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**HOW DO WE LEARN TO HOPE? THE DEVELOPMENT OF THE
PARENT REPORT OF CHILD HOPE**

by

LAUREN A. SPARKS

DISSERTATION

Submitted to the Graduate School

of Wayne State University,

Detroit, Michigan

in partial fulfillment of the requirements

for the degree of

DOCTOR OF PHILOSOPHY

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MAJOR: PSYCHOLOGY (Clinical)

Approved By:

Advisor

Date

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS	II
LIST OF TABLES	V
LIST OF FIGURES	VI
CHAPTER 1: HOPE THEORY AND RESEARCH IN EARLY CHILDHOOD	1
INTRODUCTION	1
SECTION 1.1 – HOPE THEORY	2
SECTION 1.2 – DIFFERENTIATING HOPE FROM RELATED CONSTRUCTS	4
SECTION 1.3 – HOPE DEVELOPMENT IN YOUNG CHILDREN	6
SECTION 1.4 – ENVIRONMENTAL INFLUENCES ON HOPE DEVELOPMENT	9
SECTION 1.5 – HOPE ASSESSMENT	11
SECTION 1.6 – THE PARENT REPORT OF CHILD HOPE.....	13
SECTION 1.7 – SUMMARY AND RATIONALE FOR THE PRESENT STUDY	15
SECTION 1.8 – SPECIFIC AIMS OF THE PRESENT STUDY	16
CHAPTER 2: METHOD	20
SECTION 2.1 – PARTICIPANTS	20
SECTION 2.2 – MEASURES	21
SECTION 2.3 – PROCEDURE.....	27
CHAPTER 3: DATA ANALYTIC PLAN	28
CHAPTER 4: RESULTS	33

MISSINGNESS.....	33
SCORING OF THE PRCH AND OTHER MEASURES.....	33
DESCRIPTIVE STATISTICS	34
PRINCIPAL COMPONENTS/FACTOR ANALYSIS	35
CORRELATIONS	37
INTERNAL CONSISTENCY OF PRCH ITEMS	38
PREDICTORS OF HOPE SCORES ON THE PRCH	39
CHAPTER 5 DISCUSSION	42
AIM 1: VALIDITY OF THE PRCH.....	43
AIM 2: RELIABILITY AND CRITERION-RELATED VALIDITY OF THE PRCH.....	47
AIM 3: PREDICTORS OF HOPE IN EARLY CHILDHOOD	48
LIMITATIONS OF THE CURRENT STUDY.....	51
SUGGESTIONS FOR FUTURE RESEARCH.....	54
CONCLUSIONS	55
APPENDIX A – INITIAL PARENT REPORT OF CHILD HOPE MEASURE.....	71
APPENDIX B: FINAL PARENT REPORT OF CHILD HOPE ITEMS.....	72
APPENDIX C: ADAPTED VERSION OF THE CHILDREN’S HOPE SCALE.....	73
REFERENCES	74
AUTOBIOGRAPHICAL STATEMENT.....	85

LIST OF TABLES

Table 1: Parent and Child Demographic Variables	57
Table 2: Descriptive Statistics for Study Variables.....	58
Table 3: Bivariate Correlations Between Study and Demographic Variables	59
Table 4: Bivariate Correlations Between Study and Predictor/Outcome Variables.....	60
Table 5: Summary of Initial Factor Analysis Loadings for PRCH	61
Table 6: Summary of Confirmatory Factor Analysis Loadings for PRCH	62
Table 7: Summary of Regression Analyses Using Positive Predictors of PRCH Total Scores	63
Table 8: Summary of Regression Analyses Using Positive Predictors of Agency and Pathways Total Scores.....	64
Table 9: Summary of Regression Analyses Using Negative Predictors of PRCH Total Scores	65
Table 10: Summary of Regression Analyses Using Negative Predictors of Agency and Pathways Total Scores.....	66
Table 11: Summary of Regression Analyses Using PRCH as Predictor for Child Prosocial Behaviors and Ego Resilience	67
Table 12: Summary of Hierarchical Regression Analyses for Variables Predicting Child Prosocial Behaviors and Ego Resilience	68

LIST OF FIGURES

Figure 1: Scree Plot for Initial Exploratory Factor Analysis.....	69
Figure 2: Scree Plot for Second Factor Analysis with Two-Factor Structure	70

CHAPTER 1: HOPE THEORY AND RESEARCH IN EARLY CHILDHOOD

Introduction

Hope in childhood has been tied to robust positive outcomes in academic achievement, problem-solving capacities, social competence, and resilience to adversity (Dixson & Worrell, 2016; Snyder, 2000). It is also a critical component of the healing process for children experiencing severe illness, such as cancer (Snyder et al., 1997). Given links to such positive outcomes, it is imperative that researchers better understand the developmental processes that underlie the formation of hope in childhood. However, empirical research on hope development in younger children is sparse. Snyder and colleagues (1997) suggest that hopeful orientations are likely to be stable in children as early as the 2nd year. Nevertheless, the majority of research examining child hope takes these processes for granted; the current “gold standard” of hope measurement is a self-report scale for children age 8 or above, and no experimental paradigms have been employed to observe individual differences in hope among young children due to a lack of viable measurement options (Snyder, 2000; 2002). The current project investigated the reliability and validity of a novel parent-report measure of hope in early childhood, titled the Parent Report of Child Hope, as a first step towards deepening the current understanding of individual differences in hopefulness development among young children. The present study also sought to provide an understanding of the developmental processes that influence hope development in childhood by examining predictors of early childhood hope.

Section 1.1 – Hope Theory

Hope has historically received relatively little attention from the field of psychology. While the construct of hope was studied by researchers as early as the late 1950's, most conceptualizations of hope from that period amounted to little more than a dictionary definition of hope as “wanting something to happen or be true: to desire with anticipation” (Menninger, 1959; hope, n.d.). This definition had particular strengths in that it captured the future-oriented nature of hope and granted operational legitimacy to the construct itself; however, it was inadequate to describe the specific cognitive processes underlying hope, as well as the value of studying hope in the context of normative psychological development.

Forty years later, Snyder and colleagues (1997) remedied this oversight with the development of hope theory, which provided a comprehensive operational definition of hope for use in research and clinical practice. Hope theory dictates that all typically developing individuals are cognitively capable of creating plans and adaptive goals for the future (Snyder et al., 2000). If valuable enough to capture an individual's attention, these goals motivate behavior such that the individual will act in a manner consistent with the possible achievement of these goals. In order for a person to maintain a high level of hope, their goals must be both attainable and uncertain, as unattainable goals often lead to blockages of goal-oriented behavior and certainties do not require hope for the future in any capacity. Thus, hope theory defines hope as a goal-oriented motivational process in which individuals perceive that they are capable of achieving adaptive future goals (Snyder, Irving, and Anderson, 1991).

Hope theory delineates two other crucial affective-motivational components to hope. The first component of hope is agency thinking, by which individuals imagine themselves as highly capable of creating positive future circumstances for themselves (Snyder, 2000). Agency thinking involves the individual's perception of their capacity to initiate and maintain actions that will propel them to achieve desired goals. The second component is pathways thinking, by which individuals perceive that they are capable of discovering and executing routes to achieve desired goals (Snyder, 2000). Pathways thinking involves two metacognitive abilities – the perception of the self as capable of envisioning multiple routes to achieve the goal, and the perception of the self as capable of refining those pathways to overcome unforeseen obstacles (Dixson, 2017).

Agency and pathways components are thought to be correlated, and they are hypothesized to interact in a reciprocal and additive manner (Snyder et al., 2000). While an individual may be relatively high in either pathways or agency thinking at any one moment in time, change in one component concurrently leads to change in the other, and that change occurs in the same direction (Snyder et al., 1997). Over time, this interaction becomes an iterative process whereby an individual attaches emotional reactions and perceptions of future success through the attainment or nonattainment of their goals (Snyder et al., 2000). This process develops into a dispositional affective-motivational “hope” that allows the individual to make judgments regarding the value and likelihood of attainment for other specific goals.

Hope has been shown to be a strong predictor of diverse, positive developmental outcomes. Several studies, for example, have demonstrated that hope is strongly related to

academic achievement outcomes in elementary school, high school, and during college (Curry, Snyder, Cook, Ruby & Rehm, 1997; Dixson, Keltner, Worrell, & Mello, 2018; Dixson, Worrell, Olszewski-Kubilius, & Subotnik, 2016). More specifically, hope has been shown to mediate the association between socioeconomic status and academic achievement among diverse adolescents (Adelabu, 2008; Dixson et al., 2018; Gallagher & Lopez, 2008). Childhood hope also predicts positive transitions into adulthood, with demonstrated positive relations to varied outcomes including general well-being, problem-solving skills, and social competency in interpersonal relationships (Snyder, 2002; Snyder, 2004). Conversely, low levels of hope in adolescents and adults are a risk factor for poor developmental outcomes, including high levels of anxiety, low levels of energy, and poor self-efficacy (Lopez, 2010; Snyder, 2002). These outcomes demonstrate that it is vital to improve our understanding of the processes that contribute to resilient functioning throughout the lifespan by studying hopefulness and its contributions to positive developmental outcomes.

Section 1.2 – Differentiating Hope from Related Constructs

While hope is closely related to other important affective-motivational constructs, there are several important differences that are useful to clarify. First, hope is often compared to (and confused with) optimism. Indeed, Seligman (2006) emphasized the importance of an optimistic attributional style in learning to be active versus helpless, and Scheier and Carver (1992) described optimism as a goal-based cognitive process similar to hope. Significant differences exist, however, between hope and optimism. First, hope is composed of two distinct components that allow an individual to work towards specific

and attainable goals, while optimism is a more general positive expectation of the future (Scheier & Carver, 1992; Snyder et al., 2000). Second, hope theory does not emphasize the importance of attributional style. Whereas optimism can be reduced by negative outcomes of salient events, which leads to “learned helplessness,” individuals with higher levels of hope are not dissuaded by failure and seek to find other pathways by which to achieve their goals (Snyder et al., 2000). This represents an important point in hope theory: low hope individuals are not thought to be “hopeless” or “depressed” like pessimistic individuals (Snyder, 2002). Indeed, low hope individuals may have relatively positive general expectations for the future. The difference, however, is that low hope individuals generally see themselves as incapable of goal attainment and are more likely to feel helpless when they encounter obstacles to their specific goals.

Hope also differs from self-efficacy, or the expectancies that individuals apply to desired outcomes (Bandura, 1977). Self-efficacy theory is comparable to hope theory in that there is an emphasis on goals, and goals (as well as their associated outcomes) must be valuable, adaptive, and attention-holding in order for an individual to expect to achieve the goal (Snyder et al., 2000). Self-efficacy, however, is thought to depend solely on an individual’s appraisal of their own abilities; pathways thinking is not considered to be an important component of the process (Snyder, 1995). This emphasis in self-efficacy theory is situational in nature – it requires the individual to determine whether they are capable of achieving goals under specific circumstances. Though hope theory shares this component, pathways thinking allows for individuals to believe that goals can be achieved across

differing contexts and situations, and that there are different paths to goal attainment even if they themselves cannot take them (Snyder et al., 1999).

Finally, hope differs from the simple ability to engage in episodic, future oriented thinking. Future-orientation is conceptualized in terms of cognitive, motivational, and affective components that interact to allow an individual to imagine representations of themselves in future events (Seginer, 2009). Thus, future orientation is an early process by which children and adolescents come to consciously construct ideas about their possible future selves (Chen & Vazsonyi, 2013). Hope involves more than simple cognitions about possible future selves. Hope is the process by which children learn to create the future selves that they imagine – it is a motivational construct that helps children to imagine paths to a positive goal and imagine themselves as capable of achieving that goal (Snyder, 2000). Furthermore, hope involves application of pathways to specific goals; although future orientation may allow children to imagine specific situations, it is not necessarily goal-oriented in nature. Future orientations are, therefore, necessary conditions for hope, but they are not sufficient ones (Snyder, 1995). Indeed, hope may be defined as a subtype of episodic future thinking that is motivational in nature and allows for goal achievement (Snyder, 2000).

Section 1.3 – Hope Development in Young Children

The origins of pathways and agency thinking are thought to begin at birth and continue to develop throughout early childhood (Snyder, 2003). Indeed, Snyder and colleagues (2000) hypothesize that the use of pathways and agency thinking in a goal-directed manner (i.e., hope) is established as early as 12 months through normative

cognitive developmental processes. While these suppositions have never been empirically examined through the lens of hope theory, they do align with a contemporary understanding of child developmental processes.

The inception of pathways thinking is posited to occur relatively soon after birth (Snyder, 2000). Infants begin to perceive their environment and to infer meaning from their observations within a few months of birth (Johnson & Aslin, 1995). Such meaning then allows them to organize sensory inputs and make connections about causality in their environment (Snyder, 2000). It is also during this time that goal formation begins, as infants learn that events are linked in a temporal order and that certain actions will lead to fulfillment of their needs and desires. Pointing to objects they desire, for example, allows them to receive the objects (Sodian & Thoermer, 2004). Similarly, crying when hungry will alert a caregiver to respond and meet the need (Tronick, 1989). As they age, children strengthen the temporal linkages between events and begin to develop the capacity to engage in more sophisticated mental representation. Throughout this process, they learn to imagine future goals being achieved via specific action pathways (Snyder, 2003). By 12 months, children have acquired the capacity for rudimentary pathways thinking, which is further reinforced through later experiences in early childhood and through encouragement from important attachment and authority figures, such as parents, teachers, and older children.

Agency thinking is thought to emerge slightly later in development, as children begin to see themselves as “agents” of change in goal attainment and develop the capacity to sustain this belief (Snyder, 2000). Infants between 12 and 21 months begin to develop

the capacity for self-insight and self-appraisal (Lewis & Brooks, 1978). This capacity naturally provides children with the understanding that they are active agents of change in their world; that is, they begin to believe that they are possibly “causes” of the effects they observe in the development of pathways thinking (Snyder, 2000). Most infants, for example, learn that their specific cries for food eventually bring them sustenance. Toddlers also learn that their exploration of objects can lead to responses from the objects, such as pressing a button on a toy that evokes music or lights. Eventually, this manifests in the development of agentic short-term goals, or the desire to exercise autonomy in their environment. Thus, the rudiments of agency thinking are developed when children begin to understand that they can engage in goal-directed behavior.

Importantly, barriers to goal achievement are thought to play a significant role in the development of both agency and pathways thinking in young children (Snyder, 2000). Simple early childhood barriers, such as the inability to grasp certain objects, act as “inoculations” that allow children to exercise their goal-directed thinking in a hopeful manner. Hope develops when children encounter such obstacles and then, intentionally or not, use successful strategies to overcome those obstacles (Snyder et al., 1997). Success elicits positive emotions, positive self-worth appraisals, and frustration tolerance that become attached to children’s conceptualizations of their capability to prevail in the face of challenges to their goals. They begin to see themselves as capable, and view obstacles as hurdles to be overcome rather than stumbling blocks in goal achievement. This type of thinking becomes a type of cognitive script to follow when faced with later, more significant impediments to goal achievement, and thus is likely essential to stable

hopefulness in later adolescence and adulthood (Snyder, 2000). It is important to note, however, that the above explanations of hope development remain purely theoretical, as no empirical studies have focused specifically on hope development in young children from a hope theory perspective.

Section 1.4 – Environmental Influences on Hope Development

As time progresses, early childhood conceptualizations of hope are either reinforced or contradicted by the developing child's experiences in home, school, and other important contexts. Success in meeting goals is theorized to lead to state levels of pathways and agency thinking that, in turn, likely lead to a stable, "hopeful" view of the future that fosters resilience (Rutter, 1994; Snyder et al. 1997). The home environment, for example, provides many opportunities for a child to learn about successful goal attainment. In particular, a secure attachment relationship within the parent-child dyad provides a unique dual opportunity for the child to learn to hope (Snyder, 2000). Secure attachment relationships provide a "secure base" from which children can explore the world around them (Bowlby, 1988). This secure base allows children to feel empowered to meet their goals, especially socially oriented goals, and to feel safe enough to investigate unique solutions to potential goal-barriers (Snyder, 2000). Secure attachment relationships also provide children with a "coach" who can help them discover pathways they had not considered, encourage them to persist, and to make cause and effect connections between events. Indeed, there are strong relations between secure attachment, social competence in adulthood, and higher hope levels (Snyder, Cheavens, & Sympson, 1997).

The school environment also provides an important context in which children can quickly learn to successfully meet their goals (Snyder, 2000). In normative development, school-aged children have learned to practice theory of mind, or the ability to understand that others have perspectives that are independent of oneself. Within the school context, this process allows for goal-oriented cognitions to become socially oriented, as children with the capacity to experience theory of mind begin to interact with peers and navigate conflicts in peer social relationships. Children, then, begin to have a social context for their goal achievement, and to understand that their goals may be aligned with the goals of others. Furthermore, homework assignments and mastery expectations built into the school system provide a natural context for children to practice pathways and agentic thinking, and to learn whether hard work will provide them with success. As children begin to accumulate experiences of accomplishment, they begin to learn that they can accomplish a wide variety of goals and, in turn, develop a stronger sense of hope. Additionally, school may provide children the opportunity to interact with other “coaches” to hope, including teachers and administrative professionals. These other adults provide supplemental but important modeling and encouragement towards goal achievement.

While a child’s context and experiences can provide significant pathways to hope and resilience, they can also impair the development of hope in childhood (Snyder, 2000). Children who experience significant adversity or a lack of stable attachment figures may come to believe that there is no possibility of successfully achieving their goals. Additionally, if a child continually encounters overwhelming barriers to goal attainment, such as school difficulties due to a learning disability or social anxiety, both agency and

pathways thinking are consistently challenged. These experiences contradict hopeful cognitions and, over time, may lead to the development of a cognitive script that minimizes the importance of hope and suggests that goal achievement is highly improbable. In the absence of protective factors (such as positive peer support) that could encourage greater hope, these children, therefore, go on to develop a stable view of the future that is less hopeful. It is important to note, however, that these children are not “hopeless” – indeed, there may be particular situations or particular goals in which some levels of hope may be utilized. Rather, these children are theorized to have far lower levels of trait-based hope than their more hopeful counterparts and are generally classified as less hopeful overall (Snyder et al., 1997).

Section 1.5 – Hope Assessment

Measurement of hope in young children presents a particularly unique challenge for researchers (Snyder, 2003). Pathways and agency thinking components can be easily measured via self-report in cognitively capable adolescents and adults. Indeed, the Children’s Hope Scale (Snyder et al., 1997) and the Adult Hope Scale (Snyder, Irving, & Anderson, 1991, p. 287) have both been designated as “gold standard” assessments for hope in older children, adolescents, and adults. However, these tools have conspicuous limitations, as they require extensive verbal abilities and metacognitive insight that are not developmentally appropriate for children 7-years-old and under. Thus, because hope is thought to emerge in early childhood, there is a compelling need for assessments that will allow researchers to empirically examine hope in young children, for whom no adequate hope assessment has been developed.

Parents and other caretakers represent a potentially useful source of insight into hope development and individual differences in hope during early childhood. Many researchers have been hesitant to make use of parent reports due to potential biases from personal judgments (Tang et al., 2018). In regard to hope, parents of young children may particularly desire to see their children as active agents towards goal achievement and may over-report levels of hope. Alternatively, parents may not be able to recognize signs of low hope in young children, as they have not had much experience with the school context in which hope tends to play an explicit role. While significant, these disadvantages do not compare to the advantages that using parent reports provide for assessment of hope in early childhood. First, parent report measures capitalize on the extensive experiences and repeated observations parents make about their child's behavior (Rothbart, 1981). Parents are often the individuals who spend the most time with their child throughout early childhood and have viewed their behaviors across contexts, making them uniquely qualified to assess the depth and breadth of hopeful behaviors and cognitions in their children. Parent reports also have the advantage of being easily accessible to researchers, clinicians, and teachers – they are cost effective, easy to distribute, and generally more practical than laboratory or clinic studies (Thal, O'Hanlon, Clemmons, & Fralin, 1999). Making use of parent reports also allows for better assessment of the child in the family context than laboratory or clinic settings, which adds further credence to Snyder's (2000) theories that hope is formed in early childhood through experiences in the home. Finally, parent report has the advantage of being particularly relevant to early childhood constructs. Young children do not have the metacognitive skills to report their own experiences, nor

do they usually possess the academic skills to read and complete a survey (Thal et al., 1999). Parents are usually best suited to communicate on their children's behalf and comment on their cognitive development. Taken together, then, these advantages suggest that parent report would be a useful tool for measuring hope in early childhood.

It is also important to note that many surveys, both for clinical and research purposes, have made use of the parent report format to measure behaviors, attitudes, and cognitions of young children. The Child Behavior Checklist (CBCL) is one notable example that allows for parents to report on the behaviors and moods of both preschool and school-aged children (Achenbach, 1999). Other constructs measured via parent report in early childhood include child adjustment, child optimism, and future-oriented thinking (Lagattuta, Sayfan, & Bamford, 2012; Mazachowsky & Mahy, 2020; Morawska, Sanders, Haslam, Filus, & Fletcher, 2014). Given the established validity of these measurements, a Parent Report of Child Hope likely represents one important avenue of hope assessment in early childhood.

Section 1.6 – The Parent Report of Child Hope

A novel assessment tool, The Parent Report of Child Hope (PRCH), was designed to meet the need for an assessment of hope in young children (Appendix A). The PRCH is a criterion-referenced parent report survey designed to explore whether hope and its theorized components (i.e., agency and pathways thinking) can be identified in young children. Items on the measure were developed using hope theory as a guide, with the intent of measuring the same components as the gold-standard Children's Hope Scale (CHS; Snyder et al., 1997), in which children are asked to rate themselves on pathways-related

items and agency-related items, as well as any components unique to hope in early childhood.

While the CHS remains an important tool for measurement of child hope, the PRCH is meant to improve upon the CHS in several ways. First, the CHS is an inadequate measure to evaluate hope in young children. As stated above, child self-reports are inappropriate for young children who have not reached the stage in cognitive development that allows for the sophisticated metacognitive reasoning needed to complete a self-report measure (Stuijzand & Dodd, 2017). The PRCH is, therefore, the first measure ever created to assess hope in young children and represents a viable method for understanding hope developmental processes and individual differences in hope. Second, the PRCH utilizes parent-report methodology with well-established psychometric support to specifically assess the experiences of young children (Pless & Pless, 1995). This makes it likely that the PRCH will be a reliable and valid measure and suggests that the PRCH could become an option to assess hope among young children across clinical and research settings. Finally, the CHS and other self-report measures are highly focused on “cognitive” type items, which are difficult to assess in young children due to the personal and “hidden” nature of these types of questions (Stuijzand & Dodd, 2017). The PRCH is adapted, therefore, to more specifically examine hypothesized behavioral correlates of hope in young children. Parents and caregivers may have an easier time reporting on these behaviors, which are “visible” and more easily quantified than the cognitions of young children (Pless & Pless, 1995).

Section 1.7 – Summary and Rationale for the Present Study

The proposed project investigated the reliability and validity of a new parent-report measure of hope in early childhood, titled the Parent Report of Child Hope (PRCH), in order to deepen current understanding of individual differences in hopefulness development among young children and to provide an understanding of the developmental and contextual factors that influence hope development in childhood. The approach to hopefulness measurement represented by the PRCH is a potentially feasible method for examining hopeful cognitions in young children. Parent report measures are well-known, well-validated assessments of the behavioral, social, and emotional development in young children who may not have the verbal skills to articulate their experiences more directly (Stuijzand & Dodd, 2017). Given that hope is hypothesized to develop in early childhood, it was expected that the PRCH would provide a reliable and valid method of measurement of hopeful cognitions in young children (Snyder, 2000).

It is also crucial to consider factors that may predict individual differences in levels of hope in order to obtain a clearer picture of hope development and how to foster hope among young children. The current project examined whether factors known to be associated with hope in adolescents and adults, as well as constructs theorized to influence hope in young children, predicted levels of hope. Intraindividual factors such as verbal and intellectual ability, theory of mind, and mental health symptoms all have research support as factors that are strongly related to hope in older children and adolescents (Day, Hanson, Maltby, Proctor, & Wood, 2010; Dixson, 2017; Snyder et al., 1997). In addition, family-level factors such as parent-child relationship quality and parent mental health symptoms

have also been hypothesized as predictors of higher levels of hope in children (Snyder, 2000). As such, an additional aim of the study was to examine predictors of individual differences in hope in young children in order to gain insight into the processes that influence hope development. Examining the following specific aims and goals represents an important step for the current researcher as she commences a research program devoted to detecting, understanding, and developing interventions for hopefulness in young children.

Section 1.8 – Specific Aims of the Present Study

Aim 1: Provide evidence of the construct validity of the Parent Report of Child Hope (PRCH) as an assessment of hope in young children.

Hypothesis 1.1.

Scoring of the PRCH assessment will be sufficiently variable to capture an adequate range of individual differences in hope among young children.

Hypothesis 1.2.

The PRCH will demonstrate good construct validity with a two-factor structure. The factors identified in the PRCH will represent the two theorized components of hope (i.e., agency and pathways thinking; Snyder, 2000).

Aim 2: Provide evidence of the reliability and criterion-related validity of the Parent Report of Child Hope (PRCH) as an assessment of hope in young children.

Hypothesis 2.1.

All items on the PRCH will demonstrate good to excellent internal consistency.

Subscales on the PRCH, which are hypothesized to represent pathways and agency thinking (see hypothesis 1.2), will demonstrate good to excellent internal consistency.

Hypothesis 2.2.

Scores on the PRCH will moderately and positively correlate with positive child behaviors theorized to be related to hope, including school readiness, theory of mind development, and parent-child closeness, thereby demonstrating good convergent validity with positive factors.

Hypothesis 2.3.

Scores on the PRCH will demonstrate good convergent validity with negative factors; they will negatively correlate with factors theorized to be inversely related to hope: child behavioral symptoms, child emotional symptoms, and parent-child conflict.

Hypothesis 2.4.

Scores on the PRCH will more strongly correlate with positive child outcomes (school readiness, theory of mind development, and parent-child closeness) and negative outcomes (child behavior problems, child emotional problems, parent-child conflict) than the CHS, demonstrating better convergent validity than the adapted version of the CHS.

Aim 3: To understand whether factors hypothesized to either contribute to or undermine hope development are predictors of hope, as well as agency and pathways thinking

individually, in young children in order to provide a foundational understanding of hope development.

Hypothesis 3.1.

Higher levels of positive intraindividual and family-level factors, including school readiness, social understanding, and parent-child closeness will predict greater hope in young children.

Hypothesis 3.2.

Higher levels of positive intraindividual and family-level factors, including school readiness, social understanding, and parent-child closeness will predict greater agency and pathways thinking in young children.

Hypothesis 3.3.

Higher levels of problematic factors including behavior problems, parent-child conflict, child emotional difficulties, and parental mental health concerns will predict lower levels of hope in young children.

Hypothesis 3.4.

Higher levels of problematic factors including behavior problems, parent-child conflict, child emotional difficulties, and parental mental health concerns will predict lower levels of both agency and pathways thinking in young children.

Hypothesis 3.5.

Higher hope scores on the PRCH will predict more positive child behaviors, including better ego resilience and more prosocial behaviors. These results will

hold even while controlling for CHS scores, which would support the incremental validity of the PRCH.

CHAPTER 2: METHOD

Section 2.1 – Participants

Parents from diverse socioeconomic backgrounds were recruited online in June, 2020. Inclusion criteria were children who were 5 or 6 years old, as differences in the developmental trajectory of hope are likely to be clearly detectable during this age range (Snyder, 2000). There were no exclusion criteria; all caregivers of children who met inclusion criteria were eligible to participate in the study. Nine-hundred and eighty primary caregivers were screened to determine whether their child met inclusion criteria. Of those, 298 indicated that they met inclusion criteria and were sent survey measures. However, despite this attempt to ensure data quality, 35 of these parents indicated on the follow up surveys that they had completed the surveys about children who were either older or younger than the identified child. Data from these parents were discarded and were not used in analyses.

Overall, the final sample was comprised of data from 263 caregivers of children between the ages of 60 and 82 months. Of these, 84.8% were parents of children between 60 and 71 months. Descriptive statistics are presented in Table 1. Slightly over half (50.60%) of the caregivers were mothers, with 46.40% of their children identified as female. The majority (97.00%) of caregivers were biological parents of their children, and the majority (80.50%) identified their race or ethnicity as White/Caucasian.

Section 2.2 – Measures

Parent Report of Child Hope.

The PRCH is a 12-item parent report that was developed to assess parent report of hope in young children (see Appendix A for the full measure). Parents were asked to read a set of questions and indicate their agreement with each statement on a 4-point Likert scale ranging from 1 (“Not at all true”) to 4 (“Always True”). This scale was chosen because it allows for adequate variability in survey responses while omitting a midpoint. Midpoint omission has been found to be useful for content that potentially carries a degree of social desirability and creates a more “balanced” interpretation of results (Garland, 1991). Specifically, when a midpoint is included on a Likert scale, many parents are likely to rate their children higher than they otherwise would in order to appear to be “good” or skillful parents (Peters & Fox, 1993; Worchester & Burns, 1975). Hope is theorized to be connected to parenting, and as such scale ratings have the potential to be significantly influenced by such bias (Snyder et al., 1997). Thus, it was theorized that parents rating their children on hope may engage in greater positive impression management (Snyder, 2002). In order to mitigate the chances of social desirability affecting results, the four-point Likert scale without a midpoint was used.

Mirroring the iterative process used to design the CHS, 20 items theorized to measure components of hope (i.e., agency and pathways thinking) were generated for the PRCH from a coding scheme developed by the author for a laboratory task measuring hope in early childhood. Item wording was confirmed after an appropriate literature review (Snyder et al., 1999). Items were designed to conform to Mishel’s (1998) criteria for

construct operationalization and item generation. Mishel states that items be observable indicators of specific variables derived from strong theory and that items on each dimension should be homogenous representations of the latent variable they are intended to measure. Thus, items for the PRCH were operationalized as correlated behavioral representations of hope cognitions that were both developmentally appropriate and likely to be recognized by parents of young children. Items that did not meet these criteria were thrown out. The final number of items for the full scale was 12, with each hypothesized subscale (i.e., pathways and agency thinking) represented by six items.

The final number of items generated was chosen for two reasons. First, twelve was the final number of items generated in the initial validation phase of the CHS; this number was selected to allow for an even number of items on each subscale, among other reasons (Snyder et al., 1999). Second, 12 items represented the most parsimonious measurement of the construct and allowed for maximum practical utility of the measure as a brief assessment of hope in early childhood.

All 12 responses on the PRCH are summed to create a total score; none of the items required reverse coding. Higher scores indicate greater presence of hopeful behaviors and cognitions. Total scores are meant to capture overall degree of hope for young children (Snyder, 2002). The PRCH was also designed to contain subscales assessing specific domains of hope, namely agency and pathways thinking (Snyder, 2000). The six items on the Pathways subscale were intended to capture the child's ability to make connections between cause-and-effect events as well as their ability to envision multiple, creative solutions to problems. The six items on the Agency subscale were meant to assess a child's

frequency of engagement in positive, self-referential talk related to goal achievement as well as the degree to which the child defines their role in creating outcomes, thereby capturing their ability to see themselves as agents of change. Each individual subscale score was a sum of the items belonging to that subscale.

Strengths and Difficulties Questionnaire (SDQ; Palmieri & Smith, 2007).

The Strengths and Difficulties Questionnaire is a 25-item behavioral screener examining emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behavior in children. It has three forms depending on child age and can be completed by either parents or teachers; each item represents child characteristics and is rated on a 3-point Likert scale with options ranging from 0 (“Not True”) to 2 (“Certainly True.”). The SDQ has been well validated and has shown good internal consistency in previous research ($\alpha = .70$); however, the alpha of the total scale for this study was low ($\alpha = .62$).

The present study used the Emotional Symptoms, Conduct Problems, Hyperactivity/Inattention, and Prosocial Behaviors subscales on the SDQ. The Emotional Symptoms subscale included 5 items such as “Many worries or often seems worried.” The Emotional Symptoms subscale demonstrated good internal consistency ($\alpha = .71$) in the current study. The Conduct Problems subscale consisted of 5 items such as “Often loses temper.” The Conduct Problems subscale demonstrated poor internal consistency ($\alpha = .63$) in the present study. The Hyperactivity/Inattention subscale contained 5 items, including “Constantly fidgeting or squirming.” The Hyperactivity/Inattention subscale demonstrated poor internal consistency in the present study ($\alpha = .63$). Finally, the Prosocial Behaviors

subscale was made up of 5 items such as “Shares readily with other children, for example – toys, treats, pencils.” The Prosocial Behaviors subscale demonstrated good internal consistency in the present study ($\alpha = .70$).

Adapted Children’s Hope Scale (CHS, Snyder et al., 1997).

In order to compare the utility PRCH to that of a scale that more directly assesses children’s hopeful cognitions, the original Children’s Hope Scale was adapted into a parent report form. The original CHS is a 6-item questionnaire designed to assess the degree of pathways and agency thinking in children 8 years and older. Hope statements are rated on a 6-point scale ranging from “None of the time” to “All the time.” The version used in the proposed study was altered to reflect a parent-report of child hope among younger children, with parents evaluating the degree to which their child experiences each hope component (Appendix C). Sample items include: “My child thinks he/she is doing pretty well” and “When my child has a problem, he/she can come up with lots of ways to solve it.” The original CHS has been shown to have high test-retest reliability and good internal consistency ($\alpha = .82$). The alpha for the version used in the current study was also good ($\alpha = .83$).

The Children’s Social Understanding Scale (CSUS; Tahiroglu et al., 2014).

The CSUS is a 42-item parent-report inventory designed to assess social cognitive abilities in children ages 2 to 13-years-old. Parents were asked to rate each item along a 4-point continuum with anchors ranging from “Definitely Untrue” to “Definitely True.” The CSUS has been shown to have good test-retest reliability and excellent internal consistency ($\alpha = .94$). The alpha for the total scale in the present sample was very good ($\alpha = .89$).

Child-Parent Relationship Scale (CPRS; Pianta, 1992).

The CPRS is a 30-item inventory designed to assess parents' attitudes towards parenting and their children. Subscales include Conflict, Positive Aspects of the Relationship (Closeness), and Dependence; only Conflict and Closeness were used in the present study. Caregivers were asked to rate each item on a 5-point Likert scale ranging from "Definitely Does Not Apply" to "Definitely Applies." Items were then averaged to create total scores for each subscale. The CPRS subscales have been shown to have good internal consistency ($\alpha = .81$; Perdue, Manzeske, & Estell; 2009). The internal consistency for the Parent-Child Conflict subscale in the current study was very good ($\alpha = .89$). The internal consistency for the Parent-Child Closeness subscale was also very good ($\alpha = .82$).

Early Childhood Longitudinal Study-Birth Cohort Parent Interview (ECLS-B Parent Interview; Najarian, Snow, Lennon, Kinsey, & Mulligan, 2010).

The ECLS-B parent interview was a series of questions related to child development administered as part of a longitudinal study of early childhood. Two items assessing school readiness from the Kindergarten 2006 cohort survey were selected for use in the present study. Caregivers were asked to answer either "yes" or "no" to the questions, "Is your child able to read storybooks on his/her own?" and "Does your child ever look at a book with pictures and pretend to read?" Item responses were used to create a dichotomous indicator, with a "yes" on either item scored as a 1 and a "no" on both items scored as a zero.

Ego Resilience (Block & Block, 1980).

An adapted version of Block and Block's Q-Sort task was used to assess children's flexibility, adaptability, and overall resilience. The adapted Ego Resilience inventory contained 11-items and asked caregivers to rate each item on a 5-point Likert scale ranging from "Definitely Does Not Apply" to "Definitely Applies." Items were then averaged to create a total score for Ego Resilience. Sample items include, "Can bounce back or recover after a stressful or bad experience" and "Freezes up when things are stressful, or else keeps doing the same thing over and over again (reverse scored)." The Ego Resilience measure had very good internal consistency in the present study ($\alpha = .74$).

Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977).

The CES-D is a 20-item measure that asked caregivers to rate their depressive symptoms. Items were rated on a 4-point Likert scale that ranged from 0 ("Rarely or None of the Time") to 3 ("Most or All of the Time"). The CES-D has been shown to have good internal consistency ($\alpha = .82$; Lewinsohn, Seeley, Roberts, & Allen, 1997). The internal consistency for the current study was very good ($\alpha = .89$).

Coronavirus Impact Scale (Stoddard & Kaufmann, 2020).

The Coronavirus Impact Scale was included in the present study to account for possible impact of COVID-19 on data collection and parent ratings. The scale contains 11 items that asked caregivers to report on the impact of COVID-19 on various spheres of life, including routines, food and medical care access, and social support. The scale also asked caregivers to rate the stress level within the family as well as whether family members were actually diagnosed with Coronavirus. While item anchors were specific to each domain

measured, all items were scored on a Likert scale from 0 to 3, with 0 representing “No Change” and 3 representing severe changes in each sphere. The scale was new enough that its internal consistency has not been examined in the literature; however, the internal consistency for the summed score in the current study was good ($\alpha = .76$).

Demographics.

A basic demographics questionnaire asked parents about their age, gender, and relationship to their child. Parents were also asked to input the age of their child as well as their child’s gender, racial identity, and the number of individuals who live in the home.

Section 2.3 – Procedure

Caregivers were recruited for data collection via Prolific, an online recruitment site dedicated to finding participants who will provide high quality data for researchers in the social sciences. Participants were first asked to fill out a screening measure asking if they were a parent and if they had a child in the appropriate age range for the study. Parents who answered affirmatively were then sent a second survey with all study measures. Surveys were presented such that the PRCH and CHS were the first to be completed in case of test fatigue. Caregivers were compensated for their time with an electronic payment at a rate of \$6.72 per hour. Payment was made through Prolific. The average amount of time it took participants to complete the entire set of measures was 23.20 minutes.

CHAPTER 3: DATA ANALYTIC PLAN

As an initial data preparation step, the amount of missing data for each scale and each item was assessed. Values for missing data were deleted using listwise deletion where appropriate. Total sum or average scores were computed for all scales used to operationalize child hope, child behavior problems, social understanding, the child-parent relationship, school readiness, ego resilience, parent depressive symptoms, and the impact of COVID-19 on the family. Descriptive statistics were used to summarize distributions of scores on each of these scales. The following specific aims were then examined.

Aim 1: The first goal of the present study was to establish the validity of the PRCH as a measure of hope in young children. Hypothesis 1.1 theorized that the PRCH would sufficiently capture individual differences in parent reports of child hope. Descriptive statistics were examined, and the distribution of scores on the PRCH was determined in order to assess the degree to which the scale adequately supported this hypothesis.

Hypothesis 1.2 focused on the construct validity of the PRCH. Construct validity is the degree to which a scale measures what it is designed to measure (Nunnally & Bernstein, 1994). According to hope theory literature, the PRCH should follow the two-factor structure outlined in the development of the CHS; that is, the measure should measure both agency and pathways thinking (Snyder et al., 1999). This definition represented a challenge, however, given that the PRCH was intended to examine hope in early childhood and that there have been no studies to date that have investigated the degree to which hope in early childhood may be a unique construct. Indeed, there may be hope components that are unique to young children that are not adequately captured by a two-

factor model – it may be that more differentiated factors eventually consolidate into the two-factor structure seen in later childhood and adulthood. Thus, because this is the first measure ever designed to assess hope in early childhood, the author decided that it would be advantageous to allow for the factor structure to go undefined. Thus, Exploratory Factor Analysis (EFA) was chosen over Confirmatory Factor Analysis (CFA) in order to explore the underlying factor structure without the expectation of only two factors. Additionally, EFA is more flexible in allowing for the iterative process of scale development (Thompson, 2004). As a secondary goal of the present study was to create a shorter and more refined measure if necessary, it was determined that EFA would be the most appropriate analysis to determine the factor structure of the PRCH.

Principal Components Analysis was selected for the extraction method for several reasons. First, all items on the PRCH were measured at a continuous (or ordinal) level. Second, the sample size was large enough to justify the use of PCA ($n = 263$). Finally, PCA is a well-known, well-validated method for discovering relationships between items, making it a suitable method for accomplishing the goals of an EFA (Wold, Esbensen, & Geladi, 1987). Because pathways and agency thinking are hypothesized to be highly correlated with each other, it was determined that an oblique rotation that allows the factors to correlate would fit the factor structure more than traditional, orthogonal rotations such as Varimax that require factor independence (Thompson, 2004). Thus, an EFA with a direct oblimin rotation was performed using SPSS version 26. Factor structure was determined using several criteria outlined in Thompson (2004). First, the scree plot was examined to determine whether the amount of variance accounted for by each factor was compelling

enough to accept that factor into the final structure. Only factors with eigenvalues above 1.0 were included. Second, the rotated factor structure was inspected to determine which items loaded on which factors, as well as how strongly those items loaded onto each factor. Final factor structure was determined through deletion of items with extremely low factor loadings (generally around .40 or less). Another EFA was then run to confirm factor structure.

Hypothesis 1.2 also maintained that the final factor structure of the PRCH would represent the two theorized components of hope, agency and pathways. While the author hypothesized based on Snyder's hope theory assertions that only two hope components would be seen in early childhood, it was also possible that the factor structure of the PRCH would not conform to these two factors, as hope in early childhood is not well understood by empirical research. The lack of available research leaves room for the possibility that hope in early childhood is derived from distinct or unique components that eventually consolidate into agency and pathways thinking. Thus, an EFA was selected to allow for the possibility that the PRCH may include a different subset of factors than those proposed by hope theory. After the final factor structure was determined, items were written out again and grouped according to the factor onto which they were most strongly loaded. Items were then qualitatively examined to determine if they conceptually aligned with agency and pathways thinking.

Aim 2: The second goal of the present study was to provide evidence for the reliability, convergent validity, and divergent validity of the PRCH. Hypothesis 2.1 stated that the full scale and subscales of the PRCH would demonstrate good to excellent

reliability. Coefficient alphas were examined in order to establish the internal consistency of the PRCH. Alphas of .70 or were used as the criteria for good internal consistency, with alphas of .80 or above labeled as “very good” and alphas of .90 or above labeled as “excellent” (Nunally & Bernstein, 1978).

Hypotheses 2.2 and 2.3 stated that the PRCH would positively correlate with positive outcomes and negatively correlate with negative outcomes suggested by the literature (Snyder, 2000). This hypothesis was investigated by examining the bivariate correlations between the PRCH and other variables, including school readiness, child social understanding, parent-child closeness, parent-child conflict, parent depressive symptoms, and child emotional symptoms.

Finally, hypothesis 2.4, which stated that the PRCH would be more strongly correlated to positive and negative outcomes than the parent-report version of the CHS, was examined using bivariate correlations. Magnitudes of correlations between the PRCH and hypothesized positive behavioral correlates (i.e., school readiness, child social understanding, ego resilience, prosocial behaviors, and parent-child relationships) were compared to the magnitudes of the CHS in order to investigate whether the PRCH demonstrated better convergent validity than an adapted version of the CHS. Z-tests were performed to determine whether the correlations were significantly different from each other (Lee & Preacher, 2013).

Aim 3: The final goal of the present study was to use the PRCH to explore whether hypothesized developmental influences on hope in early childhood were actually predictors of hope (Snyder et al. 1997; Snyder, 2000). These included positive intraindividual and

family-level predictors and outcomes, such as school readiness, child social understanding (i.e., theory of mind), and parent-child closeness, which were expected to predict greater hope scores on the PRCH. Multiple regression was used to evaluate direct associations between these variables and PRCH scores representing hope in young children. Multiple regressions were also used to investigate hypotheses 3.3 and 3.4, which stated that higher levels of behavior problems and parental mental health concerns would predict lower levels of hope (along with agency and pathways thinking) in young children. Hypothesis 3.5 examined whether PRCH hope scores would better predict ego resilience and prosocial behaviors in young children over and above hope scores on the CHS, thereby demonstrating incremental validity over the CHS (Brackett & Mayer, 2003). Two hierarchical multiple regressions were used to determine whether adding PRCH scores improved prediction of ego resilience and prosocial behaviors over CHS scores alone. Regression weights were examined for significance. Beta weights were examined in order to better understand which predictors were “best,” i.e., had the greatest total effects on the outcome variable.

CHAPTER 4: RESULTS

Missingness

Data missingness was evaluated for each of the primary study variables. For all study variables, missing data were minimal. Originally, there were a total of 293 possible data points with 2.73% missing overall. However, upon further examination of the age-related data as described above, 30 parents had answered the questionnaire for children who were older or younger than the age inclusion criteria. These parents had endorsed having a child in the correct age range but indicated that they did not fill out the surveys for this identified child. After data for these parents were deleted, data remained from 263 participants. Of these data points, there was a negligible amount of item-level missing data, ranging from 0.4% (an item on the SDQ) to 9.5% (an item on the CSUS). Several scales did not have any items with missing data. Little's Missing Completely at Random (MCAR) test was non-significant for most measures, suggesting that most data were MCAR. However, Little's MCAR test was significant for the CSUS, the SDQ, the CPRS, and the CES-D. These were the four longest measures participants completed, suggesting that test fatigue is the best explanation for the missingness of these data. No data were missing from the PRCH. Listwise deletion was used to account for missing data.

Scoring of the PRCH and Other Measures

Total scores on the PRCH were calculated using the same scoring procedures as C.R. Snyder's Children's Hope Scale (CHS; Snyder, 1997). Total sum scores were calculated for the scale, with higher scores indicating higher levels of parent-reported hope. No items were reversed scored. Sum scores for the PRCH were justified based on initial

investigation of the reliability of the overall scale with 12 items, which demonstrated good internal consistency ($\alpha = .84$). Additionally, there were no missing data on the PRCH, indicating that total scores used in these analyses were not artifacts of the number of responses provided by participants. When total PRCH scores were appropriate to test the hypotheses, sum scores were used to represent total scores.

The PRCH was also designed to contain subscales that examine different components of hope. As such, total scores on PRCH subscales were also calculated using sum scores. In the following analyses, subscale scores were calculated where appropriate using sum scores for the items that loaded onto each subscale. Scores on all other measures followed established scoring guidelines.

Descriptive Statistics

Table 2 presents means, standard deviations, and percentages for important study variables. Special attention was paid to the two measures of hope as it is the primary construct of interest in this study. Examination of histograms for the PRCH and the CHS revealed a unimodal, relatively normal distribution of the data for the two measures. The ranges for the CHS and the PRCH were comparable, supporting the assertion in hypothesis 1.1 that responses on the PRCH would be sufficiently variable to capture individual differences in hope. Neither responses on the PRCH or the CHS were significantly skewed. Mean hope scores on the PRCH were moderately high, indicating that parents tended to see their young children as relatively hopeful. Mean scores on the CHS were also moderately high, indicating a similar pattern of responses on the adapted CHS. There were no significant differences between males and females on PRCH scores; however,

significant differences were seen between Black/African American children ($M = 38.25$, $SD = 3.65$) and White/Caucasian children ($M = 33.11$, $SD = 5.06$), with Black/African American children rated as having higher hope by their parents than White/Caucasian children, $t(217) = 2.84$, $p = .005$.

Principal Components/Factor Analysis

An iterative, exploratory process was employed to establish the best factor structure and most parsimonious number of items on the PRCH. Principal Components Analysis (PCA) was conducted in order to examine the factor structure of the 12-item PRCH. PCA was selected as the extraction method for the reasons described in the Analytic Plan above. Examining the correlation matrix revealed that all variables had one or more correlation coefficients greater than 0.3. The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy indicated that the proportion of common variance among PRCH items was excellent (KMO = .843; Kaiser, 1974). Bartlett's test of sphericity was significant ($p < .0005$), which suggests that the data were factorizable.

Because the factors were hypothesized to be correlated with each other, it was determined that an oblique rotation would yield the most appropriate factor structure versus traditional, orthogonal rotations such as Varimax. Thus, a direct oblimin ($\delta = 0$) rotation was used. PCA identified three factors that had eigenvalues greater than one and which explained 37.22%, 12.03%, and 8.36% of the data, respectively. However, a visual examination of the scree plot (Figure 1) suggested that a two-factor structure would be most appropriate, as the inflection point appeared at the second factor. Additionally, the third eigenvalue was equal to 1.0, which is low and, taken together with the low percentage

of variance explained by the third factor, suggests that the third factor does not contribute much to the overall scale. Furthermore, several items had small factor loadings on the first two factors (Table 5). These included item 1 (“My child takes charge of solving his/her own problems”), item 4 (“When presented with an obstacle, my child will find ways to get around it”) and item 8 (“When the first answer doesn’t work, my child will try a different way”). These items were discarded. Given all of these limitations to a three-factor structure, a two-factor structure was found to be more appropriate. A factor analysis was run using PCA with a direct oblimin ($\delta = 0$) rotation and a fixed two-factor structure.

The new two-component solution explained 49.26% of the total variance and met all interpretability criteria for eigenvalues above one and visual inspection of the scree plot (Figure 2). Cross-loadings were expected due to the expectation that these factors would be highly correlated; primary cross-loadings were characterized as loadings above .50 on one factor versus another (Table 6). When the rotated component matrix was examined, all primary factor loadings were above 0.50 and each loaded primarily onto one factor. These results yielded substantial support for hypothesis 1.2.

Items in each factor generally converged as expected, with items 2, 5, 6, 9, and 10 loading on factor 1 and items 3, 7, 11, and 12 loading on factor 2 (Appendix B). When examined together, factor 1 appears to be capturing agency thinking and indeed retained most items that were intended to do so. All items that loaded onto the second factor were intended as items assessing pathways thinking, suggesting that the second factor is capturing pathways thinking. These results provided additional support for hypothesis 1.2.

The PRCH was revised to reflect the deletion of items one, four, and eight. All additional analyses used the revised 9-item version of the PRCH.

Correlations

Tables 2 and 3 presents bivariate correlations between study variables. The 9-item PRCH total scores were positively related to total scores on the CHS, demonstrating good convergent validity. However, the correlation between the PRCH and CHS was only moderately positive, suggesting that they are not the exact same measure and supporting the potential incremental validity of the 9-item PRCH. PRCH total scores were also positively related to total scores on the Child Social Understanding Scale, ego resilience, the Positive Aspects of the Relationship (Closeness) subscale of the CPRS, school readiness, and the Prosocial Behaviors Subscale of the SDQ, further supporting the assertion that the PRCH will show good convergent validity with related constructs. These results together provide support for hypothesis 2.2. PRCH total scores were negatively related to total scores on the Conflict subscale of the CPRS and to emotional symptoms on the SDQ, suggesting good convergent validity with negative factors (hypothesis 2.3). Surprisingly, child behavioral symptoms were uncorrelated with child hope scores on the PRCH. Child age, child race, child gender, parent gender, and COVID-19 disturbance were unrelated to PRCH hope scores.

In order to examine hypothesis 2.4, the magnitude of the correlations between the PRCH and school readiness, ego resilience, social understanding, and parent-child closeness was compared to the magnitude of the correlations between these constructs and scores on the adapted CHS. The magnitude of the correlation between the PRCH and all

constructs was similar to that of the CHS and all constructs; no significant differences were found. Specifically, the PRCH correlations were statistically equivalent to CHS correlations for ego resilience ($z = -.03$, $p = .78$ (two-tailed)), social understanding ($z = -.56$, $p = .57$ (two-tailed)), parent-child closeness ($z = -1.46$, $p = .16$ (two-tailed)), emotional symptoms ($z = .64$, $p = .52$ (two-tailed)), prosocial behaviors ($z = -.19$, $p = .85$ (two-tailed)), and parent-child conflict ($z = .12$, $p = .91$ (two-tailed)). Surprisingly, while scores on the CHS were related to parental depressive symptoms, scores on the PRCH were not. The magnitudes of the correlations, however, were not significantly different from each other ($z = .97$, $p = .33$ (two-tailed)). These results provide partial support for hypothesis 2.4 and suggests the PRCH demonstrates comparable convergent validity as a simply adapted version of the CHS.

Internal Consistency of PRCH Items

The original 12-item PRCH showed very good internal consistency using Cronbach's alpha ($\alpha = .84$); the revised 9-item version reflected little change in the internal consistency of the total scale ($\alpha = .81$). Hypothesis 2.1 was affirmed by these results. Internal consistency for each of the subscales was then examined. The Agency subscale (items 2, 5, 6, 9, 10) showed good internal consistency ($\alpha = .78$). The Pathways subscale (items 3, 7, 11, 12) also showed good internal consistency ($\alpha = .76$). This suggests that the items in both of the subscales and the full-scale measure were measuring different but related constructs ($r = .44$, $p < .001$), supporting the further assertions of hypothesis 2.1. No items were deleted at this stage in scale development, as all contributed well to the internal consistency of the scale.

Predictors of Hope Scores on the PRCH

Multiple regression was used to evaluate direct associations between scores on the PRCH and hypothesized positive predictors of child hope (hypothesis 3.1). Data met assumptions for independence of errors, as determined by a Durbin-Watson statistic of 1.932. Data also met assumptions for linearity and homoscedasticity as assessed by a visual review of a plot of studentized residuals versus unstandardized predicted values. Data also showed a lack of multicollinearity as evidenced by no tolerance values less than 0.10.

In the first analysis, school readiness, child social understanding, and parent-child closeness scores were entered as predictors of child hope as measured by the 9-item PRCH total score. Child grade, race, and age were not included as predictors in all analyses as they were uncorrelated with total PRCH scores. Consistent with hypothesis 3.1, better child social understanding, closer child-parent relationships, and better school readiness were associated with higher hope on the PRCH (Table 7).

To further explore whether these relationships held for both subcomponents of hope (i.e., agency and pathways thinking), two multiple regressions were run with school readiness, child social understanding, and parent-child closeness entered as predictors of both agency and pathways subscales on the 9-item PRCH (Table 8). Most of these relationships held for both subcomponents, suggesting partial support for hypothesis 3.2. However, contrary to expectations, closeness in the parenting relationship was not a significant predictor of pathways thinking. This suggests that close, supportive parents may not have as large an effect on pathways thinking as they do on their children's belief in their own abilities to achieve their goals.

Another multiple regression was used to evaluate direct associations between emotional symptoms as measured by the SDQ, conflict in the parent-child relationship, parent depressive symptoms, and scores on the 9-item PRCH (Table 9). Child conduct behaviors and hyperactivity were not included in the analysis as they were uncorrelated with the outcome measure. Data met assumptions for independence of errors, as determined by a Durbin-Watson statistic of 2.06. Data also met assumptions for linearity and homoscedasticity as assessed by a visual review of a plot of studentized residuals versus unstandardized predicted values. Data also showed a lack of multicollinearity as evidenced by no tolerance values less than 0.10. Partially consistent with hypothesis 3.3, parent-child conflict predicted lower child hope. However, contrary to expectations, parent depressive symptoms and child emotional symptoms did not significantly predict child hope scores.

To further explore whether these relationships held for both subcomponents of hope (i.e., agency and pathways thinking), two multiple regressions were run with emotional symptoms as measured by the SDQ, conflict in the parent-child relationship, and parent depressive symptoms entered as predictors of both agency and pathways subscales on the 9-item PRCH (Table 10). Emotional symptoms and parent-child conflict significantly and negatively predicted agency thinking. Pathways thinking was only negatively predicted by parent-child conflict. These results provide partial support for hypothesis 3.4.

Two multiple regressions were used to evaluate whether hope was a predictor of positive child behaviors, including prosocial behaviors and better ego resilience (Table 11). Consistent with hypothesis 3.5, hope scores on the 9-item PRCH predicted prosocial

behaviors and ego resilience, suggesting that hope influences the development of these behaviors in early childhood. Notably, PRCH scores remained a significant predictor of these variables in hierarchical multiple regressions controlling for scores on the CHS (Table 12). The addition of PRCH scores to the model led to a statistically significant increase of R^2 of .04 for both prosocial behaviors and ego resilience. These results demonstrate the incremental validity of the PRCH over and above the CHS.

CHAPTER 5 DISCUSSION

Hope is an often-undervalued construct that has a tremendous role in the development of resilience in children (Snyder, 2000). While current instruments exist that allow researchers and clinicians to assess hope in children as young as eight, these measures are inadequate for assessment of younger children. This lack of assessment tools for young children represents a particularly extreme gap in our understanding of hope and its development. Hope is hypothesized to exist in children as young as 2 years old, and its origins are theorized to be found in early childhood experiences with parents and the home environment (Snyder, 2000). Properly valid and reliable instruments are required, therefore, in order to confirm whether hope theory's assertions regarding the origins of hope are accurate. Additionally, valid and reliable assessments of hope in young children represent a unique opportunity for researchers to understand the factors that influence hope development and to better quantify the role hope plays in the development of positive, resilient functioning later in life. There is also a need for clinically valid instruments to identify children at risk of falling into a low hope category throughout school, which could lead to difficulties with academic performance, social adjustment, and ego resilience (Snyder et al., 2000).

The goal of the present study was to fill this gap by providing evidence for the validity and reliability of a novel measure of early childhood hope titled "Parent Report of Child Hope." The measure was designed to capture hypothesized behavioral correlates of hope – namely, agency and pathways thinking - in children younger than 8 years old. Children high in agency cognitions are capable of imagining themselves achieving their

future goals and creating positive future change in their lives (Snyder, 2000). Children high in pathways thinking see themselves as capable of solving problems and eliminating obstacles towards future goal achievement. Taken together, these two components create a higher-order hope construct. However, it is important to note that the present study represents the first known quantitative examination of these components of hope theory in children younger than 8 years old. While pathways and agency thinking are theorized to exist in young children, there has been no evidence prior to the current study to confirm that they are fully formed cognitive characteristics of young children's hope. Thus, a secondary purpose of the current study was to examine the nature of hope in early childhood and whether the components of hope are comparable to or differ from existing patterns of hope in later childhood and adulthood.

Aim 1: Validity of the PRCH

A primary goal in establishing the validity of the PRCH as a measure of early childhood hope was to determine whether it captured adequate variability in parent responses such that the measure could “pick up” on individual differences in hope development. Parent responses fell along a relatively normal distribution with adequate minima and maxima, which suggests that the PRCH does indeed capture variability in responses. As a further standard of comparison, the range of the PRCH was examined relative to the range on the adapted form of the Child Hope Scale. Ranges were comparable and indicated that they were capturing similar variability in responses. Thus, it appears that the PRCH succeeded in capturing individual differences in hope for young children. These results also provide some support for the idea that individual differences in childhood hope

may be seen in early childhood and suggest that Snyder's (2000) assertions about the developmental origins of hope may be accurate. Specifically, if there are individual differences in hope that can be detected in 5 and 6-year-old children, it suggests that the cognitive capacity for hope may have emerged far earlier in development than the ages of the participants in this study. Thus, the current findings lend support to the assertions in hope theory that hope may be detected in in young children and provide an impetus for future studies to use the PRCH to examine hope in younger children (Snyder, 2000).

Exploratory Factor Analysis was used for dual purposes in determining the validity of the PRCH. First, the analysis resulted in a shorter, more refined measure than the original twelve items. Items were deleted from the final analysis if they had extremely small factor loadings on the final factor structure (Thompson, 2004). The application of these standards resulted in the deletion of item 1 ("My child takes charge of solving his/her own problems"), item 4 ("When presented with an obstacle, my child will find ways to get around it") and item 8 ("When the first answer doesn't work, my child will try a different way"). While the first item was written to be an agency item and the last two were intended as pathways items, it appears that these items captured indicators of functioning that were more closely related to the child's behavioral outcomes, which may only be partially related to hope. Indeed, these questions more than any others were designed to capture purely behavioral correlates of hope in young children. They may also have been interpreted differently by parents than other types of questions. Overall, it appears that they did not adequately contribute to the scale and were dropped from subsequent analyses.

The second goal of this aim was to determine the construct validity of the PRCH. This goal represented a challenge because construct validity, by definition, needs to have already been firmly established in the relevant literature (Nunnally & Bernstein, 1994). Hope, however, has never been studied in early childhood, and little is known about the developmental processes that underlie hope formation across the lifespan. While hope in early childhood is hypothesized to be similar in cognitive structure to hope later in life, there is no empirical evidence to confirm these assertions. Exploring the construct validity of hope on the PRCH, therefore, confirmed the validity of the measure itself, established a standard by which construct validity could be examined in the future, and determined the degree to which hope in early childhood mirrors hope later in life. Additionally, determining factor structure through EFA is, on some level, a subjective process – the weight given to each indicator of an appropriate factor structure is often determined by the researcher and the construct being examined (Thompson, 2004). Thus, while the final factor structure included only two factors, it is possible that other researchers in future studies may find a three-factor solution to be more acceptable. For this reason, explanations related to both the final two-factor structure of the PRCH and a possible three-factor structure are discussed below.

The final two-factor structure of the PRCH was eventually accepted on the basis of the scree plot, eigenvalues, and item loadings. The two-factor structure contained items that aligned well with Snyder's two theorized hope components (i.e., agency and pathways thinking) as intended – all items that were designed to capture agency thinking did indeed

do so, while the majority of items designed to capture pathways thinking also did so (Snyder, 2000).

The two-factor structure of the PRCH also provides evidence for the construct validity of the PRCH. The PRCH contains many items that capture agency and pathways thinking and does, therefore, appear to measure what it is intended to measure. The PRCH does, therefore, appear to have significant construct validity and is a useful and valid measure of hope, agency thinking, and pathways thinking in early childhood. Furthermore, the two-factor structure of the PRCH supports the assertion that a two-component conceptualization of hope applies to early childhood hope. Indeed, as these components have been validated for older children, adolescents, and adults in many other studies, it was reasonable to expect to observe the same components in younger children (Snyder et al., 1997). Thus, these results demonstrate that it is possible to detect hope in early childhood and that such hope, at least by the age of the children assessed in the current study, has differentiated into detectable and distinct pathways and agency components.

While the two-factor structure was accepted as the final model, it is useful to theorize about the initial results of the Exploratory Factor Analysis, which revealed a three-factor structure for the PRCH whereby items 1, 4, and 8 weakly converged onto a third factor. Though it was ultimately rejected on the basis of the scree plot, eigenvalues, and item loadings, it is possible that this initial structure captured the vestiges of a new hope component that exists in toddlerhood. Both items 1 and 8 were worded to capture explicit behaviors thought to be related to agency and pathways thinking, and they conceptually emphasize the child's actions as evidence of these components. Perhaps the relation

between these actions and hope is stronger before the child enters school, where hope cognitions are mainly shaped by the behavioral influences of parents. Thus, while the two-factor structure for the PRCH seems to be the preferred structure for newly school-aged kids, further research is needed with a younger population in order to determine whether the factor structure holds for toddlers and preschool-aged children.

Aim 2: Reliability and Criterion-Related Validity of the PRCH

The reliability of the PRCH was examined using Cronbach's alpha to determine the internal consistency of the full scale and new subscale items. Results indicated very good internal consistency for the full scale and acceptable internal consistency for each individual subscale. The internal consistency of the scale implies that the scale is useful for research purposes, with the full scale's internal reliability being acceptable for clinical uses as well (Nunnally & Bernstein, 1994). Overall, the results demonstrate that the scale is a reliable measure and will be useful as a measurement of early childhood hope moving forward.

Convergent validity of the PRCH was determined via bivariate correlations to hypothesized positive and negative predictors and outcomes. The PRCH showed strong convergent validity. Additionally, convergent validity was examined via comparison to an adapted parent-report version of the Child Hope Scale (CHS), as the PRCH should behave in similar ways as the CHS if it is indeed measuring hope (Snyder et al., 1997). The PRCH and CHS were both positively related to hypothesized positive outcome measures (e.g., child social understanding, ego resilience, parent-child closeness, etc.), with the PRCH demonstrating a slightly weaker relationship for some these outcomes than the relationship

between the CHS and the same measures; however, overall, the differences between the PRCH and CHS were negligible and none were significant, suggesting that the PRCH demonstrates good convergent validity that is comparable to a parent-report version of the CHS. The same patterns of associations were found when the PRCH and CHS were compared to negative outcomes (child emotional problems, conduct behaviors, and parent-child conflict), demonstrating that the PRCH has convergent validity for negative factors comparable to that of the adapted CHS. Overall, these results establish significant convergent validity for the PRCH.

Interestingly, the PRCH was unrelated to parent depressive symptoms, while the CHS did have a significant negative relationship to parent depressive symptoms. However, the magnitudes of the correlations did not significantly differ from each other. The difference in significance, then, might result from the behavioral nature of the PRCH relative to the “cognitive” nature of items on the CHS. Prior research has found that parents asked to report on child cognitive and emotional symptoms tend to lack concordance with the child’s own experiences (Herbers, Cutuli, Kolorova, Albu & Sparks, 2014). It is possible that reports on the CHS, then, were more highly influenced by parents’ own symptoms than reports on the PRCH. The behavioral nature of PRCH items, therefore, might provide an advantage over the CHS in limiting the influence of parent mental health.

Aim 3: Predictors of Hope in Early Childhood

The third aim of the current study was to better understand hope development in early childhood using the PRCH by examining both positive and negative predictors of hope scores. Results indicated that child social understanding, parent-child closeness, and

school readiness were positive predictors of overall hope on the PRCH. When these characteristics were examined as predictors of subscale scores, all relationships held for agency thinking. This suggests that agency thinking in early childhood is influenced by early experiences with parenting and social understanding (e.g., theory of mind). Contrary to expectations, however, parent-child closeness was not a significant predictor of pathways thinking. One possible explanation for this result is the nature of pathways thinking itself. While agency requires a belief in one's own abilities, which may be encouraged by parents who "cheerlead" their children and embolden their child's belief in themselves as agents of change, pathways is likely more related to trial and error throughout life that is independent of parent comfort and closeness. In other words, it is likely that agency thinking is more heavily influenced by the quality of parent-child relationship, whereas pathways thinking is more related to other day-to-day life experiences regardless of positive encouragement from parents.

The results of the present study also demonstrated that parent-child conflict uniquely and negatively predicted overall hope scores on the PRCH as well as scores for agency and pathways thinking. This result fits well with Snyder's (2000) theoretical predictions regarding the origin of hope in early childhood; namely, Snyder proposed that hope development is profoundly influenced by the parent child relationship. If parents and children are regularly in conflict by the time the child has reached age five, it is probable that the child will begin to see themselves less as agents of change in their own environments and more encumbered by the obstacles they face. Parents who are frequently in conflict with their child may also represent less stable attachment figures who create a

developmental context in which the child does not feel safe or empowered to explore the world around them and, by extension, accept the inherent risk in goal achievement.

Contrary to expectations, child emotional symptoms and parent depressive symptoms did not negatively predict child hope scores on the PRCH for either the overall scale or the pathways subscale. Parent depressive symptoms also did not predict agency scores. There are several potential explanations for this result. First, it is possible that child and parent emotional symptoms are simply poor predictors of hope in early childhood. While both constructs are related to child hope based on simple bivariate correlations (see Table 3), it is possible that neither is an important determiner of agency or pathways thinking for children at this developmental stage. However, this explanation is unlikely given both the theoretical connections of both constructs to hope development and the fact that each construct is correlated with at least one measure of hope (either the PRCH or the CHS). Second, it is possible that currently depressed parents were not depressed earlier in their child's development and, therefore, were able to establish a close relationship with their child that provides a buffer for the potentially negative effects of the parents' current depressive symptoms. This explanation would be consistent with former research, which has established that the effects of parental depression are mediated by the child's own cognitive symptoms (Stark, Schmidt, & Joiner Jr., 1996). It is also feasible to imagine that some depressed parents attempt to compensate for their symptoms by being more intentional about encouraging and "coaching" their children, thereby leading to more hopeful child cognitions. Finally, it is possible that the measures themselves (the CES-D and the SDQ) were poor predictors in general. As described above, the CES-D was not

correlated with PRCH total scores, suggesting that it would not make a good predictor of either agency or pathways thinking on the PRCH. The CES-D and the SDQ were also relatively long compared to other measures and were placed at the end of the study, which may have led to underreporting from parents completing the measures.

Finally, in order to better understand the place of hope in the development of young children, total hope scores on the PRCH were explored as predictors of ego resilience and prosocial behaviors. The PRCH emerged as a positive predictor of both constructs over and above the CHS. These results conform to expectations based on prior literature, which has established hope as an important predictor of prosocial behaviors and ego resilience in adolescence (Kim & Lee, 2012; Padilla-Walker, Hardy, & Christensen, 2011). These results also make theoretical sense, as it is conceivable that a belief in yourself as an agent of change (or, agency thinking) would lead to more positive, prosocial interactions with others and that a belief in your ability to overcome obstacles (i.e., pathways thinking) would influence your ability to adapt to and manage stressful circumstances (Snyder et al., 2000). Finally, the results suggest that the PRCH has good incremental validity, making it a particularly useful measure of hope in early childhood when compared to an adapted version of the CHS that asked parents to report on “unseen” child cognitive processes.

Limitations of the Current Study

The present study represents the best available research on hope in early childhood. There are several limitations with the current study, however, that are worth noting. First, the PRCH is designed to be a parent report measure. Parent reports have many strengths, including ease of administration and generally stable reporting on child behaviors and

attitudes. However, several researchers have questioned whether parents have enough awareness of their child's behaviors, feelings, and thoughts to accurately report on them (Finlay & Lyons, 2001). Several studies have indeed found a lack of concordance between parent report and child report on the same issues (Fisher, Mello, & Dykens, 2015; Herbers et al., 2014). The present study attempted to ameliorate this limitation by designing the PRCH as a behavioral measure of hope, with the objective of asking parents to report on behavioral correlates that are easier for parents to observe. Additionally, means and the distribution of scores for the present study did not suggest that parents were over-representing their children's hope-related behaviors. Nonetheless, it still must be acknowledged that parent bias and the other limitations associated with parent report could have played a role in the results that were obtained in the present study, especially those related to the part of the study that examined the developmental predictors and outcomes of hope.

Another limitation worth noting is the difficulty establishing validity for the PRCH. Because the construct itself remains fairly undefined in early childhood, the best method of investigating construct validity at the time of writing was to look for a factor structure similar to what was theorized by C.R. Snyder (2000) in the development of hope theory. Convergent validity was also established through comparisons of the PRCH to an untested, adapted form of the CHS, which is normally a self-report measure for older children. Thus, there is very little known about the ways in which hope manifests in early childhood, which made it difficult to say for certain whether the measure is capturing hope to its fullest expression for younger children. In other words, there may be more about the construct

that the current measure was not able to assess. That said, the current study did establish the PRCH as a valid and reliable measure of, at the least, agency and pathways thinking hope in childhood, which are known and well-validated components of hope. This makes the PRCH a useful measure for future scholarship investigating the developmental origins of hope.

A final limitation is the unimodal nature of data collection. All data were collected via parent report survey measures, which increases the risk of correlations between constructs being related to gathering data from a single reporter for each child. Additionally, the study was cross-sectional in nature, which limited the developmental conclusions that could be drawn from the data. Although the sample size was large enough for the study to be well-powered, results may have been influenced by the lack of multiple methodologies and multiple time points in data collection. While the original intent of the larger project was to investigate an observational, experimental measure of child hope, the COVID-19 pandemic placed significant limitations on laboratory research, as well as data collection from multiple informants such as teachers, that led to the development of the PRCH as a parent-report measure. Thus, the single informant, cross-sectional nature of data collection was unavoidable for the present study. However, it is important to note that, even with those limitations, the PRCH represents a significant advancement in our ability to detect and understand cognitive-behavioral components of hope in early childhood. It also represents a promising step forward in understanding the development of hope in future studies.

Suggestions for Future Research

The Parent Report of Child Hope currently represents the best method for obtaining insight into the developmental processes that underlie hope formation in early childhood. While it serves as a fundamental step forward in hope research, future research can and should build upon these foundations to explore hope in other ways that include multiple methodologies and multiple reporters. One suggestion for future research is to develop a teacher report form of the PRCH for use with preschool and kindergarten teachers. This would allow for multiple informants and strengthen our understanding of the ways in which a young child expresses hope in multiple contexts. Future studies should also expand the participant age range in order to confirm whether the PRCH is a valid and reliable measure for children younger than 5 years old.

One possible observational method for studying hope in young children was suggested by Snyder in his “Handbook of Hope” (Snyder, 2000). He stated that hope in young children is primarily seen in the language that they use to convey hope-related cognitions to those around them. From ages 3 to 6, children undergo a rapid expansion in their vocabulary syntax production and thus are better able than infants to communicate their pathways and agency thoughts, though they do not have the cognitive insight to do so explicitly. This suggests that any observational assessment of hope in young children should be rooted in the oral production of real-time pathways and agency thinking. Furthermore, Snyder suggests that the hope script learned in early childhood provides children with a “blueprint” by which they learn to overcome goal barriers and to determine the probability of success of achieving their goals. This suggests that hope scripts can be

seen in the stories children produce, as children's stories are "rich with potential insights for finding out how to reach one's goals" (Snyder, 2000, p. 33). While his insights were purely theoretical, they are related to similar concepts such as attachment scripts, in which individuals tell short, interpersonal stories using word prompts (Waters & Waters, 2006). Other types of story script tasks have also been used to assess varied developmental constructs, including theory of mind and creativity (Fernández, 2013; Hoffmann & Russ, 2012). Thus, a story-script task may represent one potential method of future observational hope measurement in early childhood.

It may also be beneficial for future research to revisit the question about the appropriate factor structure for the PRCH. While the present study made use of the traditional indicators of factor structure outlined in Thompson (2004), including eigenvalues and scree plots, more sophisticated analyses may reveal a three-factor structure to be more appropriate. Horn's (1965) parallel analysis, for example, uses the Monte Carlo Simulation Technique to compare estimated eigenvalues in artificial (simulated) and real datasets. While parallel analyses often lead to results similar to those of traditional analyses, it is possible such analyses may be better able to determine whether the third factor found and rejected in the above analyses is indeed a unique factor in the structure of the PRCH (Cokluk & Koçak, 2016). Thus, future studies should make use of these analyses in order to confirm the two-factor structure of the PRCH accepted in the current study.

Conclusions

The present study provides evidence for the reliability, validity, and utility of a novel measure of hope in early childhood, the Parent Report of Child Hope. The PRCH

was found to adequately capture individual differences in the hope development of young children and to be a valid assessment of both agency and pathways components of hope. The PRCH demonstrated good to very good reliability, and it was as highly related to important behavioral correlates as a parent report version of the current gold standard measure, the Children's Hope Scale (CHS; Snyder et al., 1997). Additionally, an initial exploration into the developmental origins of hope using the PRCH revealed the important role of the parent-child relationship in early childhood hope, confirming Snyder's (2000) suspicions about developmental influences on hope. Hope was also seen to play an important role in ego resilience and prosocial behaviors in young children.

The development of the PRCH has several practical implications for researchers, clinicians, and teachers. First, the PRCH is the only measure thus far that allows researchers to investigate hope in children under the age of eight. This allows for expanded scholarship on hope's developmental roots as well as a better understanding of the ways in which hope in early childhood emulates or contrasts with hope in later childhood, adolescence, and adulthood. Second, after future research confirms the clinical utility of the PRCH, clinicians and teachers would have an easy to use, reliable, and valid instrument for assessing an individual child's hope status. Early identification of children with less hope can prompt intervention, mitigating a child's risk for poor outcomes related to hope (Dixson & Worrell, 2016). Finally, the PRCH may act as a supplement to prevention and intervention curricula by which researchers, teachers, and clinicians can assess the effectiveness of their efforts.

Table 1*Parent and Child Demographics Variables (N=263)*

	Parent	Child
Mean age in Years (<i>SD</i>)	35.28 (7.35)	5.51 (0.36)
Gender		
Male	49%	53%
Female	51%	46%
Race/ethnicity		
White	80%	--
African American	3%	--
Asian/Pacific Islander	16%	--
Hispanic/Latino	0%	--
Other	0%	--
Relationship to Child		
Biological Mother	49%	--
Biological Father	48%	--
Stepmother	0.8%	--
Stepfather	0.8%	--
Foster/Adoptive Parent	1%	--
Other	0.4%	--
Child Grade (for 2020-2021 School Year)		
Preschool	--	19%
Kindergarten	--	42%
First Grade	--	34%
Other	--	5%

Table 2*Descriptive Statistics for Study Variables*

<i>Variable</i>	<i>N</i>	<i>M (SD)</i>	<i>Range</i>
Parent Report of Child Hope	263	33.48 (5.11)	19.00 to 48.00
Children's Hope Scale	262	23.60 (5.02)	8.00 to 36.00
Total Child Difficulties	263	25.78 (5.74)	16.00 to 27.33
Children's Social Understanding	263	3.14 (.34)	-2.52 to 2.45
Child School Readiness	261	--	--
COVID-19 Problems	257	8.70 (4.35)	28.00 to 50.00
Child Ego Resilience	258	36.00 (5.24)	32.00 to 54.00
Parent Depressive Symptoms	250	7.76 (6.74)	0.00 to 36.00
Parent-Child Closeness	249	41.08(5.59)	21.00 to 50.00
Parent-Child Conflict	254	27.73(9.31)	12.00 to 58.00

Table 3*Bivariate Correlations Between Study Variables and Demographic Variables*

	1	2	3	4	5	6
1.Parent Gender						
2.Child Gender	.22*					
3.Child Age	.07	.12*				
4.Parent Race/Ethnicity	-.13*	-.03	-.11			
5.PRCH Total Score	-.12	.09	-.09	.01		
6.CHS Total Score	.87	.15	.49	.68	.62**	

* $p < .05$. ** $p < .001$

Table 4
Bivariate Correlations Between Study Variables and Predictor/Outcome Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Parent Report of Child Hope Total													
2. Children's Hope Scale Total	.62**												
3. Child Emotional Symptoms	-.21**	-.24**											
4. Child Conduct Problems	-.07	-.11	.55										
5. Child Hyperactivity/Inattention	-.11	-.16**	.40**	.41**									
6. Child Prosocial Behaviors	.42**	.43**	-.31**	-.25**	-.13*								
7. Child Social Understanding	.47**	.50**	-.24**	-.20**	-.09	.60**							
8. Child School Readiness	.28**	.21**	-.01	-.02	.00	.11	.20**						
9. COVID-19 Problems	-.03	-.05	.02	.00	.05	-.02	-.01	.06					
10. Child Ego Resilience	.45**	.47**	-.52**	-.36**	-.32**	.51**	.49**	.08	-.07				
11. Parent Depression	-.12	-.17**	.46**	.40**	.28**	-.32**	-.19**	.03	.14*	-.34**			
12. Parent-Child Closeness	.30**	.37**	-.35**	-.27**	-.18**	.61**	.41**	-.02	-.04	.45**	-.42**		
13. Parent-Child Conflict	-.31**	-.32**	.60**	.52**	.36**	-.52**	-.34**	-.10	.06	-.56**	.49**	-.48**	

* $p < .05$. ** $p < .01$

Table 5*Summary of Initial Exploratory Factor Analysis Factor Loadings for PRCH (N = 263)*

Item	Factor Loadings		
	Factor One	Factor Two	Factor Three
Item 1	.31	.27	.73
Item 2	.69	.23	.52
Item 3	.19	.76	.47
Item 4	.40	.29	.80
Item 5	.74	.41	.33
Item 6	.75	.38	.40
Item 7	.28	.83	.32
Item 8	.37	.38	.61
Item 9	.71	.27	.38
Item 10	.72	.11	.15
Item 11	.35	.82	--
Item 12	.28	.59	.45
Eigenvalues	4.47	1.44	1.00
% of variance	37.22	12.03	8.36

Note: Factor loadings over .40 appear in bold.

Table 6*Summary of Factor Analysis Factor Loadings for PRCH (N = 263)*

Item	Factor Loadings	
	Agency Thinking	Pathways Thinking
Item 2	.75	.29
Item 3	.26	.79
Item 5	.74	.43
Item 6	.77	.42
Item 7	.29	.82
Item 9	.73	.31
Item 10	.66	.11
Item 11	.30	.78
Item 12	.36	.63
Eigenvalues	3.63	1.43
% of variance	40.37	15.93

Note: Factor loadings over .40 appear in bold.

Table 7*Summary of Regression Analyses Using Positive Predictors of PRCH Total Scores*

Predictor Variables	Child Hope Scores on PRCH		
	<i>B</i>	<i>SE B</i>	β
Child School Readiness	1.85**	.47	.22
Child Social Understanding	4.49**	.73	.38
Parent-Child Closeness	.11**	.04	.14

* $p < .05$. ** $p < .01$

Table 8

Summary of Regression Analyses Using Positive Predictors of Agency and Pathways Total Scores

Predictor Variables	Child Hope Scores on PRCH		
	<i>B</i>	<i>SE B</i>	β
<i>Agency</i>			
Child School Readiness	.93**	.29	.19
Child Social Understanding	1.57**	.45	.22
Parent-Child Closeness	.11**	.03	.25
<i>Pathways</i>			
Child School Readiness	.91**	.28	.18
Child Social Understanding	2.92**	.44	.42
Parent-Child Closeness	.00	.03	-.00

* $p < .05$. ** $p < .01$

Table 9*Summary of Regression Analyses Using Negative Predictors of PRCH Total Scores*

Predictor Variables	Child Hope Scores on PRCH		
	<i>B</i>	<i>SE B</i>	β
Parent Depressive Symptoms	.03	.04	.05
Child Emotion Symptoms	-.13	.16	-.07
Parent-Child Conflict	-.13**	.03	-.31

* $p < .05$. ** $p < .01$

Table 10*Summary of Regression Analyses Using Negative Predictors of Agency and Pathways**Total Scores*

Predictor Variables	Child Hope Scores on PRCH		
	<i>B</i>	<i>SE B</i>	β
<i>Agency</i>			
Parent Depressive Symptoms	.00	.03	.01
Child Emotion Symptoms	-.17**	.09	-.15
Parent-Child Conflict	-.06**	.02	-.24
<i>Pathways</i>			
Parent Depressive Symptoms	.03	.03	.08
Child Emotion Symptoms	.04	.09	.04
Parent-Child Conflict	-.07**	.02	-.29

* $p < .05$. ** $p < .01$

Table 11

Summary of Regression Analyses Using PRCH as a Predictor of Child Prosocial Behaviors and Ego Resilience

Predictor Variable	Child Prosocial Behaviors			Child Ego Resilience		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Parent Report of Child Hope	.22**	.03	.42	.59**	.07	.45

* $p < .05$. ** $p < .01$

Table 12

Summary of Hierarchical Regression Analyses for Variables Predicting Child Prosocial Behaviors and Ego Resilience (N = 263)

Variable	Child Prosocial Behaviors				Child Ego Resilience							
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4				
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE(B)</i>	β			
CHS Scores	.18**	.02	.43	.12**	.03	.28	.49**	.06	.47	.31**	.07	.30
PRCH Scores				.13**	.04	.25				.35**	.09	.27
<i>R</i> ²		.19			.21			.21			.26	
<i>F</i> for change in <i>R</i> ²		59.78**			13.32**			70.77**			15.18**	
ΔR^2					.04						.04	

Note: PRCH = Parent Report of Child Hope, CHS = Children's Hope Scale (Adapted)

p* < .05, *p* < .01.

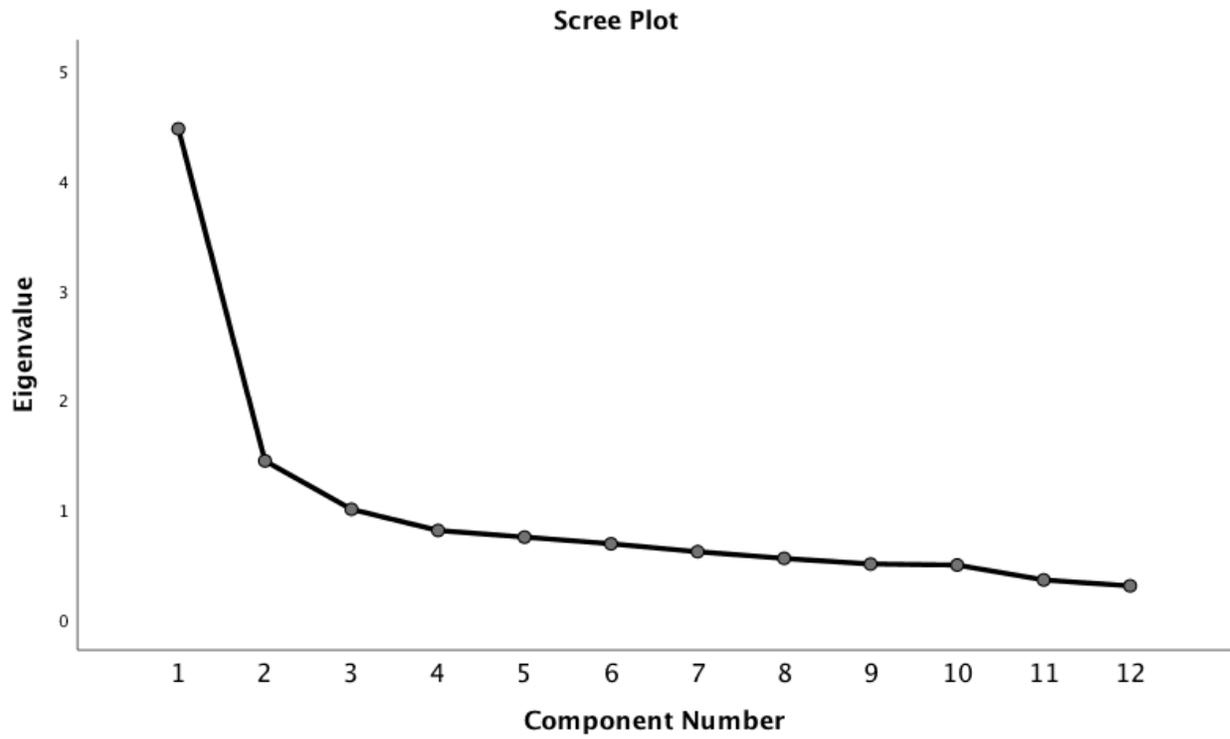
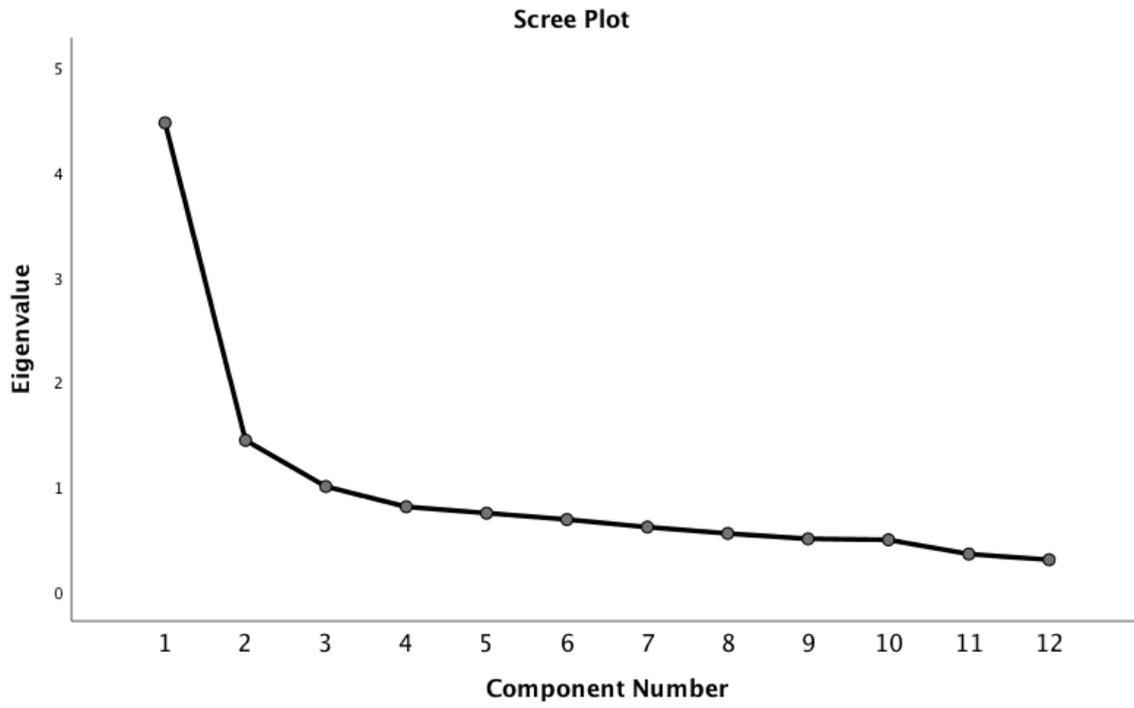
Figure 1*Scree Plot for Initial Exploratory Factor Analysis*

Figure 2

Scree Plot for Second Factor Analysis with Two Factor Structure



APPENDIX A – INITIAL PARENT REPORT OF CHILD HOPE MEASURE

1. My child takes charge of solving his/her own problems.
2. My child often says things like “I can do it!” or “I am good at this!”
3. My child realizes their actions today may affect how things happen later.
4. When presented with an obstacle, my child will find ways to get around it.
5. My child believes he/she can do the tasks he/she tries.
6. My child thinks “I know I can do this” when solving a problem
7. My child understands that working hard can change things for them.
8. When the first answer doesn’t work out, my child will try a different way.
9. My child thinks they can achieve anything.
10. My child often thinks they’ve done a good job at tasks.
11. My child understands that his/her actions can affect how things end up for them.
12. My child is flexible when things don’t work out the way he/she planned.

Intended Agency Items

- My child takes charge of solving his/her own problems.
- My child often says things like “I can do it!” or “I am good at this!”
- My child believes he/she can do the tasks he/she tries.
- My child thinks “I know I can do this” when solving a problem
- My child thinks they can achieve anything.
- My child often thinks they’ve done a good job at tasks.

Intended Pathways Items

- My child realizes their actions today may affect how things happen later.
- When presented with an obstacle, my child will find ways to get around it.
- My child understands that working hard can change things for them.
- When the first answer doesn’t work out, my child will try a different way.
- My child understands that his/her actions can affect how things end up for them.
- My child is flexible when things don’t work out the way he/she planned.

APPENDIX B: FINAL PARENT REPORT OF CHILD HOPE ITEMS

2. My child often says things like “I can do it!” or “I am good at this!”
3. My child realizes their actions today may affect how things happen later.
5. My child believes he/she can do the tasks he/she tries.
6. My child thinks “I know I can do this” when solving a problem.
7. My child understands that working hard can change things for them.
9. My child thinks they can achieve anything.
10. My child often thinks they’ve done a good job at tasks.
11. My child understands that his/her actions can affect how things end up for them.
12. My child is flexible when things don’t work out the way he/she planned.

Agency Items

- My child often says things like “I can do it!” or “I am good at this!”
- My child believes he/she can do the tasks he/she tries.
- My child thinks “I know I can do this” when solving a problem.
- My child thinks they can achieve anything.
- My child often thinks they’ve done a good job at tasks.

Pathways Items

- My child realizes their actions today may affect how things happen later.
- My child understands that working hard can change things for them.
- My child understands that his/her actions can affect how things end up for them.
- My child is flexible when things don’t work out the way he/she planned.

APPENDIX C: ADAPTED VERSION OF THE CHILDREN'S HOPE SCALE

Directions: The six sentences below describe how children think about themselves and how they do things in general. Read each sentence carefully. For each sentence, please think about how your child is in most situations. Circle the answer that describes YOUR CHILD best. For example, circle "None of the time," if this describes your child. Or, if your child is this way "All the time," circle that answer. Please answer every question by circling one of the answers. There are no right or wrong answers.

1. My child thinks they are doing pretty well.	None of the Time	A Little of the Time	Some of the Time	A Lot of the Time	Most of the Time	All of the Time
2. My child can think of many ways to get the things in life that are most important to them.	None of the Time	A Little of the Time	Some of the Time	A Lot of the Time	Most of the Time	All of the Time
3. My child thinks he/she is doing just as well as other kids his/her age.	None of the Time	A Little of the Time	Some of the Time	A Lot of the Time	Most of the Time	All of the Time
4. When my child has a problem, he/she can come up with lots of ways to solve it.	None of the Time	A Little of the Time	Some of the Time	A Lot of the Time	Most of the Time	All of the Time
5. My child thinks the things he/she has done in the past will help him/her in the future.	None of the Time	A Little of the Time	Some of the Time	A Lot of the Time	Most of the Time	All of the Time
6. Even when others want to quit, my child knows he/she can find ways to solve the problem.	None of the Time	A Little of the Time	Some of the Time	A Lot of the Time	Most of the Time	All of the Time

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associations with stylistic features of maternal narratives. *Attachment and Human Development*, 8, 199-208.

ABSTRACT**HOW DO WE LEARN TO HOPE? THE DEVELOPMENT OF
THE PARENT REPORT OF CHILD HOPE**

by

LAUREN A. SPARKS**August 2021****Advisor:** Dr. Christopher J. Trentacosta**Major:** Psychology (Clinical)**Degree:** Doctor of Philosophy

Hope has been shown to be an important protective factor, with hypothesized origins in early childhood (Snyder, 2002). However, despite the established importance of hope, little research to date has examined its developmental origins. Specifically, a lack of appropriate instrumentation represents a significant barrier to detecting hope in children under the age of eight years old. The current study meets this need by examining the reliability and validity of a novel parent-report measure of hope in early childhood, titled the Parent Report of Child Hope (PRCH). The PRCH represents an initial step towards understanding individual differences in early childhood hope. The present study also sought to provide an understanding of the developmental influences on hope in early childhood using the PRCH.

The PRCH was hypothesized to be a reliable and valid measure of hope in children younger than 8 years old. Specific Aims of the current study included, Aim 1: To provide evidence of the construct validity of the Parent Report of Child Hope (PRCH) as an assessment of

hope in young children, Aim 2: To provide evidence of the reliability and criterion-related validity of the Parent Report of Child Hope (PRCH) as an assessment of hope in young children, and Aim 3: To understand whether factors hypothesized to either contribute to or undermine hope development are predictors of hope, as well as agency and pathways thinking individually, in young children in order to provide a foundational understanding of hope development.

Participants included 263 caregivers of children between the ages of 60 and 82 months. Parents completed online surveys containing the PRCH, an adapted, parent-report version of the Children's Hope Scale, and measures assessing child behaviors, social understanding, school readiness, and ego resilience. Parents also reported on the quality of their relationship with their child, their own level of depression, and the impact that COVID-19 has had on their family structure.

The overall findings of the present study support the PRCH as a reliable and valid measure of hope in early childhood. The PRCH sufficiently captured individual differences in hope among young children and followed the expected two factor structure, confirming construct validity. The PRCH demonstrates good internal consistency and criterion-related validity. Child social understanding, parent-child closeness, and school readiness positively predicted PRCH scores. Parent-child conflict negatively predicted PRCH scores. Scores on the PRCH predicted ego resilience and prosocial behaviors in children. These findings are consistent with previous literature suggesting that the developmental origins of hope can be measured in early childhood (Snyder, 2000).

AUTOBIOGRAPHICAL STATEMENT

Lauren Sparks received a Bachelor of Arts degree in Psychology with a concentration in Pre-Medicine from Taylor University in 2012. She received a Master of Science degree in Psychology from Villanova University in 2017, where she completed a master's thesis titled "Children Recovering from Complex Trauma: The Influence of Child, Family, and Community Level Factors." Her chair was Dr. Janette Herbers. She entered the Clinical Psychology doctoral program at Wayne State University in the fall of 2015, working with Dr. Christopher Trentacosta. Through her work with Dr. Trentacosta, Lauren pursued her interests in research examining attachment, trauma, emotional development, and protective/promotive factors in the context of risk. Lauren also became a trainee at the Merrill Palmer Skillman Institute for Child and Family Development and was trained to examine developmental processes through an integrative, multi-disciplinary lens.

Lauren is currently completing an APA-accredited pre-doctoral internship at Pine Rest Christian Mental Health Center – Outpatient and Acute Services track. While an intern, she is further developing her interest in hope from a clinical and intervention viewpoint. She hopes to continue research examining the developmental origins of hope and investigating early childhood hope-based interventions that can ameliorate the effects of risk and support resilient functioning.