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Adolescent Protective Factors Related to Resilience: Issues of Academic Self-Efficacy, Parental Involvement, and Special Education Status

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Abstract

The predictive value of three constructs was examined in this study in order to explain adolescent self-reported protective factors associated with resilience while moderating for the effects of sex and race. The three constructs included Academic Self-efficacy, Maternal Parental Involvement, and Special Education Identification Status. Participants included 54 adolescents in diverse public middle and high schools, ages 11 to 18. Twenty of these participants were identified as receiving special education services while 34 did not. Results indicated that adolescent perceptions of Academic Self-efficacy significantly predicted protective factors associated with resilience while Special Education Identification Status and Maternal Parental Involvement did not add significantly to the prediction. In addition, the moderating effects of sex and race did not add to the regression model, indicating that these constructs had little predictive effect on any of the predictor variables. Implications for enhancing the efficacy of school-based social emotional programming and services for at-risk adolescent youth are discussed in light of these results. Specifically, improving skills related to academic self-efficacy may be more beneficial for fostering protective factors associated with resilience in an adolescent age group.

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Chapter One: Introduction

The purpose of this chapter is to provide a general framework for the rationale of studying protective factors associated with resilience and related constructs in adolescents. A brief overview of a new measure of protective factors will be described that places more emphasis on a holistic approach to positive youth development. This is followed by a discussion of three critical factors that may have a strong relationship with this construct: Academic Self-efficacy (ASE), Maternal Parental Involvement (MPI), and Special Education Identification Status (SPED). Demographic variables such as sex and race have also been identified as important in the resilience literature and are briefly reviewed. The chapter concludes with the purpose of the study, identified research questions, and a list of key terms to be employed throughout the remainder of the dissertation.

Rationale for Studying Resilience

Children do not consciously search for experiences that will cause them pain and despair, but when hard times befall them, their capacity to withstand, cope, and recover contributes to a construct called resilience. Resilience is positive adaptation in the midst of adverse circumstances (Luthar, Ciccheti, & Becker, 2000). Further, resilience is described as the counterpart to vulnerability and risk. It acts a buffer against susceptibility to biological, psychological, and social threats that would otherwise increase negative

developmental outcomes (Werner & Smith, 1982). Researchers have also described resilience as an experience with multiple turning points and unexpected shifts that combined, create new possibilities and opportunities for change and reflection (Campbell-Hills, Cohan, & Stein, 2006).

Resilience also is affected by internal and external protective factors such as effective decision-making, resource allocation, and insight about thoughts, feelings and behaviors, as well as supportive home, school, and community environments (Luthar, Ciccheti, & Becker, 2000). In addition to protective factors, it is important to identify that resilient responses are impacted by risks or threats to an individual's psychological well-being and adaptation (Luthar, Ciccheti, & Becker, 2000). Risks can involve exposure to adverse environmental traumas such as those experienced in war, abuse, and natural disasters, or personal psychosocial factors such as mental illness, substance use, and family dysfunction (Masten, 2011). Further, individuals respond differently to similar experiences based on their own individual differences (Masten, 2011). These differences may be based on developmental and personal characteristics associated with understanding situations as well as previous exposure to similar circumstances (Masten, 2011).

Differences in protective and risk factors associated with individual experiences of resilience have called for more holistic measures of the construct. For example, Laser & Nicotera (2010) advocate for examining an individual's capacity to effectively function and develop using multi-systemic ecological approaches. These approaches allow for both risk and protective factors to be classified as individual or external

environmental influences. They also help with the identification of internal and external factors that influence resilient responses (Abukari & Laser, 2013). Their research has helped establish that protective factors are predominantly related to culture and gender roles, while risk factors are typically universal. Laser & Nicotera (2010) support the reduction of risk in order to allow for protective factors to flourish into resilient outcomes (Rutter, 1987; Sameroff, 1995).

Overall, an individual's capacity to adapt to adverse circumstances involves a dynamic and interactive process between protective and risk factors. Resilient responses emerge and endure when protective factors are enhanced and risk factors are reduced (Rutter, 1987; Sameroff, 1995). Longitudinal research has further shown that increasing assets better predict positive outcomes (Benson, 2003; Donnon & Hammond, 2007). For struggling children, particularly adolescents due to their vulnerable stage of development, an emphasis on identifying and enhancing protective factors could best support growth despite times of struggle and misfortune.

Why Resilience is Critical in Adolescents

Resilience in children has been associated with positive outcomes in physical and mental health, academic achievement, and social skills (Coyle, 2011). However, growth in these areas is affected by the biopsychosocial changes that occur at critical periods throughout development as well as a child's capacity to interact and integrate feedback from their environment. The critical period of development that occurs during the adolescent years – ages 10 through 21 – is no exception (Erford, 2017). Rather, it is perhaps one of the most challenging to support given adolescent's desire to be more

independent, yet constrained by unbalanced neurological developments that complicate their responses to adverse circumstances.

It is important for individuals who work with adolescents to know that supports for this age range differ depending on the adolescent's perceptions of success and failure as well as their current neurological development. For example, decision making during the adolescent period is not entirely reasoned or intentional for all (Reyna & Rivers, 2008). This is primarily due to limitations with balancing decisions based on estimates of potential risks and rewards (National Research Council, 2011; Reyna & Farley, 2006). As a result, decisions are often impulsive. Further, they are based on what adolescents perceive will give them the most control over an outcome that they subjectively understand rather than an outcome that is based on reality (National Research Council, 2011). In addition, a limited capacity with managing internal systems related to emotional regulation often lead to cognitive dissonance and feelings of inadequacy with overcoming difficulties. Finally, the adolescent's proximity to adulthood in terms of age and physical appearance lends to inadequate assumptions about adolescents being egocentric, emotionally unhinged, and impulsively out of control (Erford, 2017).

While studies indicate that many adolescents can present with impulsive and challenging behaviors, those behaviors do not take away their capacity for being reflective about social interactions and norms. In contrast to younger children, adolescents are better equipped developmentally to reflect on their problems and competencies. Compared to children in middle childhood, adolescents have a greater capacity to take on a third person point of view, think more abstractly about principles of

right or wrong, and due to increased self-consciousness, can engage in more evaluative conversations about social-emotional experiences (McConaughy, 2013). Such insight supports the importance of including their perceptions of performance and adaptation within multi-method assessments and interventions. For the present study, this developmental advantage supports the need to study components of resilience that are associated with known protective resources – both internal and external – that may help overcome adversity.

Identifying and supporting the characteristics that make adolescents resilient is imperative and necessary to proactively promote social-emotional well-being and academic achievement. Unfortunately, most school-based practices are reactive and limited to identifying deficits over more positive dispositions that can better support a student's use of internal assets and external resources. Many school-based practices also limit themselves to use terms that identify pathological deviations from the norm, most notably those grounded in emotional and behavioral problems (Furlong, Dowdy, Carnazzo, Bovery, & Kim, 2014; Nickerson, 2007). Conversely, descriptions of a capacity for growth, meaning, and purpose are often absent from current approaches designed to support children's social-emotional and academic success. These positive psychological practices can be more beneficial for supporting resilient outcomes as they outline capacities over deficits.

Limitations in positive psychology approaches for identification and intervention are not unique to schools. For decades, the field of psychology has focused on using a disease-oriented model for understanding human functioning at the exclusion of

individual strengths, abilities, and virtues (Seligman & Csikszentmihalyi, 2000). Such a model has created stigma against mental health and related services (Bowers, Manion, Papadopoulos, & Gauvreau, 2012; Mukolo, Heflinger, & Wallston, 2010). Positive psychology approaches have only recently become more encouraged as psychologists realize the potential in examining positive adaptation for the purpose of promoting and maintaining mental health. A measure of resilience that thoroughly targets both internal and external dispositions that motivate children to adapt and thrive could be an informative tool for supporting a shift from a deficit-focused model to one that appreciates and contributes to pre-existing strengths. Unfortunately, most of the measures available are limited to a very small handful of positive psychological traits and are not directly linked to outcomes.

CoVitality: A Holistic Measure of Protective Factors Associated with Resilience

Measurement limitations for resilience led to the development of a new construct, CoVitality, coined by Furlong, Dowdy, Carnazzo, Bovery, and Kim (2014a), that is more adequately aligned with positive youth development. CoVitality, which from here on will be referred to as CoV, values the examination of positive dispositions as a means for facilitating "psychologically healthy educational environments for [all] children" (Huebner, Gilman, Reschly, & Hall, 2009, p. 565). It specifically encompasses twelve psychological constructs that have been empirically supported to be linked to positive youth development, all of which are measured via self-report through the Social Emotional Health Survey. At present, this instrument is also one of the only measures in the field that uniquely covers all associated social-emotional health constructs. Figure 1

in Appendix A illustrates the model used in the scale to reflect the overarching CoV construct, with its 12 subscales categorized into four general domains (Furlong, 2014).

As a holistic measure of positive youth development, the four overarching domains of CoV target a student's subjective perceptions associated with emotional competence, engagement in daily living activities, confidence and belief in self, and trust in others (Furlong, You, Renshaw, Smith, & O'Malley, 2014b). These four domains are inclusive of all 12 embedded constructs associated with social-emotional learning and childhood resilience, such as self-control, optimism, self-efficacy, and family coherence, all of which are important areas to identify in adolescents for the purpose of countering risk (Furlong et al., 2014b). As a school-wide screening tool, this measure is a great framework for conceptualizing the protective factors associated with resilience because it is a broad construct of positive, psychological traits (Furlong, Dowdy, Carnazzo, Bovery, & Kim, 2014a).

Critical Factors Related to Adolescent Resilience in Schools

Three critical factors are proposed that can impact an adolescent's perception of protective factors associated with resilience in schools. These include perceptions of Academic Self-Efficacy (ASE), Maternal Parental Involvement (MPI), and Special Education Identification Status (SPED).

Perceptions of academic self-efficacy. An important factor to consider in regards to understanding resilience in adolescents is the construct of ASE. The concept of self-efficacy was first developed by Albert Bandura (1977a) in order to explain social influences that guide an individual's learning and behavior. Self-efficacy is embedded

within social learning theory and describes the learning process as multidimensional, involving observation, modeling, and imitation (Bandura, 1977b). It is also influenced by a variety of sources; friends, family, and mentors (Bandura, 1977b). Feedback that is both positive and constructive supports perceptions of self-efficacy; while feedback that is negative and critical limits perceptions of confidence in one's abilities. There is a large body of research demonstrating that perceptions of self-efficacy are predictive of a wide array of learned behaviors and contribute to the likelihood a person will persist in carrying out a desired action. A general sense of self-efficacy is also associated with coping and life satisfaction (Burger & Samuel, 2017).

These findings are particularly relevant when working with adolescents who struggle with academic and social emotional challenges, who often get discouraged, and who without adequate intervention often drop out of school (Marcotte, Villatte, & Potvin, 2014; National Research Council, 2011; Nelson, 1998). As a result, an adolescent's subjective perception of protective factors associated with resilience may be strongly affected by their perceptions of academic competence. In the context of school performance, ASE is typically measured by inquiring about a student's perceived capabilities in different coursework areas; namely, reading, writing, and mathematics that are largely assessing externally-controlled factors dependent on curriculum exposure (Bandura, Pastorelli, Barbaranelli & Caprara, 1999; Junge & Dretzke, 1995). However, such factors often do not fully capture internal perceptions of the academic dispositions required to be a motivated and attentive learner such as, engagement in help-seeking behaviors, application of good study habits, and orientation towards academic success.

In this study, a measure of adolescent ASE is employed – the Self-Efficacy Questionnaire for Children, to focus on a student's perceived capacity to master intrinsically-driven academic affairs that generalize across academic areas. This measure is used with middle and high school students to assess beliefs and attitudes about actions necessary to achieve a desired *educational* outcome. Inclusion of the measure in this study therefore helps to complement the measure of CoV.

Perceptions of maternal parental involvement. In addition to protective factors associated with resilience and ASE, parental involvement is a critical factor that can affect adolescent perceptions of resilience and success in school. For students with behavioral challenges, parental involvement characterized by positive parenting is predictive of better methods for coping with stress and challenges (Mackay, 2003). Indicators of family cohesion affect positive, transcendent beliefs about what cannot and can be changed and promote beliefs in ones' ability to find ways to meaningfully overcome adversity (Mackay, 2003). When emotional connections and cohesion among family members are absent or low, dysfunction is more prevalent (Mackay, 2003; Olson, 1993). Other researchers have also demonstrated that students who have positive perceptions of their parents' involvement with their education exhibit higher levels of motivation towards academic achievement (Gonzalez-DeHass, Willems, & Doan Holbein, 2005). Thus, it is important to assess adolescents' perceptions of parental involvement as another external protective factor that may help predict levels of self-reported resilience (Condly, 2006).

In this study, the Alabama Parenting Questionnaire is employed to address dimensions of parental involvement specifically focused on achievement and school-based activities such as attending school functions (i.e., parent teacher conferences), helping with homework, and asking about their child's day at school (Frick, 1991). Specifically, perceptions of *Maternal* involvement (MPI) will be used in the study, since it is primarily a maternal figure that continues to have the most presence and interaction with the school setting and related functions.

This self-report measure is appropriate for students from elementary to high school. This measure was selected because it goes further than the family cohesion construct measured in the CoV scale, which is constrained to perceptions of general parental involvement in everyday activities versus specific academic involvement in school-based activities (Frick, 1991). Thus, inclusion of this measure will complement the more global content measurement of CoV.

Special education populations. In addition to ASE and MPI, a third factor that should be considered when understanding adolescent protective factors is Special Education Identification Status (SPED). Special education status in many ways is contrary to protective factors since the methods employed to determine eligibility are deficit-focused with an emphasis on performance most often as observed by others. From a humanistic perspective, such methods de-emphasize the importance of personal experiences and perceptions about worth, values, and capacity to overcome hardship, pain, and despair, which as argued Rogers (1951), are best described and interpreted by the individual.

Indeed, the criteria and areas of concern required to identify students with a special education designation continues to pose a stigmatizing source of identity, as stated by Bunar (2011):

> Perhaps the most far-reaching effect (of Special Education Identification) is the tendency among young people to internalize… and make it a part of their own identity, as a way of understanding themselves, of valuing their relationships, and of assessing their opportunities (Bunar, 2011, p. 144).

In many studies, a student's perception of success in light of their challenges has been shown to be diminished when identified with a special education label, especially one that has historically been negatively perceived within communities. Thus, in this study, it was deemed important to further understand self-identified protective factors in adolescents who have been identified for special education services for a variety of disabilities. For these adolescents especially, SPED identification may not immediately support resilient beliefs and responses (McConaughy, 2013).

The Impact of Sex and Race

Protective factors in the adolescent period may be also impacted by the constructs of sex and race. For the purposes of the present study, sex is defined as an individual's biological reproductive phenotype, as reported by the researcher based on the participant's presenting characteristics, and based on the following binary: male or female. Gender, as a term will not be used for analysis purposes in this study. Differences in protective factors have been reported for males and females. Race for the purposes of this study is defined as a student's self-identification as being White versus Non-White. Again, identified differences in protective factors across students from different racial groups have been found in resilience research. These outcomes in combination with

evidence about the over-identification of males and racial minorities in special education populations (National Association of School Psychologists, 2013) point to the need to include both sex and race as relevant constructs to consider in regards to protective factors in adolescents.

Summary and Purpose of the Study

Overall, the purpose of this study was to address the moderating effects of sex and race on adolescent perceptions of protective factors associated with resilience, defined in this study as CoV. The importance of targeted approaches for identification and promotion of protective factors cannot be understated, especially for adolescents with identified special education needs. Environments that stress identification of pathology rather than an affirmation of characteristics reflective of positive traits limit a student's adaptive responses. It has been argued that more information is needed about adolescent protective factors associated with resilience. A new self-report measure of protective factors, as identified by Furlong (2014) to tap into Co-Vitality will be employed with a sample of adolescents in combination with measures designed to assess two other constructs (Academic Self=Efficacy-ASE and Maternal Parental Involvement-MPI) associated with predicting protective factors. Both ASE and MPI were reviewed as additional constructs that might also be important influences on the reported protective factors of adolescent populations. These constructs have been found to differ for males and females and for students who identify as racial minorities, primarily African Americans (Glantz & Sloboda, 1999; Masten, 1999; Luthar, Cicchetti, & Becker, 2000).

However, these differences have not been assessed on the constructs to be measured with the adolescent population in this study.

Overall, this is an initial study designed to assess important constructs related to protective factors in adolescents, which is in contrast to the deficits-based approaches typically used to assess social-emotional health in this population. Results of the present study are important to help guide and enhance school-based social-emotional services for adolescents.

Research Questions

1. Are there statistically significant correlations between CoVitality and sex, race, Academic Self-Efficacy, Maternal Parental Involvement, and the parent reported Special Education Identification Status of their child?
2. Does the parent reported Special Education Identification Status of their child, along with an adolescent's perceived Academic Self-Efficacy and Maternal Parental Involvement score, predict CoVitality?
3. Do sex and race moderate the effect of Special Education Identification Status, Academic Self-Efficacy, and Maternal Parental Involvement on self-reported CoVitality scores?

Definition of Terms

The following terms will be commonly used throughout this paper and are defined below:

- *Academic Self-Efficacy*: self-perceptions of the academic dispositions that students have acquired to be a motivated and attentive learner; for example, help-

seeking behaviors, good study habits, and orientation towards global academic success (Johnson-Reid, Davis, Saunders, Williams, & Williams, 2005).

- *CoVitality:* a new and broader term for identifying protective factors associated with resilience. It captures all positive psychology constructs associated with adaptability, adequate functioning, and overall wellbeing (Furlong, 2014).
- *Disability*: a restriction or lack of ability to perform within the range considered normal for a human being and not influenced by culture (World Health Organization, 1992).
- *Maternal Parental Involvement*: a relational variable from the perspective of the student that encompasses a maternal partnership and involvement with school-based activities such as attending school functions (i.e., parent teacher conferences), helping with homework, and asking about their child's day at school.
- *Race:* a complex, multifaceted, and contextually dependent term identified via self-report and based on the following general categories: African American, Asian American, Latino(a)/Hispanic, Native American, and White/Caucasian. These categories were taken out of the most prevalently used in studies of resilience. For the purposes of this study, student identified race will be collapsed into two categories, namely White and Non-White for the analysis. This decision is based on the demographic shift of the U.S. population as well as sample size calculation. Specifically, minimum sample requirements of at least 20% in each

category (Field, 2009) are recommended in the literature for a better representation of the variable.

- *Resilience*: a developmental process where interactions between personal attributes (i.e., intelligence, temperament, autonomy, self-reliance, sociability, and effective coping and communication skills) and environmental circumstances lead to adaptive responses associated with thriving in the midst of adversity (Baldwin et al., 1997; Block & Block, 1980; Brooks, 1994; Jacelon, 1997; Polk, 1997; Werner & Smith, 1982).
- *Sex:* a broad term often used to identify an individual's biological reproductive phenotype, as reported by the researcher based on the participant's presenting characteristics, and based on the following binary: male or female. While gender is another common term, it was not used for analysis purposes because it often is used to describe a broader classification related to other sexual orientation categories.

Chapter Two: Literature Review

The goal of this literature review is to critically examine the research regarding protective factors associated with resilience in adolescents and special populations. The chapter is organized around the following areas: background on protective factors associated with resilience, three critical constructs that impact these protective factors, namely Academic Self-Efficacy (ASE), Maternal Parental Involvement (MPI), and Special Education Identification Status (SPED). Additional variables related to disproportionality and stigmatization (i.e., sex, race) will be discussed given their capacity to impact an adolescent's perceptions of worth and well-being. The chapter will conclude with a summary that emphasizes the importance of understanding adolescent protective factors associated with resilience with special education populations, which will be linked to the rationale for the proposed research questions.

Background on Protective Factors Associated with Resilience

> Between half and two-thirds of children growing up in families with mentally ill, alcoholic, abusive, or criminally involved parents or in poverty-stricken or war-torn communities do overcome the odds and turn a life trajectory of risk into one that manifests resilience… (Benard, 1995, p. 2).

The capacity for children to withstand challenges and respond adaptively to negative experiences has been well documented. Such a response is referred to in the literature as resilience. Developmental psychologists have been studying this construct

for the past 50+ years, identifying a variety of components that exist within children that later predict positive outcomes in adulthood (Prince-Embury, 2014). As a result, numerous definitions for resilience have been constructed, introducing an immense complexity in its measurement and application.

Four waves have been identified in the literature to describe the construct of resilience. In the first wave, early studies of resilience focused on comparing the individual factors that existed in those who were capable of overcoming challenges and those who did not (Masten, 2007; Wright & Masten, 1997). It was descriptive and deterministic in nature, compared to the second wave that focused on procedural pathways that led to resilience. As such, the second wave focused on labeling factors and creating models of resilience. Terms like "protective, moderating, [and] compensatory" were adopted in order to explain the potential level of risk an individual could experience when faced with adversity (Masten, 2007; Prince-Embury, 2014, p. 15; Wright & Masten, 1997). The third wave focused on exploring interventions for home, school, and community settings that could increase resilient outcomes (Brooks & Goldstein, 2001). The fourth and final wave focused on physiological principles of behavior, such as the role that genetics and neurological involvement played in children's sensitivity to negative events (Masten, 2007).

Within the resilience waves, definitions have shifted between the belief that resilience is not experienced by everyone and the idea that resilience can be developed or taught under any circumstances. The belief that resilience is rare and difficult to access came from multiple deficits-focused studies that attended only to the responses

experienced by children when faced with adverse circumstances. In 2001, Masten helped shift resilience theory by identifying that resilience is actually quite "ordinary" and common. This description was linked to a belief that individuals are biologically hardwired for growth and development and as a result, are naturally motivated to pursue resilient outcomes. Masten's positive outlook about resilience has been supported in other studies, which have shifted the focus to protective factors such as relationships with others, problem-solving skills, self-regulation, and self-efficacy (Prince-Embury, 2014). Seligman (2000), for example, advocated for a shift from pathological identification practices to positive psychology approaches for examining resilience. By building competencies rather than correcting weaknesses, Seligman (2000) argued, one can better prevent symptoms related to maladjustment. Such a shift provides support for implementing interventions that can enhance an individual's problem-solving skills.

A differentiation between resilience and resiliency was also identified during the various waves of resilience research. Investigators like Block and Block (1980) and Davidson et al. (2005) described resilience as an internal construct of positive personality characteristics. Block and Block (1980), in particular, coined the term "ego-resiliency" to describe the construct as a personal characteristic that does not require exposure to substantial adversity. As a personal trait without adversity requirements, ego-resiliency was argued to entail a general sense of resourcefulness and flexibility in thinking when responding to typical environmental demands (Block & Block, 1980).

In contrast, Masten (1994) cautioned against the use of resiliency when referring to positive adjustment altogether because it entails a fixed personality trait that is not

attainable by all. Instead, she recommended the use of the term "resilience" to describe the developmental process involved in adjusting to challenges (Luthar, Cicchetti, & Becker, 2000; Masten, 1994). She also added that resilience is a relational term that includes external social support systems like those observed in a family unit, and that these should be accounted for when measuring resilience (Masten, 2001).

In response to a lack of consensus in research for defining and measuring what many refer to as "resilience", Luthar, Ciccehetti, and Becker (2000) concluded that resilience and resiliency should be independently defined to avoid confusion in use and application. Resilience, they noted, should be used to describe a dynamic process, involving interactions between an individual and multiple environmental contexts, while resiliency merely describes a personality trait within an individual. Despite the research recommendations, many investigators avoid making the distinctions altogether, referring to resilience and resiliency interchangeably and describing it as a construct of human strengths (Wald, Taylor, Asmundson, Jang, & Stapleton, 2006). Such lack of consensus is what notably makes the construct so difficult to measure and align with appropriate interventions.

While significant divergence continues to exist for defining resilience, most conceptualizations suggest that resilience is a developmental construct where interactions between personal attributes and environmental circumstances may lead to adaptive or maladaptive responses (Block & Block, 1980; Masten, 1994; Masten & Garmezy, 1985; Luthar, Cicchetti, & Becker, 2000; Rutter, 1990). Researchers consistently suggest that adaptive responses are associated with thriving in the midst of adversity and that such

thriving is typically due to internal, protective factors such as intelligence, temperament, autonomy, self-reliance, sociability, and effective coping and communication skills (Baldwin et al., 1997; Brooks, 1994; Jacelon, 1997; Polk, 1997; Werner & Smith, 1982). External factors, such as the family and larger social environment, have also been identified as significant domains that influence the development of resilience (Hechtman, 1991). Resilience therefore entails the capacity to overcome challenges based on the interaction between protective and risk factors. In order to overcome what is deemed difficult, one must be well equipped with both internal and external resources that can offset the presence of risk (Prince-Embury, 2010; Rutter, 1987; Sameroff, 1995).

Adolescent Protective Factors

Most of the research on resilience has been focused on personal qualities of children and has been longitudinal in nature (Masten & Garmezy, 1985). Such an approach was useful given the generalizations that can be made when establishing protective factors in childhood that can promote success and well-being in adulthood. Specifically, resilience in adolescence has been associated with positive outcomes in physical and mental health, academic achievement, and social skills (Coyle, 2011).

The adolescent period in particular is a critical stage of development where responses to transitions characterize the child's capacity to thrive and overcome challenges. This is because the critical period of development that occurs during the adolescent years – ages 10 through 21 – is one of the most challenging to understand and support (Erford, 2017). Children in this stage of development have a strong desire to be more independent, testing out boundaries, identities, and ways of thinking about their

world (Erford, 2017). While the desire to accomplish these tasks is high, human brain development is slow and uneven, extending into the early 20's to fully mature and function (Erford, 2017).

The stage of brain development in which adolescents must cope also presents with a limited capacity for managing internal systems related to emotional regulation. Adolescents are often reported to experience cognitive dissonance and feelings of inadequacy with overcoming difficulties (Erford, 2017). With social-emotional functioning being dynamically developed rather than linear, the influence of personal and environmental factors becomes an important area of study when working with adolescents. Providers and close adults need to recognize that behaviors associated with egocentrism, impulsivity, and high emotionality are likely stemming from the adolescent's perceptions of success and failure as well as their current neurological functioning. As such, identification of resilience related characteristics can be helpful in providing the individualized supports this population needs. Further, the research supports that adolescents who can relate to a caring adult are better equipped to access external resources (Erford, 2017). Providers who enter supportive roles with this mindset can make a tremendous impact in increasing the resilient responses of adolescents.

Resilience Measures

In addition to the deficits-focused identification methods, many approaches for identifying resilience are based on reports from external confidants such as parents, teachers, or other providers (Gliner, Morgan, & Leech, 2009). Such referral and "teacher nominated" practices have been identified as contradictory and inefficient because not all

needs are obvious and not all children readily volunteer information about well-being without being asked (Gerber & Semmel, 1984). Many have also lacked a strong focus on protective factors. Therefore, when one seeks to learn about an adolescent's resources and competencies, information should come from their own perceptions of success and failure, in addition to external methods.

In response to a lack of student perspective, Prince-Embury (2007) created the Resiliency Scales for Children and Adolescents, a measure that focused on identifying important protective and risk factors related to resilience as reported by the child. In her study of 200 adolescents (100 males, 100 females) ages 15 to 18 years, Prince-Embury (2008) indicated that individual RCSA profiles for a clinical sample were correlated with self-reported symptoms of anxiety, depression, anger and disruptive behavior.

A study by Kumar, Steer, and Gulab (2010) used this scale with a sample of 100 adolescent youth ages 9-17 who had been admitted to inpatient psychiatric units in order to determine their distinct resilience profiles. Findings were especially insightful given the adolescent's capacity to reflect on their behavior and experiences better than younger children. According to Noltemeyer (2014), older children have been found to be able to reflect on their own behaviors and emotions better than younger children, whose insights are limited and often inaccurate. In a study by Shelton, Frick, and Wooton (1996), 124 children ages 6 through 13 gave responses about parenting practices but the responses for 6 to 7 were deemed significantly deviant and useless for analysis. Compared to children in the middle childhood age range, adolescents were shown to have a greater capacity to take on a third person point of view, think more abstractly about principles of right or

wrong, and due to increased self-consciousness, engage in deeper conversations about social-emotional experiences (McConaughy, 2013).

An opportunity for adolescents to individually reflect on the experiences that they believe have been beneficial allows providers to consider their unique resilience profile rather than a single categorical label for high or low resilience. In a study by Kumar, Steer, and Gulab's (2010) this was highlighted as well. The researchers noted that all resilience profiles necessitate individual consideration when treating psychiatric patients. Indeed, Prince-Embury's (2007) work using a self-report tool has been influential in setting the stage for assessments that incorporate children's perspective about their positive adaptive traits.

Prince-Embury's call for a focus on positive behavior has led to the creation of other self-report assessments that measure resilience as a multi-dimensional concept of psychosocial well-being, rather than a skills-deficit identification (Furlong, 2014; Hall, 2010; Masten, 2001; Prince-Embury, 2010). This response is consistent with Berry-Mitchell's (2010) support that resilience is part of normal development and is not just applicable to adverse circumstances.

Six other resilience scales and instruments for measuring this construct in adolescents were identified, with all but one having little to no psychometrically sound evidence for use with this age group (Ahern, Kiehl, Sole, & Byers, 2006). The one measure that demonstrated psychometrically sound properties with adolescents is the Resilience Scale developed by Wagnild and Young in 1993. But only later validation studies supported its use with adolescents and various ethnic groups (Aroian, Schappler-

Morris, Neary, Spitzer, & Tran, 1997; Linderberg et al., 2002; Neill & Dias, 2001). This measure however has other problems, in that it measures only three constructs related to resilience and appears to leave out important concepts related to support systems, empathy, and optimism, despite research support for these factors as being conducive to resilient outcomes.

Resilience overall refers to interactive and contextual factors that promote overcoming challenges in the most adverse circumstances. Decades of research have been dedicated to the identification of youth risk and resilience. However, traditional methods of measuring adolescent mental health have relied on assessing the frequency of undesirable behaviors believed to impact a student's capacity for positive experiences (Eaton et al., 2012). Only a few recent measures were found to access positive constructs related to resilience, but none of them were believed to cover a comprehensive model of protective traits.

An understanding of protective factors associated with resilience in adolescents is important due to their relationship with a capacity for growth, meaning, and purpose. Adolescents who can step back and isolate a negative moment in their lives as a single event rather than the defining moment of their lives are much more capable of overcoming a challenge rather internalizing and allowing it to consume them. A measure that thoroughly targets both internal and external dispositions that motivate adolescents to adapt and thrive could be an informative tool for supporting a shift from a deficit-focused model to one that appreciates and contributes to pre-existing strengths.

Towards a New Paradigm of Protective Factors: CoVitality

In response to measurement limitations of existing scales for the positive traits that comprise resilience, Furlong, Dowdy, Carnazzo, Bovery, and Kim (2014a) developed an assessment that broadly measures protective factors via a concept that was coined CoVitality. As a strengths-based measurement of resilience, CoVitality values the examination of positive dispositions as a means for facilitating "psychologically healthy educational environments for [all] children" (Huebner, Gilman, Reschly, & Hall, 2009, p. 565). CoVitality is comprised of twelve psychological constructs that have been empirically supported to be linked to positive youth development. The increased number in traits for measurement was decided based on the notion that "the combination of strengths matters more than the individual components—the sum is greater than the parts" (Furlong et al., 2014a, p. 28).

The CoVitality or CoV construct is measured via the Social Emotional Health Survey, which is a self-report measure of protective factors with universal screening applications. The concept of CoV is especially unique in the research literature due to its capacity for use as a comprehensive and dynamic predictor of positive outcomes in adolescents (Furlong et al., 2014b). Specifically, CoV's twelve constructs target a student's subjective perceptions associated with emotional competence, engagement in daily living activities, confidence and belief in self, and trust in others (Furlong et al., 2014b). These four domains are associated with social-emotional learning and childhood resilience; that is, such as self-control, optimism, self-efficacy, and family coherence, all of which are important areas to identify for intervention in adolescents (Furlong et al.,

2014b). More about validity and reliability of the CoV construct and its intended measurement tool will follow. Figure 1 in Appendix A illustrates the CoV model and construct associated with the measure and its 12 subscales and four overarching positive domains (Furlong, 2014).

The construct of CoV has been captured in a new measure called the Social Emotional Health Survey, originally developed in 2010 and is available now in at least ten other languages. This measure has three versions: a primary version for elementary school grades and a secondary version for middle and high school grades; and a higher education version for college age populations. Only the second middle-high school version is used here. This CoV measure is considered one of the most robust measures of social-emotional competencies to date, largely because of its brief and psychometrically sound format that measures positive mental health traits in adolescents and its usefulness for intervention programming (Furlong et al., 2014b; Renshaw, 2016). According to Furlong et al. (2014a), the CoV construct is "the synergistic effect of positive mental health resulting from the interplay among multiple positive-psychological building blocks" (p. 1011). The validity of this measure for the CoV construct was first examined in 2013 by Furlong, You, Renshaw, Smith, and O'Malley (2013) in a preliminary study of another shorter self-report measure of 25 items titled the Positive Experiences at School Scale (Furlong et al., 2013). Confirmatory factor analyses with the items on this original scale indicated four first-order subscales of performance existed (gratitude, zest, optimism, and persistence) which later provided support for the newly proposed CoVitality construct (Furlong et al., 2013). These findings then led to the development of

the subsequent scale employed in this study that also includes four first-order subscales designed to improve understanding of CoV competencies across the lifespan and for establishing a cognitive understanding of such experiences (Sameroff, 2010; You, Furlong, Felix, & O'Malley, 2015).

The CoV scale includes 36-items that produce a Total CoVitality construct score represented by 12 subscales and four domains of well-being. Since only the final total score will be employed in this study, the subscores within each domain score will only be briefly explained. The Belief-in-Self domain is comprised of the Self-Awareness, Self-Efficacy, and Persistence scales. The Belief-in-Others domain is made up of the Family Support, Peer Support, School Support subscales. Emotional Competence includes the Emotional Regulation, Self-Control, and Empathy subscales. Finally, the Engaged Living domain involves Gratitude, Zest, and Optimism.

Overall, since its creation, the CoV measure has been employed and validated in over 30 studies across 8 states, 15 countries, and inclusive of 12 languages. Researchers have explored the validity of the CoV measure across sex and diverse racial adolescent sample (Furlong et al., 2014a&b). The results reported in these studies provide strong support regarding the validity of the CoVitality construct with adolescents and also a strong validation of the instrument and its associated domains (Furlong, 2017; Furlong et al., 2014b; Ito, Smith, Renshaw, 2016; You et al., 2014; You, Shimoda, and Furlong, 2015). Thus, this resilience measure was selected for use in this study due to its capacity for reliably identifying resilience within an adolescent sample. Further, the CoVitality model and associated constructs represent a comprehensive and strengths-based

understanding of adolescent mental health, which is desirable given the intent of this study to uncover positive characteristics related to resilience. In contrast, other models of measuring resilience have focused on one-dimensional approaches, which separate human functioning into opposite poles of distress and well-being (Renshaw et al., 2014).

Of note, while CoVitality is inclusive of various biopsychosocial dispositions (high breadth), it is limited in its depth of coverage for some dispositions due to its universal screening application. Thus, as a school-wide screening tool, the Social Emotional Health Survey measurement of CoVitality may not be intensive enough to identify internal and external contingencies such as academic self-efficacy and parental involvement, that more profoundly affect students with severe social-emotional needs. More targeted measures, discussed next, could help positively complement the Social Emotional Health Survey and related adolescent attributes.

Major Factors that Affect Resilience

Resilience as an umbrella term implies that a variety of factors are at play in its development and maintenance. The focus of the present study is on protective factors due to their limited examination in school settings. The CoV measure discussed above captures many major factors believed to be related to adolescent well-being. However, it is primarily a screener limited in breadth of coverage within particular factors associated with positive youth experiences in school settings. Three additional factors have been identified as important when considering adolescent protective factors in school settings. Research is reviewed next supporting the important impact each of these factors has on the construct of resilience or CoV.

Academic self-efficacy. One major factor that affects protective factors in the adolescent period is perceptions of ASE. In general, people who believe they are highly efficacious are more likely to persevere and overcome adverse circumstances (Bandura, 1986). These findings are related to a recognition of one's abilities and a higher perceived control over circumstances. High self-efficacy promotes sense of mastery and rejection of negative cognitions about one's abilities (Ozer & Bandura, 1990). Perceptions of ASE in particular include dispositions such as good study habits, help-seeking behaviors when concepts are poorly understood, and an orientation towards academic success. These perceptions have been found to be highly related to internalizing and externalizing problems in adolescents.

A study by Bandura et al. (1999), whose sample consisted of 282 middle school students (148 males, 134 females) from Italy found that adolescents with ASE experienced more symptoms associated with school phobia, depression, and conduct problems. A study by Muris (2002), whose sample consisted of 596 typically developing adolescents, reported similar findings with respect to a relationship between self-efficacy and affective disorders in adolescents. In his study, Muris (2002) concluded that perceptions of self-efficacy were related to anxiety disorders and depression.

Self-efficacy has been identified by Bandura (1997) as a resource component of resilience. That is, a trait that reflects a sense of control and optimism in being able to overcome challenging demands. Perceptions of ASE, or perceptions of academic competency, are relevant to adolescents in general because of their capacity to influence development and maintenance of affective disorders. Bandura (1997) specified that self-

efficacy plays a role in the etiology and maintenance of behavioral problems. Thus, adolescents who struggle with these perceptions will likely also experience lower levels of well-being and motivation towards success, which translates into lower levels of perceived resilience to overcome challenges. As a result, measurement of adolescent perceptions of self-efficacy are important.

According to Bandura (1997), measures of self-efficacy should "measure people's beliefs in their abilities to fulfill different levels of task demands within the psychological domain selected for study" (p. 44). Prior measures of self-efficacy included adaptations of adult measures for studying the same construct in children (Comunian, 1989; Meral, Colak, & Zereyak, 2012; Pintrich & De Groot, 1990). These measures are not only inappropriate, but also invalid due to the lack of psychometric work that is required to ensure the construct is as reliable in children. Further, past measures of self-efficacy focused on specific areas of functioning (reading, mathematics, social skills), rather than global constructs associated with self-efficacy (Muris, 2001). Only one measure to date has been able to capture a comprehensive set of skills required to meet the demands of specific self-efficacy domains, the Self-Efficacy Questionnaire for Children.

Self-efficacy questionnaire for children. The Self-Efficacy Questionnaire for Children was developed by Peter Muris in 2001 as a self-report measure for adolescents that captures their perceived capacity to perform academically, regulate their emotions, and relate adequately with others. It was developed in response to inadequate measures of self-efficacy in children. In addition, it helped to support a proposition by Bandura (1999)

for studying general self-efficacy as stemming from three areas of capability, namely, academic, social, and emotional self-efficacy.

Originally developed in the Netherlands, the measure was first sampled with European youths, but has since been validated with Dutch, Belgian, and American youth (Muris, 2001; Suldo & Shaffer, 2007). Over ten published studies have demonstrated a strong construct validity for the instrument, noting that individuals who reported lower scores on the measure also experienced high levels of depression (Muris, 2002). The psychometric properties of the measure have also been well documented with adolescents. Overall, multiple research studies have provided strong support for the validity and reliability of the Self-Efficacy Questionnaire for Children, supporting its selection for the study (Muris, 2001; Suldo & Shaffer, 2007; Young, 2015).

The Self-Efficacy Questionnaire for Children was ultimately selected for this study because of its specificity in providing self-efficacy scores for three separate domains in addition to a global self-efficacy score. This feature was suitable given the academic-based self-efficacy focus of this study. Alternative self-efficacy measures did not distinguish between different types of self-efficacy while those that claimed to target ASE focused on a student's perceived mastery of academic concepts in specific content areas like reading, math, and writing. The ASE focus of this study is not on perceived academic performance in content areas, rather it is on self-perceptions of the academic dispositions that define a student as a motivated and attentive learner (i.e., help-seeking behaviors, good study habits, and orientation towards global academic success). Such a focus is consistent with Bandura's (1997) assertion that measures of self-efficacy should

be comprehensive, assessing all of the task demands required within specific domains of interest, such as *academic* self-efficacy. The selected measure does just that, tapping into three separate domains with comprehensive items about the skills required to demonstrate distinct competencies.

Maternal parental involvement. According to Feldman, Stiffman, and Jung, "The social relationships among family members are by far the best predictors of children's behavioral outcomes" (1987). Research on parenting style and child behavior has concluded that conduct problems are associated with problematic parenting (Dadds, Maujean, & Fraser, 2003; Frick & Jackson, 1993; Prevatt, 2003). The strong association between ineffective parenting practices and child behavior is relevant in the adolescent population due to their strong desire for an independent identity and the behaviors associated with developing it. Parental involvement that is low or lacking can influence an adolescent's response to risk, including if and how conduct problems will develop. For adolescents, the most frequently referred conduct problems for behavioral treatment include aggression, stealing, lying, rule breaking, and noncompliance (Dadds, Maujean, & Fraser, 2003). Without treatment, adolescents may face a lifetime of dysfunction that could lead to involvement with the criminal justice system (Constantine, Andel, Robst, & Givens, 2013).

In contrast, protective factors associated with resilience during the adolescent period have been found to be linked to effective parental involvement practices, such as support for their children's talents, restricted exposure to dangerous situations and environments, and even family dinner routines (Coyle, 2011). Additional family factors

such as cohesion, emotional support, and positive interaction styles are also conducive towards protective factors involved in resilience (Prince-Embury, 2014). According to Garmezy (1985), environments that include warm parent-child-relationships are further conducive to protective factors associated with resilience. In addition, a close bond with at least one caregiver has also been found to support adolescent resilience (Masten, Best, & Garmezy, 1990).

The earliest methodologies for measuring important family constructs employed direct observations of parent-child interactions (Patterson, 1982). These methods posed problems with validity due to the superficial laboratory environments in which situations were created and the reactive behavioral responses from the observed parents and children (Essau, Sasagawa, & Frick, 2006). Besides being expensive and time consuming to perform and analyze, these methods also focused on parenting styles on a general level. As such, they failed to identify both positive and negative aspects of parenting that are related to the development of conduct problems (Dadds, Maujean, & Fraser, 2003; Patterson, 1982).

Other methods have tried to focus on parenting perceptions of stress, competence, and general approach or style to parenting, but left out risk factors and specific behaviors that could create conduct problems (Rosa & Krueger, 2017). One exception to measures that excluded risk was the Child's Report of Parental Behavior Inventory, a 26-scale measure which included parental involvement, discipline, and strategy use dimensions (Schaefer, 1965). The measure was intended for completion by adolescents due to the general validity of children's reports that was found in previous studies at the time.

Specifically, it was found that children's reports of parental behavior were correlated with parent-child relationships, child adjustment, observer reports, and even school achievement (Andry, 1957; Brown, Morrison, & Couch, 1947; Morrow & Wilson, 1961; Swanson, 1950). Despite the measure's step forward in targeting conduct problems and addressing the importance of acquiring a child's perception of their parent's relational approaches, it was still too general in its dimensional measurement and limited in utility because of its restricted use with adolescents (Loney & Lima, 2003).

Another existing measure, the McMaster Family Assessment Device, examines of parenting factors associated with the overall health of the family by targeting its capacity to solve problems, communicate with one another, assign roles, emotionally cope, accept concerns, and maintain behavior standards (Epstein, Baldwin, & Bishop, 1983; Sherman & Fredman, 1987). Assessment of risk factors is not included. Contrary to other test publishers, the authors of the McMaster Family Assessment Device completely avoided running factor analyses in order to determine if their questions had anything in common (Sherman & Fredman, 1987). Instead, they identified questions for six areas of family functioning, administered them to college students in introductory psychology courses, and calculated validity and reliability based on those findings (Epstein, Baldwin, & Bishop, 1983). Following analyses, authors determined that the measure could be completed by adults or high school students. The various problems outlined regarding the creation and application of the measure as well as its avoidance of identification of risk factors deemed the McMaster Family Assessment Device inadequate for the present study.

Another scale, the Family Environment Scale, has been used in adolescent samples to identify perceptions of their family environment (Moos & Moos, 1986). Unfortunately, multiple studies have indicated that its reliability and validity are questionable, reporting values well below what is considered acceptable for research and below what was originally reported in the scale's publication manual (Boyd, Gullone, Needleman, & Burt, 1997; Roosa & Beals, 1990). Such findings challenge the accuracy and generalizability of the Family Environment Scale to an extent that regards it as another inadequate measure for consideration in this study.

The Collaborative Parent Involvement Scale intended to identify parent involvement as perceived by children, but in populations of children diagnosed with diabetes (Nansel et al., 2009). Thus, the scale was limited to particular childhood characteristics not of interest in the present study.

An effort to find what may be recommended by the state of Colorado's Department of Education produced a total of eight measures for use in school settings (Nansel et al., 2009). Unfortunately, none of these measures are available in adolescent self-report. Instead, they are reserved only for parents, teachers, and caregivers of students in Kingergarten through 12th grade. It was not until 1991 when a new measure of parenting finally tapped into the specific risk factors associated with childhood conduct problems, as perceived by both a paternal and maternal parent figure and their children (Shelton, Frick, & Wooton, 1996).

Alabama parenting questionnaire. The Alabama Parenting Questionnaire was developed in response to measures that failed to examine both the positive and negative

dimensions of parenting that can contribute to childhood behavioral problems. A review by Locke and Prinz (2002) of 76 questionnaires and 27 interviews indicated that most focused solely on ineffective practices. Developed in 1991, the Alabama Parenting Questionnaire continues to be used today in clinical and research settings and in a variety of languages due to its continued strong psychometric properties. It is also available as a parent report and child self-report form, supporting research approaches that include children's insight about their experiences.

The Alabama Parenting Questionnaire has reportedly good psychometric properties, including the capacity to differentiate between clinical and nonclinical samples (Elgar, Waschbusch, Dadds, & Silvalason, 2007). Overall, the Alabama Parenting Questionnaire child self-report was chosen for this study because of its continued use and consistent findings in the research literature. Despite its 1991 publication, the measure continues to be widely used in research, with studies published as recent as March 2017 that have either replicated original findings or adapted the assessment for other populations. Adaptations have included various translations – 17 approved to date, including Chilean, German, Catalan and others (https://sites01.lsu.edu/faculty/pfricklab/wp-content/uploads/sites/100/2015/11/apq-translations.pdf). The Alabama Parenting Questionnaire was also selected because it includes a specific subscale that measures parental involvement and even separates it by maternal and paternal figure. This supports the specific construct of interest in this study, which is perceptions of *maternal* parental involvement.

Relationship between Protective Factors and Special Education Populations

Special education populations are important to consider when identifying characteristics related to protective factors because methods for determining eligibility and services are currently deficits-focused. The Individuals with Disabilities Education Act (IDEA) was originally enacted by Congress in 1975 in order to ensure equal education opportunities for children with disabilities (U.S. Department of Education, 2007). Despite the motive, the act, now Individuals with Disabilities Education Improvement Act (IDEA, 2004) continues to focus on a deficits-based identification model for services. More specifically, eligibility criteria for all thirteen different educational disabilities that children may qualify under are comprised of a checklist of impacted performance areas related to the label.

While identification of areas of concern assist with supporting students, special education designations continue to pose a stigmatizing source of identity. For adolescents, whose self-consciousness about social status and identity is higher, special education identification may not immediately support resilient beliefs and responses (McConaughy, 2013). For example, the National Center for Education Statistics (2016) found that special education labels appear to be related to high school graduation, with greater percentages of school dropout among special education-identified populations. Furlong's (2014) CoVitality construct is therefore an appropriate source of information about adolescent protective factors because of its capacity to focus on existing strengths, as identified by the student, that inform and guide their behavior. Beliefs about ASE and

MPI are two other critical factors that impact an adolescent's perception of protective factors, especially for those identified with special education needs.

Overall, studies of adolescent protective factors in special populations indicate that relationships and perception play a large role in overall well-being (Taylor-Shaw, 2011). Allowing adolescents to describe their experiences may promote better identification of the personal attributes, such as self and social awareness and learned coping mechanisms that guide their problem solving decision making skills and therefore contribute to resilience (Hall, 2010; Franklin, 2012; Prince-Embury, 2010). A study by Werner (1993) found that youth with learning disabilities had fewer protective factors than those without these difficulties. McGee (2007) found that students with learning disabilities appear to have a fixed view of intelligence, therefore reporting lower experiences of success. Further, a study by Berry-Mitchell (2010) of adolescent resilience and academic success indicated only moderate resilience among a group of students identified for special education. Another study by Smith (2004) indicated that negative outcomes in adolescents identified with special education needs often come from negative environments and a lack of parental involvement.

Relationship between Protective Factors and Sex and Racial Status

Differences in protective factors have been reported for males and females as well as across different racial groups. One general finding is that adolescent females generally have more protective factors than males (Masten et al., 1999). Other studies have found mixed results, with one identifying sex differences were related to racial minority status,

specifically that African American females perceive more resilience than African American males (Markstrom, Marshall, & Tryon, 2000).

A study by Werner and Smith (2001) found differences across gender for protective factors related to resilience; specifically, that school achievement and peer relationships were more protective for adolescent girls than for boys. A longitudinal resilience study by Werner (1989) of 545 children ages birth to 32 years found that risk and protective factors shift at different life phases. Werner (1989) also found that differences between males and females existed for barriers related to resilience; specifically, that males presented with more risk factors than females prior to age ten. However, these differences in male and female resilient responses are inconsistent across studies. While many have identified females as having more protective factors, other researchers, such as Sarwar, Inamullah, Khan, and Anwar (2010) claim that males are the more resilient sex. These findings were based on a sample of 127 secondary students, including 52 boys and 75 girls. Clearly, more research is needed to better understand the differences, if any, between male and female perceptions of protective factors associated with resilience.

In addition, race may be an important factor to consider when examining protective factors in adolescents. It is especially important to study for adolescents who are considered racial because in addition to coping to the developmental stressors associated with the adolescent period, they must also face challenges from disadvantaged social situations (Miller, 1999; Zimmerman, Ramirez-Valles, & Maton, 1999). Research has noted that racial minority status introduces more risk due to issues of discrimination

(Markstrom, Marshall, & Tryon, 2000). Other studies have identified factors such as locus of control and ASE are related to minority perceptions of resilience (Borman & Rachuba, 2001).

One study found that minority children are more likely to recognize that stressful situations can be changed (Halstead, Johnson, & Cunningham, 1993). However, resilience studies with minority children have found that African American males score lower in respect to protective factors compared to their white peers (Markstrom, Marshall, & Tryon, 2000). It was suggested that this may be due to higher levels of social support available to whites than racial minorities (Markstrom, Marshall, & Tryon, 2000).

A study by Borman and Rachuba (2001) concluded that the resilient responses of minority 3rd grade students depended on their perceived locus of control and ASEy. It was also noted that racial and ethnic minorities have relatively lower levels of ASE (Peguero & Shaffer, 2014). In multiple reviews, researchers noted that there is a connection between protective factors and achievement in African American students (Glantz & Sloboda, 1999; Luthar, Cicchetti, & Becker, 2000; Masten, 1999). A study by Hughes, Kiecolt, Keith, & Demo (2015) found that African Americans who have a strong racial identity tend to have better self-esteem, a greater sense of mastery, and fewer symptoms associated with depression.

For racial minorities, responses to academic stress may include resilience, acceptance, or disengagement (Finn & Rock, 1997; Kunjufu, 2006). These responses are especially variable for African Americans, whose racial identity is complex, multifaceted, and contextually dependent (Cross, 1971). Racial identity is repeatedly described as

influential factor in the coping mechanisms that minority students employ when faced with stress and adversity. Thus, if the perception of racial identity is low or is negative to begin with, it is highly likely that resilient behavior and perceptions of ASE will be impacted.

Racial identity has also been proposed to be positively correlated with academic achievement. That is, the stronger the racial identity, the better the academic performance is for a student. Miller-Cotto and Byrnes (2016) confirmed this assumption in their meta-analysis of 47 studies about ethnic/racial identity and academic achievement; albeit they cautioned that there were subtle differences between racial and ethnic groups. Compared to low Socio-Economic Status (SES) white children, minority children in general have been found to experience more exposure to risks and fewer conditions that increase protective factors in order to promote resilience. Overall, it is important to look at differences between sex and race because studies suggest these constructs may affect adolescent perceptions of protective factors associated with resilience.

Summary

Early conceptualizations of resilience were generated on deficits-focused models that described resilience as an internal character trait that was rarely demonstrated or acquired. As resilience research expanded, investigators such as Masten (2001) and Seligman (2000) proposed that resilience should be viewed as a positive and dynamic construct that is innate to everyone and could be taught regardless of circumstances.

Resilience was eventually conceptualized as a dynamic process of interactions between individual characteristics and environmental demands, all of which could be

targeted for intervention in children, adolescents and adults. The adolescent population in particular has been recognized for experiencing a myriad of developmental challenges associated with neurological development and a desire for independence in identity and self-direction. Such challenges support the study of protective factors associated with resilience in adolescents in order to provide interventions that enhance their adaptive strengths rather than solely isolate their vulnerabilities. Measures of resilience to date have made improvements in acknowledging positive internal and external traits as well as the adolescent's perspective. However, only one measure, captured by CoV, appears to fully integrate all psychological constructs that promote protective factors associated with resilience.

At present, no studies have directly addressed the combination of the three proposed factors; namely, ASE, MPI, and SPED. Instead, studies have focused on the interrelationships of one or two of these factors with outcomes such as academic achievement or issues of stigmatization. Exploring the interrelatedness of these under-recognized factors may help provide a better understanding youth protective factors in specialized and at-risk populations.

Chapter Three: Methodology

This chapter is dedicated to describing the design of the study, the criteria used to select participants, the power analysis that determined the size of the sample, a description of the instruments that were used, the procedures that were followed, and an overview of the data analysis procedures.

Study Design

This study was designed as a correlational analysis using a convenience sample of students with a Special Education Identification Status (SPED) and those general education students without this status. These students self-reported on their perceptions of protective factors associated with resilience, as measured by the CoVitality (CoV) construct, as well as Academic Self-Efficacy (ASE) and Maternal Parental Involvement (MPI) while moderating for sex and race. The purpose of the study was to advance the knowledge base of protective factors associated with resilience and identify other constructs that can enhance social-emotional outcomes in at-risk youth. In the present study, a correlational design was employed to analyze the independent variables (SPED, ASE score, MPI score), moderators (sex and race), and dependent variable (CoV) derived from the Social Emotional Health Survey.

The following research questions directed this investigation:

1. Are there statistically significant correlations between CoVitality and sex, race, Academic Self-Efficacy, Maternal Parental Involvement, and the parent reported Special Education Identification Status of their child?
2. Does the parent reported Special Education Identification Status of their child, along with an adolescent's perceived Academic Self-Efficacy and Maternal Parental Involvement score, predict CoVitality?
3. Do sex and race moderate the effect of Special Education Identification Status, Academic Self-Efficacy, and Maternal Parental Involvement on self-reported CoVitality scores?

Participants

Participants for this study included 54 adolescents from culturally diverse public middle and high schools in southern Colorado. Schools were selected as being representative of the demographic structure required in order to have balanced participation across sex, race, and special education identification status. According to demographic information, there were a total of 25 males and 29 females, with a mean age of 13.15 years. Further, 38.9% of participants were of White racial origin, while 61.1% were categorized Non-white. A total of 20 adolescents in the sample were identified as receiving special education services.

Inclusion and exclusion criteria. Important inclusion and exclusion criteria were also identified for the study. Adolescents were recruited from various public schools in one major urban district in the state of Colorado who were between the ages of 10 to 18.

Public school enrollment was an inclusion criteria because of clear guidelines used for identification of special education disabilities. Students' parents specifically had to report their child was either a) identified for special education services or b) were in general education and did not receive any special education services. Parents of the special education students did not report their child's special education status but did have to report if the child primarily attended general education classes in order to be considered for recruitment. Thus, if a child was in a full-time special education program classroom they were excluded from the study. This was done because children who were in self-contained special education programs did not have access to the same experiences and opportunities as children who were predominantly accessing their general education environment. In order to acquire equivalent total representation across groups of special education identified and general education adolescents as well as sex and race, purposeful sampling was employed. The following sections will further clarify the criteria specified to obtain each adolescent group.

Special education identified students. The special education sample's inclusion criteria involved a minimum identified qualification time of one month. That is, adolescents identified with a special education eligibility in the sample must have had this label for at least one month in order to be included in the sample. Further, the study referred to special education labels as identified by the state of Colorado, which include a total of thirteen. That said, only adolescents identified with any of the following Colorado-based eligibilities were included in the study: Autism Spectrum Disorder, Orthopedic Impairment, Other Health Impaired, Serious Emotional Disability, Specific

Learning Disability, Speech or Language Impairment, and Traumatic Brain Injury (Colorado Department of Education, 2018).

Adolescents identified with an Intellectual Disability (ID) category were excluded from the study because of the reading ability required to complete the instruments. By default, the Multiple Disabilities category as also excluded as it includes Intellectual Disability in its determination. Adolescents identified with the Deaf-Blindness category were also be excluded because the study did not have access to the resources required to support communication methods for these students to answer the questionnaires. Similarly, the Hearing Impairment, Including Deafness, and Visual Impairment eligibilities were excluded. Finally, the Developmental Delay category was automatically excluded because it does not apply to the participant age range of the sample as it is restricted for use with children ages three through eight.

General education non-identified students. The general education, non-special education identified sample consisted of adolescents who were not yet identified with a special education eligibility label as reported by their parent. Nor were any of these students in the process of being identified for special education.

Power Analysis

The overall sample size for the study was calculated via an *a priori* analysis using G*Power, with the following inputs. First, the chosen inferential test was linear multiple regression with five predictors, three categorical and two continuous. The three categorical variables were Special Education Identification Status (i.e., Special Education Identified versus General Education Non-Identified students), Sex (i.e., Male, Female)

and Race (i.e., White and Non-White). The two continuous variables were Academic Self-Efficacy (i.e., based on a score of 8 to 40), and Parental Involvement (i.e., based on a total score of 19 to 95). There was one outcome variable, protective factors associated with resilience, as measured by the CoVitality construct (based on a total score of 36 to 150 for the Social Emotional Health Survey), and was continuous in nature. The effect size for a total of 6 variables was fixed at a moderate level, which corresponds to 0.15, an α significance level of 0.05, and a power level of 0.70, all as recommended by Cohen (2013). Based on these inputs, the recommended sample size for the study was 81. Anticipated data collection problems did occur, which affected the final acquired sample, but not the capacity to run and interpret analyses.

Instruments

Social emotional health survey. The Social Emotional Health Survey was used as a measure of the major independent CoV variable in this study. As mentioned earlier, only the version for secondary middle and high school (Social Emotional Health Survey-Secondary) was used for the present study (Furlong, 2015). This measure assesses protective factors associated with resilience using a synergistic conception of social emotional health coined as CoVitality.

Structurally, the Social Emotional Health Survey-Secondary is a 36-item scale that provides scores for a Total CoV construct as well as twelve subscales that contribute to four domains of well-being. These twelve subscales can be used for standalone measures of well-being or summed to create four first-order domains. Item responses are based on a 4-point rating scale (1 to 4; Not at all true of me, A little true of me, Pretty

much true of me, Very much true of me) for the first three domains (Belief-in-Self, Belief-in-Others, and Emotional Competence) which correspond to items 1-30. A 5-point scale (1 to 5; Not at all, Very little, Somewhat, Quite a lot, Extremely) is used for the last domain (Engaged Living), which corresponds to items 31-36. The total CoV score developed from a sum of responses from these scales can range from 36 to 150, with higher scores representing greater levels of protective factors associated with resilience. Examples of items include being able to work out problems, understanding one's moods and feelings, trying to answer all questions asked in class, and having family members that support one another (Furlong, 2014). Refer to Appendix B for items on the Social Emotional Health Survey-Secondary.

This measure has been found to have strong psychometric properties and is available in 12 languages (Furlong, 2017). The first study to investigate the validity and utility of the Social Emotional Health Survey-Secondary in adolescent samples was performed by Furlong et al. (2014b). The sample in this study included a total 4,189 students from the state of California in grades 8, 10, and 12, of whom 51% were female. Results indicated support for the CoVitality construct as fitting for both males and females and predictive of overall adolescent well-being (Furlong et al., 2014b). Specifically, it was demonstrated that the CoVitality construct was a strong predictor of students' subjective well-being and that it was significantly associated with "self-reported academic achievement, perceptions of school safety, substance use, and experiences of depressive symptoms" (Furlong et al., 2014b, p. 1012).

A validation study by You et al. (2014) found support for the factor structure the Social Emotional Health Survey-Secondary. It was also found by You et al. (2014) that each of the four domains clearly mapped into the construct of CoVitality. The sample in this study consisted of 2,240 students in grades 9-12 from two U.S. high schools of which 72% were of Latino heritage with disadvantaged economic circumstances (You et al., 2014). A validation study with Japanese students in northwest Tokyo also reported similar findings. Specifically, Ito, Smith, You, Shimoda, and Furlong (2015) found that the Social Emotional Health Survey-Secondary use with a sample of 975 Japanese students in grades 7-9 confirmed the four factor model of the measure as well as the CoVitality construct and overall association of the latter with subjective well-being of Japanese adolescents. A study by Lee, You, and Furlong (2016) found that the Social Emotional Health Survey-Secondary was also supported for use with a sample of 686 Korean adolescents, grades 7-12, in the northwest.

In a multi-group and diverse sample of 14,171 adolescents in grades 9-12 across 14 high schools in California, You et al. (2015) found additional support for the survey's measurement model, including its first order domains and CoVitality construct. Sociocultural group identification included 57.8% Latino, 17.2% White, 8.2% blended, 7.6% Black, 6.3% Asian, 1.6% Native American/Pacific Islander, 0.7% Alaskan/Native American, and 0.7% did not respond (You et al., 2015).

Most of the Social Emotional Health Survey's original development samples include typically developing students. However, one study to date has attempted to validate the measure using an academically at-risk population of adolescents. In his study

of a small sample (N = 77) of academically at-risk adolescents, in an alternative charter school context in southern U.S., Renshaw (2016) found that the four composite scales and CoVitality construct were internally reliable, had internal convergent validity, and external discriminant validity with teacher reported symptoms of internalizing and externalizing conditions. However, the usefulness of the twelve subscales with the small and at-risk sample was deemed questionable by Renshaw (2016), who noted in his discussion that they had poor internal reliability. Replication recommendations were made, especially due to the smaller sample in the present study.

Overall, the reported Cronbach's α for the total CoV score is reported as 0.92, indicating a high level of internal consistency reliability (Furlong et al., 2014b; Suldo, 2016). The Social Emotional Health Survey-Secondary also has demonstrated high test-retest reliability (r = 0.60) over the course of one year (Furlong et al., 2014b). For the purposes of this study, only the CoV total score was calculated as it represents an overall measure of protective factors associated with resilience. This was achieved by summing responses to all items which are positively worded and required no reverse scoring. Refer to Appendix B for a complete list of the items included in the actual measure of CoV.

Self-efficacy questionnaire for children. The Self-Efficacy Questionnaire for Children, developed by Peter Muris, was published in 2001 to measure personal adjustment in youth; that is, how they cope with daily stressors for the purpose of successful outcomes and adaptation (Muris, 2001). As such, it measures adolescents' beliefs about their competencies in social, academic, and emotional domains. According to Muris (2001), social self-efficacy "has to do with the perceived capability for peer

relationships and assertiveness," academic self-efficacy "is concerned with the perceived capability to manage one's own learning behavior, to master academic subjects, and to fulfill academic expectations," and emotional self-efficacy "pertains to the perceived capability of coping with negative emotions" (p. 146).

Structurally, the Self-Efficacy Questionnaire for Children is a 24-item scale that provides scores for three self-efficacy domains (Academic, Social, and Emotional) as well as a Total Self-Efficacy score that can be obtained from the sum of all items. Each domain comprises 8 questions and responses are based on a 5-point rating scale (1 to 5; Not at all to Very well), yielding a score range of 24 to 120. Of note, anchors for scores 2-4 were unavailable in prior research, thus for the purpose of this study, the following categories were assigned to cover those missing: (1) Not at all, (2) *Very little* (3) *Somewhat*, (4) *Quite well*, and (5) Very Well. Examples of items include perceived success with studying when there are more interesting things to do, finishing all of one's homework, and passing a test (Muris, 2001). For the purposes of this study, only responses to the ASE items were used in the model. These were summed, yielding a continuous range of scores from 8 to 40. Refer to Appendix C for a complete list of the items included in the Self-Efficacy Questionnaire for Children.

This measure has been found to have strong psychometric properties. The first study to address the Self-Efficacy Questionnaire for Children's reliability and validity used a sample of 330 adolescents (140 boys, 190 girls) by administering the measure in conjunction with the Children's Depression Inventory, a measure of depression (Muris, 2001). Factor analyses confirmed that items in the three subscales of academic, social,

and emotional self-efficacy did indeed load into their perspective scales. The Self-Efficacy Questionnaire for Children was also found to have good internal consistency and that it correlated well with a measure of depression (Muris, 2001).

A study by Suldo and Shaffer (2007), whose original sample comprised of 697 middle and high school American students from the southeast, supported the existence of three factors (emotional, social, and academic self-efficacy) that load into overall self-efficacy. When replicated with a total of 318 high school American students from the southeast, Suldo and Shaffer (2007) were able to confirm once more that the instrument's structure and measurement of three factors related to self-efficacy was valid. Of note, Suldo and Shaffer (2007) found differences between adolescent boys and girls reported levels of self-efficacy in the area of emotional self-efficacy. Specifically, adolescent boys reported higher levels on this subscale than did girls. These early findings are notable, as a later researcher indicated in their study that no gender differences have been found in perceptions of academic self-efficacy (Young, 2015).

The reported internal consistency reliability of the Self-Efficacy Questionnaire for Children is high, with a reported Cronbach's α of 0.88 for the Total Self-Efficacy score, 0.88 for Academic Self-Efficacy, 0.85 for Social Self-Efficacy, and 0.86 for Emotional Self-Efficacy (Muris, 2001). No studies were identified that have reported a test-retest reliability for the measure to date.

Alabama parenting questionnaire. The Alabama Parenting Questionnaire, developed by Paul Frick, was published in 1991 as a measure of parenting practices that influence the onset and maintenance of emotional behavioral problems in children. Over

50 studies have documented good psychometric properties for this measure, many predicting child symptoms of Oppositional Defiant Disorder and Conduct Disorder and most concluding that the tool is a highly informative assessment.

The Alabama Parenting Questionnaire is available as a Child Global Report version to be completed by parents and as a self-report to be completed by children. Only the child report version was used for this study. Structurally, the child version is a 42-item scale that measures the construct of parenting practices based on five subscales: Parental Involvement, Positive Parenting, Poor-Monitoring/Supervision, Inconsistent Discipline, and Corporal Punishment. Seven items are associated as Other Discipline Practices, but that is not an identified scale. Of note, the child version provides two separate scores for its parental involvement subscale, one based on experiences with a maternal figure and the other with a paternal figure. For the purposes of the present study, only the responses associated with involvement from a maternal figure were used in the model.

The Alabama Parenting Questionnaire is measured on a 5-point rating scale (1 to 5; Never, Almost Never, Sometimes, Often, Always) and with a continuous range of 42 to 210. Items in the Parental Involvement and Positive Parenting subscales are worded in the positive direction (suggesting more positive parenting) and items in the Poor-Monitoring/ Supervision, Inconsistent Discipline, and Corporal Punishment are worded in the negative direction. Example items include having friendly talks with parents, being helped by parents with special activities, and doing fun things with parents (Frick, 1991).

Very few studies have tested the reliability and validity of the child self-report version, which is the scale of interest in this study, due to a preference for parent report rather than a child's insight about their experiences (Dadds et al. 2014). The first documented exploratory factor analyses of the child version were conducted in 2006 with a sample of 1219 German adolescents (644 boys, 575 girls), ages 10-14 years (Essau, Sasawaga, & Frick, 2006). Results indicated that the five factors associated with the original Alabama Parenting Questionnaire structure were satisfactory (Essau, Sasawaga, & Frick, 2006). Further, in their study of 124 children ages 6 to 13, Shelton, Frick, and Wooton (1996) indicated that the child form was not deemed effective with children younger than 8, and recommended that refinement of the measure would be needed in order to use it with such a young population.

Few studies have examined the Cronbach's α of the child self-report scales, but one study by Essau, Sassagawa, and Frick (2006) found that the internal consistency of the subscales ranges from 0.62 to 0.83. For the subscale of interest in this study, parental involvement from a maternal figure, the Cronbach's α was 0.74 (Essau, Sassagawa, & Frick, 2006).

For the purposes of the current investigation, only the Positive Parenting and Parental Involvement subscale items were administered to adolescents while items that corresponded to the other scales were omitted due to concerns with mandatory reporting if endorsed. This reduced the measure to 22 total items, but determined necessary in order to avoid introducing potential risks to the participants in the study. Reducing the measure did not affect the psychometric potential of the Alabama Parenting Questionnaire as

scores are determined based off of individual subscales and not one global parenting practices score. These were summed, yielding a continuous range of scores from 10 to 50. Refer to Appendix D for a complete list of the items that were administered from the Alabama Parenting Questionnaire.

Demographic questionnaire form. A demographic questionnaire was developed for this study to collect critical information that was used to both describe the final sample and also to determine the categorical predictor variables to be used in the study. Of note, relevant questions about child characteristics were included in the parent consent form, while those self-reported by students were included in the form. Relevant child characteristics in the parent consent form included disclosing if their child is currently receiving special education services and a contact number and/or email to follow up about inclusion criteria and participation in the study. No further information was requested from parents.

Within the Demographic Questionnaire form, student participants were asked to self-disclose the following: age, grade, race, and overall school satisfaction. Age was defined as number of current years, not by months or any other combination that may require rounding. Grade was defined as the student's current grade at school. Race was defined as a complex, multifaceted, and contextually dependent term based on the following general categories: African American, Asian American, Latino(a)/Hispanic, Native American, and White/Caucasian, or Other. Students had the opportunity to choose multiple categories, despite these later being categorized into two broad designations

(White and Non-White) to assist with the study's analysis. Refer to Appendix E for all items in the Demographic Questionnaire Form.

Procedures

Institutional Review Board (IRB) procedures will be discussed first, followed by school contact and recruitment strategies, and administration of all instruments.

IRB procedures. IRB approvals were granted from the University of Denver as well as the school district that was used to recruit participants. All schools and students were coded to protect the anonymity of school sites. Only the responses to survey data are reported and all data was kept secure according to university IRB procedures.

School contact and recruitment. The National Institutes of Health (2002) recommended specific recruitment strategies for minority subjects in clinical research. Practices include data collection in the community with activities for families, financial compensation, and the use of bilingual/bicultural data collectors, all of which are pertinent in the present study given the diverse population encountered in public schools. The initial recruitment process involved a partnership with a school district in the state of Colorado in order to access families and children who qualify for the study according to the participant specifications. Following the partnership, administrators in specific middle and high schools were contacted in order to introduce the study and obtain formal approval to reach out to their student population.

One method was ultimately successful with acquiring participants due to its practicality with the selection of participants, thoroughly informing parents about the study, and ease for participants to return pertinent forms. Of note, all data was collected

directly from the participants, as volunteered by parents through the consent form and from students through the four questionnaires. No data was acquired from accessing district databases in order to respect the school's rights to their own information.

To select families for participation, a principal-designated staff member was used to disseminate a research packet with a recruitment letter and a parent consent form inside an envelope marked "Confidential" to a random group of students who happened to be around the office during a two-week period. Half of the families selected to receive the packets were known to receive special education services and the other half were from families whose children were not identified to receive special education. This helped support sample size matching in order to acquire equal adolescent representation from both special education-identified and general education non-identified students. Sex and racial diversity was also attempted by informing the school-designated staff member who disseminated packets to try to balance across special education, general education, sex, and race.

The marked envelope in the original research packet was used for storing and transporting signed consents back to the school. That is, parents who consented to the study were advised to send the consent form back to their child's school in the provided "Confidential" envelope. A school assigned administrative assistant ensured that all packets were delivered directly to the primary investigator, who kept all materials in a Health Insurance Portability and Accountability Act (HIPAA) compliant security bag kept inside a locked cabinet, within a locked office.

Refer to Appendix F for the recruitment flyer, Appendix G for the recruitment letter, and Appendix H for the parent consent form. Once consent was received, parents who consented were contacted via their preferred method for communication to confirm receipt and answer any questions they may have about the study. The primary investigator then proceeded with scheduling a time after school to meet the child to complete the surveys that corresponded to the study.

Administration of all instruments. The average completion time for all questionnaires was 13 minutes and did not exceed 25 minutes for any given participant. Questionnaires were administered in the following order: Student Assent Form, Demographic Questionnaire Form, Social Emotional Health Survey-Secondary, Self-Efficacy Questionnaire for Children, and Alabama Parenting Questionnaire. Adolescents were given a brief introduction about the purpose of the study and the importance of their participation before being given the assent form and questionnaires to complete. Appendix I provides an overview of a script that was provided to adolescents as their assent form for the study. In addition, adolescents were told that any significant maternal figure in their lives could be used to answer MPI questions. There were very few questions about what resilience meant and participants appeared to understand the importance of the study, as evidenced by a general enthusiasm for being selected to participate in a study where their perceptions mattered. All participants completed all informed assent procedures and surveys in a private space after school that was secured ahead of time by the lead researcher to preserve confidentiality. Further, all completed student questionnaires were immediately secured in a HIPAA bag to assist with

transporting them to a locked cabinet within a locked office. During data analysis, the researcher entered all data into an electronic record, coding each participant's individual identity to maintain privacy. Further, the data file was secured with a password and only the researcher and faculty sponsor had access to the data.

Financial compensation was provided to all participants who participated in the study in the form of $10 in cash and a ticket entry into a raffle for a brand new Apple iPad. The $10 amount was set at a lower range in order to prevent perceived coercion to participate in the study. Of note, the parental consent form had indicated if the cash compensation could be given to the student upon completion of the questionnaires, if it should be sent home separately in an envelope addressed to the parent, or if the parent desired to decline it altogether.

Data Analysis Procedures

The procedures used to enter, clean and examine the data will be described next, including the descriptive statistics that were used to summarize the data and calculate reliabilities for each measure. The section will conclude with a description of the analyses that were be used to address the research questions proposed in this study.

Data cleaning and entry. Prior to data entry and overall analysis, data was thoroughly reviewed and cleaned by reviewing forms for missing information and addressing any existing outliers. The only missing data included omitted responses for five items in the Social Emotional Health Survey-Secondary, and three responses for the Self-Efficacy Questionnaire for Children. This was identified by reviewing the forms and

since very minimal missing data existed, the missing data was ignored in order to keep the total scores and the child's data in the sample dataset.

The validity of survey responses was examined by considering the amount of time each participant took to complete the surveys and looking for patterns of over and under exaggeration of a particular construct (e.g., participants who respond only in the extremes). The tracked completion times for all measures as well as the visual scans of each survey did not suggest the presence of any inadequate patterns of responding. Reliabilities for each measure were calculated with the present sample to determine if they were consistent with previous investigations.

Data analysis. Descriptive statistics were generated for demographic variables (age, grade, sex, race, special education identification status) and the continuous variables of ASE, MPI and CoV. A moderated hierarchical regression analysis using the Statistical Package for the Social Sciences (SPSS), version 22.0, was used to analyze the independent variables (SPED, ASE score, MPI score), moderators (sex and race), and dependent variable of protective factors, as represented by the CoV total. The first block in the regression revealed the predictive nature of the independent variables on CoV, while the second block accounted for the moderating effects of sex and race with each of the independent variables. A multiple regression also revealed which of the independent variables most greatly affected the CoV score while accounting for the effects of all other variables. Standardized and unstandardized beta-weights were also explored to demonstrate the strength of the relationship between variables.

Further, standardized correlation coefficients were calculated between the independent, moderator, and dependent variables to determine the relative strength of their relationships. Finally, ancillary analyses were performed to examine additional relationships between variables.

Chapter Four: Results

This chapter opens with a restatement of the purpose of the study and research questions, followed by the statistical description of the data, demographics of the sample, and calculated reliabilities for each measure. Next, correlations between the selected predictor, moderator, and outcome variables are provided, followed by the main analysis, a moderated hierarchical regression. Finally, results from several ancillary analyses are examined.

Purpose and Research Questions

The purpose of this study was to advance the knowledge base of protective factors associated with resilience in adolescents by using a new measure that assesses the relationship of this construct to three critical factors. The three critical factors were adolescent perceptions of Academic Self-efficacy (ASE), Maternal Parental Involvement (MPI), and Special Education Identification Status (SPED). These three factors were selected due to their limited study from an adolescent's perspective as well as their potential to add to a more comprehensive model of protective factors associated with resilience that can be applied in school settings. The predictive value of these three constructs was also examined in light of the moderating effects of sex and race. The following research questions were addressed:

1. Are there statistically significant correlations between CoVitality and sex, race, Academic Self-Efficacy, Maternal Parental Involvement, and the parent reported Special Education Identification Status of their child?
2. Does the parent reported Special Education Identification Status of their child, along with an adolescent's perceived Academic Self-Efficacy and Maternal Parental Involvement score, predict CoVitality?
3. Do sex and race moderate the effect of Special Education Identification Status, Academic Self-Efficacy, and Maternal Parental Involvement on self-reported CoVitality scores?

Descriptive Analyses

Descriptive statistics for the predictor variables (SPED, ASE, MPI), moderator variables (sex, race), and outcome variable (CoV) are presented in Tables 1 and 2. Analyses included calculation of means, standard deviations, skewness, kurtosis, and frequency data. Further, the reliability of each measure was calculated to determine if values for the sample in this study were comparable to those reported for the population in prior publications.

A total of 54 adolescents (25 males, 29 females), ages 11-18 years (mean = 13.14, *SD* = 1.77) participated in the study. A total of 20 (37%) adolescents were identified as receiving Special Education services while 34 (63%) did not receive such services. Further, 21 (38.9%) of participants were of White racial origin, while 33 (61.1%) were categorized as Non-white. Refer to Table 1 for a summary of these findings.

Table 1
Descriptive Statistics for Demographic Variables

	Total Sample		SpEd Sample		GenEd Sample	
Variable	n	%	n	%	n	%
Age						
10	0	0	0	0	0	0
11	5	9.3	1	5.0	4	11.8
12	22	40.7	7	35.0	15	44.1
13	11	20.4	5	25.0	6	17.6
14	5	9.3	2	10.0	3	8.8
15	3	5.6	2	10.0	1	2.9
16	4	7.4	3	15.0	1	2.9
17	3	5.6	0	0	3	8.8
18	1	1.9	0	0	1	2.9
Mean/SD	13.15/1.77		13.30/1.56		13.06/1.90	
Grade						
6th	25	46.3	6	30.0	19	55.9
7th	12	22.2	7	35.0	5	14.7
8th	6	11.1	2	10.0	4	11.8
9th	3	5.6	2	10.0	1	2.9
10th	2	3.7	2	10.0	0	0
11th	5	9.3	1	5.0	4	11.8
12th	1	1.9	0	0	1	2.9
Sex						
Male	25	46.3	13	65.0	12	35.3
Female	29	53.7	7	35.0	22	64.7
Race						
White	21	38.9	8	40.0	13	38.2
Non-white	33	61.1	12	60.0	21	61.8
Identification Status						
SpEd	20	37	-	-	-	-
GenEd	34	63	-	-	-	-

Note. SpEd = Special Education, GenEd = General Education

For the continuous variables, means were as follows: CoV = 115.09 (*SD* = 15.78), ASE = 28.11 (*SD* = 6.31), and MPI = 35.66 (*SD* = 7.61). Estimates of internal consistency reliability for all three measures were also explored by calculating their Cronbach's α coefficients. Results indicate acceptable levels of internal consistency reliability across all three measures. Specifically, the Cronbach's α for the CoV score of

the 36-item Social Emotional Health Survey-Secondary was 0.91, which is consistent with the original estimate of 0.92 (Furlong et al., 2014b; Suldo, 2016). The Cronbach's α for the 8-item ASE subscale of the Self-Efficacy Questionnaire for Children was 0.77, slightly below the original coefficient of 0.88 (Muris, 2001). Finally, the Cronbach's α for the 10-item MPI subscale of the Alabama Parenting Questionnaire child version was 0.79, slightly higher than 0.74 reported in a previous study (Essau, Sassawaga, & Frick, 2006). Refer to Table 2 for these findings.

Table 2
Descriptive Statistics for Predictors and Dependent Variable

Variable	n	*M*	*SD*	Skewness	Kurtosis	Cronbach's α
ASE	54	28.11	6.31	-.127	-.810	.773
MPI	54	35.67	7.61	-.373	-.157	.797
CoV	54	115.09	15.78	-.244	-.691	.910

Note. ASE = Academic Self-Efficacy, MPI = Maternal Parental Involvement, CoV = CoVitality

Correlational Analyses

Analyses calculating different types of correlations were conducted due to the nature of the variables in the study. An alpha level of .05 was used for all statistical tests.

Pearson product-moment correlations. First, Pearson product-moment correlation coefficients were computed to assess the relationship between the continuous predictor variables of ASE and MPI as well as the continuous dependent variable, CoV.

A statistically significant positive correlation was found between adolescent perceptions of ASE and CoV ($r = .80, p < .001$). There was also a statistically significant positive correlation between adolescent perceptions of MPI and CoV ($r = .48, p < .001$).

Further, a statistically significant positive correlation was also found between ASE and MPI ($r_{pb} = .51, p < .001$).

Overall, there was a strong, positive correlation between ASE and CoV, a moderate, positive correlation between MPI and CoV, and a moderate, positive correlation between ASE and MPI. These findings indicate that higher ASE scores were correlated with higher CoV scores, higher scores on MPI were correlated with higher CoV scores, and higher ASE scores were correlated with higher scores on MPI.

Point biserial correlations. Next, point-biserial correlations were calculated between the continuous (ASE, MPI, CoV) and dichotomous variables of sex (Male, Female), race (White, Non-white), and Special Education Identification Status (Yes, No) in the study. These analyses were performed because it was important to identify any intercorrelations between predictor variables in order to rule out potential multicollinearity issues. These analyses, along with an examination of VIF and tolerance values, did not suggest that multicollinearity issues existed between the predictors.

A statistically significant, but relatively weak, positive correlation was found between sex and ASE ($r_{pb} = .33, p = .02$). Females had the higher dummy coded value, which was set as "1", while the dummy coded male value was "0". This suggests that compared to males, females perceived themselves to have higher levels of ASE. There was also a statistically significant, but relatively weak, positive correlation between SPED and MPI ($r_{pb} = .35, p = .01$). Adolescents who were not identified as receiving special education services had higher mean MPI scores ($M = 37.67$) than adolescents who were identified as receiving special education services ($M = 32.25$).

There were no statistically significant correlations between sex and CoV (r_{pb} = .15, p = .29), nor between sex and MPI (r_{pb} = .25, p = .07). Further, no statistically significant correlations were found between race and CoV (r_{pb} = .06, p = .69), nor between race and MPI (r_{pb} = .01, p = .97), or between race and ASE (r_{pb} = -.10, p = .49). Finally, no statistically significant correlations were found between SPED and CoV (r_{pb} = .15, p = .28), nor between SPED and ASE (r_{pb} = .25, p = .07).

Phi coefficient. Finally, a phi coefficient was calculated in order to determine whether there was an association between the dichotomous predictor variable of SPED and the dichotomous moderator variables of sex and race. A statistically significant, but relatively weak, association was found between SPED and sex, *phi* = .29, p = .04. There were more males identified as having a Special Education Status than females. No association was found between Special Education Status and race, *phi* = .02, p = .90, nor between sex and race, *phi* = -.13, p = .34. Refer to Table 3 for the correlation matrix.

Table 3
Correlations between Predictors, Moderators, and Outcome Variables

Variables	SPED	ASE	MPI	Sex	Race	CoVitality
SPED	1	.25	.35*	.29*	.02	.15
ASE		1	.51**	.33*	-.10	.80**
MPI			1	.25	.01	.48**
Sex				1	-.13	.15
Race					1	.06
CoVitality						1

Note: SPED = Special Education Identification Status, ASE = Academic Self-Efficacy, MPI = Maternal Parental Involvement. *p < .05, **p < .001

Analyses to Address Regression Questions 2 and 3

A moderated hierarchical regression was run in order to address the regression analyses in questions two and three. Research question 2 was analyzed by entering the

predictor variables of SPED, ASE, and MPI as well as the outcome variable of CoV as Block 1. Research question 3 was analyzed by adding a second block that addressed the variables of sex and race as moderators. Moderators were included in order to account for a potential interaction that may affect the relationship between independent and dependent variables and determine if these interactions accounted for statistically significant incremental variance in the model. This was an important consideration given the practical implications of understanding if sex and race affected adolescent perceptions of protective factors within school settings.

Before statistical analyses were conducted, the assumptions of hierarchical multiple regression analysis were examined to rule out potential violations. These include linearity, multivariate normality, multicollinearity, and homoscedasticity, and were examined by determining the correlations between the independent variables and reviewing the residuals scatterplots (Tabachnick & Fidell, 2007). The residuals histogram showed a fairly normal distribution, indicating the normality of residuals assumption was met. There were no variance inflation factor values below 0.1 and no tolerance values above 10, indicating the assumption of no multicollinearity was met. Finally, a review of the standardized residual scatterplots did not indicate a particular pattern, which suggests that the assumptions of linearity and homoscedasticity were met as well.

Statistical significance of the regression model and of significance of incremental prediction was evaluated at an alpha of 0.05. Further, an examination of outliers was performed as this is an important step for multiple regression analyses because of their sensitivity to outliers (Tabachnick & Fidell, 2007). The scatterplot feature in SPSS

(Version 22.0) was used to examine the presence of outliers based on standardized residual value ranges of more than 3.3 or less than -3.3 (Tabachnick & Fidell, 2007). According to this analysis, there were no detected outliers for the present sample. Mahalanobis distance was also calculated and no outliers were identified that were significant at $p < .01$.

Block 1. The first regression block significantly predicted CoV scores, $F(3,50) = 32.45$, $p < .001$, $R^2 = .66$. Participants' CoV was predicted by their perceptions of ASE ($\beta = .76$, $t = 7.97$, $p < .001$) with no other significant predictors. This means that ASE was the only predictor in the model.

Block 2. The incremental prediction of the second regression block, with the added interactions of sex and race as moderators, was not statistically significant, $F(6,44) = 1.01$, $p = .43$, $\Delta R^2 = .04$. This means that sex and race did not add to the predictive effect of the variables. Refer to Table 4 for the moderated hierarchical analysis. The complete model remained statistically significant, $F(9,53) = 11.50$, $p < .01$, $R^2 = .70$. Figure 2 in Appendix J displays the model of predictive and moderating factors for CoV.

Table 4
Moderated Hierarchical Regression of Predictor Variables on CoVitality Score

Variables	R^2	ΔR^2	B	SE B	β	t	*p*
Block 1	.66	.66					<.001***
SPED			-2.68	2.86	-.08	-.94	.35
ASE			1.90	.24	.76	7.97	<.001***
MPI			.27	.20	.13	1.29	.20
Block 2	.70	.04					.43
SPED x Race			4.53	3.70	.14	1.23	.23
SPED x Sex			-3.56	3.76	-.11	-.945	-.35
MPI x Race			.24	.43	.09	.55	.58
MPI x Sex			-.48	.40	-.17	-1.18	.24
ASE x Race			-.33	.54	-.10	-.61	.55
ASE x Sex			.02	.52	.01	.04	.97

Note: SPED = Special Education Identification Status, ASE = Academic Self-Efficacy, MPI = Maternal Parental Involvement. *$p < .05$, **$p < .01$, ***$p < .001$

Ancillary Analyses

Correlations between ASE and CoV were generated by category of SPED, sex, and race. Correlations between these two variables were selected due to the statistically significant results in the moderated hierarchical regression. These correlations were calculated to discern if there were small but detectable differences in the overall relationship between ASE and CoV by demographic variable category. Failure to find such differences would argue for the generalizability of the strong relationship between ASE and CoV and support in more detail the failure to find significant effects of moderator variables in the hierarchical regression.

Correlations between academic self-efficacy and protective factors by special education identification status. There was a statistically significant positive correlation between adolescent perceptions of ASE and CoV for students identified as receiving Special Education services ($r = .71, p < .001$) as well as students who do not receive such

services ($r = .85, p < .001$). Refer to Table 5. The significance of the difference between these two correlations was tested, but not found to be statistically significant, $z = -1.22, p = .22$.

Correlations between academic self-efficacy and protective factors by sex. There was a statistically significant positive correlation (Table 5) between adolescent perceptions of ASE and CoV for males ($r = .82, p < .001$) as well as females ($r = .80, p < .001$). The significance of the difference between these two correlations was tested, but not found to be statistically significant, $z = .20, p = .84$.

Correlations between academic self-efficacy and protective factors by race. There was a statistically significant positive correlation (Table 5) between adolescent perceptions of ASE and CoV for Whites ($r = .79, p < .001$) as well as Non-whites ($r = .84, p < .001$). The significance of the difference between these two correlations was tested, but not found to be statistically significant, $z = -.5, p = .62$.

Table 5
Pearson-Product Moment Correlations between Academic Self-Efficacy and CoVitality by Special Education Identification Status, Sex, and Race

	CoV					
	SPED		Sex		Race	
Variables	Yes	No	Male	Female	White	Non-white
ASE	.71**	.85**	.82**	.80**	.79**	.84**

Note: SPED = Special Education Identification Status, ASE = Academic Self-Efficacy, CoV = CoVitality. *$p < .05$, **$p < .001$

Chapter Five: Discussion

This chapter will present an overview of the study followed by a summary of findings and important conclusions. Results from Chapter 4 will be tied to relevant literature regarding adolescent protective factors associated with resilience. The final sections of this chapter will address limitations of the study, recommendations for future research, and general conclusions.

Study Overview

The capacity for children to withstand, cope, and recover from challenges, also referred to as resilience, has been well documented. For over 50 years, investigators have attempted to establish an operationalized definition of resilience in order to measure and sustain it. These attempts involved arguments over the "biology" of resilience versus the role of the environment. For example, some researchers argued that resilience was comparable to a personality trait, experienced by only a few, while others debated that it could be taught and acquired regardless of circumstances when treated as a developmental process (Block & Block, 1980; Luthar, Cicchetti, & Becker, 2000; Masten, 1994; Prince-Embury, 2014; Seligman, 2000;).

As resilience research grew, conceptualizations of the construct shifted from definitions of a fixed trait to descriptions of a dynamic developmental process. Resilience was broadened to include both internal and external assets such as intelligence, temperament, self-reliance, effective coping, positive family climates, reinforcing school

experiences, and access to extended family members (Brooks, 1994; Hechtman, 1991; Jacelon, 1997; Masten, 2001; Polk, 1997; Werner & Smith, 1982). Investigators realized that by defining resilience as a series of assets that can be pursued, it would be easier to identify the protective factors needed to promote psychological health.

Increased awareness of protective factors is an important consideration within school settings due to their capacity for enhancing social-emotional well-being and academic success. This focus is in contrast to historical approaches based on pathology, where identification and magnification of weaknesses outweighed considerations of adaptive strengths (Kessler et al., 2010). Unfortunately, a strong reliance on identification of deficits continues to be the primary model for school-based determination of special education services. Therefore, one of the purposes of this study was to shift the unbalanced practice of pathological identification of adolescent needs to one that more strongly highlights factors that encourage youth to thrive in spite of adverse circumstances. In doing so, results of the present study could be used to enhance the efficacy of school-based social emotional programming and services for at-risk adolescent youth.

Adolescent protective factors associated with resilience in the present study were assessed using a newly developed measure, the Social Emotional Health Survey-Secondary. This measure was designed to overcome inconsistencies in the measurement of protective factors by creating a uniform construct, CoVitality (Furlong et al., 2013). According to Furlong et al. (2013), positive mental health results from interactions between multiple positive traits and a broader assessment instrument is needed to best

capture an individual's combined strengths. In addition to measuring protective factors using a CoVitality measure, three additional constructs were examined to determine their ability to predict overall self-reported protective factors associated with resilience. These factors included Academic Self-Efficacy (ASE), Maternal Parental Involvement (MPI), and Special Education Identification Status (SPED). Additionally, differences were examined in these relationships across sex (male, female) and race (White versus Non-white). The results of the present study may help enhance school-based social-emotional services for adolescents by targeting a set of factors that can predict positive outcomes.

Summary of Findings

Data from 54 adolescent respondents were analyzed using a moderated hierarchical regression that accounted for interactions with sex and race. Independent variables included SPED, ASE, and MPI and the dependent variable was CoV, as measured by the Social Emotional Health Survey-Secondary. Correlations between all variables as well as ancillary analyses were conducted in order to examine associations between variables.

Research question 1: Correlational findings. The most critical correlational findings included a statistically significant positive relationship between ASE and CoV, as well as between MPI and CoV. These findings are consistent with developmental models that address the role an adolescent's self-concept plays in psychosocial development. For example, Erik Erikson's Identity vs. Role confusion stage of psychosocial development portrays the adolescent period as one where individuals are newly concerned with their identity and what role they could play as an adult in the future

(Erikson, 1966). Adolescents in this stage are also frequently re-establishing boundaries in order to test out different approaches to address personal challenges and stressors. Their capacity to plan and carry out different methods for problem solving is also a growing area of competence as executive functioning skills improve throughout this developmental period (Erford, 2017). As a result, perceptions of ASE are especially important during the adolescent period because skills related to motivation, study strategies, communication, and persistence are what the current world economy requires in order to secure gainful employment and live a fulfilling life (Domenech-Betoret, Abellan-Rosello, & Gomez-Artiga, 2017). Adolescents who do not have the opportunity to gain these skills may develop a sense of inadequacy with resolving problems, which could result in pathological responses to common daily stressors.

Research also suggests that when individuals perceive themselves to be highly efficacious academically, they are more likely to judge their experiences positively while managing difficult life circumstances (Sagone & De Caroli, 2014). Studies have also found that ASE is associated with an internal locus of control. An internal locus of control refers to a belief that one's own efforts and abilities, and not outside forces, are responsible for influencing events and outcomes (Drago, Rheinheimer, & Detweiler, 2018). Individuals with an internal locus of control are more likely to be self-sufficient and adapt positively to social and emotional stressors (Desle, 2011; Drago, Rheinheimer, & Detweiler, 2018). Therefore, adolescents who feel competent in one domain, such as ASE, may extend their perceptions of competence to other domains, such as those associated with protective factors.

Findings related to a statistically significant positive correlation between MPI and CoV are consistent with previous studies that associated supportive parenting behaviors with positive behavioral outcomes in children (Constantine, Andel, Robst, & Givens, 2013; Coyle, 2011; Feldman, Stiffman, & Jung, 1987; Dadds, Maujean, & Fraser, 2003; Frick & Jackson, 1993; Prevatt, 2003). For adolescents, effective parenting practices were found to promote protective factors associated with resilience, while those that were low or lacking in cohesion are associated with a lifetime of dysfunction (Coyle, 2011; Dadds, Maujean, & Fraser, 2003; Prince-Embury, 2014). These strong correlational findings are important during the adolescent period given the age group's strong desire for more decision-making power, but inadequate development of the executive and regulatory skills required to sustain complete independence (Erford, 2017). As a result, parental involvement is a crucial component for adolescent growth and development as it is associated with a resilient response to challenges.

In addition to the main correlational findings between predictors and outcome variable, it is important to note that there were significant intercorrelations between predictor variables. Specifically, between SPED and MPI, and between ASE and MPI. Correlations between SPED and MPI were relatively weak, which implies that their statistical significance may have been due to the sample size. The following statements should be interpreted with caution as the likelihood of the relationship between SPED and MPI to explain very much in a population is very small. The intercorrelation between SPED and MPI suggests that adolescents identified as receiving special education services reported lower levels of MPI compared to adolescents who were not identified as

receiving these services. It is important to remember that the measure of parental involvement for this study focused on the adolescent's perception of maternal participation in school-based function. These include attendance at conferences, extracurricular activities, support with homework completion, and relational experiences such as having friendly talks, doing special activities together, and checking in about friends and their child's school day.

In research on family-school collaboration, the family is the unit noted as the primary facilitator of change and for partnerships with schools that are designed to enhance student performance (McIntyre & Garbacz, 2014; Sheridan, Clarke, & Christenson, 2014). Parents who do not feel equipped to support their children in their educational and social-emotional experiences should be the most determined in collaborating with the resources that could support them in these areas. But in many cases, parents do not readily initiate or maintain collaborative partnerships. Findings in this study suggest that adolescents with special education needs do not perceive their maternal parent figure to be adequately supportive of their academic needs compared to adolescents who do not receive these services. These adolescent perceptions may suggest that maternal parent figures may be more reliant on schools to provide academic support and enrichment, especially for adolescents who receive special education services. Students with identified special education needs may desire more parental support in academic affairs and as a result are identifying lower levels of this construct. Future researchers may want to consider using interviews with these students to identify if this is the case, and if so, which areas they desire more parental involvement. Overall, stronger

family school partnership approaches may be essential for families of adolescents who receive special education services in order to improve child perceptions of parental involvement in their school experiences.

Statistically significant positive correlations between ASE and MPI suggest that adolescents with strong ASE skills also report having parents who are significantly involved in their educational affairs. While not predictive, these findings are consistent with research that indicates high levels of MPI are associated with adolescent levels of motivation towards academic achievement (Gonzalez-DeHass, Willems, & Doan Holbein, 2005).

Weak, but statistically significant positive correlations were also found between ASE and sex. Specifically, that females perceived themselves to have higher levels of ASE than males. Education trends show that more women than men seek higher education (U.S. Department of Education National Center for Education Statistics, 2017). This suggests that females have become more strongly motivated to engage in behaviors associated with academic success. Such motivation has been identified in previous research to be related to differences in the pursuit of academic prestige versus a position of power (Allan, 2011). Females have particularly adapted to excel mostly in academics while males are more strongly reinforced for their visibility in high ranking posts. Perceptions of ASE may therefore be higher in females in order to achieve outcomes that can help close gender-inequality gaps.

The weak, but statistically significant association between SPED and sex was related to the sample having more males identified as receiving special education services

compared to females. This association is consistent with national education statistics that indicate more males are identified for special education services than females. According to the National Center for Education Statistics (2016), 17% of all males enrolled in public schools received special education services under IDEA compared to 9% of females. Despite these statistics, the very small sample size of the study suggests that this finding should be interpreted with caution when considering it for generalization purposes. A much larger sample would be needed in order to discern if the same national pattern for disproportionate male identification continues to exist in individual studies. In addition, SPED cannot be considered as binary as sex and race because the level of impairment across categories can vary significantly, from intellectual disabilities to minor learning disabilities with reading, writing, or math.

The lack of correlational significance for all other variables indicate a variety of useful findings for school settings. For example, there were no significant differences between male and female perceptions of MPI. This is a positive finding, implying that adolescents perceive their maternal figures to be engaging in universal school-based activities because they are based on their child's educational pursuits and not on whether they are male or female. Future studies may be interested in determining if the same is true of paternal parental involvement in adolescent school experiences.

The lack of significance between SPED and ASE, as well as between SPED and CoV are also supportive for school settings. They indicate that SPED may not be a significant barrier to adolescent perceptions of academic dispositions or beliefs about

protective factors. This is contrary to what was proposed by previous studies about the negative effects of special education labels (Bunar, 2011; McConaughy, 2013).

Research question 2: Resilience predictors. Results from the primary regression analysis indicated that adolescent perceptions of ASE alone significantly predicted protective factors, as measured by the CoV construct. All other variables, which included SPED and MPI, had no effect in significantly predicting CoV.

Overall, and according to the predictive significance of the moderated regression in this study, adolescents who have a strong sense of ASE may be better equipped to reach their potential, meet societal demands, and effectively exercise positive responses to barriers and challenges. These findings are significant for school settings because they imply that targeted approaches for improving ASE skills can predict an adolescent's perceived capacity to combat social-emotional barriers.

To that end, many studies have advocated for the direct instruction of ASE skills with adolescents who may be severely limited in their knowledge and application of behaviors associated with motivation, self-advocacy, and a general disposition for academic success. A variety of approaches have been reported to be effective with teaching and promoting these skills. They include strategies that can be explicitly taught within school settings and can lead to an increased sense of accomplishment and success. Four essential experiences have been identified in research as being the most supportive of increasing ASE skills in general settings. These include exposing individuals to challenging tasks, observing others succeed, using verbal encouragement, and identifying

activity levels and sources of stress (Atanasov, Dudnytska, Estes, & Marsh, 2013). These experiences can be targeted through intervention programs, with great success.

A study by Nokes-Malach (2015) provided support for a six-hour intervention program focused on improving the metacognition skills associated with motivation and learning in classroom settings. Nokes-Malach (2015) argued that the adolescent period is known for decreases in motivation and academic achievement. As a result, targeted problem-solving approaches should be a necessary component of their learning experiences in order to improve self-regulated learning. His study accomplished this task by teaching students about effective methods for problem solving, to include planning, monitoring, and evaluating resources and progress towards goals (Nokes-Malach, 2015). Methods included targeted prompts about the clarity of a problem, past experiences with similar problems, self-monitoring of the steps taken to solve the problem, and evaluation of the solution in terms of how well it addresses the problem (Nokes-Malach, 2015).

Albeit focused only on girls, another study provided support for the direct instruction of ASE skills with adolescents. Mann, Smith, and Kristjansson (2015) argued that many of the academic and behavior problems that exist for adolescent girls are associated with difficulties with managing challenges. As a result, they tested the application of the *REAL Girls* program, which includes twelve targeted strategies for improving ASE, school connectedness, and identity (Mann, 2013). Results of this three-day manualized intervention program included significant improvement in ASE immediately after implementation and at a two week and three month follow up (Mann, Smith, & Kristjansson, 2015).

In addition to specific intervention programs, studies about "flipped classroom approaches" have found that the application of active strategies, to include outside-of classroom-experiences, can help improve academic self-efficacy levels in students (Abeysekera & Dawson, 2015; Mok, 2014). Albeit the studies were conducted with college undergraduates, the premise is that students can experience higher levels of engagement and efficacy when they have opportunities to actively engage with material (Abeysekera & Dawson, 2015). Considerations for adolescents can include the use of after school study halls, for example, to encourage adolescents to rework and consolidate previously learned knowledge using a variety of critical thinking and peer-led team learning approaches (Gosser et al., 2001).

Encouraging adolescents to work problems out loud, posing open ended questions, positively reinforcing their communicative efforts, and encouraging analytical approaches for understanding what others know are some strategies that can be employed in school settings to promote an active improvement of ASE skills (Abeysekera & Dawson, 2015). When these outside-of-classroom strategies are employed and ASE skills improve, adolescent behaviors become predictive of resilient responses to everyday stressors and challenges. As a result, it is recommended that school personnel consider direct instruction of these skills as they have the capacity to improve educational outcomes.

Finally, in terms of what was not predictive it was surprising that MPI only had a statistically significant positive correlation with CoV and not a significant predictive relationship. This is surprising because the research suggests that high levels of parental

involvement in general are predictive of better methods to cope with stress and the present study just found an association. Like all other findings, the lack of a predictive relationship between MPI and CoV may be due to the small sample size of the study and should be addressed in the future.

Research question 3: The moderating effects of sex and race. An examination of sex and racial differences when it comes to CoV was important to assess in this study due to inconsistent research about the varying protective and risk factors observed between binary classifications of sex (male vs. female) and race (White vs. Non-white). Interestingly, no statistically significant effects were found when sex and race were included as binary moderators in the regression analysis. This indicates that perceptions of protective factors that may lead to resilient beliefs and responses may not be dependent on an individual's sex or identity status. Especially when the classification of these constructs is based on a binary. Additional implications of this method for addressing sex and race are described in the limitations.

Ancillary Findings

Additional analyses were conducted in order to further explore if the predictive value of ASE for CoV differed significantly between males/females, Whites/Non-whites, and for those students who received special education services compared to those who did not. Findings in this study did not reveal significant differences between ASE and CoV when results were grouped by sex, race, and SPED. This insignificance is a critical finding for school based practices targeted at fostering CoV because they suggest that when adolescents are grouped into sex, race, and special education binaries, they do not

independently perceive significant differences in their capacity to cope with challenges and overcome social-emotional barriers. As a result, it is possible that they may all benefit from programs that target improvements in ASE skills as well as resilient responses to adverse circumstances.

These general findings conflict with disproportionality research that has linked social-emotional and academic outcomes to differences in sex and race for students identified with special education needs (A'vant & Kucer, 2014; National Association of School Psychologists, 2013; Sullivan et al., 2009). Racial disproportionality has been linked to significant racial separation, stigmatization, and diminished academic potential (Harry & Klingner, 2006; Losen & Orfield, 2002; National Research Council, 2002). It also reflects a struggle between academic expectations and the intra-personal and cultural realities of disadvantaged minority students. When it comes to special education, academic expectations are operationalized through social and functional perspectives that target the disadvantaged more so than those who are truly disabled (Shifrer, Muller, & Callahan, 2011). However, the present study did not find that there were significant differences in perceptions of academic or resilient potential by sex, race, or special education group. The binary method employed in this study to identify predictive relationships may be responsible for such conflicting conclusions and as such, these findings should be interpreted with extreme caution and addressed in future studies.

Limitations of the Study

Several limitations of this study should be noted that can be organized into those associated with the sample and those associated with the measures. While attempts were

made to address these inherent limitations, it must be recognized these issues limit the generalizability of the results.

Limitations associated with the sample. First, it is important to recognize that the present study used a convenience sample of students in one school district, which presents a threat to external validity for the purpose of generalizability. In addition, the inclusion and exclusion criteria employed narrowed down the types of special education disability categories that could be considered. Specifically, only those students with categories that represented the lowest level of impact were included while those with more restricted environments and disabilities were not. Further, district databases were not accessed for the purpose of acquiring or validating the self-reported data that was collected from the parents and student participants. This method was deemed necessary in order to avoid excessive intrusion of privacy into district-owned information.

The small sample size of this study is another limitation that could restrict future generalization of the findings. Further, the demographics of this study strongly overrepresented minorities, who made up 61.1% of the total sample size, while Whites comprised only 38.9%. Unbalanced group representation across grade level was also evident. The majority of adolescent participants were middle schoolers in a sample that targeted students in grades 6-12. It is recommended that a similar study be replicated with a larger sample size, a more geographically accurate representation of race, and a balanced representation across school grade levels.

The recruiting of participants also only occurred at one school district in Colorado. This means that results are reflective of only that geographical location and

District which is considered a small suburban district for federal identification purposes. Future studies should attempt to allocate more time to the recruitment of additional school districts, across different cities and states, and across both urban and suburban and rural districts for the purpose of more accurately predicting protective factors associated with resilience.

Limitations associated with measurement. An important limitation was that all measures employed in this study were of a self-reported nature. Thus, it must be presumed that participants provided accurate answers for all three scales and when reporting on demographics for inclusion in the study. It may be the case that while participants were asked to respond as truthfully and conscientious as possible, issues of social desirability or disinterest in completion of the measures may have occurred. This concern could be addressed by adding qualitative features in a future study, such as interviewing adolescents about particular experiences related to protective factors.

Another measurement limitation was that only one measure of each construct was employed. However, each measure was carefully selected based on a thorough review of key measures used in previous studies. The final selection came down to using measures that had received the most empirical support in terms of comprehensiveness, precise assessment of the construct, and the psychometric soundness of the instrument in terms of reliability and validity. Future studies should continue to exercise thorough reviews of measures to include in the future as relevant to this target population. In addition, since only the maternal parental involvement scores were used in the regression, in the future measures should be included of paternal influences on adolescent behaviors. In the future

researchers should also compare differences between maternal and paternal involvement, as well as the involvement of other parental figures and their differential influence on adolescent protective factors. This would help identify a more comprehensive model of CoV based all parental figures within a family unit.

A final measurement limitation was that protective factors associated with resilience or CoV were examined within a single developmental period and at a single point in time. Studies have suggested that measurement of any component related to resilience at a single point in time may not capture the instability and change that can occur in this construct over time from adolescence thru adulthood (Klika & Herrenkohl, 2013). These findings suggest that further research is needed to continue to identify key protective factors across different developmental stages.

Future Research Directions and Implications

Although preliminary, the findings of this study are promising for school settings because they suggest that high levels of ASE, an internal trait that could be taught and reinforced, is strongly predictive of general feelings associated with social-emotional wellness. This is in contrast to MPI, which is external to the adolescent's control and requires much higher levels collaborative intent to increase, but only had a correlational and not predictive relationship with resilience. This study suggests that schools could focus on improving protective factors by more directly addressing ASE skills using targeted approaches. Targeted approaches may include universal screening methods to identify current levels of ASE followed by the use of manualized intervention programs for those students who score lower in this skill area. The Self-Efficacy Questionnaire for

Children, which was the primary method for identifying ASE skills in this study, could serve as a reliable screener for this purpose. Teacher availability outside of classroom experiences might also be employed to support adolescent academic capacities – indeed, researchers have demonstrated that teaching adolescents critical thinking skills can support their capacity to synthesize and generalize information more effectively (Nokes-Malach, 2015). Based on the results of this study, ASE skills could also be considered for universal school-wide intervention. For example, schools can plan to teach one effective ASE skill per month, reinforcing it across settings, and on the last month of school, conclude with a targeted discussion of all of the skills that were learned throughout the year and student perceptions of their capacity to apply them.

Further, the lack of significant differences across sex, race, and SPED when it comes to the predictive value of ASE on CoV suggests multiple implications for diverse populations. For one, issues of disproportionality for targeted interventions may not exist. As such, addressing the ASE skills of adolescents of all backgrounds may help reduce the disproportionality issues that have long been associated with internalized perceptions of success or failure. If programming is offered to all students, regardless of perceived preparedness or mastery of academic-related skills, there could be a positive increase in all adolescent beliefs about their capacity to achieve personal goals and accomplish enduring social-emotional competencies. This approach is consistent with Bandura's (1989) Social Cognitive Theory, which indicates individuals are motivated by their own behavior and development (Bandura, 1989). Thus, when adolescent development is inclusive of skills that are associated with general perceptions of wellbeing and success,

their capacity to behave in ways that are consistent with maintaining positive gains increases.

Despite the current findings, it must also be recognized that the conslusions only apply to a limited sample of adolescents. These findings may not apply to diverse gender and racial identities since the analyses focused on binary representations of these constructs. For example, researchers have indicated that protective factors associated with resilience vary by gender, which is a fluid and multi-categorical designation that relates a person's identity with aspects of their society (Eisenberg et al., 2017; Johns, Beltran, Armstrong, Jayne, & Barrios, 2018; Saewyc et al., 2009). Gender does not conform to binaries of masculinity or femininity. Thus, adolescent behaviors and experiences associated with risk and protective factors should be expected to vary depending on their gender identity, and especially when it is one that society considers "nonconforming". Similar to gender, racial identity is another construct that entails fluid identification and implications. Thus, reducing the gender and racial identity constructs into binary classifications for the present study may not do justice to the diverse experiences that exist across the spectrum of racial and gender identity. It would be beneficial in future studies to focus on differentiating samples to better represent the variability across gender and race. Further exploration of the diversity within these constructs may lend to additional beneficial information for populations that may be considered marginalized or underrepresented.

Conclusions

The present study focused on identifying constructs that could predict adolescent resilience while accounting for the moderating effects of binary classifications of sex and race. Three constructs were chosen based on their ability to highlight an adolescent's capacity to thrive and endure challenges, rather than their skill deficits and general social-emotional vulnerability. The adolescent developmental stage was chosen due to its sensitivity to risk, but strong capacity to acquire and apply internal assets for overcoming disadvantages. A focus on protective factors is consistent with positive psychology recommendations for promoting and maintaining behaviors associated with mental health. It also contrasts the deficits-focused practices that are encountered in many school settings for identifying targeted supports.

The most surprising results in this study came from the moderated hierarchical regression, which indicated that perceptions of ASE alone significantly predicted protective factors, as measured by the CoV construct. These findings have positive implications for school-based practices that are invested in improving social-emotional outcomes for adolescents. Compared to MPI and SPED, ASE skills are internally controlled and research suggests that they can be explicitly taught and reinforced within school settings. School based mental health providers, such as psychologists, social workers, and counselors could benefit from learning how to apply targeted intervention programs or strategies to bolster ASE skills. Through universal intervention practices, providers can also expand strategy instruction to teachers and paraprofessionals who most frequently work with students. Providers may also decide to use some of the

measures in this study in the future to determine levels of ability within the positive constructs that actively promote social-emotional well-being. Overall, providers who seek to understand adolescents for their capacity to cope, adapt, and overcome challenges are better equipped to develop more effective supports and experiences that promote positive and motivating protective factors.

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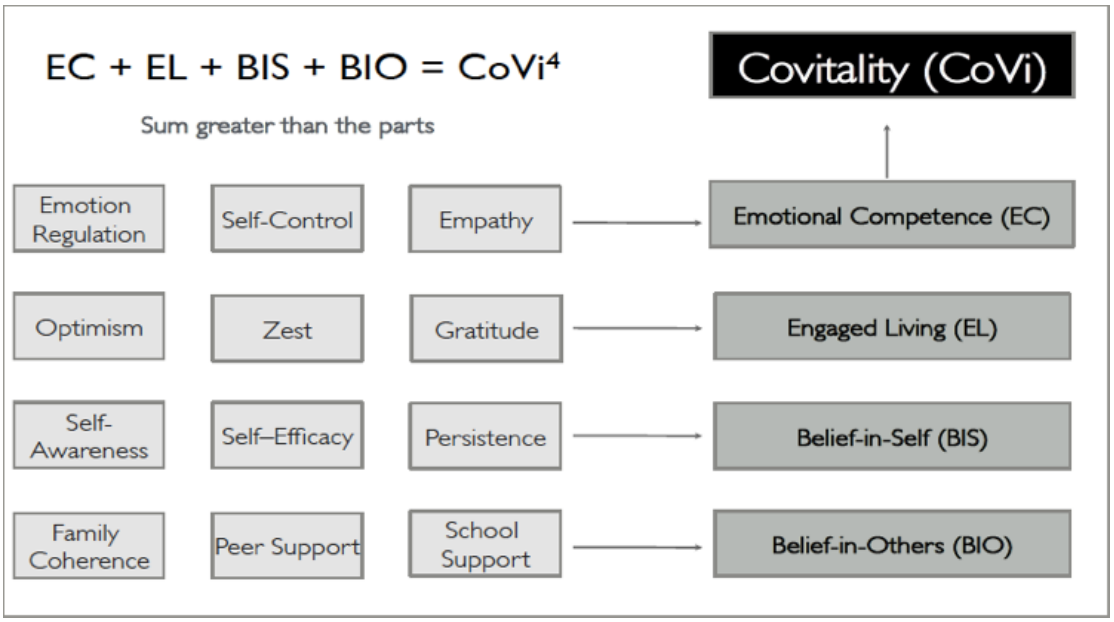
Appendix A

Figure 1: CoVitality Model (Furlong, 2014)



Appendix B

Social Emotional Health Survey-Secondary (SEHS-S)

SOCIAL EMOTIONAL HEALTH SURVEY-SECONDARY (SEHS-S)

INSTRUCTIONS: Circle the answer that best shows how you feel about each of the following things. The possible answers for items may change. **PLEASE PAY ATTENTION TO THE ANSWER KEYS AND TRY TO ANSWER ALL ITEMS.**

PRACTICE ITEMS: The possible answers for these practice items are (1) Not at all true of me, (2) A little true of me, (3) Pretty much true of me, and (4) Very much true of me.

		Not at all true of me	A little true of me	Pretty much true of me	Very much true of me
A	I look good in red.	1	2	3	4
B	My favorite food is pizza.	1	2	3	4

PART I SURVEY ITEMS: The possible answers for this section are (1) Not at all true of me, (2) A little true of me, (3) Pretty much true of me, and (4) Very much true of me.

		Not at all true of me	A little true of me	Pretty much true of me	Very much true of me
1	I can work out my problems.	1	2	3	4
2	I can do most things if I try.	1	2	3	4
3	There are many things that I do well.	1	2	3	4
4	There is a purpose to my life.	1	2	3	4
5	I understand my moods and feelings.	1	2	3	4
6	I understand why I do what I do.	1	2	3	4
7	When I do not understand something, I ask the teacher again and again until I understand.	1	2	3	4
8	I try to answer all the questions asked in class.	1	2	3	4
9	When I try to solve a math problem, I will not stop until I find a final solution.	1	2	3	4

		Not at all true of me	A little true of me	Pretty much true of me	Very much true of me
10	At my school, there is a teacher or some other adult who always wants me to do my best.	1	2	3	4
11	At my school, there is a teacher or some other adult who listens to me when I have something to say.	1	2	3	4
12	At my school, there is a teacher or some other adult who believes that I will be a success.	1	2	3	4
13	My family members really help and support one another.	1	2	3	4
14	There is a feeling of togetherness in my family.	1	2	3	4
15	My family really gets along well with each other.	1	2	3	4
16	I have a friend my age who really cares about me.	1	2	3	4
17	I have a friend my age who talks with me about my problems.	1	2	3	4
18	I have a friend my age who helps me when I'm having a hard time.	1	2	3	4
19	I accept responsibility for my actions.	1	2	3	4
20	When I make a mistake I admit it.	1	2	3	4
21	I can deal with being told no.	1	2	3	4
22	I feel bad when someone gets his or her feelings hurt.	1	2	3	4
23	I try to understand what other people go through.	1	2	3	4
24	I try to understand how other people feel and think.	1	2	3	4
25	I can wait for what I want.	1	2	3	4
26	I don't bother others when they are busy.	1	2	3	4
27	I think before I act.	1	2	3	4
28	Each day I look forward to having a lot of fun.	1	2	3	4
29	I usually expect to have a good day.	1	2	3	4

		Not at all true of me	A little true of me	Pretty much true of me	Very much true of me
30	Overall, I expect more good things to happen to me than bad things.	1	2	3	4

PART II SURVEY ITEMS: Circle the answer that best shows how you feel about each of the following things. The possible answers are (1) Not at all, (2) Very little, (3) Somewhat, (4) Quite a lot, and (5) Extremely. **PLEASE TRY TO ANSWER ALL ITEMS.**

		Not at all	Very little	Somewhat	Quite a lot	Extremely
31	Since yesterday, how much have you felt GRATEFUL?	1	2	3	4	5
32	Since yesterday, how much have you felt THANKFUL?	1	2	3	4	5
33	Since yesterday, how much have you felt APPRECIATIVE?	1	2	3	4	5
34	How much do you feel ENERGETIC right now?	1	2	3	4	5
35	How much do you feel ACTIVE right now?	1	2	3	4	5
36	How much do you feel LIVELY right now?	1	2	3	4	5

Appendix C

Self-Efficacy Questionnaire for Children (SEQ-C)

SELF-EFFICACY QUESTIONNAIRE FOR CHILDREN (SEQ-C)

INSTRUCTIONS: Circle the answer that best shows how well you can do each of the following things.
PLEASE PAY ATTENTION TO THE ANSWER KEY AND TRY TO ANSWER ALL ITEMS.

PRACTICE ITEMS: The possible answers for these practice items are (1) Not at all, (2) Very little, (3) Somewhat, (4) Quite well, and (5) Very well.

		Not at all	Very little	Somewhat	Quite well	Very well
A	How well can you tell if it will rain?	1	2	3	4	5
B	How well can you eat in a fancy restaurant?	1	2	3	4	5

SURVEY ITEMS: Circle the answer that best shows how well you can do each of the following things. The possible answers are (1) Not at all, (2) Very little, (3) Somewhat, (4) Quite well, and (5) Very well.

		Not at all	Very little	Somewhat	Quite well	Very well
1	How well can you get teachers to help you when you get stuck on schoolwork?	1	2	3	4	5
2	How well can you express your opinions when other classmates disagree with you?	1	2	3	4	5
3	How well do you succeed in cheering yourself up when an unpleasant event has happened?	1	2	3	4	5
4	How well can you study when there are other interesting things to do?	1	2	3	4	5
5	How well do you succeed in becoming calm again when you are very scared?	1	2	3	4	5
6	How well can you become friends with other children?	1	2	3	4	5
7	How well can you study a chapter for a test?	1	2	3	4	5
8	How well can you have a chat with an unfamiliar person?	1	2	3	4	5
9	How well can you prevent to become nervous?	1	2	3	4	5
10	How well do you succeed in finishing all your homework every day?	1	2	3	4	5

		Not at all	Very little	Somewhat	Quite well	Very well
11	How well can you work in harmony with your classmates?	1	2	3	4	5
12	How well can you control your feelings?	1	2	3	4	5
13	How well can you pay attention during every class?	1	2	3	4	5
14	How well can you tell other children that they are doing something that you don't like?	1	2	3	4	5
15	How well can you give yourself a pep-talk when you feel low?	1	2	3	4	5
16	How well do you succeed in understanding all subjects in school	1	2	3	4	5
17	How well can you tell a funny event to a group of children?	1	2	3	4	5
18	How well can you tell a friend that you don't feel well?	1	2	3	4	5
19	How well do you succeed in satisfying your parents with your schoolwork?	1	2	3	4	5
20	How well do you succeed in staying friends with other children?	1	2	3	4	5
21	How well do you succeed in suppressing unpleasant thoughts?	1	2	3	4	5
22	How well do you succeed in passing a test?	1	2	3	4	5
23	How well do you succeed in preventing quarrels with other children?	1	2	3	4	5
24	How well do you succeed in not worrying about things that might happen?	1	2	3	4	5

Appendix D

Alabama Parenting Questionnaire (APQ)

ALABAMA PARENTING QUESTIONNAIRE (APQ) – Child Form

INSTRUCTIONS: The following are a number of statements about your family. Families come in all different forms now. This is an old form that still referred to "mom" and "dad" language. We want you to consider the label for the parent figures that apply to your family situation. If only one of them lives in the home with you, please skip the questions that ask about that person. **PLEASE PAY ATTENTION TO THE ANSWER KEY AND TRY TO ANSWER ALL ITEMS.**

PRACTICE ITEMS: The possible answers for these practice items are (1) Never, (2) Almost Never, (3) Sometimes, (4) Often, and (5) Always.

		Never	Almost Never	Sometimes	Often	Always
A	You can sleep for more than 12 hours.	1	2	3	4	5
B	You can eat a whole family size pizza.	1	2	3	4	5

SURVEY ITEMS: Please rate each item as to how often it *TYPICALLY* occurs in your home. The possible answers are (1) Never, (2) Almost Never, (3) Sometimes, (4) Often, and (5) Always.

		Never	Almost Never	Sometimes	Often	Always
1	You have a friendly talk with your mom.	1	2	3	4	5
	A. How about your dad?	1	2	3	4	5
2	Your parents tell you that you are doing a good job.	1	2	3	4	5
3	Your mom helps with some of your special activities (such as sports, boy/girl scouts, church youth groups).	1	2	3	4	5
	A. How about your dad?	1	2	3	4	5
4	Your parents reward or give something extra to you for behaving well.	1	2	3	4	5
5	You play games or do other fun things with your mom.	1	2	3	4	5
	A. How about your dad?	1	2	3	4	5
6	Your mom asks you about your day at school.	1	2	3	4	5

		Never	Almost Never	Sometimes	Often	Always
	A. How about your dad?	1	2	3	4	5
7	Your mom helps you with your homework.	1	2	3	4	5
	A. How about your dad?	1	2	3	4	5
8	Your parents compliment you when you have done something well.	1	2	3	4	5
9	Your mom asks you what your plans are for the coming day.	1	2	3	4	5
	A. How about your dad?	1	2	3	4	5
10	Your mom drives you to a special activity.	1	2	3	4	5
	A. How about your dad?	1	2	3	4	5
11	Your parents praise you for behaving well.	1	2	3	4	5
12	Your parents hug or kiss you when you have done something well.	1	2	3	4	5
13	Your mom talks to you about your friends.	1	2	3	4	5
	A. How about your dad?	1	2	3	4	5
14	You help plan family activities.	1	2	3	4	5
15	Your mom goes to a meeting at school, like a PTA meeting or parent/teacher conference.	1	2	3	4	5
	A. How about your dad?	1	2	3	4	5
16	Your parents tell you that they like it when you help out around the house.	1	2	3	4	5

Appendix E

Demographic Questionnaire Form (DQF)

DEMOGRAPHIC QUESTIONNAIRE FORM (DQF)

Select the answer that best describes you. **PLEASE TRY TO ANSWER ALL ITEMS.**

1. Age: What is your age?
    a. 11
    b. 12
    c. 13
    d. 14
    e. 15
    f. 16
    g. 17
    h. 18

2. Grade: What is your current student status?
    a. 6^{th} grade
    b. 7^{th} grade
    c. 8^{th} grade
    d. 9^{th} grade
    e. 10^{th} grade
    f. 11^{th} grade
    g. 12^{th} grade

3. Race: What is your racial/ethnic identity? Choose <u>one or more</u> of the following:
    a. African American
    b. Asian American
    c. Latino(a)/Hispanic
    d. Native American
    e. White/Caucasian
    f. Other, please specify: _____

4. School Satisfaction: Overall, how satisfied are you with your progress in school?
    a. Not at all
    b. Very little
    c. Somewhat
    d. Quite a bit
    e. Very much

Appendix F

Resilience in Adolescents Recruitment Flyer

UNIVERSITY of DENVER

Morgridge College of Education

A research study is being conducted on:

Resilience in Adolescents

If your child is in grades 6th – 12th, they may qualify for a research study examining how they positively cope and withstand challenges in order to build resilience and succeed socially, emotionally, and academically.

Eligible students will answer questionnaires about their strengths that will take 15 – 20 minutes.

Students will be compensated a cash payment of $10.00 and a ticket entry into an exciting drawing for a brand new Apple iPad.

Principal Investigator: Bethdalie Cruz, Ed.S.
Faculty Sponsor: Gloria Miller, PhD (gloria.miller@du.edu)

For more information, call 414-339-6988 or email bcruz@d49.org

Appendix G

Recruitment Letter

Dear Parent(s)/Guardian(s):

My name is Bethdalie Cruz and I am a graduate student from the Morgridge College of Education at the University of Denver. I am writing to invite you to participate in my research study about resilience in adolescents, which involves your child completing questions about how they cope with challenges in order to build resilience and succeed socially, emotionally, and academically.

Your child is eligible for this study because they are in the 6th to 12th grade. You are receiving this invitation packet as part of a random distribution by a staff member in your child's school to avoid my direct involvement in selecting participants and acquiring contact information.

If you decide to allow your child to participate in this study, you will be asked to provide permission for your child to complete questionnaires about resilience. Compensation in the form of a cash payment of **$10.00** and a ticket entry to raffle for a brand new **Apple iPad** will be provided for participation.

Finally, this study is completely voluntary. You can choose to have your child participate in it or not. If you have any questions about the study, please email or contact me at bcruz@d49.org or 414-339-6988.

If you would like your child to participate, please see the attached consent forms, and complete and return them to your school's administrative assistant in the provided envelope marked "CONFIDENTIAL". I will contact you about scheduling a time for participation as soon as they are received.

Thank you for your time.

Sincerely,

Bethdalie Cruz, Ed.S., NCSP
Nationally Certified School Psychologist

Appendix H

Parent Consent Form

UNIVERSITY of DENVER
Morgridge College of Education

DU IRB Approval Date: 05/25/2018

University of Denver
Parent or Guardian Permission Form
for Child's participation in Research

Title of Research Study: Adolescent Resilience

Principal Investigator: Bethdalie Cruz, Ed.S., NCSP, University of Denver

Faculty Sponsor: Gloria Miller, Ph.D.

Study Site: Your child's school of enrollment or a private space within your local public library

Purpose
Your child is being asked to participate in a research study. The purpose of this research is to study how adolescents positively cope and withstand challenges in order to build resilience and succeed socially, emotionally, and academically. The findings will help schools identify ways to combat barriers to learning as well as advance the knowledge base about adolescent resilience. This form provides you with information about the study.

What your child will do in the study
If you agree to let your child participate in this research study, your child will be asked to complete some questionnaires about how they cope with challenges, their academic strengths, and positive experiences with parents and guardians. Your child will not miss any instructional time in order to participate in the study as participation will be scheduled to occur during after school hours.

What you will do in the study
If you agree to let your child participate in this research study, you will be asked to dedicate some time to transport your child. During school days, this may mean picking your child up at a later time after school so that they may participate outside of instructional times. When school is not in session (e.g. summer), the researcher will schedule a private room in your local public library, requiring you to transport your child to that location for participation. You will be asked to provide contact information in order to schedule participation, as well as some demographics about your child.

Time Required
Your child's participation in this study will take approximately 15 to 20 minutes.

Voluntary Participation
This study is not required by your child's school and participation or non-participation will not affect your child's grades nor opportunities to receive school-based supports as needed. Your child's participation in this study is completely voluntary. You have the right to withdraw your child

from the study at any time without penalty. The study will not affect your child's grades or school-based supports. If your child wants to withdraw from the study, inform the researcher immediately. Compensation also is being offered for participation and will be provided directly to you or to your child after participation in the study, depending on the option you choose for receipt.

Risks or Discomforts
Potential risks of participation may include your child experiencing discomfort or confusion about how to answer questions. If this occurs, the researcher will provide your child with more information, give them ideas for support, or suggest that they stop their participation in the study. A list of locally available resources will be provided to you should need them at a later time. These will be provided given the anonymous nature of the instrument and the difficulty in the researcher being able to provide follow up on questions with mental health concerns.

Of note, some things we cannot keep private and must report to proper authorities. If at any time your child discloses information about child abuse or neglect or that your child is going harm themselves or others, we have to report that to the Colorado Department of Health Services, as required by law.

Benefits
Possible benefits of participation include helping us learn about factors that contribute to adolescent resilience as well as district awareness for more positively targeted supports for their students.

Incentives to participate
Your child will receive a cash payment of $10.00 for participating in this research project and an entry ticket for an exciting raffle for a brand new Apple iPad. Compensation will be provided immediately, addressed to you or your child depending on your decision for receipt. Compensation also will be provided even if you or your child withdraws from the study.

Confidentiality
Responses to the study questionnaires will not be a part of the student's school records. The researcher will also keep all questionnaires and related records in a locked file cabinet within a locked office, and all electronic information will be coded and secured using a password protected file. Only the researcher and faculty sponsor will have access to the data. Your child's individual identity will be kept private when information is presented or published about this study. Additionally, should any information contained in this study be the subject of a court order or lawful subpoena, the University of Denver might not be able to avoid compliance with the order or subpoena. The research information may be shared with federal agencies or local committees who are responsible for protecting research participants, including individuals on behalf Gloria Miller, PhD.

Questions
If you or your child have any questions about this project or your participation, please feel free to ask questions now or contact Bethdalie Cruz at 414-339-6988 or bcruz@d49.org at any time. The Faculty Sponsor overseeing this project is Gloria Miller, PhD., and may be reached at Gloria.miller@du.edu.

If you or your child have any questions or concerns about your research participation or your research participant rights, you may contact the DU Human Research Protections Program by

emailing IRBAdmin@du.edu or calling (303) 871-2121 to speak to someone other than the researchers.

Options for Receipt of Compensation
Please initial your choice for the options below:

___ The researcher may give my child the $10.00 cash payment for participation in this study.

___ The researcher may NOT give my child the $10.00 cash payment for participation in this study. It should be given to me directly, after school.

___ I prefer to opt out of receipt of the $10.00 cash payment for participation in this study.

Contact Information
Please indicate your preferred method(s) for contact to schedule the after school participation, if applicable:

___ By phone at: _____

___ By email at: _____

___ By mail at: _____

Please take all the time you need to read through this document and decide whether you would like your child to participate in this research study.

If you agree to allow your child to participate in this research study, please complete and sign below. You will be given a copy of this form for your records.

_____ ___ Male ___ Female
Name of Child allowed to participate in the study

Does your child receive any special education services at this time? ___Yes ___No

_____ _____
Parent/Guardian/LAR Signature **Date**

_____
Parent/Guardian/LAR Name

Appendix I

Child Assent Form

UNIVERSITY of DENVER
Morgridge College of Education

DU IRB Approval Date: 5/25/2018

University of Denver
Assent Form for Participation in Research

Title of Research Study: Adolescent Resilience

Principal Investigator: Bethdalie Cruz, Ed.S., NCSP, University of Denver

Study Site: Your school or a private room in your local public library

What is a research study?
A research study is a way to find out new information about something. We would like to learn more about the positive skills that adolescents use to cope with everyday challenges in order to help other students with doing well socially and emotionally.

Why are you being asked to be part of this research study?
You are being asked to join the study because you are an adolescent in the 6th to 12th grade. About 150 students will be in this study.

If you join the research study, what will you be asked to do?
If you agree to join this study, you will be asked to answer some questions about how you cope with challenges, your academic strengths, and positive experiences with your parent(s) or guardian(s). You will complete these questions only once and they will take about 15 to 20 minutes.

Do you have to be in the study?
This study is not required by your school and will not affect your grades or opportunities to get help for things you need in school. You do not have to be in this study. It is up to you. You can say okay now to be in the study and change your mind later. You can just say you want to stop. No one will be upset if you don't want to be in the study or if you change your mind later. You can take time to think about being in the study before you decide.

Will any part of the study hurt or be uncomfortable?
There may be some discomfort and confusion about how to answer questions. If you are uncomfortable in answering any of the questions, let the researcher know and you can get more information, be given ideas for support, or be able to stop your participation in the study. Of course, if there is any concern about your safety or the safety of others during your participation, I am obligated to tell another adult to make sure your safety and wellbeing.

A list of locally available resources will also be provided to you and your parents should you need them at a later time. These will be provided given the anonymous nature of the instrument and the difficulty in the researcher being able to provide follow up on questions with mental health concerns.

Will the study help you or others?
We think the study will help us learn something that can help other children with identifying good things that help them succeed in school.

Do your parents know about the study?
This study has been explained to your parent or guardian, and they said that we could ask you if you want to be in the study. You can talk this over with your parent or guardian before deciding if you want to participate. You do not have to be in this study even if your parent or guardian thinks it is a good idea. It is up to you.

Will anyone else know that you are in this study?
We will not tell anyone else that you are in this study. You do not have to tell anyone about the study or your answers to the questions.

Who will see the information collected about you?
Your responses will not be shared with any of your teachers and they will not be a part of your school records. The information collected about you during this study will also be kept safely locked up. Nobody will know it except the people doing the research. This means the study information about you will not be given to your parents/guardians. It also will not be given to your teachers, principals or doctors and the researchers will not tell your friends about the study or your answers to the questions.

What do you get for being in the study?
A cash payment of 10.00 will be awarded to you directly or given to your parent, depending on what your parent indicated should occur for answering the questions in this study. You will also receive a ticket entry into an exciting raffle for a brand new Apple iPad.

What if you have questions?

You can ask any questions that you have about the study at any time. Just tell the researcher or your parent/guardian that you have a question. You or your parent/guardian can contact the researcher, Bethdalie Cruz, at any time during the study by calling 414-339-6988 or emailing bcruz@d49.org. Your parent/guardian also has all of the contact information for questions. Another person you can contact about this study is my faculty sponsor, Gloria Miller, Ph.D., via email at Gloria.miller@du.edu.

Please take all the time you need to read through this document and decide whether you would like to participate in this research study.

If you agree to participate in this research study, please sign below. You will be given a copy of this form.

_____ _____

Student Signature **Date**

Appendix J

Figure 2: Model of Predictive and Moderating Factors for CoVitality