = -.282, \beta = -.009, 95\% \text{ CI} = [-.410, -.155], p < .001$) uniquely explained 8.3% ($ES = -.083$) of the variance, social support ($b = -.177, \beta = -.051, 95\% \text{ CI} = [-.317, -.037], p = .013$) uniquely explained 5.5% ($ES = -.055$) of the variance, and parental behavior ($b = -1.09, \beta = -.051, 95\% \text{ CI} = [-1.84, -.334], p < .001$) uniquely explained 5.7% ($ES = -.057$) of the variance; all of these protective factor predictors predicted lower scores on the negative social emotional development outcomes. Rewarding practices ($b = -.032, \beta = -$

.009, 95% CI = [-.177, .144], $p = .671$) uniquely explained .06% ($ES = -.006$) of the variances, parental warmth ($b = .153$, $\beta = .020$, 95% CI = [-.260, .565], $p = .468$) uniquely explained 1.4% ($ES = .014$) of the variance, and resources ($b = .670$, $\beta = .028$, 95% CI = [-.296, 1.63], $p = .174$) uniquely explained 2.6% ($ES = .026$) of the variance; all of which were not statistically significant.

Interactions. Lastly, the interactions between poverty and the independent protective factors variables are presented in Table 8 below. There were no statistically significant interactions between poverty and the Protective Factor variables and the negative social emotional development outcomes. The final model results are presented in Table 9 with $F(9, 3975) = 54.42$, $p < .001$, $R^2 = .163$, Adj. $R^2 = .160$, $SEE = 8.48$.

Table 8.

Regression Model for Protective Factors Predicting DECA Behavioral Concerns (Negative Social Emotional Development Outcomes)

	<i>b</i>	β	<i>SE</i>	<i>t</i>	<i>ES</i>	<i>p</i>	95% CI
Covariates							
Gender	-1.55	-.084	.366	-4.23	-.081	.00***	(-2.27, -.831)
Ethnicity	-.136	-.007	.411	-.330	-.002	.741	(-.941, .670)
Age	-1.01	-.109	.191	-5.30	-.106	.00***	(-1.39, -.638)
Poverty	-.106	-.145	.062	-1.71	.026	.00***	(-.228, .016)
Marital Status	-.061	.003	.411	-.330	.067	.891	(-.802, .923)
Educ. Completed	-.346	-.081	.108	-3.19	-.074	.001*	(-.558, -.133)
Protective Factors							

Positive Discipline	-.288	-.085	.071	-4.07	.079	.00***	(-.149, .426)
Routines	-.282	-.090	.065	-4.35	-.083	.00***	(-.410, -.155)
Parental Efficacy	-.809	-.237	.069	-11.81	.233	.00***	(-.675, .944)
Rewarding Practices	-.032	-.009	.074	-.425	-.006	.671	(-.177, .114)
Social Support	-.177	-.051	.072	-2.48	-.055	.013*	(-.317, -.037)
Parental Behavior	-1.09	-.051	.072	-2.83	-.057	.005**	(-1.84, -.334)
Parental Warmth	.153	.020	.210	.725	.014	.468	(-.260, .565)
Resources	.670	.028	.492	1.36	.026	.174	(.228, .016)
Interactions							
Gender x Poverty	.479	.016	.889	.539	.006	.590	(-1.26, 2.22)
Ethnicity x Poverty	-.515	-.019	.975	-.528	-.017	.598	(-2.43, 1.40)
Age x Poverty	.918	.149	.427	2.15	.029	.071	(.081, 1.76)
MS x Poverty	-.608	-.019	.969	-.628	-.011	.530	(-2.51, 1.29)
School x Poverty	.179	.042	.231	.776	.009	.438	(-.273, .632)
Pos. Dis. x Poverty	.111	.057	.153	.726	.008	.468	(-.190, .412)
Routines x Poverty	-.197	-.099	.147	-.134	-.032	.180	(-.485, .091)
Efficacy x Poverty	-.194	-.099	.140	-1.38	-.036	.167	(-.468, .081)
Rewards x Poverty	-.025	.015	.166	.1522	-.008	.979	(-.300, .351)
Support x Poverty	.114	.045	.163	.698	.010	.485	(-.206, .434)
Behavior x Poverty	-.750	-.116	.895	-.838	-.014	.402	(-2.44, -.818)
Warmth x Poverty	.028	.010	.429	.064	-.011	.107	(-.815, .870)
Resource x Poverty	2.40	.037	1.49	1.61	.032	.949	(-.522, 5.33)

Note. *** $p < .001$; ** $p < .01$; * $p < .05$.

Table 9.

*Final Regression Model for Protective Factors Predicting DECA Behavioral Concerns**(Negative Social Emotional Development Outcomes)*

	<i>b</i>	β	<i>SE</i>	<i>t</i>	<i>ES</i>	<i>p</i>	<i>95% CI</i>
Block 1							
Age	1.86	.181	.294	8.62	-.102	.00***	(1.45, 2.31)
Gender	2.02	.098	.375	5.40	-.080	.00***	(1.28, 2.75)
Ethnicity	-1.08	-.051	.414	-2.61	.057	.009**	(-1.89, -.267)
Poverty	.290	.111	.076	3.83	.058	.00***	(.141, .439)
Block 2							
Parental Efficacy	-.574	-.152	.079	-7.30	.232	.00***	(-.728, -.420)
Parental Behavior	-4.58	-.316	.284	-15.56	-.088	.00***	(-3.99, 5.15)
Positive Discipline	-.392	-.104	.073	-5.39	.078	.00***	(-.249, .535)
Rewarding Practices	-.290	-.075	.082	-3.54	.051	.00***	(-.129, .451)
Routines	-.166	-.048	.066	-2.52	-.085	.012*	(-.037, .296)

Note. *** $p < .001$; ** $p < .01$; * $p < .05$.

Research Question Four

Are at-risk factors predictive of two- to six-year-old children's social emotional development in terms of Total Protective Factors and Behavioral Concerns as measured by the DECA?

DECA Total Protective Factors

To examine the effect of the various covariates, at-risk independent variables, and interactions on the positive social emotional development outcomes (DECA Total Protective

Factors scale), stepwise linear regressions were run. Multicollinearity was not an issue for this regression model as all VIF values were in the normal ranges ($VIF < 2$). The baseline model examined the positive social emotional development outcomes and the covariates. The baseline model explained 7.2% of variance, $F(6, 3980) = 37.51, p < .001, R^2 = .072, \text{Adj. } R^2 = .070, SEE = 10.23$. The next model examined the covariates and added an independent variable during each step. Once all independent variables were added in the model, the model was $F(11, 3975) = 26.04, p < .001, R^2 = .105, \text{Adj. } R^2 = .101, SEE = 9.97$ with 10.5% of variance explained indicating more practical significance.

Covariates. The next step examined the covariates, independent variables, and interactions. The results are presented in Table 10. With all interactions added, the model was $F(20, 3966) = 15.03, p < .001, R^2 = .109, \text{Adj. } R^2 = .102, SEE = 9.96$ with more variance explained and more practical significance with 10.9% of explained variance. Results indicated that ethnicity ($b = .062, \beta = .003, 95\% \text{ CI} = [-.901, 1.03], p < .001$) predicted a lower score on the positive social emotional development outcomes and uniquely explained 5.8% ($ES = -.058$) of the variance, while gender ($b = -1.87, \beta = -.101, 95\% \text{ CI} = [1.19, 3.03], p < .001$) uniquely explained 8.5% ($ES = .085$) of the variance, child's age ($b = -1.13, \beta = -.123, 95\% \text{ CI} = [1.20, 2.13], p < .001$) uniquely explained 13.1% ($ES = .131$) of the variance, and parent's education level completed ($b = -.286, \beta = -.087, 95\% \text{ CI} = [.363, .908], p < .001$) uniquely explained 12.3% ($ES = .123$) of the variance; all of which predicated higher scores on the positive social emotional development outcomes. Parent's marital status ($b = .670, \beta = .033, 95\% \text{ CI} = [-1.18, 1.16], p = .989$) uniquely explained .17% ($ES = .017$) of the variance and was not a statistically significant predictor of scores on the social emotional development outcomes.

At-Risk Factors. Of the variables of interest, there were several statistically significant results. Poverty ($b = -4.12, \beta = -.184, 95\% \text{ CI} = [-1.20, 2.13], p < .001$) uniquely explained 2.2% ($ES = .022$) of the variance, negative discipline ($b = -.648, \beta = -.158, 95\% \text{ CI} = [1.20, 2.13], p < .001$) uniquely explained 13.2% ($ES = -.132$) of the variance, and parental depression ($b = -.286, \beta = -.098, 95\% \text{ CI} = [-.841, -.455], p < .001$) uniquely explained 11% ($ES = -.110$) of the variance; all of which predicted lower scores on the positive social emotional development outcomes. Parent cigarette consumption and parent alcohol consumption were not statistically significant predictors of scores on the social emotional development outcomes.

Interactions. There were no statistically significant predictors of the interaction between poverty and the at-risk variables. The final model results are presented in Table 11 with $F(9, 3977) = 4.93, p < .001, R^2 = .249, \text{Adj. } R^2 = .244, SEE = 8.91$.

Table 10.

Regression Model for At-Risk Factors Predicting DECA Total Protective Factors (Positive Social Emotional Development Outcomes)

	<i>b</i>	β	<i>SE</i>	<i>t</i>	<i>ES</i>	<i>p</i>	95% CI
Covariates							
Gender	-1.87	-.101	.427	-4.39	.085	.00***	(-2.71, -1.02)
Ethnicity	.062	.003	.487	.127	-.058	.00***	(-.901, 1.03)
Age	-1.13	-.123	.225	-4.99	.131	.00***	(-1.58, -.688)
Marital Status	.670	.033	.551	1.21	.017	.228	(-.419, 1.76)
Educ. Completed	-.286	-.067	.137	-2.09	.123	.037*	(-.554, -.017)
At-Risk Factors							

Poverty	-4.12	-.184	2.61	-1.69	.022	.00***	(-1.20, 2.13)
Alcohol Consumption	.404	.184	2.61	.375	.016	.708	(-1.71, 2.52)
Cigarette Consumption	-.251	-.006	1.09	-.230	-.004	.818	(-2.39, 1.89)
Parental Depression	-.286	-.098	1.09	-3.80	-.110	.00***	(-.433, -.139)
Negative Discipline	-.648	-.158	.098	-3.80	-.132	.00***	(-.841, -.455)
Interactions							
Gen. x Poverty	-1.23	-.040	.921	-1.33	-.026	1.83	(-3.03, .579)
Eth. x Poverty	-.823	-.030	1.14	-.725	-.013	.469	(-3.05, 1.40)
Age x Poverty	-1.06	-.161	.465	-2.27	-.043	.023*	(-1.97, -.144)
MS x Poverty	.834	.026	.987	.846	.014	.398	(-1.10, 2.78)
Educ. x Poverty	-.036	-.007	.240	.152	-.008	.879	(-.507, .434)
Alcohol x Poverty	2.85	.033	2.01	1.43	.027	.900	(-3.47, 3.95)
Cigarette x Poverty	.237	.003	1.89	.125	.003	.275	(-.362, 1.03)
Dep. x Poverty	-.129	-.034	.118	-1.09	-.021	.275	(-.362, .103)
Neg. Dis. x Poverty	.283	.083	.174	.163	.031	.104	(-.058, .624)

Note. *** $p < .001$; ** $p < .01$; * $p < .05$.

Table 11.

Final Regression Model for At-Risk Factors Predicting DECA Total Protective Factors (Positive Social Emotional Development Outcomes)

	<i>b</i>	β	<i>SE</i>	<i>t</i>	<i>ES</i>	<i>p</i>	95% CI
Block 1							
Gender	-1.55	-.084	1.36	-4.57	.087	.00***	(-2.21, -.882)
Age	-.843	-.090	.172	-4.92	.130	.00***	(-1.18, -.506)

Edu. Completed	-.311	-.075	.085	-3.63	.158	.00***	(-.478, -.143)
Block 2							
Poverty	3.90	1.76	1.56	2.50	.056	.013*	(.839, 6.97)
Parental Depression	.362	.145	.049	7.43	-.110	.00***	(.267, .458)
Negative Discipline	.756	.207	.049	10.79	-.147	.00***	(.619, .893)

Note. *** $p < .001$; ** $p < .01$; * $p < .05$.

DECA Behavioral Concerns

To examine the effect of the various covariates, at-risk variables, and interactions on the negative social emotional development outcomes (DECA Behavioral Concerns scale), stepwise linear regressions were run. Multicollinearity was not an issue for this regression model as all VIF values were in the normal ranges ($VIF < 2$). The baseline model examined the negative social emotional development outcomes and the covariates. The baseline model was $F(6, 3980) = 15.92, p < .001, R^2 = .029, \text{Adj. } R^2 = .028, SEE = 9.32$ with 2.9% of variance explained. The next step examined the covariates and independent variables, this model was $F(11, 3975) = 35.88, p < .001, R^2 = .130, \text{Adj. } R^2 = .127, SEE = 8.82$ with 13.0% of variance explained.

Covariates. The next step examined the covariates, the independent variables, and the interactions. The full model was $F(20, 3966) = 20.82, p < .001, R^2 = .137, \text{Adj. } R^2 = .130, SEE = 8.81$ with 13.7% of variance explained. The results are presented in Table 12. Results indicated that the child's gender ($b = -2.09, \beta = -.110, 95\% \text{ CI} = [-2.87, -1.03], p < .001$) uniquely explained 8.7% ($ES = -.087$) of the variance, the child's age ($b = -1.03, \beta = -.109, 95\% \text{ CI} = [-1.42, -.633], p < .001$) uniquely explained 9% ($ES = -.090$) of the variance, and parent's education completed ($b = -.356, \beta = -.092, 95\% \text{ CI} = [-.587, -.125], p = .002$) uniquely explained 5.2% ($ES = -.052$) of the variance; all of which predicted higher scores on the negative social

emotional development outcomes. Lastly, child's ethnicity ($b = -.507, \beta = -.027, 95\% \text{ CI} = [-1.39, .379], p = .262$) uniquely explained .04% ($ES = -.004$) of the variance, and parent's marital status ($b = .227, \beta = .011, 95\% \text{ CI} = [-.764, 1.22], p = .654$) uniquely explained .02% ($ES = -.002$) of the variance; both of which were not statistically significant in predicting scores on the negative social emotional development outcomes.

At-Risk Factors. Of the at-risk variables of interest, parental depression ($b = .463, \beta = .177, 95\% \text{ CI} = [.338, .588], p < .001$) uniquely explained 17.2% ($ES = .172$) of the variance, poverty ($b = -4.08, \beta = -.190, 95\% \text{ CI} = [8.44, .289], p = .047$) uniquely explained 2.2% ($ES = .022$) of the variance, and negative discipline ($b = .886, \beta = .242, 95\% \text{ CI} = [.723, 1.05], p < .001$) uniquely explained 22.7% ($ES = .227$) of the variance; all of which predicted higher scores on the negative social emotional development outcomes. Parent cigarette consumption and parent excessive alcohol consumption were not statistically significant predictors of scores on the negative social emotional development outcome.

Interactions. Lastly, the interaction effects between poverty and the at-risk independent variables were examined with one statistically significant predictor predicting scores on the negative social emotional development outcomes. Of the at-risk variables of interest, the interaction between poverty and parent excessive alcohol consumption was a statistically significant predictor ($b = .014, \beta = -.044, 95\% \text{ CI} = [-6.84, -.091], p = .044$) and uniquely explained 3.9% ($ES = -.039$) of the variance. The remaining interactions were not statistically significant predictors. The interaction between poverty and excessive alcohol consumption is presented in Figure 4. The final model results are presented in Table 13 with $F(9, 3977) = 54.42, p < .001, R^2 = .163, \text{Adj. } R^2 = .160, SEE = 8.48$ with 16.4% of variance explained.

Table 12.

Regression Model for At-Risk Factors and DECA Behavioral Concerns (Negative Social Emotional Development Outcomes)

	<i>b</i>	β	<i>SE</i>	<i>t</i>	<i>ES</i>	<i>p</i>	95% CI
Covariates							
Gender	-2.09	-.110	.401	-5.21	-.087	.00***	(-2.87, -1.30)
Ethnicity	-.507	-.027	.452	-1.12	-.004	.262	(-1.39, .379)
Age	-1.03	-.109	.202	-5.10	-.090	.00***	(-1.42, -.633)
Marital Status	.227	.011	.506	.449	-.002	.654	(-.764, 1.22)
Edu. Completed	-.356	-.092	.118	-3.03	-.052	.002**	(-.587, -.125)
At-Risk Factors							
Poverty	-4.08	-.190	.909	1.19	.022	.047*	(-8.44, 2.89)
Alcohol Consumption	-.487	-.012	.896	-.543	-.032	.587	(-2.24, 1.27)
Cigarette Consumption	1.08	.027	.909	1.19	.013	.234	(-.701, 2.86)
Parental Depression	.463	.177	.083	7.26	.172	.00***	(.338, .588)
Negative Discipline	.886	.242	.083	10.66	.227	.00***	(.723, 1.05)
Interactions							
Gender x Poverty	1.75	.064	.783	2.23	.040	.056	(.212, 3.28)
Ethnicity x Poverty	1.997	.083	.979	2.02	.037	.044*	(.053, 3.89)
Age x Poverty	.697	.118	.394	1.77	.033	.077	(-.075, 1.47)
Marital x Poverty	-.972	.034	.838	-1.16	-.023	.246	(-2.62, .671)
Education x Poverty	.309	.070	.204	1.52	.029	.130	(-.306, .708)
Alcohol x Poverty	-3.47	-.044	1.72	-2.01	-.039	.044*	(-6.84, -.091)

Cigarette x Poverty	-1.51	-.023	1.55	-.976	.019	.329	(-4.54, 1.52)
Depression x Poverty	.014	.004	.102	.140	.003	.889	(-.185, .214)
Neg. Dis. x Poverty	-.080	-.026	.148	-.584	-.011	.587	(-.371, .210)

Note. *** $p < .001$; ** $p < .01$; * $p < .05$.

Table 13.

Final Regression Model for At-Risk Factors and DECA Behavioral Concerns (Negative Social Emotional Development Outcomes)

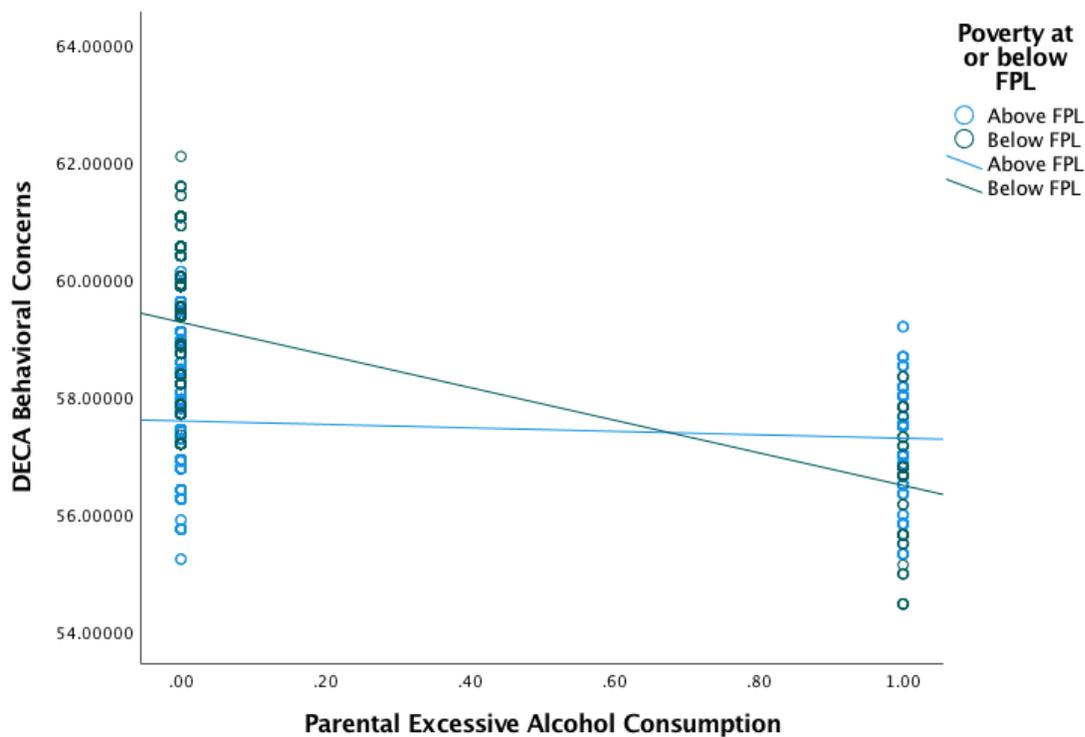
	<i>b</i>	β	<i>SE</i>	<i>t</i>	<i>ES</i>	<i>p</i>	95% CI
Block 1							
Gender	-1.55	-.084	1.36	-4.57	-.082	.00***	(-2.21, -.882)
Age	-.843	-.090	.172	-4.92	-.085	.00***	(-1.18, -.506)
Education Completed	-.311	-.075	.085	-3.63	-.062	.00***	(-.478, -.143)
Block 2							
Poverty	3.90	1.76	1.56	2.50	.051	.013*	(.839, 6.97)
Parental Depression	.362	.145	.049	7.43	.182	.00***	(.267, .458)
Negative Discipline	.756	.207	.049	10.79	.235	.00***	(.619, .893)
Interactions							
Ethnicity x Poverty	.575	.124	.079	.811	.053	.041*	(-.816, 1.97)
Alcohol x Poverty	-3.57	-.048	1.32	-2.70	-.057	.007**	(-6.14, -.969)

Note. *** $p < .001$; ** $p < .01$; * $p < .05$.

Figure 4 below displays the interaction between poverty and parental excessive alcohol consumption (four or more drinks for a woman or five or more drinks for a man) controlling for the covariates predicting the DECA Behavioral Concerns scale. Interestingly, this interaction shows less reported behavioral concerns for children living in poverty and parents who consume excessive amounts of alcohol. There was also a moderate decrease in behavioral concerns reported between children not living and poverty and children living in poverty.

Figure 4.

Interaction Between Poverty and Excessive Alcohol Consumption Predicting DECA Behavioral Concerns (Negative Social Emotional Development Outcomes)



Note. FPL = Federal Poverty Level.

Research Question Five

Does social emotional development in terms of the DECA Total Protective Factors and Behavioral Concerns predict three- to six-year-old children's literacy school readiness?

To examine the effect of social emotional development and literacy school readiness stepwise linear regression models were run. One regression was for the Phonological Awareness Literacy Screening (PALS Pre-K) Print/Phonological Awareness construct and one regression was for the PALS Pre-K Alphabet Knowledge construct. Multicollinearity was not an issue for this regression model as all VIF values were in the normal ranges ($VIF < 2$).

PALS Pre-K Print/Phonological Awareness

The baseline model examined the covariates and the PALS Pre-K Print/Phonological Awareness construct. The model was $F(5, 3057) = 309.71, p < .001, R^2 = .405, \text{Adj. } R^2 = .404, SEE = .774$ and explained 40.5% of the variance. Next, each predictor of social emotional development was added in each subsequent step. First, the DECA Total Protective Factors scale was added $F(6, 3056) = 264.97, p < .001, R^2 = .367, \text{Adj. } R^2 = .366, SEE = .138$, then the DECA Behavioral Concerns scale was added. The final model with the covariates and both DECA subscales explained 44.9% of the variance, $F(8, 3054) = 220.45, p < .001, R^2 = .449, \text{Adj. } R^2 = .457, SEE = .743$.

Covariates. Results indicated that gender ($b = .189, \beta = .095, 95\% \text{ CI} = [.126, .252], p < .001$) uniquely explained 9.3% ($ES = .093$) of the variance, age ($b = .795, \beta = .591, 95\% \text{ CI} = [.753, .838], p < .001$) uniquely explained 58.7% ($ES = .587$) of the variance, parental level of education completed ($b = .053, \beta = .126, 95\% \text{ CI} = [.035, .070], p < .001$) uniquely explained 15.1% ($ES = .151$) of the variance, and marital status ($b = .127, \beta = .060, 95\% \text{ CI} = [.054, .200], p = .001$) uniquely explained 9.1% ($ES = .091$) of the variance; all of which predicted higher

scores on the PALS Pre-K Print/Phonological Awareness construct. Ethnicity ($b = .010, \beta = .005, 95\% \text{ CI} = [-.061, .080], p = .788$) uniquely explained .01% ($ES = .001$) of the variance and poverty status ($b = .034, \beta = .034, 95\% \text{ CI} = [.753, .838], p = .240$) uniquely explained .03% ($ES = .003$) of the variance; both of which were not statistically significant in predicting scores on the PALS Pre-K Print/Phonological Awareness construct.

Social Emotional Development Constructs. Additionally, the DECA Total Protective Factors scale predicted higher scores on the PALS Pre-K Print/Phonological Awareness scale with ($b = .013, \beta = .136, 95\% \text{ CI} = [.010, .016], p < .001$) uniquely explained 12.6% ($ES = .126$) of the variance. However, the DECA Behavioral Concerns scale predicted lower scores on the PALS Pre-K Print/Phonological Awareness scale with ($b = -.007, \beta = -.067, 95\% \text{ CI} = [-.011, -.004], p < .001$) and uniquely explained 6.4% ($ES = -.064$) of the variance. Results are presented in Table 14. The final model removed ethnicity as predictors because they were not statistically significant. The final model results are presented in Table 15 with $F(6, 3056) = 309.71, p < .001, R^2 = .405, \text{Adj. } R^2 = .404, SEE = .774$.

Table 14.

Regression Model for Social Emotional Development Predicting Literacy Readiness (PALS Pre-K Print/Phonological Awareness)

	<i>b</i>	β	<i>SE</i>	<i>t</i>	<i>ES</i>	<i>p</i>	95% CI
Covariates							
Gender	.189	.095	.032	5.87	.093	.00***	(.126, .252)
Ethnicity	.010	.005	.036	.269	.001	.788	(-.061, .080)
Age	.795	.591	.022	36.79	.587	.00***	(.753, .838)

Poverty	.009	.034	.005	1.57	.003	.204	(-.002, .019)
Marital Status	.127	.060	.037	3.42	.091	.001***	(.054, .200)
Education Completed	.053	.126	.009	5.95	.151	.00***	(.035, .070)
Social Emotional Development							
DECA TPF	.013	.136	.002	7.79	.126	.00***	(.010, .016)
DECA BC	-.007	-.067	.002	-3.92	-.064	.00***	(-.011, -.004)

Note. *** $p < .001$; ** $p < .01$; * $p < .05$.

DECA TPF = Devereaux Early Childhood Assessment Total Protective Factors scale, DECA BC = Devereaux Early Childhood Assessment Behavioral Concerns scale.

Table 15.

Final Regression Model for Social Emotional Development Predicting Literacy Readiness (PALS Pre-K Print/Phonological Awareness)

	<i>b</i>	β	<i>SE</i>	<i>t</i>	<i>ES</i>	<i>p</i>	95% CI
Block 1							
Gender	.193	.097	.031	6.18	.092	.00***	(.131, .254)
Age	.791	.588	.021	37.39	.584	.00***	(.750, .833)
Marital Status	.156	.074	.034	4.59	.071	.001***	(.089, .223)
Education Completed	.059	.143	.007	8.67	.161	.00***	(.046, .073)
Block 2							
DECA TPF	.013	.136	.002	8.02	.124	.00***	(.010, .016)
DECA BC	-.007	-.066	.002	-3.93	-.062	.00***	(-.010, -.003)

Note. *** $p < .001$; ** $p < .01$; * $p < .05$.

DECA TPF = Devereaux Early Childhood Assessment Total Protective Factors scale, DECA BC = Devereaux Early Childhood Assessment Behavioral Concerns scale.

PALS Pre-K Alphabet Knowledge

The baseline model examined the covariates, and the PALS Pre-K Alphabet Knowledge construct. The model was $F(6, 3056) = 121.39, p < .001, R^2 = .225, \text{Adj. } R^2 = .223, \text{SEE} = .869$. Next, each predictor of social emotional development was added in each subsequent step. First, the DECA Total Protective Factors scale was added, $F(7, 3055) = 264.97, p < .001, R^2 = .367, \text{Adj. } R^2 = .366, \text{SEE} = .138$. Then the DECA Behavioral Concerns scale was added. The model explained 25.2% of the variance, $F(8, 3054) = 84.19, p < .001, R^2 = .252, \text{Adj. } R^2 = .249, \text{SEE} = .848$.

Covariates. Results indicated that age ($b = .526, \beta = .399, 95\% \text{ CI} = [.475, .576], p < .001$) uniquely explained 39.5% ($ES = .395$) of the variance, parent level of education completed ($b = .063, \beta = .152, 95\% \text{ CI} = [.042, .084], p < .001$) uniquely explained 12.6 ($ES = .126$) of the variance, and marital status ($b = .144, \beta = .054, 95\% \text{ CI} = [.026, .201], p = .011$) uniquely explained 5.9% ($ES = .059$) of the variance; all of which predicted higher scores on the PALS Pre-K Alphabet Knowledge scale. Ethnicity ($b = -.094, \beta = -.048, 95\% \text{ CI} = [-.178, -.009], p = .029$) uniquely explained 4.4% ($ES = -.044$) of the variance; predicted lower scores on the PALS Pre-K Alphabet Knowledge scale. Both gender ($b = .068, \beta = .035, 95\% \text{ CI} = [-.007, .143], p = .076$) uniquely explained 3.3% ($ES = .033$) of the variance, and poverty status ($b = -.060, \beta = -.027, 95\% \text{ CI} = [-.003, .022], p = .139$) uniquely explained 2.3% ($ES = -.023$) of the variance; both were not statistically significant predictors.

Social Emotional Development Constructs. Additionally, the DECA Total Protective Factors scale predicted higher scores on the PALS Pre-K Alphabet Knowledge construct with ($b = .011, \beta = .039, 95\% \text{ CI} = [.007, .015], p < .001$). However, the DECA Behavioral Concerns scale predicted lower scores on the PALS Pre-K Alphabet Knowledge construct with ($b = -.008,$

$\beta = -.073$, 95% CI = $[-.012, -.003]$, $p < .001$). Results are presented in Table 16. The final model removed gender as predictors because they were not statistically significant. The final model results are presented in Table 17 with $F(6, 2056) = 115.64$, $p < .001$, $R^2 = .247$, Adj. $R^2 = .245$, $SEE = .851$.

Table 16.

Regression Model for Social Emotional Development Predicting Literacy Readiness (PALS Pre-K Alphabet Knowledge)

	<i>b</i>	β	<i>SE</i>	<i>t</i>	<i>ES</i>	<i>p</i>	95% CI
Covariates							
Gender	.068	.035	.228	1.78	.033	.076	(-.007, .143)
Ethnicity	-.094	-.048	.043	-2.18	-.044	.029*	(-.178, -.009)
Age	.526	.399	.026	20.43	.395	.00***	(.475, .576)
Poverty	-.060	-.027	.051	-2.18	-.023	.139	(-.003, .022)
Marital Status	.144	.054	.045	2.54	.059	.011*	(.026, .201)
Education Completed	.063	.152	.011	5.92	.126	.00***	(.042, .084)
Social Emotional Development							
DECA TPF	.011	.039	.002	5.31	.104	.00***	(.007, .015)
DECA BC	-.008	-.073	.002	-3.50	-.068	.00***	(-.012, -.003)

Note. *** $p < .001$; ** $p < .01$; * $p < .05$.

DECA TPF = Devereaux Early Childhood Assessment Total Protective Factors scale, DECA BC = Devereaux Early Childhood Assessment Behavioral Concerns scale.

Table 17.

Final Regression Model for Social Emotional Development Predicting Literacy Readiness (PALS Pre-K Alphabet Knowledge)

	<i>b</i>	β	<i>SE</i>	<i>t</i>	<i>ES</i>	<i>p</i>	95% CI
Block 1							
Age	.517	.391	.025	20.60	.387	.00***	(-3.04, -2.19)
Ethnicity	-.067	-.034	.042	-1.61	-.052	.018*	(-1.49, .015)
Marital Status	.149	.072	.041	3.65	.070	.001***	(.069, .230)
Education Completed	.074	.181	.009	8.24	.156	.00***	(.056, .092)
Block 2							
DECA TPF	.011	.114	.002	5.53	.101	.00***	(.007, .015)
DECA BC	-.008	-.074	.002	-3.67	-.067	.00***	(-.012, -.004)

Note. *** $p < .001$; ** $p < .01$; * $p < .05$.

DECA TPF = Devereaux Early Childhood Assessment Total Protective Factors scale, DECA BC = Devereaux Early Childhood Assessment Behavioral Concerns scale.

Research Question Six

Does social emotional development in terms of the DECA Total Protective Factors and Behavioral Concerns predict three- to six-year-old children's math school readiness?

To examine the effect of social emotional development and math school readiness, stepwise linear regressions were run. Multicollinearity was not an issue for this regression model as all VIF values were in the normal ranges ($VIF < 2$). The baseline model examined the covariates and the TEMA score. The baseline model was $F(6, 1995) = 152.80, p < .001, R^2 = .269, \text{Adj. } R^2 = .267, SEE = 12.70$ and explained 26.9% of the variance.

First, each covariate was added. Next, each construct of social emotional development was added in each subsequent step. First, the DECA Total Protective Factors scale was added, $F(7, 1994) = 111.63, p < .001, R^2 = .273, \text{Adj. } R^2 = .271, \text{SEE} = 12.48$, then the DECA Behavioral Concerns scale was added. The model explained 27.3% of variance, $F(8, 1993) = 92.99, p < .001, R^2 = .273, \text{Adj. } R^2 = .270, \text{SEE} = 12.30$.

Covariates. Results indicated that gender ($b = 1.64, \beta = .057, 95\% \text{ CI} = [.547, 2.74], p = .003$) uniquely explained 5.2% ($ES = .052$) of the variance, parental level of education completed ($b = 1.14, \beta = .139, 95\% \text{ CI} = [.840, 1.44], p < .001$) uniquely explained 19.3% ($ES = .193$) of the variance; both of predicted higher scores on the TEMA. Poverty status ($b = -3.44, \beta = -.106, 95\% \text{ CI} = [-.523, .890], p < .001$) uniquely explained 9.1% ($ES = -.091$) and ethnicity ($b = -4.57, \beta = -.158, 95\% \text{ CI} = [-5.79, -3.34], p < .001$) uniquely explained 15.2% ($ES = -.152$) of the variance, all of which predicted lower scores on the TEMA. Age ($b = .571, \beta = .029, 95\% \text{ CI} = [-.164, 1.31], p = .128$) uniquely explained .03% ($ES = .030$) of the variance, and marital status ($b = -.085, \beta = -.003, 95\% \text{ CI} = [-1.35, 1.18], p = .895$) and uniquely explained 3.2% ($ES = .032$) of the variance, both of which were not statistically significant predictors.

Social Emotional Development Constructs. Additionally, the DECA Total Protective Factors scale predicted higher scores on the TEMA scores with ($b = .201, \beta = .145, 95\% \text{ CI} = [.144, .257], p < .001$) and uniquely explained 13.6% ($ES = .136$) of the variance. However, the DECA Behavioral Concerns scale predicted lower scores on the TEMA with ($b = -.145, \beta = -.097, 95\% \text{ CI} = [-.205, -.085], p < .001$) and uniquely explained 9.2% ($ES = -.092$) of the variance. Results are presented in Table 18. The final model results removed parental marital status as a predictor because it was not statistically significant. The final model results are

presented in Table 19 with $F(6, 1995) = 125.26, p < .001, R^2 = .273, \text{Adj. } R^2 = .270, \text{SEE} = 12.29$ and 27.3% of variance explained.

Table 18.

Regression Model for Social Emotional Development Predicting Math Readiness (TEMA)

	<i>b</i>	β	<i>SE</i>	<i>t</i>	<i>ES</i>	<i>p</i>	95% CI
Covariates							
Gender	1.64	.057	.558	2.94	.052	.003**	(.547, 2.74)
Ethnicity	-4.57	-.158	.626	-7.29	-.152	.00***	(-5.79, -3.34)
Age	.571	.029	.375	1.52	.030	.128	(-.164, 1.31)
Poverty	-3.44	-.106	.728	-4.73	-.091	.00***	(-4.87, -2.01)
Marital Status	-.085	-.003	.644	-.132	.032	.895	(-1.35, 1.18)
Education Completed	1.14	1.39	.152	7.47	.193	.00***	(.840, 1.44)
Social Emotional Development							
DECA TPF	.201	.145	.029	6.97	.136	.00**	(.144, .257)
DECA BC	-.145	-.097	.031	-4.73	-.092	.00***	(-.205, -.085)

Note. *** $p < .001$; ** $p < .01$; * $p < .05$.

DECA TBF = Devereaux Early Childhood Assessment Total Protective Factors scale, DECA BC = Devereaux Early Childhood Assessment Behavioral Concerns scale.

Table 19.

Final Regression Model for Social Emotional Development Predicting Math Readiness (TEMA)

	<i>b</i>	β	<i>SE</i>	<i>t</i>	<i>ES</i>	<i>p</i>	95% CI
Block 1							

Gender	1.66	.058	.555	3.00	.052	.003**	(.574, 2.75)
Ethnicity	-4.47	-.155	.623	-7.17	-.152	.00***	(-5.69, -3.25)
Education Completed	1.13	.188	.151	7.47	.193	.00***	(.832, 1.43)
Poverty	.715	.197	.088	8.16	-.091	.00***	(.543, .887)
Block 2							
DECA TPF	.202	.146	.029	7.09	.136	.00***	(1.46, .258)
DECA BC	-.146	-.097	.030	-4.79	-.092	.00***	(-.205, -.086)

Note. *** $p < .001$; ** $p < .01$; * $p < .05$.

DECA TPF = Devereaux Early Childhood Assessment Total Protective Factors scale, DECA BC = Devereaux Early Childhood Assessment Behavioral Concerns scale.

CHAPTER FIVE:

DISCUSSION

Purpose of Study

The purpose of this study was to contribute to existing literature related to social emotional development and to explore relationships and predictors of children's social emotional development. This study was designed to examine the relationships and predictors of several demographic characteristics (i.e., a child's gender, a child's age, a child's ethnicity, the parent's marital status, poverty status), at-risk and protective factors (i.e., parent's excessive alcohol consumption, parent's cigarette consumption, parental depression, positive discipline practices, negative discipline practices, rewarding practices, routines, parental efficacy, social support, parental behavior, parental warmth, resources), and the interaction of these variables with poverty on a child's social emotional development. This study used a strength-based model by identifying protective factors and at-risk factors. Lastly, this study examined if social emotional development is a predictor of a child's literacy and math school readiness. Using Bronfenbrenner's Ecological Systems Theory (1979) and Erikson's Psychosocial Theory (1977) as theoretical frameworks, this study intended to examine factors in a child's microsystem, mesosystem, macrosystem, and their development of trust, autonomy, and initiative.

The results from this study confirm the complexity of children's environment and factors that relate and predict their social emotional development. Several statistical analyses were run to determine significant relationships and predictors of the variables of interest. Key results from this study are discussed throughout this chapter along with the implications, limitations, and future directions for research.

Summary of Research Questions

Research Question 1: What are the relationships between protective factors and two- to six-year-old children's social emotional development in terms of Total Protective Factors and Behavioral Concerns as measured by the DECA?

Research Question 2: What is the relationship between at-risk factors and two- to six-year-old children's social emotional development in terms of Total Protective Factors and Behavioral Concerns as measured by the DECA?

Research Question 3: Are protective factors predictive of two- to six-year-old children's social emotional development in terms of Total Protective Factors and Behavioral Concerns as measured by the DECA?

Research Question 4: Are at-risk factors predictive of two- to six-year-old children's social emotional development in terms of Protective Factors and Behavioral Concerns as measured by the DECA?

Research Question 5: Does social emotional development in terms of the DECA Total Protective Factors and Behavioral Concerns as measured by the DECA predict three- to six-year-old children's literacy school readiness?

Research Question 6: Does social emotional development in terms of the DECA Total Protective Factors and Behavioral Concerns as measured by the DECA predict three- to six-year-old children's math school readiness?

Summary of Key Results

Initial hypotheses proposed protective factors would have strong positive relationships with and would predict a child's social emotional development on the DECA Total Protective Factors scale and the at-risk factors would have negative relationships with and would predict a

child's social emotional development on the DECA Total Protective Factors scale. It was also predicted that the protective factors would have negative statistically significant relationships with and would predict the DECA Behavioral Concerns scale and at-risk factors would have positive statistically significant relationships with and would predict the DECA Behavioral Concerns scale. In order to test these hypotheses, several statistical analyses were run. First, Pearson's *R* correlations were run. Results indicated that all of the protective factors (e.g., positive discipline, rewarding practices, resources, social support, parental warmth, routines, and parental efficacy) had statistically significant relationships with a child's social emotional development on the DECA Total Protective Factors scale, whereas the protective factors had negative statistically significant relationships with the DECA Behavioral Concerns scale.

In contrast, the at-risk factors had negative relationships with the DECA Total Protective Factors scale and positive relationships with the DECA Behavioral Concerns scale. Thus, from the linear relationships, it can be concluded that the protective factors and the at-risk factors can lead to increased (or decreased) scores on the DECA Total Protective Factors scale and the DECA Behavioral Concerns scale. These findings are supported in the literature that discuss the importance of parenting and how parenting is a strong predictor of children's social emotional development (Bornstein, 2006; Collins et al., 2000). Parenting includes many facets that this study examined and support Denham et al.'s (2009) assertion that parents serve as the primary influence for children to develop social emotional skills.

However, interestingly, there were two at-risk factors that did not have statistically significant relationships with a child's social emotional development based on the DECA Total Protective Factors scale being a) parental cigarette consumption, and b) parental excessive alcohol consumption. However, excessive alcohol consumption did have a weak statistically

significant negative relationship with scores on the DECA Behavioral Concerns scale. Excessive alcohol consumption and cigarette consumption were not statistically significant predictors of children's social emotional development on either DECA scales. While existing literature (Ritcher & Ritcher, 2001) determined there were statistical relationships between smoking and alcohol usage in child's home, this study does not support this literature. One possible explanation of this could be due to the limited number of parents who smoked, and consumed alcohol excessively in this study. Only 5.2% ($n = 206$) of parents reported that they smoke cigarettes and only 4.9% ($n = 196$) of parents reported that they drank excessively (four drinks for a woman and five drinks for a man). The low numbers of reported smoking and reported excessive alcohol consumption could have led to low statistical power in the correlation and regression analyses. Additionally, the smoking variable was a dichotomous variable. The frequency of smoking could have different implications on a child's social emotional development and could potentially be examined further in future studies. Lastly, the frequency of excessive drinking or variability in drinking may have different implications on a child's social emotional development as well.

When examining the interactions between poverty and the at-risk factors, excessive alcohol consumption was statistically significant in predicting the DECA Behavioral Concerns scale. This interaction suggested that children who have parents who consumed alcohol excessively had better social emotional development outcomes by predicting less behavioral concerns. It is also important to note that children who were not living in poverty and had parents who drank excessively also had better social emotional outcomes, but not to the same degree as children living in poverty. This is not supported in the literature, which suggests that children who have parents who consume alcohol and substances have more behavioral problems and

emotional problems (Ritcher & Ritcher, 2001). However, this interaction did not predict positive social emotional development outcomes on the DECA Total Protective Factors scale. The interaction between poverty and excessive alcohol consumption was an interesting finding because it was hypothesized that children who live in poverty and had parents who consume alcohol excessively would have worse social emotional development outcomes. One possible explanation of this interaction could be that parents who consume alcohol excessively might not be as aware of their children's behavioral concerns. If that is the case, this unawareness could have led to inaccurate reporting of their children's behavioral concerns. Another possible explanation of this interaction could be that parents were reluctant to report if they drink excessively and their children's behavioral concerns due to social desirability. It is recommended that this interaction be explored further in future research.

One of the stronger statistically significant relationships included parental behaviors and a child's social emotional development in terms of the DECA Total Protective Factors scale. The parental behavior variable included the frequency parents engage with their child doing certain activities (i.e., reading, telling stories, singing, taking their child with them to do errands, counting, and playing). Additionally, there was also a moderate positive statistically significant relationship with routines and the DECA Total Protective Factors scale. Morawska and Sanders (2006) described parental behavior as having implications for a child's development of trust, autonomy, and initiative through parents' active participation with their child.

These relationships suggest that parents who routinely engage with their child through play, storytelling, taking their child with them for errands, discussing sizes, counting, etc. have implications for a child's social emotional development leading to an increase (or decrease) in scores on both DECA scales. Children who have parents who engage in activities with them

routinely have positive relationships with their social emotional development, which the linear regressions also supported by predicting higher scores on the DECA Total Protective Factors scale. The results from the correlations support statistically significant relationships and indicate that components in a child's microsystem and mesosystem do in fact correlate with a child's social emotional development as is supported by existing literature (Morawska & Sanders, 2006; Sheridan et al., 2010; Goodall, 2013).

While this study examined the relationships between the protective and at-risk factors on social emotional development, it is important to consider the relationships between the factors as well. Identifying statistical relationships can be used in determining resiliency for children who are categorized as at-risk. An example of this is the statistical relationship with parental depression and parental warmth. Though a weak relationship, the positive statistical significance indicates that parents who have rates of depression demonstrate warmth with their children. Parental warmth included how often the parent hugs, kisses, and holds their child. This relationship could be identified as a protective factor for children whose parents are experiencing depression and other relationships may also contribute to resiliency for children who are at-risk (Soltis et al., 2015).

While the correlation analyses indicated the relationships between several variables and a child's social emotional development, further analyses examined if these variables actually predict scores on both the DECA Total Protective Factors scale and the DECA Behavioral Concerns scale. Key results from the regression analyses are discussed below.

As hypothesized, all of the protective factors predicted higher scores on the DECA Total Protective Factors scale. Moreover, the protective factors also predicted lower scores on the DECA Behavioral Concerns scale. It can be concluded from the regression results that parents

who have strong efficacy, strong social support, engage with their child with warmth and behaviors, have regular routines, have resources in the home to support their child's learning, and parents who implement positive discipline practices, and rewards for good behavior, that their child will have stronger social emotional development (Mackenbach et al., 2014; Gfroerer et al., 2013; Morawska & Sanders, 2006; Jones & Prinz, 2005; Huang et al., 2014).

Bronfenbrenner's Ecological Systems theory (1979) explains how different components of a child's systems interact and affect their development. In a child's most immediate environment, the microsystem, parents function as an intimate component of such system. The results of this study suggest that the microsystem, predominately parents, do in fact affect their children's development by suggesting that parents who engage with their children through a regular eating routine, play with them, and read with them, will have fewer behavioral issues as indicated by the DECA Behavioral Concerns scale. This is also supported by the literature that suggests parents play a crucial role in fostering healthy social emotional development (Denham et al., 2009; Bornstein, 2006; Collins et al., 2000).

Through the interactions of a child's home environment, children's mesosystems and Exo-systems are impacted by several components as well. The linkages between components (i.e., poverty status, parents' marital status, parents' education level, parents' employment status, etc.) in a child's immediate environment and Exo-system are largely out of the child's control, but can lead to some behavioral concerns or lower school readiness scores (Gershoff et al., 2003; Airini, 2015). This study examined several at-risk factors to determine potential methods of identifying at-risk children for social emotional developmental delays to provide additional supports to ensure healthy social emotional development and resiliency. Though poverty status was not statistically significant in every regression model examining school readiness, poverty

was a predictor of a child's social emotional development. Moreover, social emotional development was a predictor of children's literacy and math school readiness. Therefore, it is important to consider the components of children's mesosystems and Exo-systems and should be addressed to foster healthy development and school readiness (Yoshikawa et al., 2012).

In addition, parental behavior predicted higher scores on the DECA Total Protective Factors scale and lower scores on the DECA Behavioral Concerns scale. The parental behavior variable utilized in this study included activities parents engage in with their child. Parental behavior was the strongest predictor out of the protective factors on a child's social emotional development in terms of the DECA Total Protective Factors scale. This predictor is important because it actually contributes to how a parent engages with their child through counting, playing, reading, telling stories, and singing songs. While the interaction between poverty and parental behavior was not statistically significant, it is still recommended that all parents engage with their children regardless of poverty status. Morawska and Sanders (2006) claimed that parental engagement includes support for a child's emerging autonomy and active participation in learning. The results of this study support that parental engagement provides stronger attachment, competence, and less behavioral concerns. Beyond this study, existing research also determined that children who engage with their parents more frequently will have higher self-esteems, motivations, and increased learning outcomes (Sheridan et al., 2010). Sheridan et al.'s (2010) conclusions further the notion that children whose parents read with them or to them are likely to have stronger reading outcomes as well. Thus, it can be concluded that parental behaviors not only impact children's social emotional development, but the behaviors also impact children's school readiness.

Erikson's Psychosocial Theory (1977) discusses the importance of trust, autonomy, and initiative early in a child's life. Parents' behaviors can also assist with such development of autonomy and initiative by allowing children to play and gain control over their immediate environment. Practicing such motor skills by building blocks and playing with toys can help with children's perceived self-competence as well (Cauce, 1984). While children learn to develop their own sense of autonomy and initiative, it is important for parents to support these developments as parents remain the primary social influences of children during this time period as Erikson (1977) proposed. Based on this study's results, one possible way parents can support their children in their development of autonomy and initiative is by rewarding them for good behaviors. Rewards could also possibly be used for good behavior as positive reinforcement for autonomous behaviors and taking initiative due to rewarding practices predicting positive social emotional development outcomes.

Examining the at-risk factors regression models, the at-risk factors, (i.e., parental depression, negative discipline practices, and poverty status), had statistical effects on a child's social emotional development on both DECA scales. The at-risk factors are important to consider for children in providing assistance for children who are categorized as at-risk. The literature has extensively examined the role of poverty status for a child's development and this study supported these findings indicating their social emotional development is affected (Gullo, 2018; Airini, 2015; Yoshikawa et al., 2012). Correlation results also supported that there are statistical relationships between poverty, parental depression, negative discipline practices, and cigarette consumptions. Nevertheless, it is important to acknowledge that poverty status exclusively is not indicative of the potential for a child's social emotional development or school readiness. Rather,

the regression model results support several at-risk factors and the combination of multiple at-risk factors, which can predict children's social emotional development and school readiness.

To address such combinations of poverty and the at-risk factors, interactions were added to the models. The results of the interactions indicated that the interaction between poverty and excessive alcohol consumption was statistically significant. This interaction suggests that taken together, the effect of poverty and excessive alcohol consumption impacts a child's social emotional development on the DECA Behavioral Concerns scale. One possible explanation for this statistically significant interaction is that parents who live in poverty and consume alcohol excessively could be less likely to report their child's behavioral concerns. Therefore, it is important to consider how these at-risk factors contribute to the development of lack of trust as Erikson (1977) proposed. These statistically significant predictors support existing literature that suggest parenting and parent's mental health lead to negative outcomes on children's development, as Bornstein et al. (2006) suggested due to parents serving as the primary context for children to develop social skills.

Parental depression should also be considered as it was a statistically significant predictor for lower scores on the DECA Total Protective Factors scale and higher scores on the DECA Behavioral Concerns scale. Parental depression can lead to little child-parent engagement and interactions, low parental efficacy, and emotional unavailability (Cohn & Campbell, 1993). Due to the effects of parental depression on a child's social emotional development, it is recommended that future analyses be assessed in determining the interaction between depression and discipline practices, parental behaviors, parental warmth, and parental efficacy. Such interactions may provide explanations of how parental depression impacts a parent's feelings

about parenting and actual parenting practices parents employ. These interactions may also provide further insight into how a child develops attachment and competence as well.

Furthermore, negative discipline can lead to a child developing shame, doubt, and guilt as Erikson (1977) suggested. Parents who prohibit, limit, or punish self-sufficient behaviors can lead to a child feeling incompetent (Teicher et al., 2006). During this time period, children are learning about the world around them, practicing their motor skills, developing social skills, and emotional regulation skills (Erikson, 1977). Negative discipline can cause shame and guilt and as a result, a child may not choose to continue such autonomous behaviors or take initiative (Mackenbach et al., 2014). In contrast, positive discipline predicted lower scores on the DECA Behavioral Concerns scale. This study's results support that due to the implications of discipline, parents should be cognizant of how they choose to discipline their child because both types of discipline predict children's social emotional development.

Potential Moderating Factors

Poverty has been well examined in the literature and this study supports such linkage of poverty to a child's social emotional development (Duncan & Brooks-Gunn, 2000; Janu & Duku, 2007; Gullo, 2018; Yoshikawa et al., 2012). However, this study intended to examine moderating factors that may provide resiliency and supports for children living in poverty. When examining the interaction between poverty and the protective factors, a) parental efficacy, b) resources, and c) rewarding practices all had statistical main effects.

The interaction between poverty and parental efficacy suggests that children who have parents who have higher efficacy beliefs are predicted to have better and more positive social emotional development outcomes. For children living in poverty, this interaction was a greater predictor suggesting parental efficacy is a potential moderator and method for resilience. Parents

who have strong beliefs and confidence in their roles as parents (parental efficacy) can be a moderating factor to provide support to a child's microsystem and macrosystem. Parental efficacy refers to a parent's thoughts regarding their ability to parent successfully (Jones & Prinz, 2005). Parents who have high efficacy for their parenting are likely to engage with their children more regularly, and display more consistent disciplinary practices and rewards for good behaviors (Jones & Prinz, 2005). Therefore, it is possible that parental efficacy can alleviate the effects of poverty on a child's social emotional development. Previous research has also shown that parents who have higher efficacy beliefs are likely to impact their children's self-efficacy in a similar regard (Jones & Prinz, 2005). This is important to consider after examining the effects of a child's social emotional development on their school readiness as well. However, the interaction of parental efficacy and poverty was only statistically significant for the DECA Total Protective Factors scale and may not lead to a decrease in children's behavioral concerns based on this study's results.

In addition, the interaction between poverty and rewarding practices was also statistically significant. This interaction suggests that as parents provide more rewards for their children, their social emotional development is positively impacted regardless of poverty status. Parents who provide their children with rewards for good behaviors while living in poverty impact their children's social emotional development in a positive manner. Gfroerer et al. claims that providing rewards for good behaviors allow children to develop a sense of trust (2013). Erikson (1977) describes trust as foundational to a child's development in order for them to learn other necessary skills and learning autonomous behaviors. Providing rewards for such autonomous behaviors can lead to better child behavior, emotional regulation, and social skills (Snyder et al.,

2009). A child who has good behavior, emotional regulation skills, and social skills are also likely to perform better in school (McWayne et al., 2013; Cooper et al., 2009).

Thus, the results of this study suggest that families who live in poverty should practice rewarding of good behaviors for their children. Rewarding of good behavior does not necessarily have to involve monetary rewards, as this study included rewards in a variety of forms. Rewards can include verbal praise, hugs, behavior charts, and gifts, but rewards also allow for additional occurrences of parent-child engagement. If parents provide rewards for good behavior, it will provide the opportunity for children to develop strong skillsets as good behaviors are being positively reinforced. Therefore, rewards for good behaviors can provide assistance for when children enter kindergarten and formal education, which is especially important for children who live in poverty (Webster-Stratton et al., 2008; Duncan & Brooks-Gunn, 2000; Werner, 1990). However, it is important to note the interaction between poverty and rewarding practices was only statistically significant for the DECA Total Protective Factors scale and may not lead to a decrease in behavioral concerns.

Moreover, the interaction between poverty and resources in the home was statistically significant. This interaction suggests that children's social emotional development is impacted in a positive manner when they live in a resource rich home. In other words, children who live in poverty can be supported with books and sources of music for learning resulting in their social emotional development being affected. Resources in the home did have a statistical main effect, but it is important to note that simply having books in the home may not be enough to moderate the effects of poverty on a child's social emotional development. Rather, it is important that parents choose to engage with their children using these resources (Sheridan et al., 2010). The effect of parent behaviors, routines, and resources all had implications for a child's social

emotional development by predicting higher scores on the DECA Total Protective Factors scale and lower scores on the DECA Behavioral Concerns scale. Therefore, providing families who live in poverty with opportunities to engage with each other with such resources to support a child's development and learning, can potentially be used as protective factors for children's social emotional development. However, the interaction effect was only statistically significant in predicting higher scores on the DECA Total Protective Factors scale. Therefore, this may not lead to a decrease in behavioral concerns.

School Readiness

Furthermore, results from this study suggest that a child's social emotional development also predict a child's literacy and math school readiness. As mentioned, school readiness is used as a predictor in determining how well a child will do in school (McWayne et al., 2012). Literacy is especially important and develops prior to a child entering kindergarten. Due to the early development of children's literacy skills, a child's home environment, and parents serve as children's primary teachers for developing early reading ability (Cook et al., 2017). Due to this, parents should be cognizant of teaching their children socialization skills and reading. Anthony et al. (2020) discuss that teaching strong skillsets to children can assist them in their emotional regulation, competence, social skills, and behaviors, which will also assist them in reading. This study determined that social emotional development is a predictor of a child's literacy readiness for two domains: print and phonological awareness and alphabet knowledge. Based on these results, it is suggested that children be provided opportunities to develop social and emotional skills as well that in turn, will assist with their literacy development and readiness.

Research also suggests that literacy development impacts a child's math ability and serves as predictors for learning later in life (Fisher et al., 2012). This study's results determined

that a child's social emotional development also predicts math readiness. Children who live in poverty are less likely to develop their math skills when compared to children who do not live in poverty (Freedman & McGavock, 2015). Therefore, interactions between a child's microsystem and macrosystems also have implications for children's math school readiness. As a result of such implications, a child's social emotional development should also be considered when assessing a child's math and literacy skills. Addressing a child's social emotional development can assist in improving their overall literacy and math school readiness.

Implications

This study highlights the importance of a child's home environment, particularly parenting, on a child's social emotional development. Findings support that protective factors predict more positive (better) outcomes for a child's social emotional development and at-risk factors predict less healthy outcomes. These findings are important in understanding the many realms of complexity for ensuring healthy social emotional development for children. This study showed that there are many factors which correlate with a child's social emotional development, and also predict it. Therefore, the results of this study suggest that many realms which make up a child's environment should be considered when developing methods for assisting children's healthy development and school readiness.

Erikson's (1977) theory suggests that parents serve as the primary agents early in a child's life. The results of this study support this notion as children begin to develop a sense of trust, autonomy, and initiative early in life. The five dimensions of social emotional development (social competence, attachment, emotional competence, self-perceived competence, and temperament/personality) all contribute to a child's beliefs and interactions with others, but also themselves. Such forces will contribute to a child's identity development as they continue to

grow, mature, and learn. Therefore, the protective factors and at-risk factors examined throughout this study should be considered when developing social emotional learning curriculum and/or supports for children. Furthermore, children who are categorized as at-risk due to various circumstances in their environments have potential moderators (i.e., resources and supports for learning, rewards for good behavior, and parents with strong beliefs regarding their roles as parents) to ameliorate the effects of the at-risk factors and develop resiliency.

As social emotional learning curriculum emerges in schools, early childhood programs (e.g., in preschool) should also be considered for encouraging social emotional learning. Participants in this study were all children who had not yet entered kindergarten. However, children's social emotional development already served as predictors for their literacy and math school readiness (Malti & Noam, 2016). Therefore, it is important that children develop social emotional skillsets early in life, especially for children who live in poverty. Often, many families who live in poverty cannot afford preschool education or childcare. One possible solution to financial hardships for families who cannot afford preschool for their children is to provide resources in the home to support a child's learning. Books and audio sources can assist with children's early learning (reading and math) and their social emotional development. While it might not be enough to simply have books and audio sources in the home, it is also important that parents and children engage with these resources (Sheridan et al., 2010) As such, providing families living in poverty with resources and tools for learning can assist their child's development in a healthy way and alleviate potential financial strains or pressures for affording preschool education.

Existing research and this study also suggest that children who live in poverty may be considered more at-risk for social emotional developmental delays (Akee et al., 2010; Harding,

2003; Kling et al., 2007). However, this study determined that parents who have strong parental efficacy, implement rewards for good behavior, and have learning resources in the home have the potential to moderate such effects of poverty. As mentioned, children who live in poverty may not have the same opportunities to attend preschool prior to kindergarten, which stresses the importance of parent-child interactions. A parent who has strong beliefs regarding their role as a parent are more likely to engage with their child and display consistent discipline and rewarding practices (Jones & Prinz, 2005). All of these behaviors lead to parent-child interactions and may serve as key strengths to eliminating discrepancies in a child's social emotional development for children living in poverty.

This study also highlights the importance of parenting and the role of parenting in young children's lives. Potential parenting workshops and/or interventions could be developed to assist parents who need it. Tips and information for parents on engaging with their children, discipline, rewards, and beliefs about parenting could all be discussed. Such workshops and/or interventions may provide strong social supports for parents who may not otherwise have the level of support needed. Providing such support can provide parents with tools and resources to assist in the healthy social emotional development and school readiness of their children.

Lastly, children who have strong social emotional development will have a strong foundation for developing emotional regulation skills, good behaviors, and social skills (Halberstadt & Eaton, 2002). Such skillsets will also provide an increase for a child's school readiness for learning as children enter kindergarten and formal education (Welsh-Allis & Ye, 1988; Soltis et al., 2015). The importance of education has been well documented and can provide opportunities for financial independence, jobs, and an overall better quality of life (Zahn-Waxler et al., 1990). Moreover, having strong social emotional development is important

for children's motivations, perceived competence, and performance throughout their academic careers, into the workforce, and life. Due to this, this study's results should be considered for understanding the many complexities that effect a child's social emotional development and for the development of social emotional learning programs and curriculum.

Limitations

One limitation of this study is the measurement of a child's social emotional development through the instrument, Devereaux Early Childhood Assessment (DECA). The DECA required parents to report of the frequency and recentness of certain behaviors they have witnessed their child do in the past four weeks. This could have led to inaccurate recounts as memory issues may have been present. Additionally, there could have been response bias. Parents were informed of the research purpose when the initial LCSA was conducted leading to the potential of some parents being more hesitant to report certain behaviors due to social desirability.

The LCSA was initially intended to be a longitudinal study, but the study did not collect data during additional time periods. As a result, data collection only occurred during one time period and due to this, no causal inferences between the connections of the protective or at-risk factors and children's social emotional development can be made. Nor can any causal inferences be made between the connections of children's social emotional development and school readiness.

Additionally, several questions on the Mail Ahead Primary Caregiver Questionnaire utilized averages or midpoints through brackets. For example, the parent-child reading interactions had a range of possible times such event occurred. However, the way the brackets were coded, participants who read with their child three times a week received the same code as participants who read with their child six times a week. The variability in the coding could have

different implications for the parent behaviors variable on a child's social emotional development and literacy. In order to account for this, the study took averages by adding up the number of times an activity occurred and dividing that number by seven (for an average per day in a given week). However, taking these averages still did not completely eliminate this limitation.

Similarly, the poverty variable was created by using income brackets and the number of people in households by comparing the income brackets to the Federal Poverty Index from 2010. Incomes were then compared with the number of people in a household to determine if a child was living in poverty or not. Due to the income brackets, a parent with an income of \$24,999 received the same coding as a parent with an income of \$20,000. Therefore, it is possible that some individuals may have incomes that are slightly above the poverty level who were coded as living in poverty or individuals who have incomes that were slightly below the poverty level who were not coded as living in poverty.

An additional limitation was that parents indicated their child's primary language, which led to several participants completing the school readiness instruments (PALS Pre-K and/or TEMA) in Spanish or English. This study did not include language as a covariate, therefore the effect of language was not controlled for. However, bilingual households may have differences in terms of a child's social emotional development and school readiness. Literacy and math school readiness were explored by standardizing the Spanish and English tests and subtests. However, there could be differences based on the language the test was given in. Further analyses could provide differences in language or control for language differences.

The sample for this study also included participants all from the state of Arizona. Therefore, results cannot be generalized to the entire United States' population, but could possibly be generalized to similar populations.

Directions for Future Research

There are several recommended directions for future research based on this study's results. First, as mentioned, it is recommended that the interactions between the protective factors and at-risk factors be examined in regression models. The interactions would provide a deeper understanding of how the protective and at-risk factors influence one another, if at all. An example of such an interaction could be to look at the interaction between parental efficacy and parental depression. Understanding how parental depression may influence a parent's efficacy would determine further insight of methods for assisting children and identifying resiliency measures. Moreover, this study examined several protective factors that could be examined as potential moderators for the at-risk factors. It is recommended future studies examine the interactions between the protective factors on the at-risk factors in order to determine any potential moderators. Additional interactions could provide further explanations and identify areas of strengths and resiliency for children living in poverty.

Secondly, the LCSA study was initially designed to be a longitudinal study. However, this did not occur due to unforeseen circumstances. Had this been a longitudinal study, the variables of interest could have been examined across periods of time. Longitudinal data could have also provided an in-depth examination of the variables of interest on a child's social emotional development over time. As several researchers have indicated social emotional development has implications for behavioral concerns, academic achievement, emotional regulation, and social relationships (Denham et al., 2008; Roeser et al., 2000; Saarni, 2000; Malti

& Noam, 2016), longitudinal data could have furthered the understanding of the effects of the protective factors and at-risk factors of children throughout childhood, adolescence, and into adulthood. Therefore, if plausible, follow-up studies could be conducted with the alternative research design to determine if the protective factors and at-risk factors predict children's social emotional development later in life. Doing so, would also allow for the potential in determining casual inferences. Additionally, the study examined a child's school readiness. Longitudinal data could be used to assess students' actual literacy and math performances in school using social emotional development as predictors as well.

While the sample size in this study was large, all children were from the same state in the Southwest. As such, the participants in this study are not representative to the entire United States' population. As a result, the results of this study should not and cannot be generalized to the U.S. population at its entirety. However, it is recommended that additional studies be conducted which could examine alternative and additional populations to determine the generalizability of these results on a larger scale.

Additional studies could also investigate the role of siblings in a child's environment as previous studies have shown siblings can impact a child's language development (Havron et al., 2019) as siblings make up a child's microsystem in addition to parents. However, parents might have to divide their time, efforts, and attention for a multiple child household leading to siblings competing for resources. Investigating the role of siblings would provide further understanding on how siblings can assist or hinder each other's social emotional development and the potential for siblings to be used as moderators for children living in at-risk environments and conditions.

Lastly, it is recommended that future studies examine the relationships and effects of the protective factors and at-risk factors with other variables. For example, does low parental

efficacy correlate and/or predict parental depression? Examining such relationships and predictors would provide a greater understanding of the role of the protective factors and at-risk factors on children's social emotional development and thus, also determining effects and relationships with a child's literacy and math school readiness.

Conclusions

Overall, the results of this study indicated that there are several components that relate and predict a child's social emotional development. Understanding the predictors and relationships between the several variables utilized in this study on a child's social emotional development is important due to the long-term implications social emotional development has on a child's life. While existing literature has examined the effects of living in poverty on a child's development at large, this study concluded that there are potential moderating factors (e.g., resources in the home for learning, parental efficacy, and rewarding behaviors) that can assist with the effect of poverty. These results are important to consider when developing and implementing social emotional learning curriculum and assisting such populations.

This study also examined the effects of social emotional development on a child's school readiness. These results are also important to consider when a child enters kindergarten and throughout their academic career. This study supports existing literature which suggests social emotional development has implications for a child's overall academic readiness. However, it is important to note that a child's level of school readiness does not equate to their potential for school or academics. Though there may be discrepancies in a child's social emotional development and school readiness, it does not indicate a child's academic or social emotional functioning potential. There are several social emotional learning programs that may provide assistance for children's development of such skillsets and learning.

Finally, this dissertation aimed to provide a strength-based model for understanding the relationships and effects of many components in a child's microsystem and macrosystem on a child's social emotional development. This study showed that there are many contributing factors and the overall complexity of such development during this critical time period early in a child's life. While children in this study were between the ages of two to six, those who had lower DECA Total Protective Factors scores and higher DECA Behavioral Concerns scores still have opportunities for healthy development. This study also provided insight into the many contributing factors and complexities that should be considered when examining a child's social emotional development and a child's school readiness as there are many contributing factors and complexities that predict a child's social emotional development and school readiness. These factors should continue to be investigated further as a child's development involves many dynamics that need further understanding and clarity.

Appendix A

Mail Ahead Primary Caregiver Questionnaire (MAPCQ)

FIRST THINGS FIRST EXTERNAL EVALUATION: Longitudinal Child Study of Arizona, 2010

PRIMARY CAREGIVER QUESTIONNAIRE

1. These questions are about you, your child (or the child you are the primary caregiver for) and your family.
2. This information will be very helpful for the study, and we are asking you to complete this ahead of the interview.
3. PLEASE REMEMBER YOUR ANSWERS ARE CONFIDENTIAL.

Today's Date: ___ ___ / ___ ___ / ___ ___ ___ ___ MM/DD/YYYY

Your Legal Name:

First/Middle/Last

_____ **Child's Legal Name: First/Middle/Last (Should match label above):**

SECTION I: ABOUT YOU

1. Are you your child's primary caregiver?

YES

NO: PLEASE GIVE TO CHILD'S PRIMARY CAREGIVER TO COMPLETE

IF YES: a. How long have you been your child's primary caregiver?

SINCE CHILD'S BIRTH or SINCE: ___ ___ / ___ ___ / ___ ___ ___ ___ MM/YYYY

2.

LIST EVERYONE WHO CURRENTLY LIVES IN YOUR HOUSEHOLD (Name)	RELATIONSHIP TO CHILD	AGE
e.g., Jane Smith	Biological mother	25
1.		
2.		
3.		
4.		
5.		
6.		
7.		

3. What languages are spoken in your home? CHECK ALL THAT APPLY
 ENGLISH SPANISH OTHER

4. What is the primary language spoken to CHILD? CHECK ONE
 ENGLISH SPANISH OTHER

SECTION 2: FAMILY LIFE

5. Currently, what is your child’s usual amount of sleep each day, including nighttime sleep plus naps?

HOURS: _____ MINUTES: _____

6. In a typical week, please enter the number of days:

	NUMBER OF DAYS
a. At least some of the family eats breakfast together. <i>Please count only those times when at least one parent or caregiver eats with child.</i>	
b. The evening meal is served at a regular time.	
c. The number of days your child’s teeth and gums are wiped with a cloth or brushed?	

7. On average, about how many hours, does your child: (If none, write “0” in the space)

	<u>On weekdays</u>		<u>On weekends</u>		
	Mon.-Fri.		Sat.-Sun.		
	HOURS	MIN.	HOURS	MIN.	
a. Watch DVDs or videos?					<input type="checkbox"/> NO TV
b. Watch television, not including DVDs or videos?					<input type="checkbox"/> NO TV
c. Play video or educational games on the television, computer or hand-held device?					<input type="checkbox"/> NO TV OR COMPUTER
d. Read or look at material on the internet?					<input type="checkbox"/> NO COMPUTER

8. Is there a television in your child’s bedroom? YES NO

9. About how many children's records, audiotapes, and CDs do you have at home, including from the library? _____
10. About how many children's books are there in your home now, including library books?

11. In a typical week, how often does your child see you or any other family member read printed materials such as a book, magazine or newspaper? NOT AT ALL 1 TO 2 TIMES 3 TO 6 TIMES 7 OR MORE TIMES
12. In a typical week, how often do you or someone in THE HOUSEHOLD do the following things...

<i>All of these may not apply to your CHILD.</i>	NOT AT ALL	1 TO 2 TIMES	3 TO 6 TIMES	7 OR MORE TIMES
a. Read books to your child	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Tell stories to your child	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Sing songs with your child	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Take your child along while doing errands like going to the post office, the bank, or the store?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Talk about size or weight of things	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Count	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Play sorting or matching games	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Play with toys or blocks to build things	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Hold, hug or kiss your child	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Do things like blow on the your child's belly, move his or her arms and legs around in a playful way or tickle him or her	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Take your child outside for a walk or to play in the yard, a park, or a play-ground	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13. On the days someone reads to your child, about how many minutes per day is he/ she read to? _____ MINUTES
14. In the past month, did you or someone in your household.
 - a. Borrow books to read aloud to your child? (From library for example) YES NO
 - b. Borrow materials other than books, such as cassettes, CDs, videos, or toys to share with your child? YES NO
 - c. Get information or materials on a parenting topic or concern? YES NO
 - d. Take CHILD to a story hour or program? YES NO
15. In the past month: How concerned were you about...

	VERY CONCERNED	SOME WHAT CONCERNED	NOT VERY CONCERNED	NOT AT ALL CONCERNED
1. Being able to access transportation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Having a good job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Having enough money to meet your needs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Having a place to live	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Having enough food to eat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. The quality of your child's education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Your child's emotional health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Your child's physical health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Your child's mental health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Your child's dental health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Your child's nutrition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. Getting health care for your child	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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16. Currently, in or at your home...

a. Do you have at least one operating smoke detector in your home with a working battery?	<input type="checkbox"/>	YES	<input type="checkbox"/>	NO		
b. Do you keep all guns in a locked cabinet?	<input type="checkbox"/>	Don't own a gun	<input type="checkbox"/>	YES	<input type="checkbox"/>	NO
c. Is there a minimum four foot fence, wall or other barrier between the swimming pool and the house or apartment that completely surrounds the pool?	<input type="checkbox"/>	Don't own a pool	<input type="checkbox"/>	YES	<input type="checkbox"/>	NO
d. If yes, Is the gate for the fence, wall or other barrier self-closing and self-latching so a child cannot open the pool gate?	<input type="checkbox"/>	YES	<input type="checkbox"/>	NO		

17. During the past 30 days, on how many days did you smoke cigarettes?

<input type="checkbox"/> 0 days	<input type="checkbox"/> 1 or 2 days	<input type="checkbox"/> 3 to 5 days	<input type="checkbox"/> 6 to 9 days
<input type="checkbox"/> 10 to 19 days	<input type="checkbox"/> 20 to 29 days	<input type="checkbox"/> All 30 days	<input type="checkbox"/>

18. During the past 30 days, on the days you smoked, how many cigarettes did you smoke per day?

<input type="checkbox"/> I did not smoke cigarettes during the past 30 days	<input type="checkbox"/> Less than 1 cigarette per day
<input type="checkbox"/> 1 cigarette per day	<input type="checkbox"/>
<input type="checkbox"/> 2 to 5 cigarettes per day	<input type="checkbox"/>
<input type="checkbox"/> 6 to 10 cigarettes per day	<input type="checkbox"/> 11 to 20 cigarettes per day
<input type="checkbox"/> More than 20 cigarettes per day	<input type="checkbox"/> <input type="checkbox"/>

19. Do you or does anyone currently smoke inside the house? YES NO

20. During the past 30 days, have you had at least one drink of any alcoholic beverage such as beer, wine, a malt beverage or liquor? YES NO

a. *One drink*=a 12-ounce beer, a 5-ounce glass of wine, or a drink with one shot of liquor. Considering all types of alcoholic beverages, how many times during the past 30 days did you have 5 (if you are a man) or 4 (if you are a woman) or more drinks on an occasion? 0 or TIMES

21. Over the last 2 weeks, how often have you been bothered by any of the following problems?

	NOT AT ALL	SEVERAL DAYS	MORE THAN HALF THE DAYS	NEARLY EVERY DAY
a. Little interest or pleasure in doing things?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Feeling down, depressed <u>or</u> hopeless?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Trouble falling asleep <u>or</u> staying asleep <u>or</u> sleeping too much?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Feeling tired <u>or</u> having little energy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Poor appetite or overeating?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Feeling bad about yourself <u>or</u> that you are a failure or have let yourself or your family down?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Trouble concentrating on things, such as reading the newspaper or watching the TV?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Moving or speaking so slowly that other people could have noticed? <u>Or the opposite: Being so fidgety or restless that you have been moving around a lot more than usual?</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

22. In the past 12 months, have you talked with a psychiatrist, psychologist, doctor, or counselor for any emotional or psychological problem? YES NO

23. In the past 12 months, have you taken any medication for any emotional or psychological problem?

YES NO

24. Couples deal with serious disagreements in different ways. When you have a serious disagreement with your spouse

or partner, how often do you... No spouse or partner

	NEVER	HARDLY EVER	SOMETIMES	OFTEN
a. Just keep your opinions to yourself?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b. Discuss your disagreements calmly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Argue heatedly or shout at each other?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. End up hitting or throwing things at each other?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Criticize each other?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Reach a compromise or find a solution?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

25. In general, how satisfied are you with your life?

Very satisfied Satisfied Dissatisfied Very Dissatisfied

SECTION 3: DISCIPLINE

26. The following is a list of things that parents have told us they do when their children misbehave. When your child does something not supposed to, how often do you ...
 DOES NOT APPLY: MY CHILD IS LESS THAN 12 MONTHS

	NEVER	RARELY	SOME-TIMES	OFTEN	ALWAYS
Ignore it	<input type="checkbox"/>				
Scold or yell	<input type="checkbox"/>				
Get your child to correct the problem	<input type="checkbox"/>				
Threaten to punish (but not really punish him/her)	<input type="checkbox"/>				
A brief time out away from family	<input type="checkbox"/>				
Time out for more than 6 minutes	<input type="checkbox"/>				
Take away privileges (like TV, playing with friends)	<input type="checkbox"/>				
Give a spanking	<input type="checkbox"/>				
Slap or hit your child (not spanking)	<input type="checkbox"/>				
Give extra work chores	<input type="checkbox"/>				
Discuss the problem with child or ask questions	<input type="checkbox"/>				

27. This is a list of things that parents might do when their child behaves well or does a good job at something. When your child behaves well or does a good job, how often do you...
 DOES NOT APPLY: MY CHILD IS LESS THAN 12 MONTHS

	NEVER	RARELY	SOME-TIMES	OFTEN	ALWAYS
Ignore it	<input type="checkbox"/>				
Give child a hug, kiss, pat, handshake or "high five"	<input type="checkbox"/>				
Buy something for child (e.g., special food, a small toy)	<input type="checkbox"/>				
Give him/her an extra privilege (such as cake, go to the movies, special activity for good behavior).	<input type="checkbox"/>				
Give points or stars on a chart	<input type="checkbox"/>				

SECTION 4: SOCIAL SUPPORT

28. In general, how well do you feel you are managing with the day-to-day demands of raising a child or children? VERY WELL SOMEWHAT WELL NOT VERY WELL

29. Is there someone that you can turn to for day-to-day emotional help with parenthood or raising children? YES NO

30. How often do you get the social and emotional support you need? Please include support from any source. ALWAYS OFTEN SOMETIMES RARELY NEVER

31. Would you say ...

	STRONGLY AGREE	SOMEWHAT AGREE	SOMEWHAT DISAGREE	STRONGLY DISAGREE
a. Being a parent is harder than I thought it would be.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. I enjoy my role as a parent.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c. I find that taking care of my child/children is much more work than pleasure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. I often feel tired, worn out, or exhausted from raising a family.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. I find myself giving up more of my life to meet my child's needs than I ever expected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SECTION 5: FOOD IN THE HOME

Here are several statements that people have made about the food situation of their children.

In the last 12 months...	OFTEN TRUE	SOMETIMES TRUE	NEVER TRUE
32. "(I/we) relied on only a few kinds of low-cost food to feed my child/the children) because (I /we) were running out of money to buy food."	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33. "(I/we) couldn't feed my child/the children a balanced meal, because (I/we) couldn't afford that."	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. "My child was/the children were not eating enough because (I/we) just couldn't afford enough food."	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

35. In the last 12 months, did you ever cut the size of your child's/any of the children's meals because there wasn't enough money for food? YES NO

36. In the last 12 months, did your child ever skip meals because there wasn't enough money for food? YES NO

a. How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months? ALMOST EVERY MONTH SOME MONTHS BUT NOT EVERY MONTH ONLY 1 OR 2 MONTHS

37. In the last 12 months, was your child/were the children ever hungry but you just couldn't afford more food? YES NO

38. In the last 12 months, did your child/any of the children ever not eat for a whole day because there wasn't enough money for food? YES NO

SECTION 6: NEIGHBORHOOD AND COMMUNITY

39. Have you moved since your child was born? YES NO IF YES: How many times?

40. How long have you lived in this neighborhood? ___|___ YEARS ___|___ MONTHS

41. How much do you agree or disagree with each of these statements about your neighborhood or community?

	STRONGLY AGREE	SOMEWHAT AGREE	SOMEWHAT DISAGREE	STRONGLY DISAGREE
a. People in this neighborhood help each other out.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. There are people I can count on in this neighborhood.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. If my child were outside playing and got hurt or scared, there are adults nearby who I trust to help my child.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

42. How often do you feel your child is safe in your community or neighborhood?
 NEVER SOMETIMES USUALLY ALWAYS

SECTION 7: EMPLOYMENT

Next are a few questions about your household.

43. In the past week, were you... CHECK ALL THAT APPLY
- | | |
|--|--|
| <input type="checkbox"/> EMPLOYED | <input type="checkbox"/> UNEMPLOYED, LOOKING FOR WORK |
| <input type="checkbox"/> EMPLOYED BUT ON SICK FOR WORK | <input type="checkbox"/> LEAVE UNEMPLOYED, NOT LOOKING |
| <input type="checkbox"/> EMPLOYED BUT ON LAID OFF | <input type="checkbox"/> MATERNITY LEAVE TEMPORARILY |
| <input type="checkbox"/> RETIRED | <input type="checkbox"/> STAY-AT HOME PARENT/NOT WORKING |
| <input type="checkbox"/> OUTSIDE THE HOME A STUDENT | <input type="checkbox"/> SOMETHING ELSE? |
- SPECIFY: _____

IF NOT EMPLOYED: GO TO 46

44. How many total hours per week do you usually work for pay (counting all jobs)?|___|___|
 NUMBER OF HOURS

45. Before the past week, was there any time during the past 12 months when you did not have a job and were looking for work? YES NO

46. In the past week, which of the following best describes your partner or spouse’s situation. Was he or she ... CHECK ALL THAT APPLY

- | | |
|---|--|
| <input type="checkbox"/> NOT APPLICABLE: NO SPOUSE OR | <input type="checkbox"/> PARTNER IN THE HOUSEHOLD: |
| <input type="checkbox"/> GO TO 49 | <input type="checkbox"/> UNEMPLOYED, LOOKING FOR |
| <input type="checkbox"/> EMPLOYED | <input type="checkbox"/> UNEMPLOYED, |
| <input type="checkbox"/> WORK | |
| <input type="checkbox"/> EMPLOYED BUT ON SICK LEAVE | |
| <input type="checkbox"/> NOT LOOKING FOR WORK | |
| <input type="checkbox"/> EMPLOYED BUT ON MATERNITY LEAVE TEMPORARILY LAID OFF | |
| RETIRED | A STUDENT |
| STAY-AT HOME PARENT/NOT WORKING OUTSIDE THE HOME | |

SOMETHING ELSE? SPECIFY _____

47. How many total hours per week does your partner or spouse usually work for pay (counting all jobs)? _____
48. Before the past week, was there any time during the past 12 months when your partner or spouse did not have a job and was looking for work? YES NO

THESE NEXT QUESTIONS ARE ABOUT CHILD’S BIRTH MOTHER

49. I can answer questions about the child’s birth mother and her pregnancy with the child being assessed.
 YES [Go to Question 50] NO [PLEASE PLACE
 IN ENVELOPE, SEAL AND GIVE TO THE
 DATA COLLECTOR].
50. Vitamin or mineral supplements taken at least 3 days a week during: the 3 months before pregnancy was known? YES NO Don’t Know
51. Vitamin or mineral supplements taken at least 3 days a week during: during the 3 months right after pregnancy was known? YES NO Don’t Know
52. In the last 3 months of pregnancy, on how many days per month did child’s birth mother smoke cigarettes?
 0 days 1 or 2 days
 3 to 5 days 6 to 9 days
 10 to 19 days 20 to 29 days
 All 30 days
 Don’t Know
53. In the last 3 months of pregnancy, on the days child’s birth mother smoked: how many cigarettes did she smoke per day?

<input type="checkbox"/>	Did not smoke cigarettes during the last 3	<input type="checkbox"/>	months Less than 1 cigarette
<input type="checkbox"/>	per day	<input type="checkbox"/>	
<input type="checkbox"/>	1 cigarette per day	<input type="checkbox"/>	
<input type="checkbox"/>	2 to 5 cigarettes per day	<input type="checkbox"/>	
<input type="checkbox"/>	6 to 10 cigarettes per day	<input type="checkbox"/>	day
<input type="checkbox"/>	11 to 20 cigarettes per	<input type="checkbox"/>	
<input type="checkbox"/>	More than 20 cigarettes per day	<input type="checkbox"/>	Don't Know

54. During the last 3 months of pregnancy with this child, did child's birth mother have at least one drink of any alcoholic beverage such as: beer, wine, a malt beverage or liquor?
 YES NO Don't Know

55. *One Drink=A 12-ounce beer, A 5-ounce glass of wine, or a drink with one shot of liquor.*
 Considering all types of alcoholic beverages: How many times during the last 3 months of pregnancy with this child did child's birth mother have 4 or more drinks on an occasion?
 0 or TIMES Don't Know

56. Did child's birth mother ever visit a doctor or clinic for prenatal care when she was pregnant with child? YES NO Don't Know

57. Not counting visits to the WIC or Women, Infants, and Children nutritional program, what month of pregnancy did child's birth mother start prenatal care with child?

ENTER WEEKS if less than 1 month
 ENTER MONTH Don't Know

58. About how many prenatal visits did child's birth mother have with child? VISITS
 Don't Know

59. Did child's birth mother get prenatal care later than you would have liked? YES NO
 Don't Know

60. How much effort did it take on birth mother's part to get prenatal care?
 A lot Some A little None Don't Know

THANK YOU VERY MUCH ! WE LOOK FORWARD TO TALKING WITH YOU AND YOUR CHILD SOON.

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