PowerUp!: A Pilot Study Exploring Resilience, Coping Skills, and Intervention Feasibility in Elementary School Classrooms

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Abstract

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School-based mental health (SBMH) represents a promising direction for schools in providing for students' social-emotional, behavioral, and mental well-being. One way to promote positive well-being is through the development of positive coping skills to assist children in managing and responding in constructive ways to stressors that can arise at school or at home, with peers or parents or other adults. Providing children with adaptive coping skills, can better prepare them to manage and respond to stressors at school or home, with peers, parents, and teachers. These teachers understand the value, importance, and need for mental health services in schools and are uniquely positioned to provide upstream, preventative school-based interventions.

The current study explored the feasibility of a universal, resilience and coping skills program delivered in elementary school classrooms. PowerUp! is brief, school-based

intervention focused on boosting psychological resources and promoting youth social-emotional well-being. The intervention was delivered by classroom teachers in a low-income school, serving primarily Latino students in grades K-5. This pilot study explored the social validity of the PowerUp! intervention, while also estimating its effects on student wellbeing vis-a-vie hope, resilience, and optimism. Results indicated that teachers and students found the PowerUp! intervention to be socially valid, engaging, and beneficial. While the quantitative analysis did not reveal significant changes on overall student-level measures, statistically significant change was found in the pessimism subscale and results for the measure on hope provided a promising path for future methodology and study. Considerations for future iterations of the PowerUp! intervention, as well as practice and design recommendations within the context of school-based mental health and school psychology are provided.

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Acknowledgements

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For my mom.

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Chapter 1: Introduction

Across the nation, over 50 million students attended public schools in 2018 (Bullock Mann et al., 2018). Over 35 million, or 70 percent, of those students are in enrolled in K- 8/Elementary level schools. This period from middle childhood to early adolescence represents a crucial developmental period that is a prime target for the promotion of social-emotional, mental, and behavioral well-being (Greenberg et al., 2003; Murphy et al., 2017). Schools have been, and continue to be, ideal environments for the implementation of preventive efforts focused on mental health, positive youth development, and student well-being. Indeed, the function of schools has evolved beyond solely an academic focus into hubs of whole child health and functioning (Christner, 2008).

The past thirty years have shifted the field of school-based mental health research into a national discourse around the policies, priorities, and funding needed to support social-emotional and mental health for all K-12 students. Recent trends in youth academic outcomes, youth mental health outcomes, discipline practices, and school safety have all moved school-based mental health to a necessary forefront for educators, mental health providers, school leaders, and policy makers (Atkins et al., 2010; Kilgus et al., 2015; Weist et al., 2013).

School-based mental health (SBMH) is concerned with the promotion of mental, emotional, social, and behavioral well-being for students (Durlak & Wells, 1997; Durlak et al., 2011; Wells et el., 2003). Connected to promoting wellness across these domains, schools have an important stake in the prevention of mental disorders and related impairments (Hawkins et al., 2008; Sancassiani et al., 2015). Lastly, school-based mental health provides for responsive

services and intervention for those students who have identified needs in one (or more) of those areas of functioning, particularly when paired with or when contributing to problems in a student's academic achievement (Taylor et al., 2017).

Interventions currently being employed in schools range from universal and preventive classroom lessons (Durlak et al., 2011) to more targeted skill-based groups (Debnam et al., 2012), as well as individual counseling (Horner et al., 2010). As part of the priority shift around mental health in schools, there is an increasing need to design and implement systematic, cost-effective, and evidence-based interventions that address both treatment and prevention efforts in schools (Durlak et al., 2010; Gottfredson & Gottfredson, 2002; Wilson et al., 2001).

Historically, psychology has focused more on a medical or treatment model of health and well-being (O'Connell et al., 2009). Under this approach only those demonstrating significant psychopathology and impaired functioning were identified as needing treatment (Suldo & Shaffer, 2008). The past two decades of research and practice have reflected this shift and commitment to the idea of mental health being more than the absence of mental illness (Enns et al., 2016). In a dual-factor system or model of mental health, positive mental health, or subjective well-being is thought to be as important as the absence of clinical symptomatology (Greenspoon & Saklofske, 2001; Suldo & Shaffer, 2008). The prioritization of complete mental health mirrors that of other service sectors, public health in particular, with a focus on not only preventing and treating disease, but also promoting positive health outcomes of individuals and communities (Penman-Aguilar et al., 2016).

One way to conceptualize the development of positive and negative mental health outcomes of children is through the transactional model of development put forth by Arnold Sameroff in 1975. The theoretical model puts forth that the person and environment can be

viewed as a relationship or transaction where both interact to create a response or outcome (Sameroff, 1975). So, instead of attributing mental illness to an individual deficit or placing sole responsibility on an external stimuli or stressor, a more appropriate systems and contextual focus can be applied to the relationship that exists between the individual and their environment. Indeed using a transactional in the understanding of childhood mental disorders has been used to explain childhood depression (Cicchetti & Schneider-Rosen, 1984), anxiety and social withdrawal (LaFrenière & Dumas, 1992), and oppositional defiant disorder (Greene & Doyle, 1999).

Extending from Sameroff's transactional work, Lazarus and Folkman (1987) explore that transactional space between an individual and their environment (Lazarus & Folkman, 1987). Their focus on stress, emotions, and coping elucidates the relationship process that is occurring and provides an entry point in thinking about how the development of negative outcomes can be intervened upon. Specifically, when a stressor arises within a child's environment/context, there are individual level factors, environmental factors, and factors related to the relationship (appraisal and coping) between those two that will ultimately influence emotional (and other) responses and outcomes.

Developing adaptive coping responses and other protective factors can better equip children to adapt to change, overcome stressors and obstacles, and experience success and well-being across multiple life domains (Fenwick-Smith et al., 2018; Grotberg, 1997). Instilling and fostering this resilience is one way that schools can promote student well-being and prevent the development of mental, emotional, or behavioral problems (Fenwick-Smith et al., 2018).

Mental health is increasingly becoming a priority in educational policies and schools (Ball et al., 2016) as a complementary strategy in teaching the whole child. Meeting these mental

health needs, particularly in low-income, urban schools is an important challenge for educators and providers alike. Classroom teachers understand the value, importance, and need for these types of services in schools, however, they lack the knowledge and training to effectively deliver these them (Bridgeland et al., 2013). Time, resources, and competing priorities add an additional challenge in the implementation of school-based interventions (Forman et al., 2008). Promisingly, the majority of teachers express interest in receiving training in order to acquire the skills necessary to support the mental health needs of their students (Bridgeland et al., 2013).

Chapter 2: Literature Review

The purpose of this chapter is to provide an overview of the literature related to this study and provide a foundation to anchor the pilot study put forth. The chapter begins with a focus on a dual factor model of mental health that is equally concerned with treatment and prevention. Related, the goals of school-based mental health discussed, specifically, the prevention of problems and the promotion of student well-being. Next, issues of intervention implementation in schools from a prevention science research lens are presented. Using a transaction model framework, specifically the mechanism of stress and coping and its relation to development of mental, emotional, and behavioral disorders will be presented. Finally, positive psychology, resilience, and coping skills research will provide the roadmap in guiding the development of the proposed classroom-based intervention. The chapter concludes by establishing the design of the intervention by linking the program components with supporting research and discussing its underlying theory of change.

Dual Factor System of Mental Health

The World Health Organization (WHO) defines health as "…a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." (WHO, 1995, p. 1) Within the field of psychology, mental health was focused primarily on the psychopathology and the treatment of mental disorders (Greenspoon & Saklofske, 2001). Indeed, the study of positive psychology, subjective well-being, and happiness did not appear to be a priority in psychological research (theoretical development; construct measurement) up until around 1960 (Wilson, 1967).

In his research presenting a definition of what subjective well-being is, Diener (1984) describes the underlying components: 1) it is subjective; completely based on the individual's

assessment of their experiences, 2) it is made up of a dual-experience of both positive and negative affect and other experiences, and 3) it is contextually bound across life domains and time (Diener, 1984). The author's review continues by describing the correlation between well-being and life outcomes and experiences. Specifically presenting evidence associating subjective well-being with income, employment, education, marriage and family, social interactions, health, and happiness. Additionally, demographics variables including age, gender, and race can influence those relationships on their own and as part of interactions with one another.

Particularly relevant to later discussions around stress and coping, Diener (1984) notes the relationship between life events and SWB. First, he acknowledges that good and bad events are inevitable in individuals' lives and that they are related to respective experiencing of positive and negative emotions. Continuing, he cites work from Guttmann (1978) and Reich and Zautra (1981) that an important moderator between events and SWB is the individual's perception of whether they have control and agency in acting upon and changing the event (Guttmann, 1978; Reich & Zautra, 1981).

The dual-factor system of mental health (Greenspoon & Saklofske, 2001) takes a population approach and considers different needs in different groups of people all requiring different response. Keyes (2007) discusses the dual factors of mental health and mental illness as existing along continua that uniquely contributor to outcomes across an individual's lifespan. A 2-axis system is created whereby a mental illness continuum is plotted along the horizontal axis, with one's mental health, or well-being bisecting the vertical axis (Keyes, 2005). By examining combinations and profiles in each of the quadrants, dual factor researchers have highlighted the importance of mental health promotion and protection identifying groups of individuals that have been unserved and/or under-served in a traditional model of mental illness treatment (Keyes,

2007). The reader is referred to Figure 1 for a visual summary of the dual-factor model, which is discussed in detail below.

The dual factor system of mental health formed the central focus of a study by Greenspoon & Saklofske (2001). In a first of its kind study, the authors juxtaposed a traditional mental health approach of mental illness or psychopathology with a positive psychology and subjective well-being approach with elementary school children. In their study, the authors argue and present evidence that these are two distinct constructs, instead a single construct along a continuum. Utilizing both of constructs in a 2 x 2 matrix, the researchers classified elementary students (grades 3-6) into four different groups: high SWB/low psychopathology (group 1), low SWB / high psychopathology (group 2), low SWB / low psychopathology (group 3), and high SWB / high psychopathology (group 4).

These four profiles allowed the authors to examine differences across a series of measures, with the intention that prevention and treatment might look different for each of these groups. The first comparison examined what separates kids in group 2 from those in group 1 or 3. By identifying that difference, it would then become possible to explore ways to change that factor to move them into a group 1 or group 3 profile. The researchers pointed out the difference between 1 and 2 appear to be dispositional, specifically neuroticism, while the difference between 2 and 3 appears more situational, specifically ratings of locus of control on the stressor. The researchers also mention that academic self-concept and social connection were similar for groups 2 and 3. The academic and social components then become potential mechanisms to act on in order to increase SWB (Greenspoon & Saklofske, 2001).

Suldo & Shaffer (2008) expanded upon this dual factor approach by further exploring mental health profiles in 349 adolescents that included both positive (e.g., SWB) and negative

(e.g., psychopathology) indicators of mental health and well-being. The authors established their focus by contrasting traditional models of mental health. In discussing psychological disorders, the researchers present the traditional approach of mental disorders being determined through dichotomous criteria, with mental health being the absence of mental disorder. Suldo & Shaffer argued that this approach neglects treatment and services to vulnerable youth that may not meet the criteria for mental illness or overlook treatment for those that have compensatory positive factors that mask the impact of their mental disorder.

Like the elementary study, Suldo & Shaffer (2008) created a 2 x 2 dual factor matrix to name and describe four groups of adolescents: 1) Complete mental health (high SWB/low internalizing [int] and externalizing [ext] symptoms [Sx]), 2) Vulnerable (Low SWB and Low int/ext Sx), 3) Symptomatic but content (high SWB and high int/ext Sx), and 4) Troubled (low SWB and high int/ext Sx). After controlling for various demographic variables, between-subjects analysis yielded significant differences across groups on measures of academic functioning ($F(24, 929) = 3.96$, $p < .001$), social functioning ($F(12, 876) = 17.18$, $p < .001$), and physical health ($F(9, 811) = 17.18$, $p < .001$). In their discussion, the authors described group differences around who would be likely to receive treatment, namely that youth in the "troubled" group receive more services due to having both high levels of symptoms and low levels of well-being. However, students in the vulnerable group, who also experience low well-being, would not be flagged for treatment as their symptoms were rated lower (Suldo & Shaffer, 2008).

Suldo & Shaffer's (2008) is complemented by Antaramian and colleagues (2010) study mental health for 764 middle school students (Antaramian et al., 2010). Following similar procedures by creating four groups based on high/low positive/negative indicators, these authors reach a similar conclusion in that groups of students maybe under identified and/or undertreated

within the traditional model of treatment and disorder. In particular, they note that students with low SWB and low psychopathology are at risk (academically, behaviorally and mentally) and will unlikely be captured in a unidimensional model (i.e., presence or absence of a disorder). Finally, they highlight the need for mental health work in school to integrate the use of positive well-being indicators in the goals and priorities of services for students (Antaramian et al., 2010).

In a follow-up study to their original work, Keyes, Dhingra, and Simoes (2010) examined the influence of mental health as a predictor of current mental illness across the different profiles of individuals depending their profile of different combinations of high/medium/low across both mental health/mental illness axis. Specifically, the authors collected cross-sectional data for 1,723 adults across a ten-year span. First, he found that prevalence of having any of the mental illnesses measured (Major depressive episode, panic disorder, generalized anxiety disorder) was relatively stable as were the measures of mental health (psychological and social well-being). However, when examining the makeup of the categories, the authors found that individual membership in each of the groups did vary over that same ten year period (Keyes et al., 2010).

To test their mental health promotion and protection hypothesis, Keyes and colleagues (2010) conducted a logistical regression analysis in order to compute adjusted prevalence odds ratios (OR) first for having a mental illness in 1995 to having a mental illness in 2005 and then by categories or changes to mental health during the same time period. If someone had a mental illness in 1995, their OR of having one in 2005 was found to be 5.0 (95% CI = 3.6, 6.9; $p <$ .001). However, that likelihood changes based on fluctuations in their mental health over that same period. Using the 2005 flourishing (high mental wellness + low mental illness) group (stayed here or moved here from languishing [low mental wellness + low mental illness] or moderate) as reference, OR for the moderate group were 4.4 (95% CI = 1.6, 11.9; $p <$ .004), with

those moving to that group having similar ORs. The languishing group (stayed) was found to have an OR of 6.6 (95% CI = 2.2, 19.5; $p < .001$). Providing the most support for their hypothesis was found in the group who moved from flourishing or moderate in 1995 to languishing 2005. People in this group were 8.2 times more likely to have a mental illness in 2005 (95% CI = 2.9, 23.5; $p < .001$) compared to those that stayed in the flourishing group at both timepoints. Under a traditional model of services, the languishing, moderate, and flourishing group would be not likely be candidates for treatment. Those that fall within those groups become at risk of experiencing negative mental health outcomes down the road. Without a robust, comprehensive mental health system that includes adequate screening, prevention, and promotion, providers end up waiting for these individuals to "fail" before treatment is dispensed (Keyes et al., 2010).

Taken together, Keyes' work utilizes a dual-factor model of mental health to emphasize that in order to achieve complete mental health, a focus on mental health promotion and protection is a necessary addition instead of solely taking a pathological approach to treatment and services (Keyes, 2007; 2005; Keyes et al., 2010; Westerhof & Keyes, 2009). Extending from the definition of complete health, Huber and colleagues (2011) describe how complete health should not just include the presence of health or absence of illness, but that well-being should also view health from a functional standpoint, namely an individual's capacity to cope and adapt to life changes and challenges (Huber et al., 2011). Taking a capacity and coping approach is discussed in detail in the resilience section below.

Development of Mental, Emotional, and Behavioral Problems

In order to develop appropriate positive mental health interventions, it is important to consider the pathways that contribute to the development of mental, emotional, and behavioral problems and how without intervention, those problems run the risk of developing into disorders (Muñoz et al., 1996; National Research Council Institute of Medicine, 2009). By exploring both continua of the dual factor model, better services and responses can be developed and provisioned. The following sections will explore these pathways first by utilizing a social ecological framework to outline the contexts surrounding an individual's development, then by applying a transactional theory to explain the nature of those relationships and how social transactions across the lifespan are important contributing factors to mental health outcomes.

In 1979, Urie Bronfenbrenner put forth a human development theory that examines an individual's development as a function of multiple roles, activities, and relations within and across contexts. Bronfenbrenner's work has foundations in Kurt Lewin's behavior-person-environment theory (Lewin, 1936) but expands these ideas by emphasizing that a lot of work up to that point in psychology placed a disproportionate focus on the individual's traits and characteristics. Bronfenbrenner's Social Ecological model of development balances the function of behavior by taking into account the many connections and environments, both proximal and direct (i.e., family and schools) as well as the more distal or indirect influences (i.e. societal norms or laws and policy), that shape the development and outcomes of any given individual or child (Bronfenbrenner, 1979).

Social Ecological Model

The Social Ecological model provides a framework to examine the many and varied influences on a child's development (Bronfenbrenner, 1979). A nested structure is created with

the individual at the center, represented by their characteristics (knowledge and attitudes) and behaviors (actions and norms). Next, the *microsystem* represents the most direct relationships that influence a child's development. This system captures the interpersonal interactions between child and parents, caregivers, teachers, and peers. The *mesosystem* serves the point of connecting and interrelating multiple systems or relationships. A child may participate in multiple settings and multiple settings can be interconnected (e.g., child/parent, child/teacher, parent/teacher). The *exosystem* is presented as indirect relationships within a child's social ecosystem that they are not directly interacting with the individual. Organizations and community (neighborhoods, schools, churches) conditions serve to influence factors at the microsystem level and thereby indirectly shaping the child's development. Finally, the *macrosystem* describes the most distal contributions to an individual's development including laws, societal norms, policies, and media (Bronfenbrenner, 1979).

Similar to the historical context that Bronfenbrenner's work came out of, early work in developmental psychology and developmental outcomes was primarily focused on an either/or dichotomy as either nature/individual or nurture/environment/relationship being the sole determinants of individual outcomes (Sameroff & Mackenzie, 2003b). This would eventually expand into a more integrated explanation of outcomes, looking at both nature and nurture resulting in specific outcomes. While an improvement over an either/or explanation, this interactional explanation relied heavily on an additive approach that assumed units were stable across time and could be combined to yield predictable results (i.e. Individual Trait A + Environment B = Outcome C) (Sameroff & Mackenzie, 2003b).

Transactional Model

Around the same time that the social ecological model was being researched, Arnold Sameroff (1975) was exploring the mechanisms by which an individual and their environment (e.g., a relationship) could mutually influence one another and this dynamic transaction over time would result in developmental outcomes. In other words, an individual is being shaped by their environment while at the same time are shaping their environment. In 1975 with his colleague Michael Chandler, Sameroff put forth the Transactional Model of Development (Sameroff, 1975; Sameroff & Chandler, 1975) as an attempt to better explain the development of behavior and outcomes over time. Since its inception, the transactional model of development has been used to explain a variety of developmental outcomes, including general psychopathology (Sameroff, 2000), as well as childhood disorders of depression, anxiety, conduct, and ADHD (Cicchetti & Rosen, 1984; Greene et al., 2003; LaFrenière & Dumas, 1992; Tseng et al., 2014). The model has also been implicated in the areas of language, emotions, executive functions and a variety of health behaviors and outcomes (Lazarus & Folkman, 1987; Leigh et al., 2011; Shaw, 2001; Tiberio et al., 2016).

Sameroff and Mackenzie provide an illustrative example in a 2003 review of the transactional model by contrasting it with linear explanation between birth complications and the development of language and social difficulties. By expanding the transaction between parent and child over time, the authors begin with complications during childbirth influencing the mother's own anxiety, followed by impacted caregiving behaviors. Next, inconsistency in maternal responsiveness contributes to feeding and sleeping problems for the child, which in turn causes the mother to view the child as difficult and disengage even more. The compromised

caregiving behaviors and interactions could then lead to diminished language and social outcomes by the time the child enters school (Sameroff & Mackenzie, 2003b).

Transactional Model and the Development of Childhood Depression. Cicchetti and Schneider-Rosen (1984) explored the transactional model as a dynamic explanation of the development of childhood depression. The authors prioritize this model as one that captures the multiple influences (e.g., environmental, relational, intrinsic) that over time contribute to adaptive or maladaptive responses in the individual. With continued maladaptive responses in the transaction being implicated in the eventual development of disorder or depression (Cicchetti & Rosen, 1984).

In their model, the authors provide a comprehensive list of potentiators and compensators in the development of depression (or resilience against depression). Factors thought to be more stable are termed as risk/vulnerability and protective factors and may exist across several domains: individual, familial, social, and environmental. Otherwise, challengers and buffers represent factors that may be temporary or unexpected sources of stress or resilience. Examples of risk/vulnerability factors include learned helplessness experiences, early loss or separation, early economic disadvantage. More temporary factors or challengers would be in the form of cognitive distortions, unsuccessful coping style, or lack of social supports. Protective factors would include prior experience successful handling stressful events, understand, and differentiate between multiple emotions, attachments to parents and siblings, social support, economic/community resources.

The researchers argue this model allows a dynamic and developmental capture across time about how depression might develop and might develop differently for different individuals (Cicchetti & Rosen, 1984). Of note these are factors impacting the transaction and response,

instead of all the risk factors existing as marks within or against an individual, they are stressors on the transaction that can be putting stress on the child, the caregiver, the environment, peers, and other relationships. Within this model, depression would manifest when potentiating factors (stress demands) overwhelm the compensatory ones (assets, resources, and resilience) (Cicchetti & Rosen, 1984).

Returning to Sameroff and Mackenzie's review (2003), they provide a valuable takeaway: that while each point along a developmental transaction is a moment where maladaptive responses and negative outcomes can occur, one must also remember that each of these points are potential targets of intervention. In describing methods of intervention, Sameroff and Mackenzie (2003) underscore the idea that changes in one area/method would have residual effects on the other pieces of the transactional system (Sameroff & Mackenzie, 2003b).

In recommendations for future study of transactional models, Sameroff and Mackenzie (2003) suggest that prevention and implementation science have led the way by working towards a systems-based approach in identifying targets (individual, environmental, and developmental) of intervention. Moreover, these fields have prioritized not just testing to answer if the intervention is effective or not, but also answering questions of how the intervention was used, how the intervention was received, and if the intervention is more appropriate for one group or another. Finally, research should take into consideration and seek to determine the optimal point along a developmental trajectory where an intervention would be most effective (Sameroff & Mackenzie, 2003a).

Stress and Coping. As the field of psychology has moved towards understanding dynamic systems of transactions contributing to individual outcomes, one model was proposed to expand upon the mechanisms underlying those interactions. The transactional model of

psychological stress and coping was first introduced by Richard Lazarus in 1966 (Lazarus, 1966). Arising out of differentiated responses to extreme stressful experiences (e.g. Korean War, Nazi concentration camps), stress researchers were interested in exploring individual differences and processes that could explained different outcomes for people experiencing similar taxing experiences (Lazarus & Folkman, 1984). The transactional model of stress and coping would be explored and revised across his own work and in collaboration with other researchers (Lazarus, 2000; Lazarus & Folkman, 1987; Lazarus & Folkman, 1984).

In an early revision, Lazarus and Folkman (1984) defined *stress* as "the relationship between the person and the environment" (p. 21). Furthermore, *psychological stress* focuses on that same relationship, but includes an appraisal of threat to well-being and/or individual capacity and resources to manage that relationship. With appraisal being a crucial component of this model, Lazarus argues that cognitive appraisal and subsequent coping of environmental stressors are the processes responsible for individual differences in response to stress (Lazarus & Folkman, 1984).

The psychological model of stress and coping process is outline below:

1. An event or potential stressor occurs
2. A *primary appraisal* occurs that identifies the stress as a threat or not a threat
    a. Positive events are ignored
    b. Events that are not viewed as a threat are deemed immaterial
    c. An event perceived as challenging, threatening, or potentially harmful to one's well-being leads to a *secondary appraisal*
3. A *secondary appraisal* assesses the individual's ability or capacity to manage the response

   a. If there are sufficient options including assets (internal) and resources (external), the individual activates a coping response
   b. Insufficient assets, resources, or coping options results in unsuccessful coping

4. Two types of coping responses can occur:
   a. *Problem based coping* happens when one can control the situation or manage the source of the stress.
   b. *Emotion based coping* would be utilized when there is little/no control over the situational stressor and the coping shifts to managing negative emotions
5. Successful coping would result in positive adaptational outcomes, while unsuccessful copings would result in negative psychological outcomes

Lazarus (1987) states that his and many others interest in studying coping "…is motivated by their potential for affecting health outcomes" (p.157) (Lazarus & Folkman, 1987). In his own review of the current state and future directions for stress and coping research, Lazarus (2000) discusses important next steps connecting research to clinical practice. In particular translating research to be relevant and applicable for practitioners. With particularly attention paid to individual differences in coping, including availability of resources, quantity and quality of experienced stress, cultural coping, and measuring positive adaptational outcomes including psychological well-being, physical health, and social functioning (Lazarus, 2000).

Resilience

If stress demands deplete an individual's ability to cope and make them less resilient and more susceptible to maladaptive responses to future stress, a worthwhile area to study is how to buffer an individual to make them more resilient to handle daily and acute stressors in their life (Evans & Kim, 2013). This aim is in line with a modern definition of mental health put out by

the World Health Organization (WHO) (2004) stating: “mental health is a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community (WHO 2004, p. 13).” They further describe mental health as consisting of the experiencing of positive emotions, psychological well-being and resources, and an individual’s ability to cope with stress and adversity, otherwise known as resilience (World Health Organization, 2004).

The study of resilience has its roots in research on children who overcame adversity where others with similar levels of risk did not (Masten, 2018; Shean, 2015; Tusaie & Dyer, 2004; Werner, 1993). In an oft-cited study of by Werner (1993), a cohort of Hawaiian children whom had exposures to a variety of environmental risk factors and stress were a part of a longitudinal study to follow them from childhood into adult outcomes. From this study a variety of protective factors were identified that served to buffer against negative outcomes and promote the likelihood of positive outcomes in adulthood (Werner, 1993).

Another early and foundational study on resilience was conducted by Rutter (1985). In line with the transactional model of stress and coping, Rutter (1985) explored the mechanisms by which an individual’s response to stress can vary as a function of their appraisal of the stress event or situation and their resources, capacity, and ability to cope with the stressor. Another conclusion drawn is that one’s ability to cope is related to their own their feelings of well-being (self-esteem, self-efficacy) and their inventory and range of cognitive coping and problem-solving skills. Most importantly, this early description of resilience describes the act and experience of successful coping (as opposed to maladaptive or avoidance of the stressor) becomes a protective factor in itself by increasing the likelihood of successfully managing a response to some future stressful event (Rutter, 1985).

Resilience as a Dynamic Process. Masten (2011) provides an integration of early resilience frameworks with more recent theories of resilience. Like others in her field, the focus of the work shifted from simplistic (i.e. "risk + resilience = outcome") or dichotomous understandings (either resilient or not) into a malleable, process-oriented focus on systems and transactions. In a broad definition she defines resilience as: "The capacity of a dynamic system to withstand or recover from significant challenges that threaten its stability, viability, or development (Masten, 2011, p. 2)."

Masten goes on to underscore the importance of translational research to take these concepts and make them relevant for clinical practice. While resilience may have started as an observation of an inherent trait that some kids possessed and others lacked, it has evolved beyond that into a commitment to view resilience as a resource, something that can be assessed, intervened upon, and built up in those that need it most (Masten, 2011).

Broaden-and-Build Theory of Positive Emotions. A discussion about psychological resilience would not be complete if it were limited to cognitive coping and appraisal. In fact, the transactional model of stress and coping includes both a cognitive and an emotional component. Fredrickson (2001) explored emotion-based coping through the experiencing of positive emotions as a form of psychological resilience. Under this model, termed the broaden-and-build theory of positive emotions, when an individual experiences positive emotion, there is thought to be a broadening of cognitions and actions resulting in an increase in one's inventory of available coping and problem-solving skills. This increased access to multiple means of coping and subsequent successful coping helps to build up one's psychological resilience reserves against future stress demands (Fredrickson, 2001).

The activation of positive emotions and their effect during times of stress was documented in their earlier study that informed the initial development of the broaden-and-build theory. Fredrickson and Levenson (1998) conducted a study in which they had individuals view a short film intended to induce fear. Following the film, participants watch one of four films meant to induce feelings of either contentment, amusement, neutral, or sadness. Cardiovascular measures were collected on heart rate and blood pressure to determine the speed that individuals were able to return to a physiological baseline. Subjective measures of emotions along a negative, neutral, positive continuum were also recorded. The researchers found that when looking at a return to cardiovascular levels before the film was watched, the groups in the amusement and contentment conditions returned to baseline significantly faster than those neutral and the sad conditions (Fredrickson & Levenson, 1998).

The authors termed this recovery as the *undoing effect*, that when the experiencing of a negative emotion is followed immediately by the activation or experiencing of a positive emotion, the positive emotion serves to undo or lessen the impact that that negative emotion or stress would typically be associated with, and thereby increasing the likelihood of recovery from that experience (Fredrickson & Levenson, 1998). Indeed resilience has sometimes been referred to as the ability to "bounce back" (Tugade et al., 2004)

Contextualized Resilience. As stated above, resilience research progressed from simplistic and intrinsic explanations into more complex, dynamic, and process and developmentally oriented models. One of these newer conceptualizations is provided in Ungar (2011) through his model of social ecological resilience. The first distinction he makes is by expanding resilience beyond the individual into the contexts and transactions around the child. Namely, that resilience must consider the resources and resilience of the community, caregivers,

teachers, and peers, together termed as the facilitative environment. Next, he highlights the importance of taking a process-oriented stance in resilience research. Specifically, viewing resilience as a complex process that can and does vary across contexts and times (Ungar, 2011).

The third idea can be understood as contextualized resilience or appreciating the atypicality that exists across resilient individuals and communities. He describes how some behavior, at first glance, may be viewed as maladaptive, but when contextualized within one's ecological context, the behavior may in fact serve a protective process for that individual. Ungar provides a few examples to illustrate atypical resilience. The first example comes from an ethnographic research study conducted over a three-year period by Dei, Massuca, McIsaac, and Zine (1997). In their study of urban Black youth who had dropped out of school, the researchers present an argument that this disengagement strategy may seem like a maladaptive coping response, however if it is placed against the context of a negative, harmful, or marginalizing school environment, the coping response served an intermediate protective function for the students that made that choice (Dei, 1997).

Next, he shares an example from Wyman (2003) and their study on the Rochester Child Resilience Project. Specifically, they examined the individual trait of children who were able to accurately assess the level of agency they had in changing their environment or circumstances. What they found was that kids who could accurately gauge their ability to change their circumstances, were assessed to have better outcomes. The atypical part arises when these same resilient children were shown to exhibit limited emotional and social engagement with caregivers and others around them. Focusing on the withdrawal behavior in isolation may seem maladaptive at first glance, but when context is considered, the same behavior may be viewed as protective and resilient. Specifically, Wyman (2003) explains that this atypical coping is what

allowed them these children to manage the distress from negative interactions in their family and environment (Wyman, 2003).

Resilience in the Latino Youth, Family, Community Context. The intervention in this study was designed with a school community that predominately serves Mexican American students and families. Several considerations from the literature informed the conceptualization of resilience in this context, and in turn, shaped some of the intervention priorities.

Cardoso and Thompson (2018) conducted a systemic review of the literature identifying common themes of resilience in Latino immigrant youth, families, and communities. They begin by pointing out that resilience research has reached a point where the theoretical models and broad understandings are on solid enough ground that study, application, and adaptation for various subgroups and unique populations should be the new aim of the resilience research. In their review of the limited amount of research available, the authors were able to identify several unique protective factors can be highlighted and built up when working with Latino communities. At the individual level, self-efficacy, self-mastery, positive ethnic identity, and frequent use of coping strategies were all found related to positive psychological and academic outcomes (Cardoso & Thompson, 2018).

Family protective factors were strongly supported across the literature anchored in a cultural value of *familism*, or a strong sense of responsibility, interdependence, and loyalty to the family (Zeiders et al., 2015). Resilience in the family domain included shared responsibility between parents and children in maintaining close connections with family members and ensuring family stability through financial resources, social ties, and community. Furthermore, parental involvement in school came in the form of communication, encouragement, and stressing the importance of goal attainment. Finally, cultural resilience factors identified included

values of *personalismo* ("personal goodness" and interpersonal relationships), *respecto* (respect), and *fatalism* (acceptance). The researchers point out that these cultural protective factors specifically served to buffer against other life stressors, particularly those associated with acculturation or migration (Cardoso & Thompson, 2018).

Many of the themes identified in the previous review are echoed in an article by Reyes and Elias (2011) which provides guidance around building social-emotional resilience among Latino youth. The authors highlight the importance of fostering individual resources, while at the same time attending to social resources that the child can and does draw upon. This parallel process between individual capacity and family as a resource is underscored by Kuperminc and colleagues (2009) in their review of risk, resilience, and positive development of Latino youth. Implications for intervention development should include a building on of personal strengths, while also reinforcing the social and familial connections that the child can utilize as they navigate stressful situations, work towards meaningful goals, and develop both as an individual and a member of the community (Kuperminc et al., 2009; Reyes & Elias, 2011).

Returning to Ungar's conceptualization, there is a critical need for resilience research to consider the meaningful and unique contributions due to cultural differences. Some of the considerations should be made include language, parenting practices, child development, gender, experiences of racism and other forms of marginalization, acculturation, and varying patterns of coping (Ungar, 2011; Ungar & Liebenberg, 2011). Ungar, like others above, focus on the future of designing effective resilience-based interventions. There should continue to be strong emphasis to understand how vulnerable individuals adapt under stressful or demanding environments, with particular attention paid to the social, environmental, and cultural contexts that that child is inextricably linked to (Ungar, 2011).

Positive Psychological Interventions (PPIs)

Positive Psychological Interventions (PPIs) were designed with a focus on improving well-being and psychological functioning for an individual or a group (Parks & Schueller, 2014; Ryan & Deci, 2001). While the research field of PPIs is fairly recent (Fisher, 2004), its roots in happiness, subjective well-being, and life satisfaction date back to early philosophers and early psychology researchers (Diener et al., 2009). Presently, over 100 PPIs have been put forth in the literature (Lee Duckworth et al., 2005), with many of them being utilized clinically and subjected to study (Bolier et al., 2013; Sin & Lyubomirsky, 2009; White et al., 2019). There is general agreement that most of these interventions fall under seven broad categories: gratitude, positive emotions and experiences, building strengths, finding meaning and purpose, and enhancing social relationships, forgiveness, and empathy (Parks & Schueller, 2014). Several intervention types that informed the present study are presented in the sections that follow.

Gratitude. Gratitude is a trait or process by which one notices the positive things in life and expresses an appreciation or understanding that those positive things can be, even partially, attributed to people, events, or objects outside one's own responsibility (Disabato et al., 2016; Emmons & McCullough, 2003). Gratitude can be thought of as a character strength, one that can be learned, practiced, and turned into a habit in order to experience positive emotions and stronger social bonds .

Specifically, over the past 20 years, research has found that practicing gratitude is associated with greater positive affect, decreased depression, better life satisfaction, and increased optimism (Dickens, 2017). Furthermore, practicing gratitude can serve as a springboard into "pay it forward" individual future, prosocial behaviors (Lomas & Froh, 2014; Williams & Bartlett, 2015). Several gratitude-boosting interventions have demonstrated the

positive effects of this simple practice (Emmons & McCullough, 2003; Lomas & Froh, 2014; Seligman et al., 2005; Wood et al., 2010).

Counting Blessings. An anchor study in gratitude intervention research was conducted by Emmons & McCullough in 2003. Participants in treatment group completed a weekly exercise called *Counting Blessings*, where they recorded five things that they were grateful for in a journal. The comparison and control groups recorded five hassles/negative experiences and neutral life events, respectively. Engaging in the weekly gratitude condition was associated with significantly higher ratings of well-being, specifically life satisfaction and optimistic attitude. Interestingly, the participants in the Counting Blessings group also reported physical benefits including increased exercise and lower physical symptoms compared to the hassles and neutral conditions. It should be noted that the authors were able to replicate the life satisfaction, well-being, and positive affect findings in two follow-up studies, but the physical benefits were not evident (Emmons & McCullough, 2003).

Three Good Things. *Three Good Things* is an oft-cited intervention that was conducted by Seligman and colleagues (2005). This study recruited 577 individuals who were subsequently assigned to one of six conditions (five positive psychology exercises and one placebo control – write about earliest memories). The *Three Good Things* arm asked participants to identify and write down three positive things that went well during their day. Participants were also asked to provide a reason why they thought that that good thing had happened to them. This relatively short intervention showed immediate effects at the one-week post-test for all conditions, including control. However, at follow-up (one-, three-, and six-month), the control group's gains were not maintained, while those in the *Three Good Things* condition continued to experience increased happiness and decreased depression, compared to baseline (Seligman et al., 2005).

This exercise has been replicated with positive findings for job performance and self-efficacy in nurses (Y.-F. Guo et al., 2020) , increased positive emotions and decreased burnout symptoms in teachers across educational institutions (Rahm & Heise, 2019), and a large-scale adult study (n = 1,447) that held the positive affect benefits, but did not find the follow-up benefits to depression (Mongrain & Anselmo-Matthews, 2012).

Gratitude Letters. A second intervention implemented within the 2005 Seligman study was known as: *Gratitude visit* or *Gratitude letter writing*. Participants in assigned to this condition wrote a letter of appreciation to a person that they felt close to. A unique component of this exercise was the direction to give the letter to the person that it was written for. Significant main effects were found for participant well-being (greater happiness and less depressed), maintained at the one-month follow-up, but were lost at the three- and six-month timepoints. While long-term effects falloff can be a common limitation in these short-term interventions, they are often addressed in discussions around sustainable practice and the delivery of "booster" sessions in order to supplement the initial intervention gain (Lyubomirsky et al., 2005; Rahm & Heise, 2019; Seligman et al., 2005; Sheldon & Lyubomirsky, 2006). One replication study by Toepfer and Walker (2009) models the point of booster effects. In their study, college-aged students were tasked with writing three letters of gratitude over an eight-week period. The results from this study demonstrated significant, positive within and between group effects on measures of happiness and gratitude. In particular, the authors note the cumulative within group effect shown over the four time points as the participants in the letter writing group completing subsequent letters (Toepfer & Walker, 2009).

While gratitude studies originated with adult studies, the research on gratitude in youth populations and within school settings continues to grow (Renshaw & Olinger Steeves, 2016;

Seligman et al., 2009). Froh, Sefick, and Emmon (2007) modified the original Emmon (2003) blessings/hassles/neutral study to be implemented with 221 sixth and seventh graders represented across eleven classrooms. Corroborating, significant results were found at immediate post-test and a three-week follow-up for students' life satisfaction, optimism, and less negative affect. Similarly, no effects were found for ratings of physical symptoms when comparing the gratitude group to the neutral or hassles group. Of interest was a measure specific to this study that looked at satisfaction with school. The authors reported that students in the gratitude condition reported increased school satisfaction (at post-test and follow-up) compared to students in the neutral and the hassles conditions. Their discussion further highlights this last finding by stating that adolescents typically report high levels of dissatisfaction with school (Froh et al., 2008).

It is important to remember that the simple practice of gratitude is by no means a panacea for mental and emotional ills. What it is, is a small habit by which one might experience positive emotions and overall satisfaction with life. This practice is especially true when the alternative, as is the case with depression, is a habit of negative thinking about the things, people, and events that are going wrong and have gone wrong in one's life (Dickens, 2017).

Experiencing Positive Emotions. One of the ways that PPIs attempt to improve well-being is through the experiencing of positive emotions (Schueller et al., 2014). Seligman (2004) describes this development of positive emotions as one pathway towards happiness. Specifically, he refers to this as "The Pleasant Life" and the way that it is achieved is through the experience of positive emotions in the past, the present, and the future (Seligman et al., 2004). Much like gratitude, positive emotions focused on the past can be about reflecting on people, events, and things that went well previously (Reis et al., 2010) or moments that stand out as memorable and favorable (Sumner et al., 2010). Developing positive emotions in the present includes focusing

on what brings us joy in our lives (Bryant et al., 2005; Jose et al., 2012), savoring moments (Bryant et al., 2011), and practicing mindfulness (Khoury et al., 2013; Zoogman et al., 2014). Finally, positive emotions relative to the future exist in the form of creating hopeful possibilities (Marques et al., 2017), thinking about "our best selves" (Loveday et al., 2016), and building optimistic thinking (Alarcon et al., 2013) for whatever may come.

Experiencing positive emotions about past experiences involves recalling or reminiscing about an event and tagging the positive moments that occurred within that memory (Bryant et al., 2011). On the other hand, positive emotions in the present can parallel coping strategies used to regulate emotional responses to magnify positive experiences or avoid negative ones. For example, a child might selectively attend to something in their environment that they enjoy like a person, a toy, a sound or a thought (Bryant et al., 2011)

One study conducted by Jose and colleagues (2012) examined the experiencing of daily positive events by prompting individuals at a random time each day to record the number, intensity, and impact of positive events experienced within the last hour, termed momentary positive events. Each of these events were also rated by participants by how much they attempted to focus on, increase, or share the positive emotional experience, termed momentary savoring. As expected, individuals that reported more positive events also reported higher levels of positive mood. However, this relationship appeared to be moderated by levels of momentary savoring when it was accounted for in the model. Interesting still was the fact that this moderation was most pronounced for those that experienced the lowest number of positive events. Said in another way, happiness didn't depend on the number of positive experiences in one's life; it depended more on the noticing, appreciation, and magnifying on the events one did have, no matter how few (Jose et al., 2012).

What happens when the benefits of experience positive emotions are combined with benefits of sharing experiences with others? In a series of studies, Reis and colleagues (2010) examined the reciprocal benefit of sharing good news with other people. The researchers had participants share positive events to confederates who responded depending on different conditions (e.g. enthusiastically, neutrally, negatively), with follow-up ratings on the prosocial relationship as well as the perceived value for the event that they had been initially shared. The studies found that when positive events were shared, received positively, people felt even more positively about the event, felt more trust and connection with the person that they shared the event with (Reis et al., 2010).

Hope and Optimism. Thinking about future positive experiences and emotions is commonly through the practices of hope, optimism, and goal-directed thinking (Alarcon, Bowling, & Khazon, 2013). At the broadest level and in the most general sense, optimism represents a positive attitude about good things happening in one's life (Malouff & Schutte, 2016). Optimism is often viewed as more of a dispositional or trait-based characteristic. On the other hand, hope is often associated with a more specific or particular expectation for positive things to occur (Snyder, 2002). A further conceptualization on hope can be thought of as creating an expectation or goal, having a viable pathway towards that goal, and the agency/willpower/motivation to achieve it (Duncan et al., 2020; Snyder, 2011).

Optimism is associated with better subjective well-being, life satisfaction, physical health and recovery, and increased coping and active problem solving (Forgeard & Seligman, 2012; Malouff & Schutte, 2016; Rasmussen et al., 2009). The research has also shown that optimism able to susceptible to change and thereby a prime target of resilience and positive psychology interventions. One of the most researched interventions for building optimism is known as the

best possible selves (BPS) activity (Loveday et al., 2016). As part of the original intervention conducted by King (2001), undergraduate students were asked to think imagine where a life where "everything has gone as well as it possibly could.". They were then asked to write about these best possible selves. Participants in the BPS condition experienced short and long-term psychological and physical benefits; which included decreased health center visits five months later (compared to control [write about daily plans]) (King, 2001). Indeed, significant, positive findings have since been confirmed across dozens of studies that warrant the continued use of this intervention (Loveday et al., 2016).

Similarly, hope has been associated with greater happiness, increased self-esteem and positive emotions, less stress, lower depression and anxiety, positive academic achievement, and predicting successful therapy completion (Alarcon, Bowling, & Khazon, 2013; Marques et al., 2017; Snyder, 2002). Hope-based interventions may include any of the following components: identifying specific goals, determining pathways to achieve those goals, recognizing barriers that may get in the way of reaching those goals, creating smaller, feasible steps, exploring client's strengths and capacity to meet those goals or overcome challenges that they may face (Weis & Speridakos, 2011). This last component may involve revisiting times that they were successful or managed obstacles in the past. One distinction provided throughout the literature is that hope is not a fanciful wish or an unrealistic dream. It must be realistic and attainable via the pathways and agency mentioned before (Snyder, 2002). Looking at the evidence for boosting an individual's hope through intervention means, the research supports a limited benefit, primarily on the areas of hopefulness and life satisfaction (Weis & Speridakos, 2011). This finding seems to be in line with recent research predicting small effect sizes for positive psychology interventions (White et al., 2019). Weis and Speridakos (2011) suggest that hope may still be

useful as a supplementary intervention or as a framework through which other practices and interventions can be delivered (Weis & Speridakos, 2011).

Building Strengths. Identifying and fostering strengths in individuals is not new or unique to mental health. The practice of supporting individuals in strengths-based improvement can include students in education, employees in the workplaces, clients in therapy, and many other contexts (Parks & Schueller, 2014). An individual may possess any number of strengths and may employ different sets of strengths in accomplishing everyday and life goals. A foremost resilience researcher in this area, Seligman and colleagues (2005) designed and subsequently collected data from thousands of individuals on their Values in Action Inventory of Strengths (VIA-IS) as part of an online intervention (Park et al., 2004; Peterson et al., 2007). The VIA inventory is made up of 24 traits that happen to be inclusive of hope, gratitude, and perseverance. In an early study of the strengths, Seligman reported an immediate benefit to happiness as a result of identifying and utilizing strengths, however a more lasting benefit was identified for participants that were asked to utilizing strengths in new and different ways on follow-up measures of depression scores (Seligman et al., 2005). Promisingly, a recent meta-analysis has provided corroborative evidence for the continued use of strengths-based interventions, where they found significant impacts between identifying and building strengths and improved happiness, decreased depression, and increased life satisfaction (Schutte & Malouff, 2018).

Mental Health Promotion and Protection in Schools

The following section begins with a focus on the organization of mental health prevention programs in schools, particularly around goals, aims, and competencies. Next, design considerations for the effective delivery of interventions in schools are provided, including best practices criteria and recommendations. The section closes by laying out the design of the school-based resilience and coping intervention that was utilized in the current study.

Prevalence and Patterns

To underscore mental health as a prime concern for those working with children and working in schools, it is estimated that 1 in 7 children will experience a mental disorder (Merikangas et al., 2011), with prevalence rates as high as 1 in 5 for kids living in poverty (National Research Council, 2009). Of the kids that are experiencing a mental disorder or mental health impairment, estimates for receiving treatment (psychotherapy, psychotropic medication, or outpatient services) are thought to be less than 50% (33%-49.7%) (Merikangas et al., 2011; Olfson et al., 2015; Sanchez et al., 2018).

In analyzing national trends in mental health care for children and adolescents, Olfson and colleagues (2015) report significant disparities in who receives mental health treatment particularly across race, gender, disorder, and income. When looking at impairment and service utilization rates for minority youth, similar rates of need (impairment) are captured, but likelihood of receiving mental health treatment lagged significantly behind for minority youth with service rates of 34.6% (compared to white youth rates of 49.7%). A similar pattern is seen between gender, with female youth experiencing severe mental health impairment less likely to receive mental health care (38.3% compared to 48.5% for males) (Olfson et al., 2015). Low-income environments further complicate the access and utilization of mental health services.

Atkins et al. (2006) report that low-income youth that experience mental health needs are less likely to receive services and treatment, with as many as 80% going untreated (Atkins et al., 2006).

Additionally, Merikangas and colleagues (2011) identified service differentials existing between externalizing (behavioral) and internalizing (mood and anxiety) disorders with externalizing symptoms being more salient, which would lead earlier and more frequently referral to treatment (Merikangas et al., 2011). Taken together, the prevalence of mental health needs in children and adolescence combined with the apparent disparities in youth receiving treatment for mental disorders highlights the urgency to provide equitable access and quality mental health services for any and all children. Moreover, schools are a viable and efficient mode of service delivery for effective and equitable mental health services (prevention, promotion, and intervention) for all students.

Even though schools and educators see themselves with this potential (Bridgeland et al., 2013), a hesitancy to directly discuss mental health treatment and its place in schools may be surrounded by reservations about training, competency, and liability (Marsh, 2015; Roeser & Midgley, 1997; Rothì et al., 2008). Because of this distinction, references to mental health in schools is likely to refer to social-emotional learning (SEL) in lieu of mental health services in schools. Additionally, schools' approach to mental health focus on needs and services explicitly related to student behavioral, social, and emotional well-being (Horner et al., 2010).

Goals and Aims of School-Based Mental Health (SBMH)

School-based mental health (SBMH) is concerned with the promotion of mental, emotional, social, and behavioral well-being for students (Durlak & Wells, 1997; Durlak et al., 2011; J. Wells et al., 2003). Connected to promoting wellness across these domains, schools

have a reasonable stake in the prevention of mental disorders and related impairments (Hawkins et al., 2008; Sancassiani et al., 2015). Lastly, school-based mental health provides for responsive services and intervention for those students whom have identified needs in one (or more) of those areas of functioning, particularly when paired with or when contributing to problems in a student's academic achievement (Taylor et al., 2017).

Promoting Mental Well-Being. The promotion of mental wellness in schools is a broad and universal goal that can have benefits across a student population (Durlak et al., 2011; Weisz et al., 2005). Promoting student well-being is thought of an overarching goal of schools that is supported in principle by many education providers. This shared vision is illustrated in a national report on social-emotional learning prepared by the Collaborative for Academic, Social, and Emotional Learning (CASEL), one of the leading organizations for the integration of SEL within schools (Bridgeland et al., 2013).

In interviews with 605 teachers representing multiple grades, multiple geographic areas, and multiple student demographics, this report presents several important takeaways regarding the state of social-emotional learning in schools (Bridgeland et al., 2013). The first finding is that teachers (93 percent) believe SEL should be an important part of a child's educational experience. They also believe that SEL will have positive impacts on school social relationships, as well as student academic achievement. Interesting still, while teachers in high-poverty schools teachers reported seeing more academic, social, and behavioral problems, they also held stronger beliefs in the benefits of SEL (Bridgeland et al., 2013).

Another finding revealed teachers' opinions on school and teacher capacity to provide SEL programming and instruction to their students (Bridgeland et al., 2013). Promisingly, two-thirds of teachers believe that SEL standards should be incorporated into their state standards.

Still, only 55% of the teachers surveyed report that they had received SEL training. Additionally, a majority of respondents (73%) identified a lack of SEL training and knowledge as a barrier to their classroom implementation. Optimistically, a large proportion (82 percent) of teachers expressed interest (somewhat, fairly, and very interested) in receiving SEL training (Bridgeland et al., 2013).

Resilience in Schools. One way to conceptualize the promotion of student well-being in an SEL context lies in the instilling and fostering of resilience in children (Fenwick-Smith et al., 2018). Resilience is a concept that has been put forth as a means of promoting student well-being and preventing the development of mental, emotional, and behavioral (MEB) disorders. Fenwick-Smith and colleagues (2018) conducted a comprehensive review of resilience SBMH promotion programs. In their review of resilience literature, the authors provide a working definition of resilience as "…a capacity or set of skills that allows a person to prevent, minimize or overcome the damaging effects of adversity" (Grotberg, 1997). Specifically, coping skills, social bonds, self-efficacy, self-advocacy, and emotion regulation can all serve as significant protective/resiliency factors.

In reviewing universal resilience and prevention programs implemented in primary schools (5-12 years old), Fenwick and Smith (2018) conclude that boosting resilience and protective factors can better equip students to adapt to change, overcome stressors and obstacles, and experience success and well-being across multiple life domains (e.g. mental, social, behavioral, emotional, physical). This review lends support to schools prioritizing and supporting efforts at a universal, preventative level to identify and boost resilient capacities for all students (Fenwick-Smith et al., 2018).

Prevention in Elementary School and Adult Outcomes. Extending beyond academic outcomes in K-12, researchers have examined the long-term impacts of elementary school interventions by following students who received them into their adult lives, long after the intervention had concluded (S. Guo et al., 2015; Hawkins et al., 2008; Herman et al., 2015). Hawkins et al. (2008) reported follow-up findings for individuals who had received the Seattle Social Development Project (SSDP) intervention during elementary years (Hawkins et al., 1991). The researchers provided evidence that this universal, preventive intervention package (school/teachers, home/parents, and peers) that was implemented in childhood was associated with positive adult outcomes, when compared to students in the control group. Specifically, the group that received the intervention demonstrated higher community group involvement at age 24, better median SES attainment at age 27, and reduced mental health problems at ages 24 and 27, when compared to the group that had not received the intervention (Hawkins et al., 2008).

Collaborative for Academic, Social, and Emotional Learning (CASEL)

The aims of SBMH and student well-being are thought to be accomplished through the development of knowledge, skills, and competencies (CASEL, 2013). One way that this work has been organized is through five competency domains established by CASEL (2013). These competency domains often serve as a unifying anchor that programs and schools align their SEL work to. The five domains are: Self-Awareness, Self-Management, Social Awareness, Relationships Skills, and Responsible Decision-Making.

Personal Competencies. Self-Awareness and Self-Management are related competencies about an individual's ability to identify, monitor, and manage their thoughts, feelings and behaviors (CASEL, 2013). Self-Awareness focuses on developing a child's ability to recognize a range of emotions and understanding how those emotions affect one's thoughts and behaviors.

This insight is also intended to develop one's self-concept in knowing their strengths and understanding their challenges. Self-Management can be thought of as emotion regulation and self-control. Developing skills in this area can include impulse control, handling stress, self-efficacy and goal directed behavior (CASEL, 2013).

Social Competencies. Social Awareness and Relationship Skills are related competencies about an individual's ability to establish social relationships and navigate and negotiate within the social context (CASEL, 2013). Social Awareness may be commonly referred to as reading social cues, perspective-taking, and empathy. This competency develops a child's skills to pick up on social norms for behavior. Accordingly, they learn how to accommodate their social interactions and expected behavior depending where they are and whom they are with. Relationship Skills are primarily focused on the initiation, engagement in, and maintaining of social relationships. In addition to typical social interactions (i.e., communicating, being a part of an activity), skills in this area would include the ability to ask for help and how to effectively navigate compromise and conflict (CASEL, 2013).

Problem Solving Competency. Finally, Responsible Decision-Making represents an individual's ability to look at a situation, determine possible decisions, and commit to the decision that is best for themselves (CASEL, 2013). This competency develops skills for the child to critically examine problems and solutions across a variety of life contexts. Through these problem-solving skills, one is able to evaluate a range of possible choices as well as their probable outcomes. As skills develop this area, one would be able to commit to a decision that considers both the costs and benefits as well as the help/harm to self or others (CASEL, 2013).

In their report, CASEL identifies pathways from these five SEL competencies to child outcomes through the child skills, feelings, and attitudes via the SEL approaches in schools

(Bridgeland et al., 2013). Namely, when schools and classrooms incorporate SEL with explicit skill development, improvement in teacher practices, and cross-curricular integration, there is an expected uptake in a child's positive social and emotional skills, as well as a fostering of positive feelings and attitudes towards self, others, and school. Together, this climate of connectedness and competency results in: prosocial behavior, lower emotional distress, decreased behavioral/conduct problems, and increased academic achievement (Bridgeland et al., 2013).

Multi-Tiered Systems of Support (MTSS)

Multi-Tiered Systems of Support (MTSS) arose out of a need to integrate separated systems of services and resources that existed in schools (Horner et al., 2010). Similar and parallel systems were being established in schools to address different areas of need including Response to Intervention (RTI) for provisioning academic resources and services across student populations (Fletcher & Vaughn, 2009) and Positive Behavior Intervention and Support (PBIS) to support behavior needs at the school, classroom, and individual student levels (Horner et al., 2010).

Arising out of a public health model, MTSS puts forth three tiers of population targets, programs, and interventions tied to specific needs at each level. This spectrum of prevention and intervention is delineated by Domitrovich et al. (2009) in their research of integrated models of school-based prevention (Domitrovich et al., 2009a).

The first tier is known as the *Universal* (Tier 1) or preventive tier. The target group is the entire school or classroom and the linked services are intended to promote well-being and prevent the development of risk or disorder. Tier 2 is referred to as *Selective* or *At-Risk*. The targets for interventions are groups or individuals whom are at increased risk of developing or experiencing difficulties or disorders. Lastly, Tier 3 captures an *Indicated* level of need with

intervention targets aimed at individuals that may already be experiencing a mental disorder, or a severe behavioral need, or academic impairment. The authors argue for the establishment of integrated models of prevention that provide a comprehensive system of support across domains (mental health, academic, social, emotional, behavioral) and across tiers (e.g. multilevel programs). (Domitrovich et al., 2009a).

Tier 1: Universal Support. Tier 1 within a MTSS exists to provide programs, support, and preventive intervention to all students within the school (Domitrovich et al., 2009). The universal delivery of services is intended to promote student well-being and success and prevent the development of later problems in the treated domain (e.g. academic, behavior, social, emotional, mental). Several benefits are conferred by provided services to all students: 1) cost-effectiveness due to many students being served versus a single student receiving support, counseling, or intervention, 2) a lower stigma of receiving assistance, and 3) multiple opportunities to generalize the skills across the day in the classroom (teacher noticing and reinforcing) and across different settings in the school (school-wide implementations).

Durlak and colleagues (2011) conducted a meta-analysis examining the effects of universal SEL programs. In their analysis of 213 programs including 270,000 K-12 students, the researchers found significant benefits in the following areas: SEL skills, student behavior, attitudes towards self and others, and improved academic performance. They also report that significant effects held in the analysis of studies that included follow-up measures 6-months post-intervention (Durlak, 2011).

A second portion of their study examined moderators for effective universal programs (Durlak et al., 2011). Besides implementation problems having a negative impact on a program's effectiveness, the researchers hypothesized that adherence to recommended practices identified

through the acronym SAFE would moderate a programs effect. SAFE stands for *Sequenced* approach to skills development, *Active* learning, *Focused* on skill training, and *Explicit* goals linked to SEL (Durlak et al., 2010; Durlak et al., 2011). Indeed, this meta-analysis found that programs that demonstrated the SAFE program recommendations had stronger outcomes than those that did not. These findings build on the author's earlier work (2010) examining personal and social skills programs implemented in after-school programs (Durlak et al., 2010).

Examples of school-wide Tier 1 programs could include any of the following: PBIS, adopted SEL curriculum, or programs that target teacher practices (e.g. classroom management, contingency management, teacher-student interactions). Additionally, programs that focus on improving the classroom community through class meetings, community building activities, problem-solving practices, and positive peer-peer interactions would be appropriately adopted as Tier 1 practices (Durlak, 2011).

Tier 1 Program Policy and Implementation. Universal SEL programs have gained some traction through state policies that adopt programs, provide funding, or establish a common set of state SEL standards (National Commission on Social, Emotional, & Academic Development, 2019). The National Conference of State Legislatures (NCSL) provides an overview of state's progress in adopting SEL standards and practices within schools (NCSL, 2018). Legislation ranges from enacting training standards for school personnel to better understand and support the social-emotional needs within their schools (Maryland) to requiring teacher preparation programs to train candidates in SEL instruction (Michigan) to failed legislation for funding character education programs (Oklahoma) to suicide prevention programs focused on resilience and SEL not passing in Colorado.

These disparate priorities are also seen in the move towards adopting SEL standards in schools. While the majority of states have at least SEL standards for preschools, there are only 8 states (Maine, Rhode Island, New Jersey, Michigan, West Virginia, Illinois, Kansas, and Nevada) where SEL standards have been adopted from PreK-12 (NCSL, 2018). Policy, standards, funding, and accountability will all be driving forces in districts and schools' prioritizing SEL universal program for all students.

Tier 2: Selected / At-Risk. Tier 2 or *selected* refers to the set of services provided to students identified as at-risk of developing future problems(Eagle et al., 2014). Students requiring this level of services can be identified through screening and/or referrals based on demonstrated need in the given area. Within the school setting, Tier 2 services may look like a combination of several of these programs provided in a small group or individual setting including: Check In/Check Out (CICO), behavior contracts/charts, social skills groups, group counseling, mentoring, and anger management/conflict resolution (Debnam et al., 2012).

Tier 3: Indicated. The third tier in an MTSS framework represents a highly individualized approach in order to provide a high degree of support to the highest amount of need (Eagle et al., 2014). Students receiving support at this level may already be experiencing symptoms, distress, or other impairment. Alternately, they may have demonstrated need due to collected data and referral or a lack of response to interventions provided at a lower tier. Due to the severity of need, few students would be indicated as needing this level of supports, and the supports provided would be tailored to meet the specific and varied needs of the individual student (Debnam et al., 2012; Horner et al., 2010). Tier 3 interventions might include individual counseling for more severe problems, more intensive behavioral interventions, or coordination of community and family support with community-based providers (Witte, 2014). A student's set of

services also could cross over all three levels where they might receive individual counseling (Tier 3), in addition to a social skills group (Tier 2), and Weekly SEL skill building in the general education classroom (Ziomek-Daigle et al., 2016).

SEL Programs and Curricula in School-based Mental Health

Social-emotional programs, interventions, and curricula are utilized across all levels of need within schools (Durlak et al., 2010; Durlak & Wells, 1997; Gottfredson & Gottfredson, 2002; D. B. Wilson et al., 2001) Many programs have shown positive effects in reducing and preventing problem behavior in schools, particularly those that utilized cognitive-behavioral therapeutic methods, social skills training, development of self-control, behavioral improvement, and environmental interventions have shown positive effects in reducing and preventing problem behaviors in schools (Wilson et al., 2001).

Designing School-Based Prevention Programs. A comprehensive review across multiple school-based universal prevention programs was conducted by Wells et al. (2003). The researchers attempted to identify common approaches and components utilized across different school-based prevention programs. Their analysis lays out several shared themes and foci of these programs including social problem solving (conflict resolution, compromise, assertiveness), positive social behaviors (relationship building, violence prevention), mental health (depression and suicide prevention), self-esteem building, respecting differences, and emotional literacy. Areas not commonly utilized in school-based programs were improving life satisfaction, spirituality, and goal planning/future orientation. The authors recommend future interventions can be bolstered by incorporating skill development in areas such as self-concept (happiness and life satisfaction), aggressive behavior (multi-informant), and navigating and negotiating problems in social relationships (Wells et al., 2003).

Gottfredson and Gottfredson (2002) analyzed school-based prevention programs on a national scale, particularly looking at the quality, common practices, and the implications for future program design. An initial insight is presented around the large degree of variability that exists across these programs, ranging from structure, to frequency of use, number of students receiving the program. For example, programs that utilized a behavioral type intervention had a higher frequency of use but with a lower number of students served; whereas school-wide curriculum programs serviced more students but were used less frequently (Gottfredson & Gottfredson, 2002).

A second finding was that typical activities included many best practice recommendations for what type of content should be delivered (Gottfredson & Gottfredson, 2002). However, when it came to best practices around methods of delivery, the typical program only utilized about half of the identified procedures. Additionally, the authors found that activities that targeted the classroom (teacher classroom management, organization and structure, and instructional skills) were substantially better at incorporating the best practice methods, compared to other activities (e.g. counseling). The authors seem to be less concerned with the "what" and more interested in the "how" of a program. One can take this to mean that whatever program a school decides to use, instead of expending time and energy debating the what, or the content, the school would realize better gains by focusing on and ensuring that whatever program used was of high-quality (i.e. best practices around methods and use) and implemented in a consistent manner (Gottfredson & Gottfredson, 2002).

SAFE Criteria. Durlak and colleagues examined potential recommendations around methods of implementing prevention programs in schools as they relate to skill development in students (Durlak, 2010). Durlak distilled four criteria for effective programs into the acronym

SAFE: Sequenced, Active, Focused, and Explicit. The sequenced criterion determines whether or not the program utilized a cohesive set of activities that were delivered in a clear and connected progression. Programs with the active component prioritized utilization of active engagement in the learning of new skills. Focused programs were ones that included a specific component targeting SEL competencies and/or skill development. Lastly, a program would satisfy the explicitness criterion if it named specific social-emotional competencies and skill instruction as areas of focus within their intervention. In two meta-analyses, the authors make the case that when prevention programs met the SAFE criteria, they were able to yield better outcomes for their participants. (Durlak et al., 2010; Durlak et al., 2011; Taylor et al., 2017).

Implementation Recommendations. Fixsen et al. (2013) provided further guidance for the development of school-based prevention programs by emphasizing that implementation fidelity is rarely assessed and even more rare to be included the data analysis. The authors present four criteria in order to define a program (Fixsen et al., 2013):

1. Clear Description (The Big Idea)
    a. The program should have a clear description about what it is trying to do (goals), who are the intended beneficiaries (target population), and the underlying rationale and assumptions.
2. Clear Functions / Core Components (The What)
    a. Essential and necessary functions or the active ingredients in an intervention should be clearly laid out in order for adopters to say that that program is being implemented.
3. Operational Definitions of Essential Functions (The How)

   a. Operationalizing the explicit activities that fall under each core component of a program provides implementers and providers with clear expectations of what needs to be covered and how it needs to be covered.

4. Performance Assessment (Fidelity) (The How Much)
   a. Assessing fidelity of implementation throughout the process, allows direct links to be made between level of implementation and outcomes. It also allows for process improvement when a program is not being implemented as follows.

In summary, across these studies and recommendations, prevention work in schools should target explicit social-emotional competencies, address specific skills within those competencies, and provide ways to assess and support methods of implementation. Finally, a program should provide clear organization and guidance what the intervention aims to accomplish, whom the intervention designed for, and how the intervention intends to meet its goals and outcomes.

Gaps and Limitations

Several research to practice (science to service, science to school) gaps exist in the prevention literature (Bauer et al., 2015; Durlak, 2015; Fixsen et al., 2005; Low et al., 2013; Oliver et al., 2007; Proctor et al., 2008; Taylor et al., 2017). Namely, issues at the systems/organizational level, at the teacher/provider level, and at individual student level can all contribute to implementation success of evidence-based practices in schools. Some examples of these barriers include competing demands in the school setting (time, content, and reforms), teacher level factors (fidelity, relevance, and acceptability), and programs focused on knowledge over skill acquisition (Ball, 2011; Farrell et al., 2015; Gottfredson & Gottfredson, 2002; Oliver et al., 2007).

SEL Program Limitations. While the SEL program research has demonstrated strong outcomes in elementary children, both short-term and long-term, there remain several gaps and limitations of SEL research (Carvalho et al., 2017; Domitrovich et al., 2007; Durlak et al., 2011; Moy & Hazen, 2018; Taylor et al., 2017). The meta-analyses conducted by Durlak et al. (2011) and updated by Taylor et al. (2017) describe a range of limitations ranging from implementation and fidelity to the organization of a program components, and what specific skills and outcomes are expected after program delivery (Durlak et al., 2011). Each of these issues are detailed in the sections that follow.

Implementation Limitations. Durlak and colleagues (2011) discuss how implementation procedures serve as a moderator variable between SEL interventions and expected student outcomes (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). While implementation fidelity has been identified as a significant predictor of program outcomes (O'Donnell, 2008), Durlak et al. (2011) report out that of the studies reviewed for inclusion in

their analysis, over 40 percent failed to report out or even monitor measures of implementation. The researchers recommend that implementation should be viewed as an essential piece of SEL program evaluation. Additionally, implementation should be examined at multiple levels of influence (e.g. teacher practices, school expectations, administration priorities, parent partnerships) within a given system in order to identify barriers and facilitators to program implementation (Durlak et al., 2011).

In a 2008 review, O'Donnell impresses that implementation is a considerable limitation in educational intervention research. While the researcher identifies an abundance of implementation research in the fields of public health and clinical services, it is juxtaposed against the paucity of research related to the implementation of effective interventions in the K-12 setting. They continue by discussing how a program's effectiveness is closely intertwined with its fidelity. Specifically, if a program is intended to be taken to scale, it must demonstrate both strong outcomes for students paired with high levels of intervention fidelity. Concluding remarks from this review include recommendations for educational/intervention researchers to identify the core/critical components of their intervention, decide on implementation protocols and measures before the study begins, and provide clear communication and expectations to program implementers around the program' integrity and intervention fidelity (O'Donnell, 2008).

Limitations in Organization of Program Components. In an earlier review of after school SEL programs, Durlak et al. (2010) describe the acronym SAFE (Sequenced, Active, Focused, and Explicit) as a key predictor in the effectiveness of school-based SEL programs. The authors hypothesized and concluded that SEL programs should be organized in a clear progression from one skill or concept to the next (Sequenced), youth should be given ample

opportunities to practice the skills being taught (Active), the program should provide sufficient exposure and coverage to the specific skills that need to be acquired (Focus), and finally specific skill development and expected learning targets should be communicated to youth, as opposed to vague discussions of SEL in general (Explicit). Each of these criteria reflect potential limitations in school-based SEL programs. Indeed, of the 68 programs included in their analysis, almost 40 percent of them did not qualify as a SAFE program (meeting all 4 criteria) (Durlak et al., 2010).

In their findings, Durlak et al. (2010) showed that programs designated as meeting all 4 SAFE criteria demonstrated a significant advantage over those that did not satisfy those conditions. Across outcomes including social, emotional, behavioral, and academic, SAFE programs demonstrated significant effects, with standardized mean differences (SMD) (compared to control conditions) ranging from 0.14 for school attendance, to 0.25 in school bonding, and 0.37 in self-perception (child). Meanwhile, non-SAFE programs did not demonstrate any significant effects on any of outcomes (Durlak et al., 2010).

Outcome Limitations.

Knowledge vs. Skills. Taylor and colleagues (2017) provide yet another limitation that arises in the development and evaluation of school-based mental health programs, specifically, when a misalignment occurs between intended outcomes, activities delivered, and outcomes measured. When this happens, expected program results may be harder to demonstrate and more difficult to translate into real-world contexts. SEL programs typically include a combination of knowledge, attitudes, skills, and behaviors. In thinking about these more immediate program outcomes, it is important to consider which may be most predictive of the intended intermediate and long-term outcomes (Taylor et al., 2017).

The meta-analysis completed by Taylor et al. (2017) teased apart these two goals of SEL programs (building knowledge and awareness and fostering skills and positive behaviors). Specifically, they looked at the follow-up predictive relationships between knowledge or skills gained as part of an SEL program and future well-being. What the authors found was that SEL skill development was significantly associated with future well-being ($R^{2\ change} = .16$; $p < .01$), while attitudes measured at the end of SEL interventions were not significantly associated with follow-up effects (Taylor et al., 2017).

Linking Specific Skills with Specific Outcomes. Ross and Tolan (2017) conducted an analysis examining SEL as a predictor of longitudinal outcomes. The researchers looked at a national sample of youth (early adolescence) that participated in a 4-H positive youth development (PYD) study. They first conducted a confirmatory factor analysis (CFA) to validate the model of the five competency domains from CASEL (self-awareness, self-management, social awareness, relationship skills, and responsible decision-making) as constituent components of SEL as a construct. Starting with the full set of items collected (100+), individual items were extracted and sorted based on what competency they matched closest to. The final model confirmed that the selected items did load onto the five domains, which in turn made up the primary construct of SEL. A divergent finding from the CASEL model suggested that the relationship skills domain may be made up of two subscales, which the authors divided into: relationship quality and creating relationships (Ross & Tolan, 2017).

A second analysis in Ross & Tolan (2017) was conducted in order to determine the predictive power from the SEL model (and its individual scales) to long-term outcomes (e.g. risky behaviors, depressive symptoms, delinquency, grades, and school engagement). As hypothesized, the SEL model significantly predicted all outcomes across 3 waves of data

collection, with the exception of the school engagement outcome at Wave 3. Next, they examined how the individual scales/competencies were correlated with those same outcomes. Significant patterns were identified from competencies to outcomes at each wave, however the strengths of those relationships varied among competencies and outcomes. For example, Self-Awareness was predictive of lower depressive symptoms (r = -0.498, p < .001) and higher grades (r = 0.223, p < .001), but not significant for risky behaviors or school engagement. Conversely, Social Awareness was associated to lower risky behaviors (r = -0.173, p <.001) and lower delinquency (-0.125, p < .05), but not significantly predictive of depressive symptoms or school engagement. The authors conclude with a discussion around the need for future SEL research to consider how various components of SEL programming can have differential effects on outcomes of interest. Additionally, a developmental approach needs to be taken in considering which skills are emphasized when and how those skills should be modified across different grades (Ross & Tolan, 2017).

Failure of Implementation. The importance of managing implementation challenges is echoed in Fixsen and colleagues' (2013) article examining evidence-based program implementation on a statewide level (Fixsen et al., 2013). The study looked at the adoption of evidence-based practices and outcomes across thousands of schools. The results summarized describe a significant training gap, with less than half of the teachers actually having received the recommended training in order to successfully implement the programs as intended. Even more alarming, at follow-up less than 10% of the schools were actually utilizing the school-wide evidence-based programs as prescribed (Fixsen et al., 2013).

Teacher Level Factors. In an educational research review, O'Donnell (2008) addresses the issue of implementation fidelity, or program integrity. O'Donnell asserts that two contrasting

approaches exist within educational implementations, one being complete fidelity and the other being adaptive, responsive, and flexible fidelity. O'Donnell points out that higher implementation fidelity was often associated with greater effects. On the other hand, the author also reports that flexibility of interventions and innovations can lead to higher adoption rates and greater sustainability (O'Donnell, 2008).

Teacher level factors can impact implementation of school-based prevention efforts. In a study that looked at educator factors and readiness to implement these services, Ball (2011) covered several teacher variables including teacher stress, professional support, and self-efficacy (a teacher's belief in their own teaching capabilities), and teacher perceptions of student mental health and need for services. Teacher readiness (to implement programs) was the construct of interest and conceptualized along two dimensions: *knowledge readiness*—defined as a teacher's readiness to learn about, gain resources, and consider approaches to implementation and *management readiness*—or the teacher's opinion about more logistical issues in relation to implementation including time demands, effort, and responsibilities (Ball, 2011).

The reported findings suggest that self-efficacy was positively related with teacher readiness-knowledge (Ball, 2011). In somewhat unintuitive findings, teacher stress was positively correlated with the readiness-management component, while teacher perceptions of mental health need were negatively correlated with the management dimension of readiness. The author discusses that teachers with higher levels of stress may be more willing to try something new, because the status quo is stressful, so any improvement would be welcome. On the perceptions, Ball suggests that for educators whom perceive greater mental health needs in their school, may also feel unprepared in actually meeting those needs. They might feel that those

needs are better served through providers in different settings, with different sets of expertise and skill (Ball, 2011).

Student Level Factors. A final implementation consideration exists at the individual student level. Two studies, one qualitative and one quantitative, are presented here (Farrell et al., 2015; Oliver et al., 2017). The first study by Farrell and colleagues (2015) interviewed middle school students attending two urban and one rural school. The schools implemented Second Step (Committee for Children, 1997), a violence prevention curriculum, and the researchers wanted to explore generalization of skills taught. Through participant interviews, thematic barriers and facilitators to the utilization of intervention skills were reported.

Barriers in this study included: norms, beliefs and values about aggression, perceptions of relevance and effectiveness of skill, "having their own way of handling things", issues of self-efficacy in using the skill in other settings and having people in your social circles not supporting the use. Facilitators to implementation success included: prosocial values and beliefs, remembering the skill or utilizing the skill in the past, and having supportive social connections advocating promoting the use of skills. The authors of this first study do not conclude that these skills are ineffective, but instead suggest that instruction of skills should take into consideration the individual and the contexts in their lives that make it easier or harder to take up the skills being taught (Farrell et al., 2015).

The second study (Oliver et al., 2007) examined student level factors by reviewing 345 studies, of which 12 included youth mental health opinions. The researchers were particularly interested in the intersection of evidence-based interventions and services, policy perspectives, and what young people believe is effective for their mental health. Of particularly interest in the study was the information around youth perspective of effectiveness of an intervention. One key

finding reported was that youth tended to conflate mental health and mental illness, the authors follow this finding by suggesting that asking young people about feelings instead of mental health/illness would be a better approach.

Another finding was that youth activated a range of coping strategies, both adaptive and maladaptive: listening to music, food, exercise, and substance use. Particularly relevant to school-based efforts was youth viewing talking about problems as not always helpful and/or hesitation with talking to adults about those problems (Oliver et al., 2007).

Next, Oliver and colleagues (2007) provide a summary of ideas that youth thought would be helpful, including developing skills to handle loss, information/advice/skills created by young people for young people, and investing time working on skills versus discussing the problem. Finally, coping strategies listed ranged from creative outlets (music, art) to expression of emotions, physical activities (sports and dancing), getting angry as a better alternative to being depressed or self-harming, and self-medicating to handle symptoms of stress and anxiety (Oliver et al., 2007).

Combined with the findings from Catalano (2016), both of these studies (Farrell et al., 2015; Oliver et al., 2007) lend support to taking an approach to intervention that focuses on multiple settings and multiple relationships within and across a child's environments. By targeting multiple domains of functioning, prevention efforts can be more effective in making positive changes in youth development (Catalano et al., 2016).

PowerUp!: A Universal Resilience/Coping Skills Intervention for Elementary Classrooms

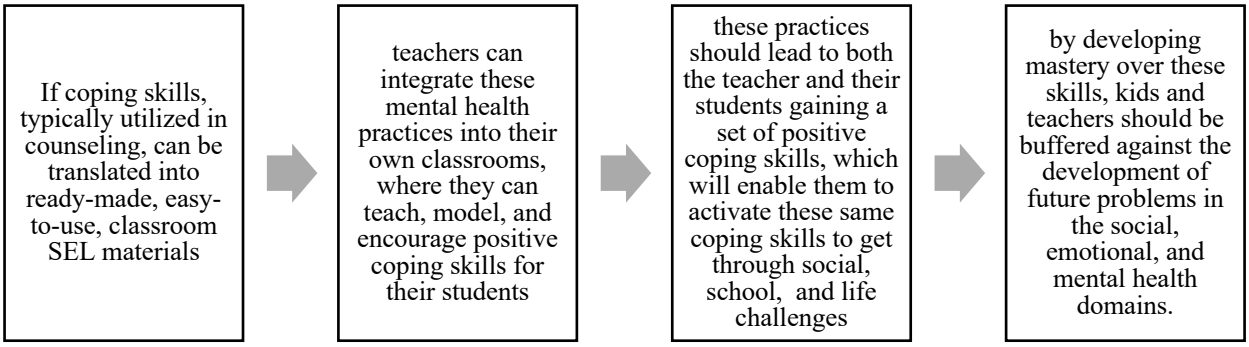
The pilot program outlined here was delivered as a preliminary study of an intervention that could be implemented in elementary classrooms and could be expanded up in future iterations of mental health interventions for youths. The pilot presented here is organized within a logic model framework in order to describe and link inputs and activities to outputs and outcomes. The program's logic model is summarized in Figure 2 and detailed below.

Problem Statement

This particular intervention arises out of a problem statement: Children growing up low-income schools and communities are placed at a significant disadvantage in being able to actualize their full educational potential (Chamberlain et al., 2016; Chaudry & Wimer, 2016; Evans, 2016). Teachers working in low-income schools are aware that the students they serve need additional supports in order to buffer against mental, emotional, and behavioral disorders (Bridgeland et al., 2013) . This problem is compounded by limited resources (material and human) to address all of the needs within these schools (Graves et al., 2014).

Pathway from Coping Skills to Outcomes

This pilot study was designed to examine the following pathway from coping skills instruction and practice to improving the likelihood of successful coping of future stressors/demands, which should serve to buffer against the development of maladaptive coping and negative outcomes. The theory of change underlying the intervention and outcomes is provided below:



Context and Model Assumptions

Context and assumptions going into this model include:

1. Teachers have competing priorities (academic curriculum, district/building adoptions, professional development, and career goals) (Ball, 2011)
2. Teachers working in high-poverty schools report seeing more academic, social, and behavioral problems in their students, however they also held stronger beliefs in the benefits of SEL (Bridgeland et al., 2013)
3. Low-income youth experiencing mental health needs are less likely to receive services (Atkins et al., 2006)
4. Boosting resilience in youth can better equip students to adapt to change, overcome stressors and obstacles, and experience success and well-being across life domains (Reavley et al., 2015)
5. Implementation problems negatively impact a program's effectiveness, designing programs that are accessible, easy-to-use, and relevant should lead to stronger practice commitments and sustainable use after the intervention has ended. (Fixsen et al., 2013)

Program Component: Coping Skill Cards (PowerUp! Deck)

The PowerUp! intervention has been designed with consideration from the literature around building resilience in schools. In particular, the evidence-base around positive psychology interventions (PPIs) and coping skills have informed the foundation and rationale for the development of the initial set of skills that were provided to the students participating in this pilot study.

A comparison, between the program design against the S.A.F.E. criteria, is provided below. These criteria informed the approach taken in the design, layout, and organization of the materials, resources, and skills. By identifying each component across the criteria, the overall integrity of the intervention was considered and improved. Furthermore, the criteria provided insight into gaps and pitfalls for effective implementation in this and future studies.

Sequenced	The cards were presented in a way where students practiced simple skills first, while more complex skills were shifted to the end. Additionally, skills were arranged such that the focus on the immediate individual in the early skills, was followed by an outward expansion to interpersonal connection and future-oriented thinking.
Active	As part of the implementation manual, teachers were provided explicit instructions around active engagement through the modelling of each skill, followed by students practicing the skill within the lesson.
Focused	The PowerUp! intervention focused on building resilience, well-being, and individual coping skills. Furthermore, the skills emphasized small, sustainable practices of building strengths, connecting with others, and creating a positive outlook on life.
Explicit	The explicitness of the intervention is found in the careful alignment between current research around positive psychology and resilient practices with the CASEL competencies framework that anchors and guides social-emotional learning in schools.

Development, Review, and Revision of Skill Cards. An initial set of fourteen skills was created by adapting skills utilized in previous positive psychology interventions for children.

Suldo (2016) lists and details activities that have been implemented most often for student populations (Suldo, 2016):

1. Gratitude – "counting blessing," journaling positive events, gratitude for others (Dickens, 2017; Lambert et al., 2012)
2. Kindness – doing positive acts of kindness for others (Lyubomirsky & Layous, 2013)
3. Identifying and Building Strengths – "you at your best", reflecting on experiences and identifying strengths (Seligman et al., 2009; Lavy, 2019)
4. Hope and goal-directed thinking – "agency and pathway", thinking about possibilities in the future and thinking about ways to achieve those goals (Alarcon et al., 2013; Marques et al., 2017b; Roepke & Seligman, 2015; Snyder, 2011)
5. Optimistic thinking - attributing/explaining positive events as internally directed (caused by self), stable (across time), and global (across settings). (Forgeard & Seligman, 2012; Patton et al., 2011; Rasmussen et al., 2009)
6. Mindfulness – awareness and focusing on the present (Carvalho et al., 2017; McCloskey, 2015; Skinner & Beers, 2016)

Alignment to CASEL. Because this was universally targeted intervention in schools, an alignment to existing frameworks and competencies is a necessary step to support existing goals of social-emotional learning (SEL) in schools. Each skill in the initial set was aligned to one of the five CASEL competencies: self-awareness, self-management, social awareness, relationships skills, and responsible decision-making (CASEL, 2013).

Alignment to Coping Skills. The skills were initially aligned to a broader set of coping skills families, in order to link to the research in stress and coping (Skinner et al., 2003). The coping families included problem-solving, information-seeking, helplessness, escape, self-

reliance, support-seeking, delegation, social isolation, accommodation, negotiation, submission, and opposition. The particular skills utilized for this intervention generally fell under the self-reliance and support-seeking, and to a lesser extent problem-solving and accommodation.

Review and Trim. A final set of ten skills was determined by reviewing, rating, and ranking the initial set across three dimensions: interest, understandability, and ease of use. Ratings were collected and averaged by the program developer, three school psychology doctoral students, with a final person serving to provide a layman's perspective, while also possessing a familiarity with the targeted context and student population community.

Final Set of Skills. The final set of coping skill cards, otherwise known as the PowerUp! Deck is listed below, summarized in Table 1, and presented in Figures 3 and 4. Card components include title, description, positive psychology intervention research link, as well as the alignment to CASEL competency, and coping family. Cards were also translated into Spanish and printed front to back in Spanish and English.

1. Favorite Things…
    a. Description: What are some things in your life that you're thankful for??
    b. Positive Psychology Intervention (PPI): Gratitude
    c. CASEL: Self-Awareness
    d. Coping Family: Self-reliance
2. My Super
    a. Description: What are (3) things that make you awesome!
    b. PPI: Identifying and Building Strengths
    c. CASEL: Self-Awareness
    d. Coping Family: Self-reliance and problem-solving

3. My Best Self
    a. Description: Share a time when you felt at your best.
    b. PPI: Identifying and Building Strengths
    c. CASEL: Self-Awareness
    d. Coping Family: Self-reliance and problem-solving
4. Hope Forward
    a. Description: What are you looking forward to this week?
    b. PPI: Hope and goal-directing thinking
    c. CASEL: Self-Management
    d. Coping Family: Self-reliance, problem-solving, escape (wishful thinking)
5. 2 Ups!
    a. Description: Give 2 compliments to yourself.
    b. PPI: Identifying and Building Strengths and Positive Self-Talk
    c. CASEL: Self-Management
    d. Coping Family: Self-reliance
6. Thankful (Who)
    a. Description: Who are some people in your life that you're thankful for? Why?
    b. PPI: Gratitude
    c. CASEL: Social Awareness
    d. Coping Family: Support-seeking
7. My Super Team
    a. Description: Someone Who… … you can always count on? … can help you feel better? … you want to be like?

   b. PPI: Gratitude; Goal-directed behavior
   c. CASEL: Social Awareness
   d. Coping Family: Support-seeking

8. Better Self
   a. Description: Read the strengths. Pick (2) you want to have in the future: (Brave, Caring, Happy, Creative, Honest, Fair, Funny, Leader)
   b. PPI: Identifying and Building Strengths; Hope and goal-directed thinking
   c. CASEL: Self-Awareness
   d. Coping Family: Self-reliance
9. Kind Card
   a. Description: Write a compliment for someone else, then give them this card.
   b. PPI: Kindness
   c. CASEL: Relationship Skills
   d. Coping Family: Support-seeking
10. Time Travel
   a. Description: Think about something that went wrong recently. Find (1) good thing about it.
   b. PPI: Gratitude; Optimistic Thinking; Cognitive Reframing
   c. CASEL: Responsible Decision Making
   d. Coping Family: Problem-Solving

Activities and Delivery. Training provided to each participating teacher was in the form of implementation guides and coping skills practice posters (see Figure 5). The implementation guide provided protocols around how and when this program can be implemented into existing

structures within the school day. The coping skills posters were designed to introduce the skill of the day, be posted in the room for kids to refer to and assist the teacher in generalizing the skill. Practice guides were provided to each teacher to have a clear sequence of how to introduce the coping skill, how to model the skill, and suggestions for extending the skill throughout the day. Students were provided individual coping skill cards that mirrored the coping skill posters. By the end of the programs, students had their own inventory of coping skills in a single deck of cards.

Outputs. Outputs in this model focused on several implementation issues, including the number of sessions/skill instructions that are completed, the number of exposures for a single skill throughout the day, and the number of kids that received the coping skills and how many coping skills they practiced. Acceptability of intervention was solicited through teacher survey, teacher qualitative feedback, as well as student feedback around which coping skills they liked the most, which ones were most helpful, the value or rating of the intervention itself.

Outcomes. Immediate or short-term outcomes were mainly focused on the uptake and the use of the coping skills both at the student level. At the classroom level, benefits to the classroom community were expected if students engaged in skills that boosted their own self-esteem and were provided opportunities to build positive social connections with each other. The intended short-term outcomes for students were increased psychological well-being through life satisfaction, optimism, hope, and self-esteem. Additionally, one would expect the broadened repertoire of coping skills to decrease the likelihood of unsuccessful coping in the future. Finally, students who received this curriculum would gain a foundational set of coping skills that should the child have a future need for mental health or counseling services, they would have a set of basic coping skills and insight into what type of skills work for them.

Examining long-term benefits for students, hopeful outcomes included the prevention of depressive symptomatology, mitigated social-emotional-mental problems, and subsequently improved academic outcomes. It would also be expected that, as a result of the intervention, individuals would be able to effectively activate coping skills across multiple domains, multiple challenges, and multiple points throughout their life. While not directly examined in this particular study, parallel teacher benefits would include positive mental well-being due to their increased use of adaptive coping skills, decreased stress in the profession, and a lower risk of experiencing teacher burnout. On a services and systems level, the hope would be for less service utilization for this group, which would preserve resources and provider expertise to better serve the needs of students who present with more intensive or worsening mental health symptoms.

Study Purpose

With a focus on prevention of negative youth outcomes and promotion of positive student well-being, the purpose of this study was to explore a brief school-based resilience-building intervention implemented by classroom teachers. This pilot study collected preliminary evidence for the implementation of positive coping skills delivered as a universal intervention for elementary students. Implementation outcomes, primarily social validity from teachers and students, served to inform future research specifically on the proposed intervention and broadly on teacher-delivered school-based mental health interventions. The impact of this study and its implications for school psychologists and the delivery of mental health interventions in educational environments will also be discussed.

Research Questions

Based on the aims of this study, several research questions were developed to address the areas of student positive mental health, as well as the analysis of implementation and

acceptability of the intervention by the teachers and students. This dissertation examined five main research questions:

Research Question #1

How are student-level measures of resilience, hope, and optimism associated with one another at baseline?

Hypothesis for Question #1

It is predicted that student measures of resilience, well-being, optimism, and hope will positively correlate with one another at baseline. It is also predicted that resilience will be positively correlated with an individual's general coping.

Research Question #2

What social validity indicators do teachers provide for the intervention's acceptability, feasibility, perceived usefulness, and intent to use the PowerUp! intervention in the future?

Hypothesis for Question #2

Teachers participating in this intervention will find it to be socially valid. Teacher ratings will indicate that the intervention has high feasibility, usefulness, and likelihood of utilization in the future.

Research Question #3

What social validity indicators do students provide related to the intervention acceptability. Specifically, how do students perceive the usefulness of the skills provided within PowerUp! intervention? Furthermore, what specific skills within the intervention do students report as being more interesting or more helpful?

Hypothesis for Question #3

It is hypothesized that students will rate the intervention as easy to use and helpful for their lives. Specific coping skills within the set will be identified as more interesting/helpful than the others, with variation across individuals and across grade levels.

Research Question #4

What estimates can be made on student outcome data based on students' participation in this intervention?

Hypothesis for Question #4

Preliminary effects linking the intervention to the outcome measures will be found. Specifically, the intervention will be associated with positive changes in the measures of resilience, hope, and optimism.

Research Question #5

How are student baseline scores of resilience, hope, and optimism, as well as intervention rating scores, associated with post-test outcome scores?

Hypothesis for Question #5

It is predicted that baseline levels of resilience, hope, and optimism will moderate student outcomes. Specifically, those students with lower levels in these areas at baseline will have a greater change from pre- to post-test scores. Additionally, positive student ratings of the intervention will be associated with greater post-test scores.

Chapter 3: Methodology

Setting and Participants

Participants for this study were selected from an urban elementary school in the Southern California. The school provides academic instruction in the core content areas of English Language Arts, Math, and Science. Additional enrichment opportunities are provided in art, music, and physical education. The school has also focused on technology integration throughout many parts of the instructional day. The school provides social-emotional and behavioral support through the implementation of positive behavioral interventions and supports (PBIS), restorative discipline, mindfulness, and character education.

This elementary school houses students in 3rd, 4th, and 5th grades, with five 3rd grade classrooms of up to 24 students each and four 4th and 5th grade classrooms each of up to 32 students. The elementary school primarily serves neighborhood children and families. The student body is made up of 95% Hispanic/Latino, 3% Black, and 2% White students. Many of the students are classified as English Language Learners (ELLs) and almost all (98%) of the students that attend come from low-income families. In comparison, the surrounding district has average percentages of about 60% low-income students, 23% ELLs, 45% Hispanic/Latino, 8% Black, 23% White, 9% Asian, 7.2% 2 or more races.

The school administration includes a principal and vice principal. Additional leadership is provided by an instructional coach, who oversees new teachers and provides training, observation, and support across the instructional staff. The instructional staff includes general education teachers, special education teachers and instructional aides, an academic intervention team, and enrichment teachers. The study's implementation and data collection were coordinated in collaboration with the school's instructional coach.

Teacher Participants

This study recruited up to five classrooms/teachers to participate in the delivery of the intervention. The instructional coach for the school identified and invited general education teachers that have at least three years of teaching experience, have the capacity and flexibility to implement the intervention, and were willing to collect data across the study. The classrooms included a mix of 3rd, 4th, and 5th grade classrooms. Additional demographic information was collected from the teachers that participated in the study.

Student Participants

The study delivered the intervention to up to 106 students. Students were enrolled for the 2019-2020 school year and were in 3rd, 4th, and 5th grade classrooms. Students ranged from ages eight to twelve years of age. Additional demographic information for the participating students was collected as part of the pre-test data collection. All student participant data was de-identified to protect and anonymize individual data.

Research Design

Given the need to examine implementation variables of feasibility, acceptability, and reliability as outcome measures of a novel intervention (Lancaster, 2015; Orsmond & Cohn, 2015; Salkind, 2010), the current study was a preliminary, exploratory-focused examination of the acceptability and feasibility of a novel resilience building intervention addressing the need for cost-effective, brief mental health interventions that can be provided as universal prevention within school-based settings. The study employed procedures and recommendations around the use of pilot studies (Persaud, 2010), as well as single group, quasi-experimental, pretest-posttest design (Baldwin & Berkeljon, 2010; Bell, 2010).

The current pilot study served as a trial of the novel classroom-based intervention, "PowerUp!". Data collected and analyzed focused on the implementation process and the social validity of the intervention. The study also employed a quasi-experimental, pretest-posttest design to gather preliminary student level outcome data that informed necessary conditions for future research and implementation success.

Measures

Students and classroom teachers completed an "About Me" or demographics form which included age, gender, grade, and number of years teaching (teacher only). Social validity measures were collected from teachers and students, post-intervention. Student-level outcome measures included self-reports of hope, resilience, and optimism. Descriptions, sample items, and psychometric properties for each measure are detailed below. A summary of measures and administration timeline are reported in Table 2.

Hope

The Children's Hope Scale (CHS) (Snyder & Hoza et al., 1997) is a two-factor measure of hope that asks six items related to agency hope (the ability to take action towards future goals) and pathway hope (having viable pathways to reach future goals) utilizing a six-point Likert scale (1=None of the time; 6=All of the Time). Items include "When I have a problem, I can come up with lots of ways to solve it" and "I am doing just as well as other kids my age".

The CHS has been validated for use with children ages 8-16 (Snyder & Hoza et al., 1997). Initial validation of the Children's Hope Scale revealed adequate internal consistency (α = 0.72-0.86) and test-retest reliability (r = 0.71-0.73, $p < .001$) (Snyder & Hoza, 1997). A follow-up study provided support for the criterion-related validity of the CHS (Huebner et al., 2004). CHS scores in this study were significantly and positively correlated with measures of global life

satisfaction (r = .49, p < .01) and perceived social support (r = .59, p < .01). Additional CHS scores were significantly and negatively correlated with scores on an internalizing (r = -.32, p < .01) and externalizing (r = -.33, p < .01) problems measure.

Resilience

Student and teacher self-reports were collected using the Child and Youth Resilience Measure, Revised (CYRM-R) (Jefferies et al., 2018). Based on the original CYRM-28 measure developed by Ungar (Liebenberg et al., 2012), the CYRM assesses an individual's ability, resources, and capacity to cope through challenges, changes, and adversity. The self-report measure asks individuals to read statements (e.g. "Do you have friends that care about you?", "Is doing well in school important to you?" "Do you talk to your family/caregiver(s) about how you feel?") and rate each statement's applicability to their life using a three-point Likert scale (1=No; 2=Sometimes; 3=Yes). A higher, total overall score on this measure would suggest higher levels of resilience. Optional subscales of personal and caregiver resilience can be calculated as needed.

The family of measures that the CYRM comes was developed as part of an international project that examined resilience across 11 countries. It has been utilized with children as young as 5 and with adults using the Adult Resilience Measure (ARM-R). The measure is available in over 20 languages and includes alternate forms with simplified language when deemed appropriate by the researcher. Validation studies have yielded strong support for the use of this measure reporting adequate internal consistency (α = 0..87) (Jefferies et al., 2018). Test-retest reliability for the CYRM-28 was sufficient (r = 0.70-.82) (Daigneault et al., 2013). Construct validity was evidenced by scores on the CYRM-28 being correlated with self-esteem and acceptance and negatively correlated with PTSD (Zahradnik et al., 2009).

Optimism / Pessimism

The Youth Life Orientation Test (YLOT) was developed to measure expectations that children have about events in their life (Ey et al., 2005). Respondents rated 12 items on a Likert scale of 0-3 (0=Not true for me; 3=True for me). Subscale scores are calculated with six items yielding an optimism subscale and six items yielding a pessimism subscale. Optimism items include: "I am a lucky person" and "I usually expect to have a good day". Pessimism items include "Things usually go wrong for me" and "Each day I expect bad things to happen to me". A total optimism score is determined by summing the optimism score with a reverse-scored pessimism score.

The YLOT measure has been validated with youth ages 8-12 years old, with its predecessor (LOT-R) being validated for use in adult populations (Ey et al., 2005). Internal consistency was calculated across each score and the total score resulting in Cronbach's alphas of .79 (Optimism), .78 (Pessimism), and .83 (Total optimism) (Ey et al., 2005; Glaesmer et al., 2011). Test-retest reliability across the three scores was determined as r = .45-.50, p < .0001. The authors examined the predictive validity of their measure by examining parent-report internalizing and externalizing behaviors (Child Behavior Checklist [CBCL]) and child-report internalizing symptoms (Children's Depression Inventory (CDI) and Revised Children's Manifest Anxiety Scale [RCMAS]). Optimism scores (subscale and total) were significantly correlated with Parent-reported externalizing problems three months later (*rho* = -.35, p < .05), while pessimism scores predicted social competence ratings on the CBCL at follow-up (*rho* = -.34, p < .05). Additional predictive validity was provided for the child-reported measures, where YLOT optimism scores at Time 1 significantly and negatively predicted depression at Time 2

(*rho* = -.38, $p < .05$) and YLOT pessimism scores significantly and negatively predicting anxiety symptoms at Time 2 (*rho* = -0.33, $p < .05$).

Implementation Measures

Sessions/Skills Log. Teachers recorded a log over the course of the intervention which included the skill taught and modeled each day, each skill that the students practiced, and whether the extension opportunity was utilized. Teachers were also asked to provide a count of students that participated in each day's lesson and an interest/engagement rating for each skill's lesson. The log also provided an indication of fidelity monitoring across the teacher implementers.

Social validity. Due to the exploratory/pilot nature of this study, the primary objective was to examine the feasibility, utility, and acceptability of the novel intervention. In order to gather this data from the teacher, a modified rating scale was constructed utilizing questions from the Usage Rating Profile – Intervention, Revised (URP-IR) (Briesch et al., 2013), the Acceptability of Intervention Measure (AIM), Intervention Appropriateness Measures (IAM), and Feasibility of Intervention Measure (FIM) (Weiner et al., 2017). This exit survey was intended to assess the extent that the intervention was aligned with the priorities of the classroom and the school (e.g. is it beneficial to the students, is it accessible across a variety of students, and is it consistent with other school practices). Additional items ask about the ease of use, specifically around the clarity of procedures and the alignment between program's purpose and program's plan. Finally, acceptability of the intervention and intervention feedback was solicited through questions related to referral of the program to other educators, their beliefs in whether it was effective or not, what parts they felt were most/least beneficial, and what changes could improve the accessibility to educators and students. These ratings were provided on a scale from

1 to 10: 1 = least, 10 = most. Teachers then provided more detailed survey results across five dimensions of social validity by rating statements covering intervention acceptability, appropriateness, feasibility, fit, and value. These responses were rated on a scale of 1 to 5 (1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly Agree).

Social validity from the student perspective was assessed through the Student Intervention Rating Profile (SIRP), a measure designed for the purposes of this study. Students were asked to identify acceptability across several dimensions including utilization, preference, perceived helpfulness, and future utility. Students reported on a scale from 1 to 4 (1 = no, 2 = a little, 3 = medium, 4 = a lot) across intervention dimensions. Students were then asked to think about if the skills were a good way to help students, if they would recommend the skills to help a friend, and if they would utilize the skills in the future. Students were asked to report on a 1-3 scale (1 = no, 2 = maybe, 3 = yes). Finally, students were also asked to select preferences for the (3) cards that they liked the most and the (3) cards that they felt were the most helpful for them.

Data Analysis Plan

The data was analyzed utilizing quantitative descriptive analysis (Coleman, 2018) in order to answer research questions #1, #2, and #3. For question #1, *mean* and *standard deviations* were calculated to describe the student participants scores on measures at baseline. Pearson's correlation coefficient was utilized to examine the relationship among these same measures at baseline. The *means*, *standard deviations*, and frequency statistics for the student and teacher social validity measures were calculated and presented for research questions #2 and #3.

To provide further analysis on the social validity teacher data for research question #3, a mixed methods strategy known as triangulation was also utilized. Triangulation is a mixed

methods technique that can be employed as a way to validate and elaborate upon quantitative findings (Hastings, 2012). One benefit to this approach is in the concurrent data collection as open-ended questions can be embedded within existing surveys.

A second focus guiding the analysis of pilot studies was establishing a reasonable basis to proceed with a future study on the effectiveness of the intervention (Moore et al., 2011). For this aim, inferential statistical analysis, in the form of a series of paired-samples *t*-tests were conducted to estimate the mean differences on student scores before and after their participation in the PowerUp! intervention. Specifically, *mean* scores on measures of hope, resilience, and optimism at baseline were compared with *mean* scores collected at posttest, after students had participated in the PowerUp! intervention.

Lastly, to understand the covariates that can guide future research of this intervention, a multiple linear regression model was fit to predict the student changes scores using baseline levels of hope, resilience, and optimism, and student rating of the intervention. The multiple linear regression analysis utilized a sequential (block) predictor entry. Block entry allows for testing changes in variance uniquely accounted for as predictors are entered into the model at different stages, or blocks (Tabachnick and Fiedell, 2013). Normality, linearity, and homoscedasticity of the residuals was examined to attend to statistical assumptions of multiple linear regression analysis. Block 1 included age, Block 2 included the baseline measures of hope, resilience, and optimism, and Block 3's added predictor was the student intervention rating profile score. The final model after all predictors were entered was:

$$\text{Change score} = b_0 + b_1 * \text{Age} + b_2 * \text{HopePre} + b_3 * \text{ResiliencePre} + b_4 * \text{OptimismPre} + b_5 * \text{Intervention Rating}$$

Statistical analysis was conducted using IBM SPSS Statistics for OS X, Version 27.0. A *p*-level of 0.05 was used to determine statistical significance across analyses. Consideration was made as to the necessity of including a corrected *p*-value criterion due to multiple comparisons being made in the data. Based on the literature on this subject, several recommendations were identified to provide guidance on this issue (Althouse, 2016; Armstrong, 2014; Gelman & Hill, 2012). Armstrong (2014) provides a succinct description on when corrections would be warranted, which are 1) there is interest in identifying any type I error across any of the tests, 2) the cost of type I errors is high, and 3) when many tests are being conducted without a priori hypotheses. Alternatively, corrections would not be indicated for: 1) ones that are exploratory in nature intended to guide futures, 2) studies that have a small number of comparisons, and 3) when there is a preference or necessity to avoid type II errors (Armstrong, 2014). Althouse (2016) provides additional rationale in the benefit of reporting all results (significant and non-significant), as opposed to removing non-significant results in order to decrease the number of comparisons made (Althouse, 2016). Future studies and data analyses arising out of this one will need to be sufficiently powered and will necessitate correction for multiple comparisons and utilization of multilevel modeling to support the statistical inferences being made (Gelman & Hill, 2012).

The present study employed a single group pre-post design to pilot PowerUP, a universal resilience skills intervention created to increase coping resources in elementary classrooms. The primary goal of this pilot study was to explore the social validity, intervention use and acceptability from participating students and teachers. A secondary goal was to estimate student level changes on measures of hope, resilience, and optimism. A final goal was to describe and

predict change scores based on variations in student baseline scores and their ratings of the intervention.

Chapter 4: Results

Description of the Sample

Participant demographic characteristics are summarized in Table 3 and described herein. Participants in this study include both students, as well as the teachers that implemented the intervention. Demographic characteristics are provided for the larger set (n= 106) of student participants who were initially enrolled in the study and completed the pre-test data. However, because of the precautions and school shutdowns that took place in March 2020 during the COVID-19 pandemic, many of the students within this sample were unable to continue participation in their daily learning, let alone an additional intervention study. A subset of students (n = 44) that continued receiving remote instruction with their teachers continued participation within the study and were able to complete the intervention as well as the post-test surveys. This smaller sample of students was the primary data used for analysis within this section.

The intervention subset (n = 44) of students ranged in age from eight-years-old to eleven-years old with a mean age of 9.4 years (SD = 0.8). A skew in gender is noted as most students in this sample were female (65.9% vs. 34.1%) compared to the initial sample, as well as the school population from which the students were drawn from. The students in the sample, mirrored the makeup of the initial sample and the school, were overwhelmingly Latino (95.5% vs. 4.5% non-Latino). Many of the participants within this sample were from the 4th grade classrooms (70.5%) that were a part of the study with smaller representation from the 3rd and 5th grade classrooms respectively (15.9% and 13.6%).

The results of this study and associated research questions are organized across three sections within this chapter. The first section presented focuses on the data collected at baseline

including student demographics, as well as the descriptive statistics for the pretest measures of interest. Research question 1, which examines the correlation of those baseline measures, is detailed in this first section. The second section will serve as the focal analysis to determine the social validity of the intervention. Research questions #2 and #3 are addressed through the triangulation of the teacher intervention survey, the Student Intervention Rating Profile (SIRP), and open-ended qualitative data. Finally, due to the nature and design of a pilot study, the third section conservatively addresses research questions 4 and 5 by presenting exploratory results that examine change in student outcome scores.

Study Results

Research Question #1. How are student-level measures of resilience, hope, and optimism associated with one another at baseline?

Summary statistics and zero order correlations among the pretest measures are presented in Table 4 and detailed as followed. Pretest measures examined provided an average estimate of where student scores were before the intervention was administered. On the baseline measure of Hope (Children's Hope Scale), possible scores range from 6 to 36, while the sample's mean score was 23.57 (*SD* = 23.57. The Child and Youth Resilience Measure – Revised (CYRM-R) scores can range from 0 to 40. The calculated mean score was 30.52 (*SD* = 4.70). Subscale scores on the resilience measure were as follows: personal resilience (*M* = 14.89, *SD* = 2.13) and relational/caregiver resilience (*M* = 15.64, *SD* = 3.02). The last student outcome measure of optimism was assessed through the Youth Life Orientation Test (YLOT), which can yield ranging from 0 to 36. The sample mean on this measure was found to be 23.18 (*SD* = 7.01). Subscale scores on the total optimism measure included: optimism (*M* = 13.48, *SD* = 3.10) and pessimism (*M* = 8.30, *SD* = 4.83).

Pearson correlation coefficients were calculated between the pretest measures to evaluate their relationships at baseline. Significant, moderate, and positive correlations were found between all three student reported measures. Hope and resilience were positively correlated at baseline, $r(42) = .37$, $p < .05$. Hope and optimism were positively correlated at baseline, $r(42) = .42$, $p < .01$. Resilience and optimism were positively correlated at baseline, $r(42) = .45$, $p<.01$. As expected, all the measures and subscales were significantly and negatively correlated with pessimism subscale, except for the personal resilience subscale. Respective subscales for resilience (personal and relational) and optimism (optimism and pessimism) were strongly correlated with one another, reiterating the 2 factor models identified in both of those measures. Correlations between personal and relational/caregiver resilience were positive and statistically significant, $r(42) = .66$, $p<.001$. Correlations between optimism and pessimism were negative and statistically significant, $r(42) = -.55$, $p<.001$. No significant correlations were obtained between the demographic variables and the student baseline measures.

Research Question #2. What social validity indicators do teachers provide for the intervention's acceptability, feasibility, perceived usefulness, and intent to use the PowerUp! intervention in the future?

Social validity indicators were reported by teacher participants through overall ratings of intervention materials and procedures, student engagement, and student benefit. The teacher social validity survey (Table 5) and summary responses (Table 6) are presented below. Summarized social validity results are then discussed.

Acceptability was assessed by asking implementers about the appeal and approval of the PowerUp! intervention. The mean score on the acceptability scale was 4.65 (SD = .49), with all items rated as agree or strongly agree. These ratings indicate that the teachers within this study

were satisfied with the program and its materials and had a positive experience with the intervention. Qualitative responses from the teacher exit survey supplementing the acceptability of the intervention were found in teacher report of student engagement/enjoyment, ease-of-use, convenient materials, and focused skill development.

Appropriateness was assessed by asking implementers about the applicability, suitability and match of the intervention to their classroom. The mean score on the appropriateness scale was 4.75 (SD = .43), with all items rated at agree or strongly agree. These ratings indicate that the intervention is perceived as relevant and suitable to the participating classrooms, teachers, and students. Qualitative responses from the teacher exit survey supporting the appropriateness of the intervention included materials that were developmentally appropriate, relevance to opportunities throughout the school day, and the home/school connection. Challenges were identified around student trust and skills needed to manage stressful events.

Feasibility was assessed by asking implementers about the utility, practicability, and ease-of-use of the PowerUp! intervention. The mean score on the feasibility scale was 4.85 (SD = .34), with all items rated at agree or strongly agree. Out of all the scales, the feasibility scale was the highest rated, including one of the items ("PowerUp! seems doable.") being rated by all teachers as Strongly Agree. Qualitative responses from the teacher exit survey building on the feasibility of the intervention were found to be related to the "light-touch" and sustainable nature of the intervention. Additionally, the barrier to entry was low in that novice teachers or teachers with little to no mental health expertise would be able to teach.

Fit was assessed by asking implementers about the intervention's fit within the context of the school system. The mean score on the fit scale was 4.60 (SD = .14), with all the teachers rating admin support and school mission/values statements as strongly agree. Most teachers

(80%) agreed that the PowerUp! intervention was like other SEL materials/curriculum that they had used in their classrooms. Finally, most of the teachers (80%) rated strongly disagree and disagree when asked if they would require additional professional development in order to implement this intervention. Qualitative responses from the teacher exit survey demonstrated the fit of the intervention by providing the evidence in the areas of a targeted curriculum and the ease in which teachers were able to adapt the materials to fit their classroom and ultimately to fit the pedagogical change to distance learning.

Value was assessed by asking implementers about their intent to utilize the intervention in the future, their willingness to recommend the intervention to parents and colleagues, and the perceived benefits that the intervention provided for their students. The mean score on the value scale was 4.65 (SD = .49). Intent utilize the intervention in the future was high with 40% of the teachers agreeing and 60% of the teachers strongly agreeing to the statement. The same ratings were provided for recommending the intervention to other teachers. More participants said that they would recommend the intervention to parents with 80% strongly agreeing and 20% agreeing. Overall, the teachers felt the intervention was beneficial for their students, with 60% strongly agreeing and 40% agreeing to the statement. Qualitative responses from the teacher exit survey highlighted the value of the intervention via student excitement, feedback from home, and being able to build teacher-student connection. However, generalizability was inconsistently identified as an area requiring further study.

Research Question #3. What social validity indicators do students provide related to the intervention acceptability. Specifically, how do students perceive the usefulness of the skills provided within PowerUp! intervention? Furthermore, what specific skills within the intervention do students report as being more interesting or more helpful?

Turning from the teacher reports of social validity, student data provided from self-report surveys provides further evidence in favor of strong social validity vis-à-vis intervention acceptability, utility, and value (see Table 7). When asked to provide an overall rating of the intervention of how much they liked PowerUp! on a scale from 1-10, students provided a mean score of 8.82 (SD = 2.06). Further acceptability is evidenced through student ratings of the intervention as helpful (*M* = 3.36, SD = .92), fun (*M* = 3.50, SD = .85), and easy to do (*M* = 3.43, SD = .87), with over 60% of students giving a 4 (out of 4) rating on each statement.

The second set of questions focused on actual utilization and generalization of skills outside of context of the classroom. Overall, 65.9% of the participants reported 'medium' to 'a lot' of use outside of the classroom (*M* = 2.91, SD = 1.12). They reported using the skills more when they felt happy (*M* = 3.02, SD = 1.13) compared to when they felt sad (*M* = 2.72, SD = 1.21). Students also reported that they shared the PowerUp! skills with family (*M* = 2.55, SD = 1.27) more often than they shared with friends (*M* = 2.32, SD = 1.22).

A final set of questions on the student exit survey focused on the value of the PowerUp! skills taught within the intervention. Students reported moderate intent to utilize PowerUp! skills in the future (*M* = 2.77, SD = .57) with 50% of participants stating yes, 41% stating maybe, and 9% stating no. Similar support was found for recommending a PowerUp! skill to a friend who was feeling down or sad (*M* = 2.50, SD .63). Most notably, value for students is strongly supported in their responses to the statement: "PowerUp! is a good way to help students…" (*M* = 2.77, SD = .57), with 84% of students agreeing.

While the broad themes of acceptability, utility, generalizability, and value were primary objectives of the social validity research questions, a closer examination of the individual skills that the students practiced provides valuable guidance for future iterations of the PowerUp!

intervention, as well as other positive psychology programs implemented with this age group. Endorsement of specific PowerUp! skills are presented in Figures 6 and 7 and analyzed across three dimensions: teacher rated engagement, student rated interest, and student rated helpfulness. Teachers recorded daily interest/engagement ratings for each skill card that they taught, with average teacher ratings reported in Figure 6. Student ratings were compiled by students selecting up to three cards that they "liked the best" and up to three cards that "helped the most" (see Figure 7).

Teacher ratings of student engagement across individual PowerUp! skill card lessons were moderate to high (M = 3.48, SD = .28, range = 3-4) with no average rating below a three. The highest rated lessons were "My Super Team" (4) and "Thankful Who" (3.75), while the lowest rated lessons were "Favorite Things" (3.25), "Kind Card" (3.25), and "My Best Self" (3). While most classrooms reported an overall average of 3.8-3.9 engagement across all lessons, one classroom reported lower adherence and engagement across the intervention, with average engagement across the lessons taught reported at 1.67.

Students reported the liking the "Thankful Who" skill card the most, with over 22% of the students selecting it as being one that they liked the best. Other cards that many kids found within the set included "Better Self" (12%), Favorite Things (12%), Time Travel (11%), and Kind Card (10%), and Best Self (10%).

Cards that received lower amounts of interest as a percentage of student ratings included 2 Ups (5%) My Super Team (6%), and My Super (7%). The card that received the lowest number of interest ratings by students was the Hope Forward card, which received only 4% of the total preference votes.

Students reported the "Thankful Who" and "Better Self" cards as ones that helped them the most (18%) in the intervention. Other cards that many students found helpful within the set included "Kind Card" (15%), "My Best Self" (11%"), and "Time Travel" (10%).

Cards that students found less helpful as determined by percentage of student ratings included "Favorite Things" (7%), "My Super" (7%), "My Super Team" (6%), and "Hope Forward" (4%). The card that received the lowest number of ratings by students in terms of helpfulness was the "2 Ups" card, which only received 3% of the total votes.

Research Question #4. What estimates can be made on student outcome data based on students' participation in this intervention?

Table 8 (below) summarizes the mean scores at pretest, posttest, mean differences, paired *t*-tests for student measures of hope, resilience, and optimism. Student scores on the Children's Hope Scale (CHS) numerically increased from pretest (M = 23.6, SD = 6.5) to posttest (M = 25.4, SD = 6.8), $t(43) = 1.85$, $p = .072$, $d = 0.27$; but did not reach statistical significance. On the Child and Youth Resilience Measure (CYRM) scores increased from pretest (M = 30.5, SD 4.7) to posttest (M = 31.3, SD = 5.5), $t(43) = 0.94$, $p = .352$, $d = 0.16$; statistically non-significant. The CYRM subscales for personal and relational resilience were negligible mean difference scores, which were also found to be statistically non-significant. On the optimism measure, Youth Life Orientation Test (YLOT-R), scores increased from pretest (M = 23.2, SD 7.0) to posttest (M = 24.2, SD = 6.7), $t(43) = 0.96$, $p = .346$, $d = 0.15$; not statistically significant. While the YLOT-R optimism subscale mean differences *t*-test was not found to be statistically significant, the YLOT-R pessimism subscale scores decreased from pretest (M = 8.3, SD = 4.8) to posttest (M = 6.5, SD = 4.3) and were found to be statistically significant, $t(43) = -2.34$, $p = .024$, $d = 0.40$.

R*esearch Question #5. How are student baseline scores of resilience, hope, and optimism, as well as student intervention rating profiles associated with post-test outcome scores?*

Multiple linear regression analyses were conducted to explore the relationship between student measures and change scores observed post-intervention. For the purposes of conducting a parsimonious and interpretable analysis, a composite score was calculated by combining student measures of hope, resilience, and optimism. The intervention change score represents the pre-post change in composite score. The results of the regression onto the change scores are presented in Table 9 and summarized as follows. Three blocks were entered to account for the variance in change scores due to age, individual measures at baseline, and student intervention ratings.

As shown in Table 9, Block 1, which included age as the single predictor, did not significantly account for variation in intervention change scores, $R^2 = .007$, $p = .588$. Block 2 of the regression model entered student baseline scores for the individual pretest measures of hope, resilience, and optimism. This regression equation significantly accounted for variation in intervention change scores, $R^2 = .265$, $p = .015$. Block 3 of retained age, the pretest measures, and added in the student intervention rating profile.

This final model significantly accounted for variation in the intervention change scores above and beyond the pretest-only block, $R^2 = .423$, $p = .001$. In other words, the model when all three blocks were entered explained 42.3% of the variance in change scores observed across the intervention.

The final model with all predictors entered:

Change score = -1.923

+ (4.026 * Age)

+ (.072 * HopePre) + (-.275 * ResiliencePre) + (-.353 * OptimismPre)

+ (.415 * InterventionRating)

Within this final model, age and hope did not contribute significantly to the variation in change scores (p = .103 and p = .619, respectively). Additionally, the resilience pretest score was no longer significant with all predictors entered into the model, (β = -.275, p = .065). The optimism pretest score contributed uniquely to the model (b = -4.90, β = -.35, p = .027), as did the student intervention rating scores (b = 5.77, β = .42, p = .003). Specifically, for every 1 standard deviation below the mean that a student scored on the optimism measure at baseline, there would be an expected increase of 4.90 on their overall change score after participation in the intervention. Finally, students' average change score would be predicted to increase 5.77 points for each standard deviation increase in their self-reported interest and engagement with the PowerUp! intervention.

Chapter 5: Discussion

The purpose of this study was to conduct a pilot study of a novel intervention in school-based prevention research. PowerUp! was designed to be a brief resilience-building program, anchored in skills and practices already existing within coping, positive psychology, and resilience literature. The intervention package was explicitly designed to be highly engaging for the youth participants, the skills were selected to be easily accessible for students to acquire and practice independently, and the materials and training were intuitively developed for ease of implementation by teacher providers.

Implication of Findings

Together, the set of research questions provided a focused look at the PowerUp! intervention, how it was implemented, what the group of teachers thought of its design and delivery, and the students' reception of the program and the perception of the skills that they learned. These findings from the research questions build upon existing school-based mental health, prevention research, and intervention-design and implementation science by presenting a novel way of designing highly engaging, widely acceptable, and sustainable interventions.

Baseline Student Hope, Resilience, and Optimism

Based on the results of this study, in confirmation of the hypothesis for research question #1 and consistent with the literature (Alarcon, Bowling, & Khazon, 2013; Bondy et al., 2016; Ey et al., 2005; Sheldon & Lyubomirksy, 2006) student profiles of hope, resilience, and optimism were related to one another at baseline, yet represented unique constructs. However, small discrepancies were observed between this sample's hope and optimism scores at baseline when compared to norming and validation studies. Overall, students in this sample reported slightly lower levels of hope at baseline with a *mean* score of 23.57, compared to a population *mean* of

25.89 (Snyder & Hoza, 1997). On the optimism measure, a smaller difference was found with this samples' *mean* to be 23.18, compared with a validated *mean* of 24.85 (Ey et al., 2005). On the measure of resilience, this sample's *mean* score was 30.52, which compares favorably to a 'low' resilience boundary 'cut-off' score as indicated by the validation study resilience measure (Glaze, 2016; Jefferies et al., 2018).

One important takeaway from this initial set of findings is the contextual differences in school level populations, particularly in relation to the double-disadvantage experienced, higher-need/lower-access, by students in low-income schools (Atkins et al., 2006; Bridgeland et al., 2013; Chamberlain et al., 2016). Most youth in this sample live in a low-income community and the lower overall scores when compared to norms provided in the measures reflects and emphasizes the greater need for mental health services and school-based interventions to be provided at the universal tier 1 level in low-income schools. A universal delivery model should be prioritized as opposed to a more referral, individual counseling-based service delivery model, which can be more time consuming, resource intensive, and limited in terms of the number of youths who receive services.

Another insight from this first research question has to do with the findings consistent with the literature supporting 2-factor subscales for the resilience and optimism measures. One of the aims of prevention research is to identify optimal targets of intervention (Kellam & Langevin, 2003). By having subscales to target (e.g., personal or relational resilience and optimism or pessimism), each individual domain becomes its own opportunity of intervention. Continued work in the development of the PowerUp!, and other interventions like it, will be to think about the how individual resilience and coping skills might map differently onto different

areas/subscales of youth hope, resilience, and optimism profiles. Therefore, the pathway from specific skills to specific outcomes will need to be explored further.

Social Validity Findings

The American Psychological Association (APA) current policy statement on evidence-based practice is "the integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences." (American Psychological Association, 2006). Social validity is one way to gain perspective into the patient's/client's/student's/youth's perspective on a given practice. Without these findings, even the best researched, manualized program may come up short if it doesn't connect or have value for those it was intended to serve.

What made this intervention unique was that it was created from the beginning with the target population in mind. While other programs might be designed more broadly around a targeted developmental range or service setting and then deployed or researched in a geographic or convenience sample, the PowerUp! intervention was developed with the specific school, grade levels, and student populations in mind. Pre-implementation considerations and revisions were made to anticipate teacher buy-in, increase relevance students, and maximize interest and engagement across the program.

Based on the findings from research question #2 and in support of its hypothesis, the teacher, who served as participants, or providers, found it to be a socially valid intervention and generally reported an overwhelmingly positive experience with the PowerUp! intervention. Across several dimensions of social validity, teachers indicated their approval, value, and rationale for elements of the intervention that facilitated the teaching of the program, as well as how their students received the skills. This finding positions the PowerUp! intervention as a

superior intervention when compared to more complicated or effortful interventions, particularly when those interventions have not been designed with or matched to student and teacher interest and engagement.

A common theme that stood out across the findings was the appeal of the brief design of the intervention. The teacher participants echoed one another on this theme, referring to the "quick mini lessons", "the simplicity of implementation", "lessons [that] were short and manageable". Teachers generally report competing priorities and time as significant barriers to implementation of interventions in general, and mental health needs, in particular (Bridgeland et al., 2013). Brief interventions may help ease this pressure by allowing the teacher to see parts of the day that they can "squeeze" these activities where there's more of a filler period (i.e. transition, community building, or break periods) that's not in conflict with a longer core content area block, like math or reading.

Related to the ease of implementation is the finding from asking teachers if they would need additional training or professional development to implement this intervention. Another unique aspect of this intervention was that the program materials were designed in ways to encourage minimal training, teacher prep, and expertise in order to the deliver the intervention. The PowerUp! Implementation Guides were printed on posters with the idea that teachers could pick up each day and teach with very little "extra work". In fact, the only formal training the teachers received was an email with the program manual and one 30-minute online session with this researcher, which was mainly going over procedures for data collection and study logistics. The findings from the exit survey reported that the teachers overwhelmingly would not require any additional professional development in order to implement this intervention. This finding is extremely important given that staff training has been identified in the literature as a barrier for

teachers in supporting mental health needs in schools (Stein et al., 2012). Further studies might consider ways in which programs and training can be designed in efficient and creative ways that build and train the expertise needed for providers to implement the intervention effectively, without requiring large amounts of time and other commitments.

Somewhat mixed findings were revealed through the generalization of skills beyond the classroom context. Across the intervention teachers shared instances of students trying the skills out with friends or family members. In fact, one of the pre-printing design changes made was to create 2-sided bilingual cards with this home connection in mind. The bilingual cards were explicitly noted as a strength of the intervention in that it facilitated the skill share between student and parent and created that link from home to school. Generalization of skills also happened to be a common challenge shared among the teachers where uncertainties were expressed about the students' use of the skills outside of the classroom. The challenge was only magnified by the COVID-19 situation, with one teacher pointing out having more touchpoints of accountability (e.g. a kid sharing after lunch how they tried out a skill, or closing the day with a reminder to try the skill at home) when physically located on campus, compared to as little as a single, daily digital interaction with the student when all instruction went remote. Indeed, the generalization of skills across settings is the aim of any meaningful skill change. Future studies can examine which skills generate increased outside classroom usage.

Extending from the concern of generalization that exists in many intervention studies, explicitly attending to the generalization of skills. Like the classroom extensions that were a part of the program, another way of increasing the generalizability would be to provide users with specific ways that they can practice/share the skill with family and friends outside of the school day. Note: this generalization of skills was originally an intended part of the implementation logs

where teachers collected percentage of students who generalized the skill outside of the classroom, but the measure was dropped when classrooms went to remote instruction.

Similarly, for research question #3 and in support for the hypothesis, students found the intervention to be interesting, useful, and helpful. When asked to describe PowerUp! in one word, many students used the word “helpful”, several used “fun”, a few “amazing” and “awesome”, a couple of “greats”, one “boring”, and a single “bruh”. The student findings mirror that of the teacher providers in that a majority of students reported a positive reception to the PowerUp! intervention and like the one-word descriptions, the overall data supported the program as being helpful, fun, and easy. These findings are especially promising as they align to the initial design goals of the intervention, in that it was deliberately intended to be helpful (clinically meaningful), fun (interesting and engaging), and easy to do (brief, simple, and sustainable).

Somewhat in conflict with the findings of the teachers’ perceptions of the generalized use of the skills, many students reported using the skills outside of the classroom. They reported sharing the skills with their family members and with their friends. They also shared using the skills for when they felt happy and sad. This question of asking students about their use of skills during different emotional states was exploratory as it hadn’t been an explicit part of the intervention. The skills were generally taught in a neutral, building resilience, or positive feelings perspective. Within the context of developing coping skills across contexts and emotions, youth would likely need/utilize different sets of skills under different circumstances. So, building a broad set of skills is one goal of universal mental health interventions, and overtime, a pruning or “figuring out” process of what works, knowing that individuals will end up varying on their perception of what skills work best for them. However, some skills may be better suited towards

specific emotional states than others and would-be valuable follow-up work arising out of the PowerUp! intervention and extending to other programs looking at equipping youth with specific resilience-based coping skills.

Student Outcomes

Before presenting implications or conclusions on findings related to student measures examined within this study, it is important to reiterate the limited nature of pilot study and the bounded context in which the findings can be interpreted. The hypothesis for research question #4 predicted that the intervention would be associated with change in the positive direction across the three measures of resilience, hope, and optimism. The hypothesis was not confirmed; insomuch that statistically significant, positive changes were only obtained for the optimism subscale of pessimism (decreased), with the other changes from pre- to post- in the positive direction, but not statistically significant. While, the hope scale did not reach a statistical significance ($p = .072$), it represents a promising measure to continue using in follow-up studies to the PowerUp! intervention. The inclusion of the CHS in future studies is further supported by the small-medium estimated effect size reported from pre- to post ($d = 0.27$). In fact, some have suggested that in a pilot study phase, there may be some benefit to relaxing traditional significance levels in order to provide preliminary estimates of treatment (Lee et al., 2014). A strength of the hope scale lies in its brevity, being a 6-item measure, which may be preferable for teachers tasked with administering data collection to large classrooms of students.

Another takeaway from these primary scale findings has to do with the attrition rate from pre- to post-test. One explanation for the findings of on these measures is considering whether these constructs represent more broad, dispositional, or trait-like qualities or are they more discrete, specific, and state-like abilities. Optimism and hope are often contrasted in this way,

with optimism representing a generalized positive outlook towards the future and hope being more of a targeted approach to specific outcomes. Similarly, as mentioned in Chapter 2, resilience is broad concept that can come to represent a range of attitudes or skills across multiple domains. It is reasonable to assume the more dispositional characteristics would require more time to see a change in, whereas more focused measures would be more sensitive to brief interventions!

Interestingly, a closer examination of the individual subscales for optimism revealed a significant decrease in pessimism as reported from pretest to post for the students that participated in the PowerUp! intervention. The change examined in this subscale was also linked with a moderate effect size ($d = 0.40$), which lends support for continuing to explore this construct within the context of resilience and coping skill studies and interventions. This finding was particularly surprising given the context of the COVID-19 pandemic, where kids were losing social connections, exposed to a 24-hour news cycle of fear and uncertainty, and were likely surrounded by people they cared about attempting to manage their own anxieties about the situation. One of the teachers noted that as students were settling into this "new normal" that they were away from friends and perhaps more vulnerable, which made this intervention that much more relevant. One could reasonably assume that had there been a control group, that group would have been worse off due to the aforementioned factors in the absence of any buffering of psychological skills to cope with the stress, anxiety, and uncertainty.

Turning to the findings on predicting change, two primary takeaways are provided that provide partial evidence in support of research question and hypothesis #5. The first is who might benefit the most from receiving interventions like PowerUp!. The results reported students with low optimism at baseline predicted higher change scores at post-test, which suggests that

the optimism measure can serve as a screener to decide who to deliver the interventions to (i.e. in a more targeted way, especially if resources or providers are limited). Alternatively, the optimism measure could be utilized as a progress monitoring tool deployed within a universal prevention delivery (e.g. teacher delivers to the whole class, but follows a few students closely).

The second takeaway is concerned with the student intervention rating profile significantly predicting change scores at post. Students that reported high interest, engagement, and utilization of the intervention had higher predicted change scores on the outcome measures. This was an important piece of data to collect as it wasn't just the input of passively receiving the lesson, but the active components of a student finding value, reportedly using, and enjoying the PowerUp! skills that was associated with the change seen in their scores. A future consideration might be to look at what type of skills, designs, and activities resonate strongly with students who might typically feel disengaged with traditional SEL programming in schools and who might be screened as at-risk and in need of services. More broadly, interventions should intentionally design and test materials that are of high quality and content but are also made in ways that engage not only the students participating, but also those tasked with delivering the intervention.

Limitations of the Present Study

The findings within this study are qualified and made with reservation given the exploratory, pilot nature of the study. Given these limitations, the findings are not generalizable beyond the study sample and are only meant to guide continued development of this intervention and future methodology. Additional value to the prevention and school-based mental health literature may be implied by some of the findings that suggest facilitators to adoption, engagement, and program development. Some of the primary limitations are now discussed.

Teachers received implementation materials in late February 2020. By mid-March the district ordered all schools closed due the COVID-19 pandemic. This would be an unprecedented, historical disruption for work, lives, and research. Flexibility within this study meant participant reduction, modification in service delivery, and methodological resilience. One teacher chose not to continue in the study, and more than half of the students did not return for the intervention or for the post-test. Teachers within the exit survey remarked that the move to distance learning made things like PowerUp! even more important for their students as many of them were at home not able to spend time with friends and feeling worried family, health, school, and many other things. Arising out of this time, one teacher put forth the suggestion of a future set of cards that could help students deal with stressful events. It is this author's hope that PowerUp! provided some buffer for the kids that were going that time of uncertainty.

The PowerUp! intervention utilized a pilot, single group, pre-post study design, which means that any changes observed in student scores could be due to several biases that can be controlled for in future study designs. The first threat addressed has to do with selection of the sample within the study. Random assignment was not utilized for this study and the teacher participants volunteered to implement the PowerUp! intervention. It is possible that the teachers that agreed to participate are more motivated to support mental health needs in the classroom or are more receptive to trying out new ideas in their classrooms or can deliver more engaging lessons to their students. Sampling for a true distribution of teachers through random assignment would control for this type of selection bias that likely occurred in this sample.

Looking at the student level, a more representative sample at baseline would have been likely as those numbers are determined at the school level and are randomized and balanced across classrooms and grade levels. However, biased results due to attrition likely played a part

as over 60% of the students did not continue in the study, because of schools transitioning to distance learning. The fact that they were no longer attending school meant that they were no longer participating in the intervention and ultimately the study. This disruption was attributed to any number of different reasons: schools waiting on guidance from district/state, coordinating communication to families, technology access, housing, immigration, health/safety, or other personal family decisions. It could reasonably be assumed that those participating had more protective factors in place and the youth that were unaccounted for were those that were struggling with the most stressors. So, the very kids that the program was be designed to help would be the ones that likely never received the program in the first place.

Additional threats to the validity of the study included limited statistical power, the lack of the control group, regression toward the mean, and properly controlling nested and confounding variables. While some of the findings on student measures of hope, resilience, and optimism from pre- to posttest did achieve statistical significance, it is likely that these effects are promising at best, and tenuous at worst. The findings should be limited to this particular sample and are difficult to generalize out due insufficient statistical power resulting from conducting study with a small sample size. Without a control group, it is impossible to ascertain an intervention effect on the outcomes of interest. One bias that could have been observed is the regression towards the mean, where scores that were furthest from the mean would be more likely to score closer to the mean upon reexamination. By only have the single group, it is impossible to determine if the change scores that were observed were due to the intervention or due to the regression to mean phenomenon. Now that a preliminary study has been conducted on the PowerUp! materials, a follow-up study can be conducted with a Waitlist-Control design to begin to narrow in on the specific benefits of the intervention. Confounding variables that will

need to be addressed in future study include classroom membership, as there could be specific factors within each classroom that account for variability in the scores being observed from the students. For example, there was one classroom with low engagement consistently reported, which may have confounded the outcome scores for the students that received the intervention in that classroom. To control for this and other confounding variables, a large enough sample size would be needed to ensure sufficient statistical power.

Future Directions

Implications, recommendations, and directions are grouped across three broad categories. First, methodological and research considerations for future studies, followed by implications for the practice and service delivery of mental health interventions through the lens of a school psychologist. The section closes by exploring and guiding future PowerUp! intervention work by situating it within the broader context of providing brief mental health services and programs in schools.

Arising out of the limitations addressed above, a logical next step in research design would be comparison control group design by which to establish a more valid claim on initial effects of the PowerUp! intervention. By recruiting classrooms and randomizing them to an intervention or waitlist-control condition, several of the threats to internal validity from the pilot study can be addressed. With aims of establishing efficacy and generalizability of the program moving being classrooms to recruiting multiple schools would become part of a larger grant funded research opportunity. In fact, pre-pandemic, the department of education had announced increased funding to address mental health needs in schools and with the recent pandemic, it stands to reason that those needs will only become greater once students return to schools. On the methodological side, changes in terms of what measures are closest aligned to the intervention are of the utmost importance. As mentioned above, when similar constructs are being assessed, it could be that there are some measures that are more sensitive to change, more specific to the skills being taught, or just in a simpler format.

Future directions in design and program development are primarily focused on how materials can be designed to be highly engaging, easily accessible (to provider and client), and delivered in ways that increase the likelihood of becoming sustainable and value-added practices.

One way to do this it a continual focus on brevity and efficiency, particularly around materials. Based on the feedback around minimal professional development and student reports of ease-of-use, the design work that went into ensure access and utility translated into end user experience. Future work can consider the role and optimal levels of self-study training, professional development, coaching, virtual support, and instructional guides. Future methodology in the area if teacher implementation may be strengthened through the inclusion of direct observation in order to measure and code teacher practice and implementation fidelity.

The other design consideration for program development with youth have to do with client significance. Just like statistical or clinical significance, if the client or youth doesn't find value in what's in front of them, it's hard for them to take up the practice, no matter how much research or evidence is behind it. Researchers would benefit from collecting data on the values of what kids find interesting or engaging and program developers would benefit from incorporating these elements into their interventions to increase engagement for the lesson, skill, or behavior they're trying to teach.

Practice Implications for School Psychologists

The National Association of School Psychologists (NASP) asserts that the provisioning of mental health services is essential for children to feel successful in school and in life. They also identify a steadily increasing demand and unmet need for these types of services. NASP has also underscored the importance of utilizing schools as an optimal vehicle to deliver these services across a variety of providers. Finally, the best way to deliver those services in schools is through a continuum of care anchored in collaboration among school, home, and community providers. School psychologists are uniquely positioned to serve as leader, liaison, and coordinator in providing high-quality mental health services to schools.

In line with these NASP ideas, three practice considerations are provided to illustrate the role that school psychologists can play in delivering this and other school-based mental health interventions. The first is school psychologist as coordinator. The training afforded to school psychologists places them at the nexus of research and practice. As illustrated within this study, one of the most valuable uses of that training is through the distillation of complex ideas in research into easy to access and valuable materials, resources, and information that is both relevant and useful for other members of the school staff. The impetus behind the PowerUp! intervention was focused on taking skills and practices common in the literature and more formal therapy settings and turning them into something that would make sense and would be of use for teachers on the ground.

A second implication looks at the school psychologist as liaison in the coordination of care and providers across a system of support. Mental health services are most effective when delivered within a multitiered system of supports (MTSS) and the school psychologist is one of the best candidates to organize supports within a systems context. They are able match school resources and interventions across levels of student need and support. They also possess an understanding of screening, intervention, and referral processes that are needed for students to access different levels of services (i.e. tiers). While PowerUp! was targeted at the universal tier 1 level of support, the results from the student-level outcomes provides an avenue by which those that score lower on measures of well-being can be referred to a higher tier of services which may include group-based counseling or a more intensive support in the form of individual therapy. The collaborative liaison role is further linked across the individuals providing services (teachers, counselors, support staff, community providers, and caregivers). Attending to all of the

systems surrounding a child and how intervention and support can be coordinated across providers is worthwhile task for school psychologists to engage in.

Finally, school psychologists can serve as leaders within their schools by introducing innovative practices, providing trainings, and being available to consult around issues of service delivery and quality of care related to school-based mental health. The Power-Up intervention is one such innovative practice that could be introduced and supported across a school-level adoption. The consultation provided from the school psychologists should not only focuses on the delivery of the specific intervention or practice, but also on the general skill development of others in understanding and facilitating mental health supports and services delivered within the classroom or across the school day.

PowerUp! Intervention Roadmap

PowerUp! itself is in its infancy and will benefit from future iterations. The invaluable feedback from the teachers and students in this study have already inspired changes and future directions to the program. The program as it was originally conceived was intended to serve as a tier 1, universal skill set taught to an entire classroom of students. Additional sets are planned that increase in levels of complexity and would likely be reserved for use in other service settings (e.g. small group counseling or individual therapy). A roadmap of future directions of the PowerUp! intervention is described in Table 10. In addition to the base set developed for this study, a planned extension includes a Supervillain set and would teach about cognitive distortions and how to challenge those thinking errors, a common technique utilized in cognitive behavioral therapy. A Powers set would teach and practices skills for self-regulation, mindfulness, and grounding. Future add-on plans also include companion children's books that

utilize the cards as the inspiration and would come with a tear-out sheet of PowerUp! cards inside the back cover of the book.

Conclusion

Mental health needs of school-aged youth continue to grow. Teachers have the desire to meet those needs but are also faced with competing demands and challenges of their own that serve as barriers in managing "one more thing". This study designed an intervention that was minimally disruptive, simple to use, and one that was enjoyable for teacher and student alike. The training materials and intervention guides built and supported the teacher's expertise, while setting them up as the provider and supporter of the mental health needs in their classroom. Compared to the school-as-usual service shortage in schools where a single counselor is only able to serve a handful of students in the whole school, these teachers were now able to serve an entire classroom of students. By designing sustainable, prevention programs, the number of youths served is multiplied and overtime, the pressure on the service system can release. As more and more services are provided universally, the more skilled therapists (e.g., the school counselor, school psychologist, and community therapist) are now able to focus in on students who need them the most.

The PowerUp! intervention was created to reach the greatest number of kids with the least amount of training, resources, and expertise needed to attain a reasonable benefit. The students that participated in this study are equipped with a core set of coping skills to build positive feelings, experiences, and well-being on their own. The teachers that participated in this study have a resource and a demonstrated ability to deliver Tier 1 social-emotional support and positive psychology interventions to improve the mental health and well-being of the students they work with now, and all the students that they will serve across their teaching career.

PowerUp! ultimately empowers those that use it to build hope, resilience, and optimism in their own life that will benefit them both as a child and later in their adult life. It will help on their good days and their bad days. And it is my hope is that all kids will be able to see themselves for the heroes that they are.

References

Alarcon, G. M., Bowling, N. A., & Khazon, S. (2013). Great expectations: A meta-analytic examination of optimism and hope. *Personality and Individual Differences*, *54*(7), 821–827. https://doi.org/10.1016/j.paid.2012.12.004

Althouse, A. D. (2016). Adjust for Multiple Comparisons? It's Not That Simple. *The Annals of Thoracic Surgery*, *101*(5), 1644–1645. https://doi.org/10.1016/j.athoracsur.2015.11.024

American Psychological Association. (2006). Evidence-based practice in psychology. *American Psychologist*, *61*(4), 271–285. https://doi.org/10.1037/0003-066X.61.4.271

Antaramian, S. P., Huebner, E. S., Hills, K. J., & Valois, R. F. (2010). A dual-factor model of mental health: Toward a more comprehensive understanding of youth functioning. *American Journal of Orthopsychiatry*, *80*(4), 462–472. https://doi.org/10.1111/j.1939-0025.2010.01049.x

Armstrong, R. A. (2014). When to use the Bonferroni correction. *Ophthalmic and Physiological Optics*, *34*(5), 502–508. https://doi.org/10.1111/opo.12131

Atkins, M. S., Frazier, S. L., Birman, D., Adil, J. A., Jackson, M., Graczyk, P. A., Talbott, E., Farmer, A. D., Bell, C. C., & McKay, M. M. (2006). School-Based Mental Health Services for Children Living in High Poverty Urban Communities. *Administration and Policy in Mental Health and Mental Health Services Research*, *33*(2), 146–159. https://doi.org/10.1007/s10488-006-0031-9

Atkins, M. S., Hoagwood, K. E., Kutash, K., & Seidman, E. (2010). Toward the Integration of Education and Mental Health in Schools. *Administration and Policy in Mental Health and Mental Health Services Research*, *37*(1-2), 40–47. https://doi.org/10.1007/s10488-010-0299-7

Baldwin, S., & Berkeljon, A. (2010). Quasi-Experimental Design. In B. A. Bell (Ed.), *Encyclopedia of Research Design*. SAGE. https://doi.org/10.4135/9781412961288

Ball, A. (2011). Educator Readiness to Adopt Expanded School Mental Health: Findings and Implications for Cross-Systems Approaches. *Advances in School Mental Health Promotion*, *4*(2), 39–50. https://doi.org/10.1080/1754730X.2011.9715628

Ball, A., Iachini, A. L., Bohnenkamp, J. H., Togno, N. M., Brown, E. L., Hoffman, J. A., & George, M. W. (2016). School mental health content in state in-service K-12 teaching standards in the United States. *Teaching and Teacher Education*, *60*, 312–320. https://doi.org/10.1016/j.tate.2016.08.020

Bauer, M. S., Damschroder, L., Hagedorn, H., Smith, J., & Kilbourne, A. M. (2015). An introduction to implementation science for the non-specialist. *BMC Psychology*, *3*(1), 65. https://doi.org/10.1186/s40359-015-0089-9

Bell, B. A. (2010). Pretest-Posttest Design. In B. A. Bell (Ed.), *Encyclopedia of Research Design* (p. 1776). SAGE. https://doi.org/10.4135/9781412961288

Bolier, L., Haverman, M., Westerhof, G. J., Riper, H., Smit, F., & Bohlmeijer, E. (2013). Positive psychology interventions: a meta-analysis of randomized controlled studies. *BMC Public Health*, *13*(1), 119. https://doi.org/10.1186/1471-2458-13-119

Bondy, E., Ross, D. D., Gallingane, C., & Hambacher, E. (2016). Creating Environments of Success and Resilience. *Urban Education*, *42*(4), 326–348. https://doi.org/10.1177/0042085907303406

Bridgeland, J., Bruce, M., & Hariharan, A. (2013). *The Missing Piece* [Report].

Briesch, A. M., Chafouleas, S. M., Neugebauer, S. R., & Riley-Tillman, T. C. (2013). Assessing influences on intervention implementation: Revision of the Usage Rating Profile-

Intervention. *Journal of School Psychology*, *51*(1), 81–96. https://doi.org/10.1016/j.jsp.2012.08.006

Bryant, F. B., Chadwick, E. D., & Kluwe, K. (2011). Understanding the Processes that Regulate Positive Emotional Experience: Unsolved Problems and Future Directions for Theory and Research on Savoring. *International Journal of Wellbeing*, *1*(1), 1–20. https://doi.org/10.5502/ijw.v1i1.18

Bryant, F. B., Smart, C. M., & King, S. P. (2005). Using the Past to Enhance the Present: Boosting Happiness Through Positive Reminiscence. *Journal of Happiness Studies*, *6*(3), 227–260. https://doi.org/10.1007/s10902-005-3889-4

Cardoso, J. B., & Thompson, S. J. (2018). Common Themes of Resilience among Latino Immigrant Families: A Systematic Review of the Literature:. *Families in Society*, *91*(3), 1–9. https://doi.org/10.1606/1044-3894.4003

Carvalho, J. S., Pinto, A. M., & Marôco, J. (2017). Results of a Mindfulness-Based Social-Emotional Learning Program on Portuguese Elementary Students and Teachers: a Quasi-Experimental Study. *Mindfulness*, *8*(2), 1–14. https://doi.org/10.1007/s12671-016-0603-z

Catalano, R. F., Berglund, M. L., Ryan, J. A. M., Lonczak, H. S., & Hawkins, J. D. (2016). Positive Youth Development in the United States: Research Findings on Evaluations of Positive Youth Development Programs. *The ANNALS of the American Academy of Political and Social Science*, *591*(1), 98–124. https://doi.org/10.1177/0002716203260102

Chamberlain, L. J., Hanson, E. R., Klass, P., Schickedanz, A., Nakhasi, A., Barnes, M. M., Berger, S., Boyd, R. W., Dreyer, B. P., Meyer, D., Navsaria, D., Rao, S., & Klein, M. (2016). Childhood Poverty and Its Effect on Health and Well-being: Enhancing Training for

Learners Across the Medical Education Continuum. *Academic Pediatrics*, *16*(3 Suppl), S155–S162. https://doi.org/10.1016/j.acap.2015.12.012

Chaudry, A., & Wimer, C. (2016). Poverty is Not Just an Indicator: The Relationship Between Income, Poverty, and Child Well-Being. *Academic Pediatrics*, *16*(3), S23–S29. https://doi.org/10.1016/j.acap.2015.12.010

Cicchetti, D., & Rosen, K. S. (1984). Toward a transactional model of childhood depression. *New Directions for Child and Adolescent Development*, *1984*(26), 5–27. https://doi.org/10.1002/cd.23219842604

Coleman, J. (2018). Descriptive Statistics. In B. B. Frey (Ed.), *The Sage Encyclopedia of Educational Research, Measurement, and Evaluation* (pp. 1–4). SAGE Publications, Inc. https://doi.org/10.4135/9781506326139

Daigneault, I., Dion, J., Hébert, M., McDuff, P., & Collin-Vézina, D. (2013). Psychometric properties of the Child and Youth Resilience Measure (CYRM-28) among samples of French Canadian youth. *Child Abuse & Neglect*, *37*(2-3), 160–171. https://doi.org/10.1016/j.chiabu.2012.06.004

Debnam, K. J., Pas, E. T., & Bradshaw, C. P. (2012). Secondary and Tertiary Support Systems in Schools Implementing School-Wide Positive Behavioral Interventions and Supports. *Journal of Positive Behavior Interventions*, *14*(3), 142–152. https://doi.org/10.1177/1098300712436844

Dei, G. J. S. (1997). *Reconstructing "dropout"* [Report]. University of Toronto Press.

Dickens, L. R. (2017). Using Gratitude to Promote Positive Change: A Series of Meta-Analyses Investigating the Effectiveness of Gratitude Interventions. *Basic and Applied Social Psychology*, *39*(4), 193–208. https://doi.org/10.1080/01973533.2017.1323638

Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, *95*(3), 542–575. https://doi.org/10.1037/0033-2909.95.3.542

Diener, E., Scollon, C. N., & Lucas, R. E. (2009). The evolving concept of subjective well-being: the multifaceted nature of happiness. *Advances in Cell Aging and Gerontology*, *15*, 187–219.

Disabato, D. J., Kashdan, T. B., Short, J. L., & Jarden, A. (2016). What Predicts Positive Life Events that Influence the Course of Depression? A Longitudinal Examination of Gratitude and Meaning in Life. *Cognitive Therapy and Research*, *41*(3), 444–458. https://doi.org/10.1007/s10608-016-9785-x

Domitrovich, C. E., Bradshaw, C. P., Greenberg, M. T., Embry, D., Poduska, J. M., & Ialongo, N. S. (2009a). Integrated models of school-based prevention: Logic and theory. *Psychology in the Schools*, *14*(4), n/a–n/a. https://doi.org/10.1002/pits.20452

Domitrovich, C. E., Bradshaw, C. P., Greenberg, M. T., Embry, D., Poduska, J. M., & Ialongo, N. S. (2009b). Integrated models of school-based prevention: Logic and theory. *Psychology in the Schools*, *14*(4), n/a–n/a. https://doi.org/10.1002/pits.20452

Domitrovich, C. E., Cortes, R. C., & Greenberg, M. T. (2007). Improving Young Children's Social and Emotional Competence: A Randomized Trial of the Preschool "PATHS" Curriculum. *The Journal of Primary Prevention*, *28*(2), 67–91. https://doi.org/10.1007/s10935-007-0081-0

Duncan, A. R., Jaini, P. A., & Hellman, C. M. (2020). Positive Psychology and Hope as Lifestyle Medicine Modalities in the Therapeutic Encounter: A Narrative Review. *American Journal of Lifestyle Medicine*, *22*, 155982762090825–155982762090828. https://doi.org/10.1177/1559827620908255

Durlak, J. A. (2015). Studying Program Implementation Is Not Easy but It Is Essential. *Prevention Science*, *16*(8), 1123–1127. https://doi.org/10.1007/s11121-015-0606-3

Durlak, J. A., & Wells, A. M. (1997). Primary Prevention Mental Health Programs for Children and Adolescents: A Meta-Analytic Review. *American Journal of Community Psychology*, *25*(2), 115–152. https://doi.org/10.1023/A:1024654026646

Durlak, J. A., Weissberg, R. P., & Pachan, M. (2010). A meta-analysis of after-school programs that seek to promote personal and social skills in children and adolescents. *American Journal of Community Psychology*, *45*(3-4), 294–309. https://doi.org/10.1007/s10464-010-9300-6

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: a meta-analysis of school-based universal interventions. *Child Development*, *82*(1), 405–432. https://doi.org/10.1111/j.1467-8624.2010.01564.x

Eagle, J. W., Dowd-Eagle, S. E., Snyder, A., & Holtzman, E. G. (2014). Implementing a Multi-Tiered System of Support (MTSS): Collaboration Between School Psychologists and Administrators to Promote Systems-Level Change. *Journal of Educational and Psychological Consultation*, *25*(2-3), 160–177. https://doi.org/10.1080/10474412.2014.929960

Emmons, R. A., & McCullough, M. E. (2003). Counting blessings versus burdens: An experimental investigation of gratitude and subjective well-being in daily life. *Journal of Personality and Social Psychology*, *84*(2), 377–389. https://doi.org/10.1037/0022-3514.84.2.377

Enns, J., Holmqvist, M., Wener, P., Halas, G., Rothney, J., Schultz, A., Goertzen, L., & Katz, A. (2016). Mapping interventions that promote mental health in the general population: A

scoping review of reviews. *Preventive Medicine*, *87*, 70–80. https://doi.org/10.1016/j.ypmed.2016.02.022

Evans, G. W. (2016). Childhood poverty and adult psychological well-being. *Proceedings of the National Academy of Sciences of the United States of America*, *113*(52), 14949–14952. https://doi.org/10.1073/pnas.1604756114

Evans, G. W., & Kim, P. (2013). Childhood Poverty, Chronic Stress, Self-Regulation, and Coping. *Child Development Perspectives*, *7*(1), 43–48. https://doi.org/10.1111/cdep.12013

Ey, S., Hadley, W., Allen, D. N., Palmer, S., Klosky, J., Deptula, D., Thomas, J., & Cohen, R. (2005). A new measure of children's optimism and pessimism: the youth life orientation test. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, *46*(5), 548–558. https://doi.org/10.1111/j.1469-7610.2004.00372.x

Farrell, A. D., Mehari, K. R., Kramer-Kuhn, A. M., Mays, S. A., & Sullivan, T. N. (2015). A qualitative analysis of factors influencing middle school students' use of skills taught by a violence prevention curriculum. *Journal of School Psychology*, *53*(3), 179–194. https://doi.org/10.1016/j.jsp.2015.03.001

Fenwick-Smith, A., Dahlberg, E. E., & Thompson, S. C. (2018). Systematic review of resilience-enhancing, universal, primary school-based mental health promotion programs. *BMC Psychology*, *6*(1), 215. https://doi.org/10.1186/s40359-018-0242-3

Fisher, D. (2004). *The History of Positive Psychology: Truth Be Told*. 1–3.

Fixsen, D. L., Naoom, S. F., Blase, K. A., Friedman, R. M., & Wallace, F. (2005). *Implementation Research: A Synthesis of the Literature* (No. 231; pp. 1–125). National Implementation Research Network (NIRN).

Fixsen, D., Blase, K., Metz, A., & Van Dyke, M. (2013). Statewide Implementation of Evidence-Based Programs:. *Exceptional Children*, *79*(3), 213–230. https://doi.org/10.1177/001440291307900206

Fletcher, J. M., & Vaughn, S. (2009). Response to Intervention: Preventing and Remediating Academic Difficulties. *Child Development Perspectives*, *3*(1), 30–37. https://doi.org/10.1111/j.1750-8606.2008.00072.x

Forgeard, M. J. C., & Seligman, M. E. P. (2012). Seeing the glass half full: A review of the causes and consequences of optimism. *Pratiques Psychologiques*, *18*(2), 107–120. https://doi.org/10.1016/j.prps.2012.02.002

Forman, S. G., Olin, S. S., Hoagwood, K. E., Crowe, M., & Saka, N. (2008). Evidence-Based Interventions in Schools: Developers' Views of Implementation Barriers and Facilitators. *School Mental Health*, *1*(1), 26–36. https://doi.org/10.1007/s12310-008-9002-5

Fredrickson, B. L. (2001). The role of positive emotions in positive psychology. The broaden-and-build theory of positive emotions. *American Psychologist*, *56*(3), 218–226.

Fredrickson, B. L., & Levenson, R. W. (1998). Positive Emotions Speed Recovery from the Cardiovascular Sequelae of Negative Emotions. *Cognition & Emotion*, *12*(2), 191–220. https://doi.org/10.1080/026999398379718

Froh, J. J., Sefick, W. J., & Emmons, R. A. (2008). Counting blessings in early adolescents: an experimental study of gratitude and subjective well-being. *Journal of School Psychology*, *46*(2), 213–233. https://doi.org/10.1016/j.jsp.2007.03.005

Gelman, A., & Hill, J. (2012). Why we (usually) don't have to worry about multiple comparisons. *Journal of Research on Educational Effectiveness*, *5*(2), 189–211. https://doi.org/10.1080/19345747.2011.618213

Glaesmer, H., Rief, W., Martin, A., Mewes, R., Brähler, E., Zenger, M., & Hinz, A. (2011). Psychometric properties and population-based norms of the Life Orientation Test Revised (LOT-R). *British Journal of Health Psychology*, *17*(2), 432–445. https://doi.org/10.1111/j.2044-8287.2011.02046.x

Glaze. (2016). *The Resilience Research Centre Adult Resilience Measure (RRC-ARM)* (pp. 1–75).

Gottfredson, D. C., & Gottfredson, G. D. (2002). Quality of School-Based Prevention Programs: Results from a National Survey. *Journal of Research in Crime and Delinquency*, *39*(1), 3–35. https://doi.org/10.1177/002242780203900101

Graves, S. L., Proctor, S. L., & Aston, C. (2014). Professional roles and practices of school psychologists in urban schools. *Psychology in the Schools*, *51*(4), 384–394. https://doi.org/10.1002/pits.21754

Greene, R. W., & Doyle, A. E. (1999). Toward a Transactional Conceptualization of Oppositional Defiant Disorder: Implications for Assessment and Treatment. *Clinical Child and Family Psychology Review*, *2*(3), 129–148. https://doi.org/10.1023/A:1021850921476

Greene, R. W., Ablon, J. S., & Goring, J. C. (2003). A transactional model of oppositional behavior: underpinnings of the Collaborative Problem Solving approach. *Journal of Psychosomatic Research*, *55*(1), 67–75. https://doi.org/10.1016/s0022-3999(02)00585-8

Greenspoon, P. J., & Saklofske, D. H. (2001). Toward an integration of subjective well-being and psychopathology. *Social Indicators Research*, *54*(1), 81–108. https://doi.org/10.1023/A:1007219227883

Grotberg, E. H. (1997). *The International Resilience Research Project.*

Guo, S., Wu, Q., Smokowski, P. R., Bacallao, M., Evans, C. B. R., & Cotter, K. L. (2015). A Longitudinal Evaluation of the Positive Action Program in a Low-Income, Racially Diverse, Rural County: Effects on Self-Esteem, School Hassles, Aggression, and Internalizing Symptoms. *Journal of Youth and Adolescence*, *44*(12), 2337–2358. https://doi.org/10.1007/s10964-015-0358-1

Guo, Y.-F., Lam, L., Plummer, V., Cross, W., & Zhang, J.-P. (2020). A WeChat-based "Three Good Things" positive psychotherapy for the improvement of job performance and self-efficacy in nurses with burnout symptoms: A randomized controlled trial. *Journal of Nursing Management*, *28*(3), 480–487. https://doi.org/10.1111/jonm.12927

Guttmann, D. (1978). Life events and decision making by older adults. *The Gerontologist*, *18*(5 Pt 1), 462–467. https://doi.org/10.1093/geront/18.5_part_1.462

Hastings, S. L. (2012). Triangulation. In B. A. Bell (Ed.), *Encyclopedia of Research Design* (pp. 1538–1540). SAGE Publications, Inc. https://doi.org/10.4135/9781412961288

Hawkins, J. D., Cleve, Von, E., & Catalano, R. F., Jr. (1991). Reducing Early Childhood Aggression: Results of a Primary Prevention Program. *Journal of the American Academy of Child & Adolescent Psychiatry*, *30*(2), 208–217. https://doi.org/10.1097/00004583-199103000-00008

Hawkins, J. D., Kosterman, R., Catalano, R. F., Hill, K. G., & Abbott, R. D. (2008). Effects of Social Development Intervention in Childhood 15 Years Later. *Archives of Pediatrics & Adolescent Medicine*, *162*(12), 1133. https://doi.org/10.1001/archpedi.162.12.1133

Herman, P. M., Mahrer, N. E., Wolchik, S. A., Porter, M. M., Jones, S., & Sandler, I. N. (2015). Cost-benefit analysis of a preventive intervention for divorced families: reduction in mental

health and justice system service use costs 15 years later. *Prevention Science*, *16*(4), 586–596. https://doi.org/10.1007/s11121-014-0527-6

Horner, R. H., Sugai, G., & Anderson, C. M. (2010). Examining the Evidence Base for School-Wide Positive Behavior Support. *Focus on Exceptional Children*, *42*(8). https://doi.org/10.17161/fec.v42i8.6906

Huber, M., Knottnerus, J. A., Green, L., Horst, H. V. D., Jadad, A. R., Kromhout, D., Leonard, B., Lorig, K., Loureiro, M. I., Meer, J. W. M. V. D., Schnabel, P., Smith, R., Weel, C. V., & Smid, H. (2011). How should we define health? *Bmj*, *343*(jul26 2), d4163–d4163. https://doi.org/10.1136/bmj.d4163

Huebner, E. S., Valle, M. F., & Suldo, S. M. (2004). Further evaluation of the Children's Hope Scale. *Journal of Psychoeducational Assessment*, *22*, 320–337.

Jefferies, P., McGarrigle, L., & Ungar, M. (2018). The CYRM-R: A Rasch-Validated Revision of the Child and Youth Resilience Measure. *Journal of Evidence-Based Social Work*, *16*(1), 70–92. https://doi.org/10.1080/23761407.2018.1548403

Jose, P. E., Lim, B. T., & Bryant, F. B. (2012). Does savoring increase happiness? A daily diary study. *Journal of Positive Psychology*, *7*(3), 176–187. https://doi.org/10.1080/17439760.2012.671345

Kellam, S. G., & Langevin, D. J. (2003). A framework for understanding “evidence” in prevention research and programs. *Prevention Science*, *4*(3), 137–153. https://doi.org/10.1023/a:1024693321963

Keyes, C. L. M. (2007). Promoting and protecting mental health as flourishing: A complementary strategy for improving national mental health. *American Psychologist*, *62*(2), 95–108. https://doi.org/10.1037/0003-066X.62.2.95

Keyes, C. L. M. (2005). Mental illness and/or mental health? Investigating axioms of the complete state model of health. *Journal of Consulting and Clinical Psychology*, *73*(3), 539–548. https://doi.org/10.1037/0022-006X.73.3.539

Keyes, C. L. M., Dhingra, S. S., & Simoes, E. J. (2010). Change in level of positive mental health as a predictor of future risk of mental illness. *... Journal of Public ...*, *100*(12), 2366–2371. https://doi.org/10.2105/AJPH.2010.192245

Khoury, B., Lecomte, T., Fortin, G., Masse, M., Therien, P., Bouchard, V., Chapleau, M.-A., Paquin, K., & Hofmann, S. G. (2013). Mindfulness-based therapy: A comprehensive meta-analysis. *Clinical Psychology Review*, *33*(6), 763–771. https://doi.org/10.1016/j.cpr.2013.05.005

Kilgus, S. P., Reinke, W. M., & Jimerson, S. R. (2015). Understanding mental health intervention and assessment within a multi-tiered framework: Contemporary science, practice, and policy. *School Psychology Quarterly*, *30*(2), 159–165. https://doi.org/10.1037/spq0000118

King, L. A. (2001). The health benefits of writing about life goals. *Journal of Personality and Social Psychology*, *27*(7), 798–807. https://doi.org/10.1177/0146167201277003

Kuperminc, G. P., Wilkins, N. J., Roche, C., & Alvarez-Jimenez, A. (2009). Risk, resilience, and positive development among Latino youth. In F. A. Villarruel, G. Carlo, J. M. Grau, M. Azmitia, N. J. Cabrera, & T. J. Chahin (Eds.), *Handbook of U.S. Latino Psychology* (pp. 213–233).

LaFrenière, P. J., & Dumas, J. E. (1992). A transactional analysis of early childhood anxiety and social withdrawal. *Development and Psychopathology*, *4*(3), 385–402. https://doi.org/10.1017/S0954579400000857

Lambert, N. M., Fincham, F. D., & Stillman, T. F. (2012). Gratitude and depressive symptoms: The role of positive reframing and positive emotion. *Cognition & Emotion*, *26*(4), 615–633. https://doi.org/10.1080/02699931.2011.595393

Lazarus, R. S. (1966). *Psychological stress and the coping process*.

Lazarus, R. S. (2000). Toward better research on stress and coping. *American Psychologist*, *55*(6), 665–673. https://doi.org/10.1037//0003-066X.55.6.665

Lazarus, R. S., & Folkman, S. (1987). Transactional theory and research on emotions and coping. *European Journal of Personality*, *1*(3), 141–169. https://doi.org/10.1002/per.2410010304

Lee Duckworth, A., Steen, T. A., & Seligman, M. E. P. (2005). Positive Psychology in Clinical Practice. *Annual Review of Clinical Psychology*, *1*(1), 629–651. https://doi.org/10.1146/annurev.clinpsy.1.102803.144154

Lee, E. C., Whitehead, A. L., Jacques, R. M., & Julious, S. A. (2014). The statistical interpretation of pilot trials: should significance thresholds be reconsidered? *BMC Medical Research Methodology*, *14*(1), 1–8. https://doi.org/10.1186/1471-2288-14-41

Leigh, P., Nievar, M. A., & Nathans, L. (2011). Maternal sensitivity and language in early childhood: a test of the transactional model. *Perceptual and Motor Skills*, *113*(1), 281–299. https://doi.org/10.2466/10.17.21.28.PMS.113.4.281-299

Liebenberg, L., Ungar, M., & Van de Vijver, F. (2012). Validation of the Child and Youth Resilience Measure-28 (CYRM-28) Among Canadian Youth. *Research on Social Work Practice*, *22*(2), 219–226. https://doi.org/10.1177/1049731511428619

Lomas, T., & Froh, J. J. (2014). Gratitude Interventions. In *The Wiley Blackwell Handbook of Positive Psychological Interventions*. John Wiley & Sons.

Loveday, P. M., Lovell, G. P., & Jones, C. M. (2016). The Best Possible Selves Intervention: A Review of the Literature to Evaluate Efficacy and Guide Future Research. *Journal of Happiness Studies*, *19*(2), 607–628. https://doi.org/10.1007/s10902-016-9824-z

Low, S., Van Ryzin, M. J., Brown, E. C., Smith, B. H., & Haggerty, K. P. (2013). Engagement Matters: Lessons from Assessing Classroom Implementation of Steps to Respect: A Bullying Prevention Program Over a One-year Period. *Prevention Science*, *15*(2), 165–176. https://doi.org/10.1007/s11121-012-0359-1

Lyubomirsky, S., & Layous, K. (2013). How Do Simple Positive Activities Increase Well-Being? *Current Directions in Psychological Science*, *22*(1), 57–62. https://doi.org/10.1177/0963721412469809

Lyubomirsky, S., Sheldon, K. M., & Schkade, D. (2005). Pursuing happiness: The architecture of sustainable change. *Journal of Personality and Social Psychology*, *9*(2), 111–131. https://doi.org/10.1037/1089-2680.9.2.111

Malouff, J. M., & Schutte, N. S. (2016). Can psychological interventions increase optimism? A meta-analysis. *Advances in Cell Aging and Gerontology*, *12*(6), 594–604. https://doi.org/10.1080/17439760.2016.1221122

Marques, S. C., Gallagher, M. W., & Lopez, S. J. (2017). Hope- and Academic-Related Outcomes: A Meta-Analysis. *School Mental Health*, *9*(3), 250–262. https://doi.org/10.1007/s12310-017-9212-9

Marsh, R. J. (2015). Identifying Students With Mental Health Issues. *Intervention in School and Clinic*, *51*(5), 318–322. https://doi.org/10.1177/1053451215606706

Masten, A. S. (2011). Resilience in children threatened by extreme adversity: frameworks for research, practice, and translational synergy. *Development and Psychopathology*, *23*(2), 493–506. https://doi.org/10.1017/S0954579411000198

Masten, A. S. (2018). Resilience Theory and Research on Children and Families: Past, Present, and Promise. *Journal of Family Theory & Review*, *10*(1), 12–31. https://doi.org/10.1111/jftr.12255

McCloskey, L. E. (2015). Mindfulness as an Intervention for Improving Academic Success among Students with Executive Functioning Disorders. *Procedia - Social and Behavioral Sciences*, *174*, 221–226. https://doi.org/10.1016/j.sbspro.2015.01.650

Merikangas, K. R., He, J.-P., Burstein, M., Swendsen, J., Avenevoli, S., Case, B., Georgiades, K., Heaton, L., Swanson, S., & Olfson, M. (2011). Service Utilization for Lifetime Mental Disorders in U.S. Adolescents: Results of the National Comorbidity Survey–Adolescent Supplement (NCS-A). *Journal of the American Academy of Child & Adolescent Psychiatry*, *50*(1), 32–45. https://doi.org/10.1016/j.jaac.2010.10.006

Mongrain, M., & Anselmo-Matthews, T. (2012). Do positive psychology exercises work? A replication of Seligman et al. (2005). *Journal of Clinical Psychology*, *68*(4), 382–389. https://doi.org/10.1002/jclp.21839

Moore, C. G., Carter, R. E., Nietert, P. J., & Stewart, P. W. (2011). Recommendations for Planning Pilot Studies in Clinical and Translational Research. *Clinical and Translational Science*, *4*(5), 332–337. https://doi.org/10.1111/j.1752-8062.2011.00347.x

Moy, G. E., & Hazen, A. (2018). A systematic review of the Second Step program. *Journal of School Psychology*, *71*, 18–41. https://doi.org/10.1016/j.jsp.2018.10.006

Muñoz, R. F., Mrazek, P. J., & Haggerty, R. J. (1996). Institute of Medicine report on prevention of mental disorders. Summary and commentary. *American Psychologist*, *51*(11), 1116–1122. https://doi.org/10.1037//0003-066x.51.11.1116

National Research Council. (2009). *Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities*. National Academies Press. https://doi.org/10.17226/12480

National Research Council, Institute of Medicine. (2009). *Preventing Mental, Emotional, and Behavioral Disorders Among Young People Progress and Possibilities* (M. E. O'Connell, T. Boat, & K. E. Warner, Eds.) The National Academies Press.

O'Connell, M. D., Boat, T., Warner, K. E., Eds. (2009). *Preventing Mental, Emotional, and Behavioral Disorders Among Young People: Progress and Possibilities.* National Academies Press. https://doi.org/10.17226/12480

Olfson, M., Druss, B. G., & Marcus, S. C. (2015). Trends in Mental Health Care among Children and Adolescents. *New England Journal of Medicine*, *372*(21), 2029–2038. https://doi.org/10.1056/NEJMsa1413512

Oliver, S., Harden, A., Rees, R., Shepherd, J., Brunton, G., & Oakley, A. (2007). Young people and mental health: novel methods for systematic review of research on barriers and facilitators. *Health Education Research*, *23*(5), 770–790. https://doi.org/10.1093/her/cym038

O'Donnell, C. L. (2008). Defining, Conceptualizing, and Measuring Fidelity of Implementation and Its Relationship to Outcomes in K–12 Curriculum Intervention Research. *Review of Educational Research*, *78*(1), 33–84. https://doi.org/10.3102/0034654307313793

Park, N., Peterson, C., & Seligman, M. (2004). Strengths of Character and Well-Being. *Journla of Social and Clinical Psychology*, *23*(5), 603–619. https://doi.org/10.2307/j.ctt5hgz15

Parks, A. C., & Schueller, S. (2014). *The Wiley Blackwell Handbook of Positive Psychological Interventions*. John Wiley & Sons.

Patton, G. C., Tollit, M. M., Romaniuk, H., Spence, S. H., Sheffield, J., & Sawyer, M. G. (2011). A Prospective Study of the Effects of Optimism on Adolescent Health Risks. *Pediatrics*, *127*(2), 308–316. https://doi.org/10.1542/peds.2010-0748

Penman-Aguilar, A., Bouye, K., Liburd, L. C., & Satterfield, D. (2016). *Strategies for reducing health disparities—selected CDC-sponsored interventions, United States, 2016.* https://doi.org/10.1377/hlthaff.2011.0673

Persaud, N. (2010). Pilot Study. In B. A. Bell (Ed.), *Encyclopedia of Research Design* (p. 1776). SAGE. https://doi.org/10.4135/9781412961288

Peterson, C., Ruch, W., Beermann, U., Park, N., & Seligman, M. E. P. (2007). Strengths of character, orientations to happiness, and life satisfaction. *Journla of Social and Clinical Psychology*, *2*(3), 149–156. https://doi.org/10.1080/17439760701228938

Proctor, E. K., Landsverk, J., Aarons, G., Chambers, D., Glisson, C., & Mittman, B. (2008). Implementation Research in Mental Health Services: an Emerging Science with Conceptual, Methodological, and Training challenges. *Administration and Policy in Mental Health and Mental Health Services Research*, *36*(1), 24–34. https://doi.org/10.1007/s10488-008-0197-4

Rahm, T., & Heise, E. (2019). Teaching Happiness to Teachers - Development and Evaluation of a Training in Subjective Well-Being. *Frontiers in Psychology*, *10*, 2703. https://doi.org/10.3389/fpsyg.2019.02703

Rasmussen, H. N., Scheier, M. F., & Greenhouse, J. B. (2009). Optimism and Physical Health: A Meta-analytic Review. *Annals of Behavioral Medicine*, *37*(3), 239–256. https://doi.org/10.1007/s12160-009-9111-x

Reavley, N., Bassilios, B., Ryan, S., Schlichthorst, M., & Nicholas, A. (2015). *Interventions to Build Resilience Among Young People* [Report]. https://doi.org/10.1080/09540121.2018.1527008

Reich, J. W., & Zautra, A. (1981). Life events and personal causation: some relationships with satisfaction and distress. *Journal of Personality and Social Psychology*, *41*(5), 1002–1012. https://doi.org/10.1037//0022-3514.41.5.1002

Reis, H. T., Smith, S. M., Carmichael, C. L., Caprariello, P. A., Tsai, F.-F., Rodrigues, A., & Maniaci, M. R. (2010). Are you happy for me? How sharing positive events with others provides personal and interpersonal benefits. *Journal of Personality and Social Psychology*, *99*(2), 311–329. https://doi.org/10.1037/a0018344

Renshaw, T. L., & Olinger Steeves, R. M. (2016). What good is gratitude in youth and schools? A systematic review and meta-analysis of correlates and intervention outcomes. *Psychology in the Schools*, *53*(3), 286–305. https://doi.org/10.1002/pits.21903

Reyes, J. A., & Elias, M. J. (2011). Fostering social–emotional resilience among Latino youth. *Psychology in the Schools*, *48*(7), 723–737. https://doi.org/10.1002/pits.20580

Richard S Lazarus, P., & Susan Folkman, P. (1984). *Stress, Appraisal, and Coping*. Springer Publishing Company.

Roepke, A. M., & Seligman, M. E. P. (2015). Depression and prospection. *British Journal of Clinical Psychology*, *55*(1), 23–48. https://doi.org/10.1111/bjc.12087

Roeser, R. W., & Midgley, C. (1997). Teachers“ Views of Issues Involving Students” Mental Health. *The Elementary School Journal*, *98*, 115–133.

Ross, K. M., & Tolan, P. (2017). Social and Emotional Learning in Adolescence: Testing the CASEL Model in a Normative Sample. *The Journal of Early Adolescence*, *38*(8), 1170–1199. https://doi.org/10.1177/0272431617725198

Rothì, D. M., Leavey, G., & Best, R. (2008). On the front-line: Teachers as active observers of pupils' mental health. *Teaching and Teacher Education*, *24*(5), 1217–1231. https://doi.org/10.1016/j.tate.2007.09.011

Rutter, M. (1985). Resilience in the face of adversity. Protective factors and resistance to psychiatric disorder. *The British Journal of Psychiatry : the Journal of Mental Science*, *147*(6), 598–611. https://doi.org/10.1192/bjp.147.6.598

Ryan, R. M., & Deci, E. L. (2001). On happiness and human potential: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, *52*, 141–166.

Sameroff, A. (1975). Transactional Models in Early Social Relations. *Human Development*, *18*(1-2), 65–79. https://doi.org/10.1159/000271476

Sameroff, A. J. (2000). *Developmental systems and psychopathology*. 1–16.

Sameroff, A. J., & Chandler, M. J. (1975). Reproductive risk and the continuum of caretaking casualty. *Review of Child Development Research*, *4*, 187–244.

Sameroff, A. J., & Mackenzie, M. J. (2003a). Research strategies for capturing transactional models of development: The limits of the possible. *Development and Psychopathology*, *15*, 613–640. https://doi.org/10.1017.S0954579403000312

Sameroff, A., & Mackenzie, M. (2003b). A Quarter-Century of the Transactional Model: How Have Things Changed? *Zero to Three*, *24*.

Sancassiani, F., Pintus, E., Holte, A., Paulus, P., Moro, M. F., Cossu, G., Angermeyer, M. C., Carta, M. G., & Lindert, J. (2015). Enhancing the Emotional and Social Skills of the Youth

to Promote their Wellbeing and Positive Development: A Systematic Review of Universal School-based Randomized Controlled Trials. *Clinical Practice and Epidemiology in Mental Health : CP & EMH*, *11*(Suppl 1 M2), 21–40. https://doi.org/10.2174/1745017901511010021

Sanchez, A. L., Cornacchio, D., Poznanski, B., Golik, A. M., Chou, T., & Comer, J. S. (2018). The Effectiveness of School-Based Mental Health Services for Elementary-Aged Children: A Meta-Analysis. *Journal of the American Academy of Child & Adolescent Psychiatry*, *57*(3), 153–165. https://doi.org/10.1016/j.jaac.2017.11.022

Schueller, S. M., Kashdan, T. B., & Parks, A. C. (2014). Synthesizing positive psychological interventions: Suggestions for conducting and interpreting meta-analyses. *International Journal of Wellbeing*, *4*(1), 91–98. https://doi.org/10.5502/ijw.v4i1.5

Schutte, N. S., & Malouff, J. M. (2018). The Impact of Signature Character Strengths Interventions: A Meta-analysis. *Journal of Happiness Studies*, *20*(4), 1179–1196. https://doi.org/10.1007/s10902-018-9990-2

Seligman, M. E. P., Ernst, R. M., Gillham, J., Reivich, K., & Linkins, M. (2009). Positive education: positive psychology and classroom interventions. *Oxford Review of Education*, *35*(3), 293–311. https://doi.org/10.1080/03054980902934563

Seligman, M. E. P., Parks, A. C., & Steen, T. (2004). A balanced psychology and a full life. *Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences*, *359*(1449), 1379–1381. https://doi.org/10.1098/rstb.2004.1513

Seligman, M. E. P., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: empirical validation of interventions. *American Psychologist*, *60*(5), 410–421. https://doi.org/10.1037/0003-066X.60.5.410

Shaw, C. (2001). A framework for the study of coping, illness behaviour and outcomes. *Journal of Advanced Nursing*, *29*(5), 1246–1255. https://doi.org/10.1046/j.1365-2648.1999.01010.x

Shean, M. (2015). *Current theories relating to resilience and young people* (pp. 1–45).

Sheldon, K. M., & Lyubomirsky, S. (2006). Achieving sustainable gains in happiness: Change your actions, not your circumstances. *Journal of happiness studies*, 7(1), 55-86. https://doi.org/10.1007/s10902-005-0868-8

Sin, N. L., & Lyubomirsky, S. (2009). Enhancing well-being and alleviating depressive symptoms with positive psychology interventions: a practice-friendly meta-analysis. *Journal of Clinical Psychology*, *65*(5), 467–487. https://doi.org/10.1002/jclp.20593

Skinner, E. A., Edge, K., Altman, J., & Sherwood, H. (2003). Searching for the structure of coping: a review and critique of category systems for classifying ways of coping. *Psychological Bulletin*, *129*(2), 216–269. https://doi.org/10.1037/0033-2909.129.2.216

Skinner, E., & Beers, J. (2016). Mindfulness and Teachers' Coping in the Classroom: A Developmental Model of Teacher Stress, Coping, and Everyday Resilience. In *Handbook of Mindfulness in Education* (Number Chapter 7, pp. 99–118). Springer New York. https://doi.org/10.1007/978-1-4939-3506-2_7

Snyder, C. R. (2002). Hope Theory: Rainbows in the Mind. *Psychological Inquiry*, *13*(4), 249–275. https://doi.org/10.1207/S15327965PLI1304_01

Snyder, C. R. (2011). The Past and Possible Futures of Hope. *Dx.Doi.org*, *19*(1), 11–28. https://doi.org/10.1521/jscp.2000.19.1.11

Snyder, C. R., & Hoza, B. (1997). The development and validation of the Children's Hope Scale. *Journal of Pediatric Psychology*, *22*(3), 399–421.

Stein, B. D., Sontag-Padilla, L. M., Osilla, K. C., Woodbridge, M. W., Kase, C. A., Jaycox, L. H., D'Amico, E., Cerully, J. L., Eberhard, N. K., & Golan, S. (2012). Interventions to Improve Student Mental Health A Literature Review to Guide Evaluation of California's Mental Health Prevention and Early Intervention Initiative. In *Interventions to Improve Student Mental Health* (pp. 1–37). https://doi.org/10.7249/j.ctt5hhtng.2

Suldo, S. M. (2016). *Promoting Student Happiness*. Guilford Publications.

Suldo, S. M., & Shaffer, E. J. (2008). Looking Beyond Psychopathology: The Dual-Factor Model of Mental Health in Youth. *School Psychology Review*, *37*(1), 52–68.

Sumner, J. A., Griffith, J. W., & Mineka, S. (2010). Overgeneral autobiographical memory as a predictor of the course of depression: A meta-analysis. *Behaviour Research and …*, *48*(7), 614–625. https://doi.org/10.1016/j.brat.2010.03.013

Taylor, R. D., Oberle, E., Durlak, J. A., & Weissberg, R. P. (2017). Promoting Positive Youth Development Through School-Based Social and Emotional Learning Interventions: A Meta-Analysis of Follow-Up Effects. *Child Development*, *88*(4), 1156–1171. https://doi.org/10.1111/cdev.12864

Tiberio, S. S., Capaldi, D. M., Kerr, D. C. R., Bertrand, M., Pears, K. C., & Owen, L. (2016). Parenting and the development of effortful control from early childhood to early adolescence: A transactional developmental model. *Development and Psychopathology*, *28*(3), 837–853. https://doi.org/10.1017/S0954579416000341

Toepfer, S., & Walker, K. (2009). Letters of Gratitude: Improving Well-Being through Expressive Writing. *Journal of Writing Research*, *1*(3), 181–198. https://doi.org/10.17239/jowr-2009.01.03.1

Tseng, W.-L., Kawabata, Y., Gau, S. S.-F., & Crick, N. R. (2014). Symptoms of attention-deficit/hyperactivity disorder and peer functioning: a transactional model of development. *Journal of Abnormal Child Psychology*, *42*(8), 1353–1365. https://doi.org/10.1007/s10802-014-9883-8

Tugade, M. M., Fredrickson, B. L., & Barrett, L. F. (2004). Psychological Resilience and Positive Emotional Granularity: Examining the Benefits of Positive Emotions on Coping and Health. *Journal of Personality*, *72*(6), 1161–1190. https://doi.org/10.1111/j.1467-6494.2004.00294.x

Tusaie, K., & Dyer, J. (2004). Resilience: a historical review of the construct. *Holistic Nursing Practice*, *18*(1), 3–8–quiz9–10. https://doi.org/10.1097/00004650-200401000-00002

Ungar, M. (2011). The social ecology of resilience: Addressing contextual and cultural ambiguity of a nascent construct. *American Journal of Orthopsychiatry*, *81*(1), 1–17. https://doi.org/10.1111/j.1939-0025.2010.01067.x

Ungar, M., & Liebenberg, L. (2011). Assessing Resilience Across Cultures Using Mixed Methods: Construction of the Child and Youth Resilience Measure. *Journal of Mixed Methods Research*, *5*(2), 1558689811400607–149. https://doi.org/10.1177/1558689811400607

Weiner, B. J., Lewis, C. C., Stanick, C., Powell, B. J., Dorsey, C. N., Clary, A. S., Boynton, M. H., & Halko, H. (2017). Psychometric assessment of three newly developed implementation outcome measures. *Implementation Science : IS*, *12*(1), 65. https://doi.org/10.1186/s13012-017-0635-3

Weis, R., & Speridakos, E. C. (2011). A Meta-Analysis of hope enhancement strategies in clinical and community settings. *Psychology of Well-Being: Theory, Research and Practice*, *1*(1), 5–16. https://doi.org/10.1186/2211-1522-1-5

Weist, M. D., Lever, N. A., Bradshaw, C. P., & Owens, J. S. (2013). *Handbook of School Mental Health* (M. D. Weist, N. A. Lever, C. P. Bradshaw, & J. S. Owens, Eds.). Springer Science & Business Media. https://doi.org/10.1007/978-1-4614-7624-5

Weisz, J. R., Sandler, I. N., Durlak, J. A., & Anton, B. S. (2005). Promoting and Protecting Youth Mental Health Through Evidence-Based Prevention and Treatment. *American Psychologist*, *60*(6), 628–648. https://doi.org/10.1037/0003-066X.60.6.628

Wells, J., Barlow, J., & Stewart Brown, S. (2003). A systematic review of universal approaches to mental health promotion in schools. *Health Education*, *103*(4), 197–220. https://doi.org/10.1108/09654280310485546

Werner, E. E. (1993). Risk, resilience, and recovery: Perspectives from the Kauai Longitudinal Study. *Development and Psychopathology*, *5*(4), 503–515. https://doi.org/10.1017/S095457940000612X

Westerhof, G. J., & Keyes, C. L. M. (2009). Mental Illness and Mental Health: The Two Continua Model Across the Lifespan. *Journal of Adult Development*, *17*(2), 110–119. https://doi.org/10.1007/s10804-009-9082-y

White, C. A., Uttl, B., & Holder, M. D. (2019). Meta-analyses of positive psychology interventions: The effects are much smaller than previously reported. *Plos One*, *14*(5), e0216588–48. https://doi.org/10.1371/journal.pone.0216588

Williams, L. A., & Bartlett, M. Y. (2015). Warm thanks: gratitude expression facilitates social affiliation in new relationships via perceived warmth. *Emotion (Washington, D.C.)*, *15*(1), 1–5. https://doi.org/10.1037/emo0000017

Wilson, D. B., Gottfredson, D. C., & Najaka, S. S. (2001). School-Based Prevention of Problem Behaviors: A Meta-Analysis. *Journal of Quantitative Criminology*, *17*(3), 247–272. https://doi.org/10.1023/A:1011050217296

Wilson, W. R. (1967). Correlates of avowed happiness. *Psychologicla Bulletin*, *67*(4), 294–306. https://doi.org/10.1037/h0024431

Witte, R. H. (2014). *Mental Health Practice in Today's Schools*. Springer Publishing Company.

Wood, A. M., Froh, J. J., & Geraghty, A. W. A. (2010). Gratitude and well-being: A review and theoretical integration. *Clinical Psychology Review*, *30*(7), 890–905. https://doi.org/10.1016/j.cpr.2010.03.005

World Health Organization. (2004). *Promoting mental health: Concepts, emerging evidence, practice: Summary report*.

Wyman, P. A. (2003). Emerging perspectives on context specificity of children's adaptation and resilience: Evidence from a decade of research with urban children in adversity. In S. S. Luthar (Ed.), *Resilience and vulnerability adaptation in the context of childhood adversities*. Cambridge University Press.

Zahradnik, M., Stewart, S. H., O'Connor, R. M., Stevens, D., Ungar, M., & Wekerle, C. (2009). Resilience Moderates the Relationship Between Exposure to Violence and Posttraumatic Reexperiencing in Mi'kmaq Youth. *International Journal of Mental Health and Addiction*, *8*(2), 408–420. https://doi.org/10.1007/s11469-009-9228-y

Zeiders, K. H., Updegraff, K. A., Umaña-Taylor, A. J., McHale, S. M., & Padilla, J. (2015). Familism Values, Family Time, and Mexican-Origin Young Adults' Depressive Symptoms. *Journal of Marriage and Family*, *78*(1), 91–106. https://doi.org/10.1111/jomf.12248

Ziomek-Daigle, J., Goodman-Scott, E., Cavin, J., & Donohue, P. (2016). Integrating a Multi-Tiered System of Supports With Comprehensive School Counseling Programs. *The Professional Counselor*, *6*(3), 220–232. https://doi.org/10.15241/jzd.6.3.220

Zoogman, S., Goldberg, S. B., Hoyt, W. T., & Miller, L. (2014). Mindfulness Interventions with Youth: A Meta-Analysis. *Mindfulness*, *6*(2), 290–302. https://doi.org/10.1007/s12671-013-0260-4

Figure 1

Dual-Factor Model of Mental Health (as described in (Suldo & Shaffer, 2008))

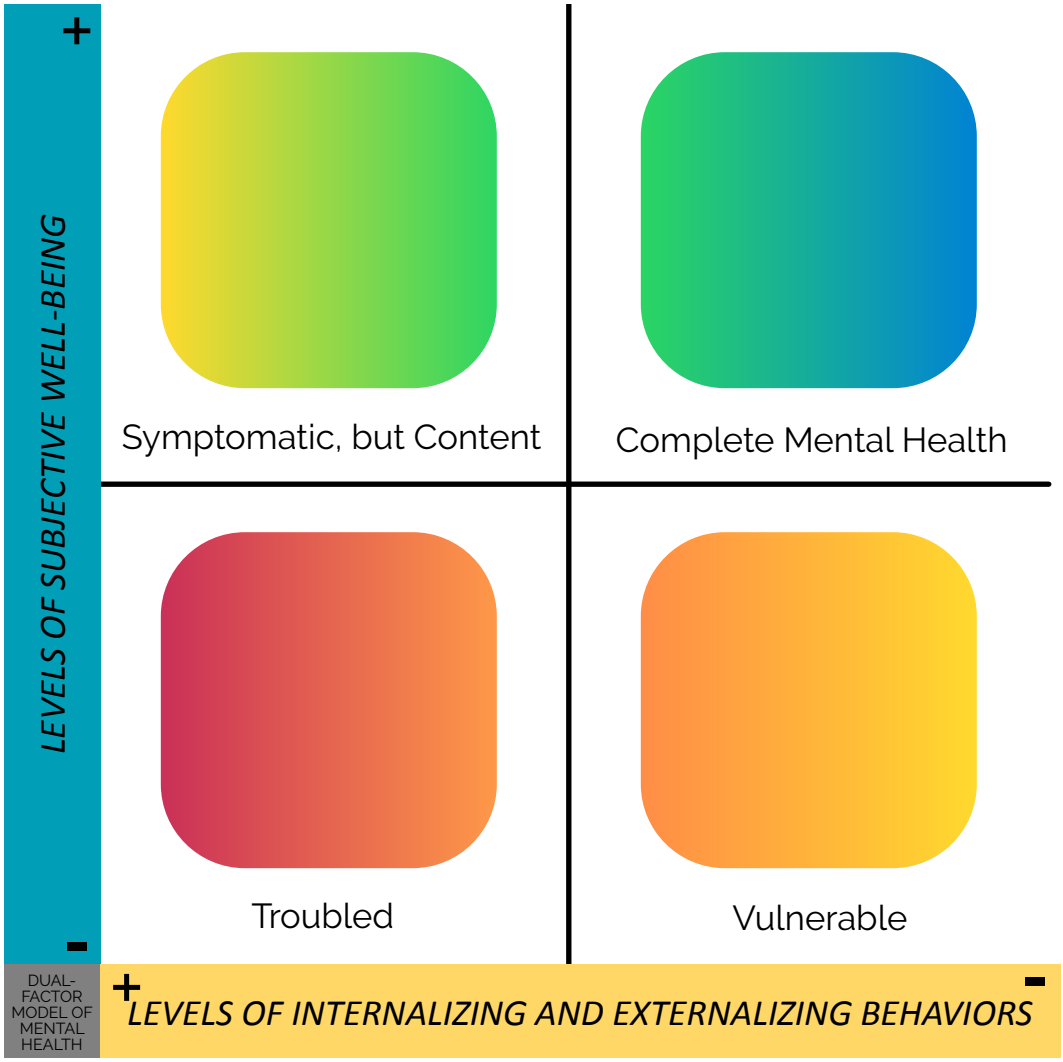


Figure 2

Program Component: Logic Model for the PowerUp! Prevention Program, A Pilot Resilience/Coping Skills Intervention in Elementary Classrooms

PROBLEM STATEMENT

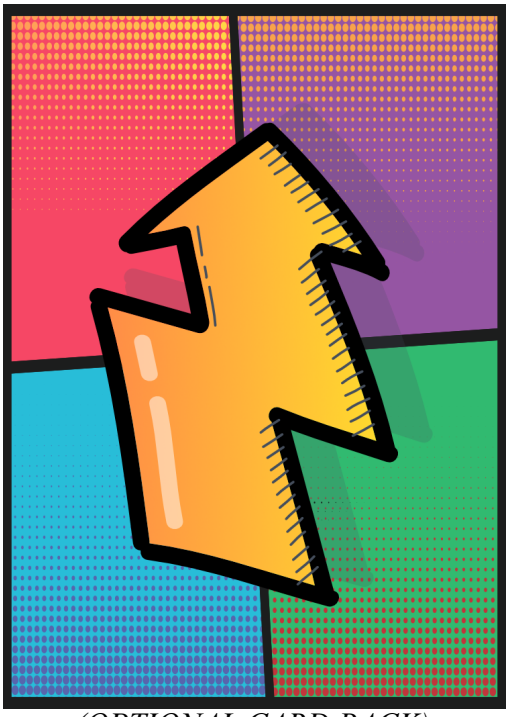
Children growing up low-income schools and communities are placed at a significant disadvantage in being able to actualize their full potential. Teachers working in low-income schools are aware that the students they serve need additional supports in order to buffer against mental, emotional, and behavioral disorders. This problem is compounded by limited resources (material and human) to address all the needs within these schools. This pilot program looks at the following pathway: if coping skills can be translated into ready-made, easy-to-use, classroom SEL materials, then teachers can integrate these mental health practices into their own classrooms, where they can teach and model positive coping skills for their students, this should lead to both the teacher and their students gaining a set of positive coping skills, which will enable them to activate these same coping skills to get through social, school, and life challenges, by developing mastery over these skills, kids and teachers should be buffered against the development of future internalizing disorders.

INPUTS & RESOURCES		ACTVITIES & STRATEGIES	OUTPUTS	SHORT-TERM OUTCOMES	LONG-TERM OUTCOMES
SCHOOL PSYCHOLOGIST / GRADUATE STUDENT CLASSROOM SPACE TEACHER COMMITMENT (DATA COLLECTION AND IMPLEMENTATION) TRAINING FOR CLASSROOM TEACHERS	TEACHER	**Coping Skill Posters** **Individual Skill Practice Guides** **Manual / Implementation Guide**	**# of Coping Skill Sessions Completed** - Cards Introduced - Modelled - Practiced by Students **Interest/Engagement** Rating for Each Lesson Daily Lesson Posters Implementation Comments	**Teacher use of coping skills** for personal practice and well-being Increased **Teacher Expertise** in supporting school mental health Positive **Classroom Community** **Positive Rating** of PowerUp! Intervention	Positive **Mental Well-Being** Decreased **Stress** **Prevention of Teacher Burnout**
RESEARCH ON COPING STRATEGIES DERIVED FROM Cognitive Behavior Therapy (CBT), Resilience, and Positive Psychology Interventions (PPIs) PROGRAM DEVELOPED AND MODELED AFTER EXISTING PREVENTION PROGRAMS ALIGNMENT OF COPING SKILLS ACROSS CASEL SOCIAL-EMOTIONAL COMPTENCIES	STUDENT	**Coping Skill Cards** • Gratitude • Identifying Strengths • Building Strengths • Hope • Optimism • Kindness • Cognitive Reframing	Coping **Skills Practiced** **# of kids** that received deck of coping cards **Coping Skill Preferences** - Based on Interest - Based on Value/Helpfulness	Increased **Hope** Increased **Optimism** Increase **Resilience** Increased **inventory of coping strategies** **Preferred** coping skills that were helpful **Positive Rating** of PowerUp! Intervention	**Prevention of depressive symptomatology** Improved **Academic** Outcomes **Less** likely to **need** Tier 2 and Tier 3 **services**

Figure 3

Program Component: PowerUp! Sample Coping Card

(CARD ENGLISH)



(OPTIONAL CARD BACK)

(CARD SPANISH)

Figure 4

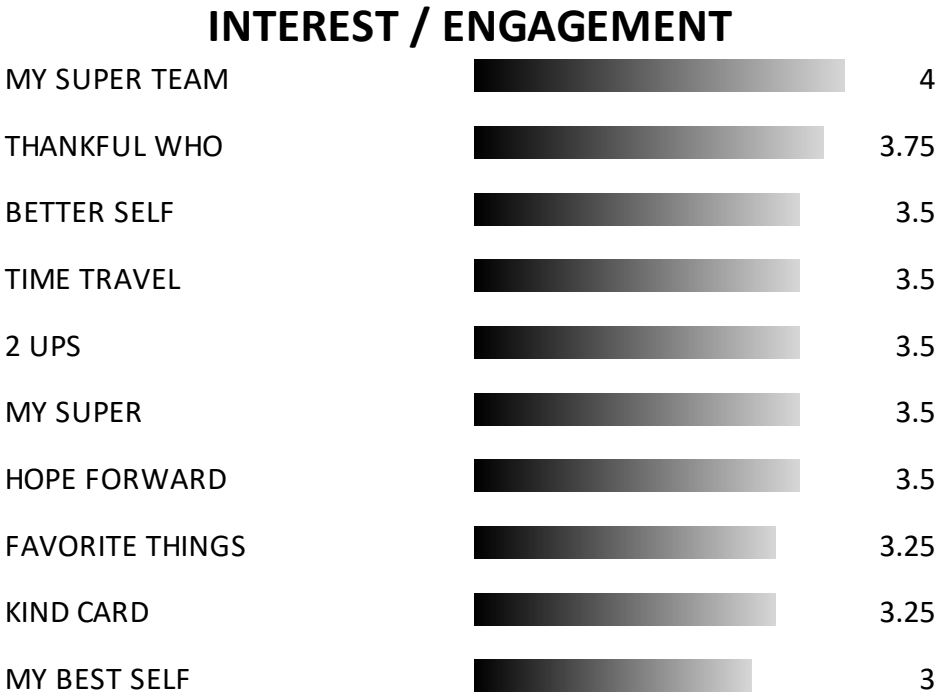
Program Component: PowerUp! Sample Set of 10 Cards

Figure 5

Program Component: Sample Implementation Poster

Figure 6

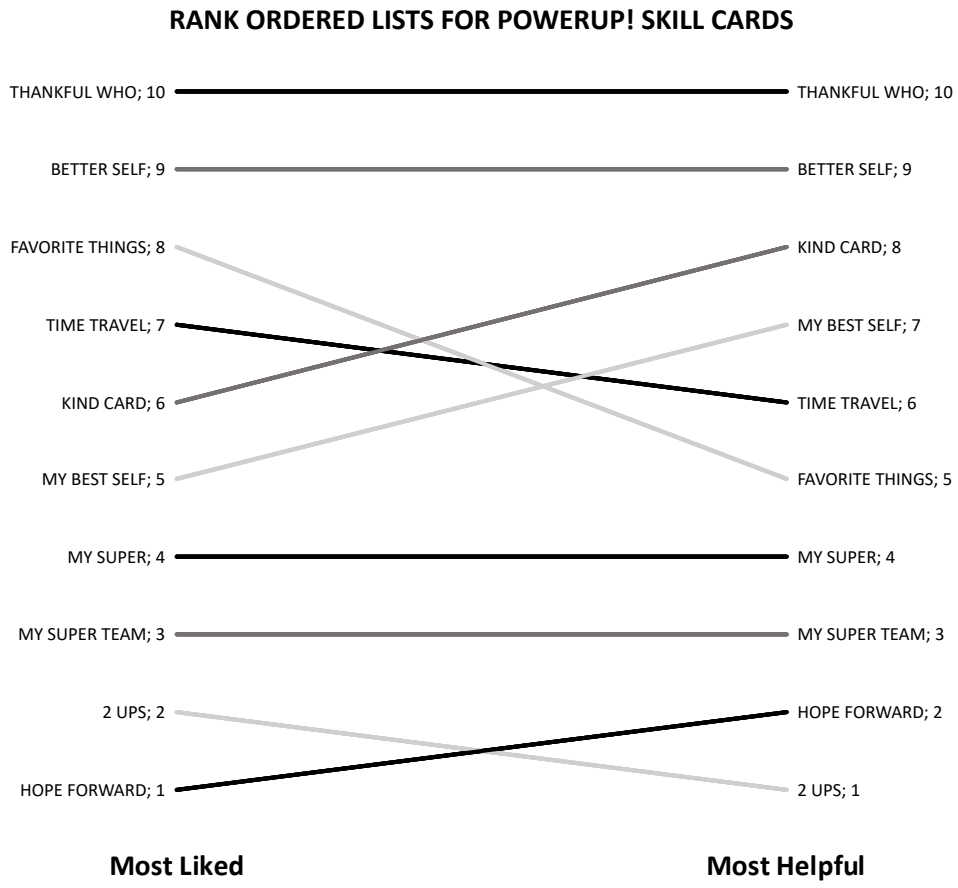
Teacher Rated Interest/Engagement on Individual PowerUp! Skill Card Lessons



Note: n = 4; *M* = 3.48 (SD = .28). Teachers completed daily intervention logs recording interest/engagement (scale 1-5) for each skill taught.
Average engagement scores next to each skill.

Figure 7

Rank Ordered Lists Compiled from Student Ratings of Interest and Helpfulness for Individual PowerUp! Skill Cards



Note. Students were asked to select up to 3 cards that "they liked the most" and up to 3 cards that "helped them the most" across the full set of ten PowerUp! cards. Total counts per card yielded percentages of votes, which was used to create the ranked order from 1 to 10.

Table 1

Program Component: Coping Skill Card Alignment to PPI Research and CASEL Competency

#	**Card Title** / Description	**Positive Psychology Intervention (PPI) Research**	**Alignment to CASEL Competency**
1	**Favorite Things…** What are some things in your life that you're thankful for?	Gratitude	*Self-Awareness*
2	**My Super** What are (3) things that make you awesome?	Identify and Building Strengths	*Self-Awareness*
3	**My Best Self** Share a time when you felt at your best	Identify and Building Strengths	*Self-Awareness*
4	**Hope Forward** What are you looking forward to this week?	Hope and goal-directed thinking	*Self-Management*
5	**2 Ups!** Give 2 compliments to yourself!	Identify and Building Strengths; Positive Self-Talk	*Self-Management*
6	**Thankful (Who)** Who are some people in your life that you're thankful for? Why?	Gratitude	*Social Awareness*
7	**My Super Team** Someone Who… … you can always count on? … can help you feel better? … you want to be like?	Gratitude; Hope and goal-directed behavior	*Social Awareness*
8	**Better Self** Read the strengths. Pick (2) you want to have in the future: (Brave, Caring, Happy, Creative, Honest, Fair, Funny, Leader)	Building Strengths; Hope and goal-directed thinking	*Self-Management*
9	**Kind Card** Write a compliment for someone, then give them this card.	Kindness	*Relationship Skills*
10	**Time Travel** Think about something that went wrong recently. Find (1) good thing about it.	Optimistic Thinking; Cognitive Reframing	*Responsible Decision Making*

Table 2

Timelines of Measure Administration

Participants	**Pretest**	**Implementation**	**Posttest**	**Postimplementation**
Administered	*February / March 2020*	*April / May 2020*	*May 2020*	*May / June 2020*
Student	Demographics Hope (CHS) Resilience (CYRM-R) Optimism (YLOT)		Hope (CHS) Resilience (CYRM-R) Optimism (YLOT)	Social Validity Interest/Helpfulness Ratings on Individual Skill Cards
Teacher	Demographics	Daily Session/ Individual Skill Logs		Social Validity

Table 3

Demographic Characteristics of Study Participants

	Student Participants (at pretest)		Student Intervention Participants (pre- and posttest)		Teacher Participants	
Demographic characteristic	*n*	%	*n*	%	*n*	%
Age					--	--
8	19	18	4	9.1		
9	45	42	22	50.0		
10	28	26	15	34.1		
11	14	13	3	6.8		
Gender						
Female	60	57	29	65.9	5	100
Male	46	43	15	34.1	0	0
Ethnicity						
Latino	99	93	42	95.5	0	0
Non-Latino	7	7	2	4.5	5	100
Grade						
Third	32	30	7	15.9	2	40
Fourth	53	50	31	70.5	2	40
Fifth	21	20	6	13.6	1	20

Note. Students with pretest data were $n = 106$. Students who completed the intervention and had complete pre and post data were $n = 44$. Student intervention participants were on average 9.4 years old ($SD = 0.8$). Teacher participants had on average 6.8 years of teaching experience ($SD = 5.3$).

Table 4

Pearson Correlation Matrix between Measures Collected at Baseline

Variable		1	2	3	4	5	6	7	8
1.	Age	--							
2.	Hope (CHS)	-.05	--						
3.	Resilience (CYRM-R)	.01	.37*	--					
4.	Optimism (YLOT)	.26	.42**	.45**	--				
5.	CYRM Subscale – Personal	-.02	.36*	.88***	.39**	--			
6.	CYRM Subscale – Relational	.02	.32*	.94***	.43**	.66***	--		
7.	YLOT Subscale – Optimism	.14	.34*	.45**	.82***	.43**	.40**	--	
8.	YLOT Subscale – Pessimism	-.29	-.39**	-.37*	-.93***	-.29	-.37*	-.55***	--
	Mean	9.39	23.57	30.52	23.18	14.89	15.64	13.48	8.30
	SD	0.75	6.53	4.70	7.01	2.13	3.02	3.10	4.83

Note. $N = 44$. CHS = Children's Hope Scale; CYRM-R = Child and Youth Resilience Measure – Revised; YLOT = Youth Life Orientation Test
* $p < .05$, ** $p < .01$, *** $p < .001$

Table 5

Teacher Reported Social Validity Post Intervention

Question	*Mean*	SD
How would you rate the materials and implementation procedures of the PowerUp! Intervention?	9.60	.55
How would you rate the PowerUp! intervention in terms of student interest/engagement?	7.40	.55
How would you rate the PowerUp! intervention in terms of supporting/benefitting student social-emotional and mental well-being?	9.00	1.22
Acceptability Scale	4.65	.49
Appropriateness Scale	4.75	.43
Feasibility Scale	4.85	.34
Fit Scale	4.60	.14
Value Scale	4.65	.49

	STRONGLY DISAGREE (%)	DISAGREE (%)	NEUTRAL (%)	AGREE (%)	STRONGLY AGREE (%)
Acceptability					
PowerUp! meets my approval	--	--	--	20	80
PowerUp! is appealing to me.	--	--	--	40	60
I like PowerUp!	--	--	--	40	60
I welcome PowerUp!	--	--	--	40	60
Appropriateness					
PowerUp! seems fitting.	--	--	--	20	80
PowerUp! seems suitable.	--	--	--	20	80
PowerUp! seems applicable.	--	--	--	20	80
PowerUp! seems like a good match.	--	--	--	40	60
Feasibility					
PowerUp! seems implementable.	--	--	--	20	80
PowerUp! seems possible.	--	--	--	20	80
PowerUp! seems doable.	--	--	--	--	100
PowerUP! seems easy to use.	--	--	--	20	80
Fit					
My administrators would be supportive of my use of this intervention.	--	--	--		100
This intervention is consistent with other social-emotional materials/curriculum that I have used in the classroom.	--	--	--	80	20
Use of this intervention would be consistent with the mission or values of my school.	--	--	--	--	100
I would require additional professional development in order to implement this intervention.	40	40	20	--	--
Value					
I would utilize this intervention in the future.	--	--	--	40	60
I would recommend this intervention to other teachers.	--	--	--	40	60
I would recommend this intervention to parents.	--	--	--	20	80
Overall, this intervention is/was/would be beneficial for my students.	--	--	--	40	60

Table 6

Teacher Commentary Supporting Social Validity Indicators

Social Validity Indicator	Teacher Provided Commentary
Acceptability	- This intervention is easy to use for both the teacher and student. It also seems to target all the right areas or skills. *(Teacher 2)* - I enjoyed the colorful pictures, the brief lessons, and the student responses. *(Teacher 3)* - Students are loving it! When we were in school, it worked very well and students enjoyed it. *(Teacher 4)*
Appropriateness	- There wasn't really that same accountability to try these skills outside of the digital classroom than if we were in the classroom and they had opportunities throughout the school day to try a skill with a friend. *(Teacher 2)* - It was appealing to kids with the graphics and utilized simple language for them to follow. They like practicing at home with their families. Maybe there is room for a card to help students deal with stressful events? *(Teacher 4)* - The most challenging part of the intervention was getting them to go more in depth into their feelings in front of the other children. *(Teacher 5)*
Feasibility	- I liked that it was designed to be a quick mini lesson that could fit into any part of my day and that builds on itself. *(Teacher 1)* - The simplicity of implementation (for me) and the simplicity in completing each activity (for my students) was what I liked most. It wasn't complicated or overwhelming. Given distance learning, the discussion part of each new skill was difficult - students couldn't effectively discuss with each other how they used a skill outside of the classroom. *(Teacher 2)* - I created slideshow presentations of each lessons. I didn't add anything extra other than what was provided. I feel the visual was good because students were able to read on the screen what I was saying. *(Teacher 3)* - I liked that the lessons were short and manageable. Even if someone does not have SEL or mindfulness experience, it was very easy to teach. I liked the provided examples! *(Teacher 4)* - I find that POWER UP! was much easier to use, and even more relevant during distance learning. The students were away from their friends and just settling into a "new normal", which made them more vulnerable and easier to get through to them. *(Teacher 5)*

Fit	- I used a powerpoint presentation format for students to complete the work on Google Classroom & used a Google Form for students to provide feedback on the skills used outside of the classroom. *(Teacher 2)* - I have not used any other curriculums with the exception of Niroga Mindfulness. This curriculum is more focused on reflecting and thinking positively. *(Teacher 3)* - I used interactive Google Slides to present the material, then followed up with questions and scenarios during our Zoom meetings twice a week. *(Teacher 4)*
Value	- It was a challenge to have students use the skill outside of the classroom. *(Teacher 3)* - Many students shared how they used the previous activity. They were so excited about it! They shared how they explained the activity to a loved one and how their friends were excited to participate. One student noted that her mom was very glad to see the cards were also in Spanish. *(Teacher 4)* - The best part of this intervention was that it started a conversation with students on a personal level that I wouldn't normally have had. We are often so busy with school subjects, that we forget the inner child- the one who has fears, insecurities, and other things going on inside the home besides school. *(Teacher 5)*

Note. The qualitative commentary provided here is intended to serve as the validation and rationale for the quantitative scores provided in the teacher exit survey measure.

Table 7

Student Reported Social Validity Post Intervention – Student Intervention Rating Profile (SIRP)

Scales / Questions	*M*	SD	Range
Total Scale	35.91	7.52	19-46
Acceptability			
Did you like PowerUp! (How would you rate it?)	8.82	2.06	1-10
Was it Helpful?	3.36	.92	1-4
Was it Fun?	3.50	.85	1-4
Was it Easy to Do?	3.43	.87	1-4
Utilization and Generalization			
Did you use the skills outside of the classroom?	2.91	1.12	1-4
Did you use the skills when you felt happy?	3.02	1.13	1-4
Did you use the skills when you felt sad?	2.72	1.21	1-4
Did you share the skills with friends?	2.32	1.22	1-4
Did you share the skills with family?	2.55	1.27	1-4
Value			
PowerUp! is a good way to help students…	2.77	.57	1-3
If my friend was feeling down or sad, I would tell them to try one of the PowerUps!	2.50	.63	1-3
Do you think you will use PowerUp! skills in the future?	2.41	.66	1-3

Student Reported Social Validity – (Frequency of Responses)

	NO %	A LITTLE %	MEDIUM %	A LOT %
Was it Helpful?	4.5	15.9	18.2	61.4
Was it Fun?	4.5	9.1	18.2	68.2
Was it Easy to Do?	4.5	11.4	20.5	63.6
Did you use the skills outside of the classroom?	15.9	18.2	25.0	40.9
Did you use the skills when you felt happy?	13.6	20.5	15.9	50
Did you use the skills when you felt sad?	22.7	20.5	18.2	38.6
Did you share the skills with friends?	36.4	20.5	18.2	25.0
Did you share the skills with family?	31.8	15.9	18.2	34.1

	NO %	MAYBE %	YES %
PowerUp! is a good way to help students…	6.8	9.1	84.1
If my friend was feeling down or sad, I would tell them to try one of the PowerUps!	6.8	36.4	56.8
Do you think you will use PowerUp! skills in the future?	9.1	40.9	50

	1 %	2 %	6 %	7 %	8 %	9 %	10 %
Did you like PowerUp! (How many stars would you rate it?)	2.3	2.3	6.8	6.8	11.4	9.1	61.4

Table 8

Paired-samples t-tests examining mean difference scores on student outcome measures of hope, resilience, and optimism

Scale Subscale	**Pretest**		**Posttest**		**Paired t-test**			
	M	*SD*	*M*	*SD*	*Mean* Difference	*t*	*p*	Cohen's *d*
Children's Hope Scale (CHS)	23.6	6.5	25.4	6.8	1.84	1.85	.072	0.27
Child and Youth Resilience Measure (CYRM)	30.5	4.7	31.3	5.5	0.82	0.94	.352	0.16
CYRM - Personal	14.9	2.1	15.1	2.8	0.27	0.70	.343	0.08
CYRM – Relational / Caregiver	15.6	3.0	16.2	3.3	0.55	0.95	.490	0.19
Youth Life Orientation Test (YLOT-R)	23.2	7.0	24.2	6.7	1.00	0.96	.346	0.15
YLOT - Optimism	13.5	3.1	12.7	3.4	-0.75	-1.36	.182	0.25
YLOT - Pessimism	8.3	4.8	6.5	4.3	-1.75	-2.34	.024*	0.40

n = 44

Table 9

Multiple linear regression analysis predicting relationship between baseline levels of hope, resilience, optimism and intervention change scores in Block 2 and relationship between student investment in intervention with change scores in Block 3

Block	Measurement / Predictors	Unstandardized coefficient		β	*p*	*F*	R^2	ΔR^2
		b	SE					
1	Overall Model				.588	.30	.01	.01
	Constant	1.51	4.46	--				
	Age	1.55	2.83	0.08	.588			
2	Overall Model				.015	3.51	.27	.26
	Constant	-.84	4.16	--				
	Age	3.24	2.66	0.18	.233			
	Hope – Pretest	2.39	2.18	0.17	.278			
	Resilience – Pretest	-4.98	2.20	-0.36	.029			
	Optimism – Pretest	-4.33	2.37	-0.31	.075			
3	Overall Model				.001	5.57	.42	.16
	Constant	-1.92	3.75	--				
	Age	4.03	2.41	0.22	.103			
	Hope – Pretest	1.00	2.00	0.07	.619			
	Resilience – Pretest	-3.82	2.01	- 0.28	.065			
	Optimism – Pretest	-4.90	2.13	-0.35	.027			
	Student Intervention Rating	5.77	1.79	0.42	.003			

Note. Dependent variable: compositive change score of hope, resilience, and optimism. Age variable recoded with 8 years old set at 0. dummy Predictor variables: Children's Hope Scale (CHS), Child Youth Resilience Measure (CYRM), Youth Life Orientation Test (YLOT), Student Intervention Rating Profile (SIRP)

Table 10

Future Directions – PowerUp!

Step	Idea	Description
1	Base Set	- Current study - General set of coping skills aligned to hope, resilience, and optimism - PowerUp! Superheroes Themed - Bilingual – Spanish/English
2	Powered Up Certificate	- Drafted during study - Certificate of completion - Motto: "Feel Good. Feel Better. Feel Best." - 10 stickers in half circle – students earn sticker by doing skill - Maybe use for generalization – earn sticker for doing at home – can use for data collection
3	Supervillains Set	- Based on Cognitive Distortions / Thinking Traps (Cognitive Behavioral Therapy) - More complex, might require more teaching - Would move towards managing negative feelings or stressful events request made
4	Powers Set	- Based on Self-Regulation / Mindfulness / Grounding Skills - Focus on selected the ones that work for them
5	Children's Books	- Strengths Book – Trying on Different Strengths (Capes) on each page. o Last Page: "I think for today, friendly is what I'll be. But, all of those strengths make for a better me." o Illustration – walking away with a friend - Kindness Card book – Finds a card on the ground – Acts of kindness get passed around the neighborhood, at the end he gets the act of kindness returned to him. - Tear-Out PowerUp! cards inside the back cover