

The Development and Validation of the Children's Hope Scale¹

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Assuming that children are goal-oriented, it is suggested that their thoughts are related to two components—agency and pathways. Agency thoughts reflect the perception that children can initiate and sustain action toward a desired goal; pathways thoughts reflect the children’s perceived capability to produce routes to those goals. Hope reflects the combination of agentic and pathways thinking toward goals. A six-item dispositional self-report index called the Children’s Hope Scale is introduced and validated for use with children ages 8–16. Results suggest that the scale evidences internal consistency, and is relatively stable over retesting. Additionally, the scale exhibits convergent, discriminant, and incremental validity. Limitations and uses of the scale are discussed.

KEY WORDS: hope; agency; pathways; thoughts; coping.

The young . . . are full of passion, which excludes fear, and of hope, which inspires confidence.

—Aristotle, *Rhetoric Book II*

As this quote reveals, the notion that children are filled with hope can be traced back over two millennia. Further, hope and children sometimes are invoked together to suggest that the latter are our hope for the future. Although these sentiments about the importance of hope are appealing, the psychological literature on children has been lacking in theoretical models of how hope operates, and how individual differences in this concept can be measured. A notable exception to this latter conclusion has been the work of Kazdin et al. (1983), in which the Hopelessness Scale for Children was developed and validated as a reflection of negative expectancies toward oneself and the future. Differing from this emphasis on negative expectancies, we conceptualize children’s hope in terms of positive expectancies. In this regard, hope has been described by earlier writers as an *overall perception that one’s goals can be met* (see Snyder, Irving, & Anderson, 1991, for review). Although goal-directed thinking has a long history (Pervin, 1989), the importance of goals in guiding the lives of children has gained attention in the last two decades (Dweck, 1991). The present model and accompanying measurement of hope are based on the premise that children are goal-directed, and that their goal-related thoughts can be understood according to two interrelated components: agency and pathways. In this article, we describe this goal-approach conceptualization of hopeful thinking in children, and introduce a new dispositional individual differences self-report scale reflecting this model.

Before elaborating on the present model and the associated measurement instrument of hope, it is important to comment on the fundamental implications of this concept for children in general, and children facing acute or chronic illnesses in particular. How children think about their goals can make a difference in how they handle stressors, especially those related to specific illnesses. Children who think hopefully can imagine and embrace goals related to the success-

ful treatment of their physical problems. These children also can envision differing means to achieve their desired health outcomes (pathways thinking), and they can initiate and sustain efforts at applying themselves to these means (agentic thinking). Although hopeful thinking has benefits for the normal, healthy child in terms of obtaining desired outcomes, problems related to health can offer impediments to the child's usual goal pursuits. Indeed, for the short-term and sometimes for longer periods, the children with health problems need to focus upon new goals, find alternative ways to do things, and muster the mental energy to begin and continue treatment regimens. In this process, the medical professionals (physicians, nurses, etc.) focus on the child's physical illness, and the other members of the health team (psychologists, social workers, parents, etc.) concentrate on helping the child to think in a manner so as to maximize health outcomes. As such, the hopeful thinking of the child aids the ongoing medical treatment.

If hope is relevant to physical health, a logical question to ask is whether such hope is specific only to those instances in which an illness is encountered. Our position is that hope applies to children when they are healthy and when they are ill. Further, there is an enduring cross-situational type of hope that children bring to the various stressful and nonstressful situations that they encounter. This latter more enduring pattern of thinking positively about the attainment of goals was the focus in the development of the Children's Hope Scale.

Children's hope is defined as a cognitive set involving the beliefs in one's capabilities to produce workable routes to goals (the pathways component), as well as the self-related beliefs about initiating and sustaining movement toward those goals (the agency component). In the present conceptualization, overall higher hope reflects increasing levels of both pathway and agency thinking about goals. Both components must be assessed together so as to obtain an overall sense of the child's hope. Just as hope bears a resemblance to the child's perceptions of control, so too does it have similarities to perceived competence. Perceived competence rests upon the appraisal of the child's capabilities for garnering specific goals, as well as goals in general. The present definition of hope offers the advantage of being built explicitly on the agentic and pathways thoughts for goals that underlie the related notions of perceived competence and control.

How children learn to think about themselves in relation to the barriers they encounter is an important contributor to hope. A long-standing related finding is that children become upset when encountering obstacles to their goals (Barker, Dembo, & Lewin, 1941). In the context of the present hope theory, we suggest that impediments to goal pursuits elicit negative emotions; conversely, the successful pursuit of goals, especially in spite of impediments, results in positive emotions (Snyder, 1994). In other words, positive or negative emotions in children are theorized to reflect, respectively, instances of successful or unsuccessful

goal pursuits that are anticipated or actual. High-hope children, probably through the encouragement of critical role models (e.g., caretakers, parents, teachers, or friends), learn how to find pathways to their goals and remain mentally energized for those goals (for related findings, see Kliewer & Lewis, 1995).

The aforementioned discussion of barriers illustrates our view that hopeful thoughts precede self-esteem. In other words, the degree to which children perceive that they can successfully attain their desired goals serves to guide their felt self-worth. The hopeful children who sense that they can attain goals then feel positively about themselves; conversely, children who sense that they cannot attain goals then feel negatively about themselves. Hope and self-esteem or self-worth indices should be positively related, but it is the perceived hopeful (or not so hopeful) thoughts that drives this appraised self-worth. The implications of this view for pediatric psychology are twofold. First, because of the primacy of hopeful thinking relative to self-worth, we should focus upon measuring the underlying hope process. Second, we should spend more of our efforts helping children to attain their goals rather than trying to raise their esteem *per se*.

The high-hope way of thinking that results from dealing successfully with impediments is similar to an immunization process. By handling impediments to early childhood goals, children may be protected by their hopeful thinking pattern in subsequent difficulties that are encountered. Other researchers on the topic of children's coping have discussed a similar immunization-like process called resiliency (Rutter, 1994). The literature on resiliency suggests that it confers several coping advantages to children (Werner & Smith, 1982). The present model of hope in children is consistent with the various definitions of resiliency, and yet it may be preferable because it offers a succinct two-component model for describing this positive, goal-directed way of thinking. (There are no reported single-scale indices to tap resiliency in the literature, perhaps because it is a multiple element concept involving individual, family, and support system characteristics; Rutter, 1994.)

The foundations of agency- and pathways-related thinking toward goals is set in the first 2 to 3 years. Further, basic lessons in hopeful thinking continue throughout the preschool, middle, and adolescent years (see Snyder, 1994, chap. 3), and the level of hope should be stable during these latter stages. Although agency and pathways thoughts about goals should be relatively stable by the toddler years, children this young do not have the language skills to respond to a self-report instrument; by the second grade, however, children can respond to simple questions about themselves. Therefore, our present approach was to develop a brief self-report instrument of dispositional hope that 8- to 16-year-old children could complete rather easily.

Using the definition of hope described above, we developed and validated a dispositional self-report scale known as the Children's Hope Scale. Our first general purpose was to select items tapping agency and pathways thoughts

toward goals, and to ascertain whether these items meet the usual psychometric standards regarding internal consistency, temporal stability, and response variability. Our second major purpose was to document the construct validity by focusing upon the convergent, discriminant, and incremental validity of the Children's Hope Scale in terms of its predicted relationships with other measurement indices or markers. To address these issues, several samples of children, including those with and without physical illnesses, were recruited from various locations in the United States.

SCALE DEVELOPMENT AND PSYCHOMETRIC PROPERTIES

Item Selection

The first step was to derive a pool of items that reflected agency and pathway thinking in children. The senior author's research group arrived at a consensus about six items that reflected agency thinking and six items reflecting pathways thought. This number of items provided a sufficient sample of hopeful thinking, but it was not so large as to decrease children's attention span in responding. The agency items tapped content pertaining to an active, "doing" orientation about the present and future. The pathways items tapped content pertaining to finding ways to reach one's goals under ordinary circumstances as well as when there were problems or impediments. These 12 items were read by 8- to 16-year-old children in a pilot study in order to get feedback about the clarity of meaning. Based on this feedback, the items were rewritten to simplify sentence structures and make the meanings more salient. In response to each item, the children were asked to select the most descriptive phrase from the following 6-option continuum: "None of the time" to "All of the time."

This initial 12-item version of the Children's Hope Scale was given to a sample of fourth- through sixth-grade children (197 boys and 175 girls, ages 9–14) in the public schools of Edmond, OK. After obtaining consent from the parents, the children completed the scale. A principal components factor analysis with varimax rotations, and a requested two-factor solution was performed on the data. Based on an analysis of the factor loadings, three agency and three pathway items that evidenced weak or equivocal loadings on the two factors were discarded, and the remaining six items were again subjected to the same factor analysis. The three agency items loaded more strongly on the first factor (loadings of .64 to .85) than the second factor (loadings of .09 to .21), while the three pathway items loaded more strongly on the second factor (loadings of .52 to .85) than the first factor (loadings of .02 to .41). The corresponding variances accounted for by the first and second factors were 32.5 and 25.9%.

To obtain an additional test of this factor structure, the Children's Hope

Scale was given to the same sample of children 1 month later. The factor structure for the second occasion (OK Post) revealed a similar pattern of agency and pathway item loadings to those obtained earlier (OK Pre).³ Although the factor analyses indicated that the agency and pathways items loaded on their respective factors, it should be noted that they were positively correlated with each other ($r = .52$ in the OK Pre sample, and $.61$ in the OK Post sample), as theoretically should be the case.

The instructions and the items for this final six-item (three agency and three pathways) version of the Children's Hope Scale are shown in the Appendix.

Descriptive Statistics

Means and Standard Deviations. In addition to the two initial samples (OK Pre and OK Post), the Children's Hope Scale was administered to five other samples of children after securing parental consent. A first sample was a group of 48 boys and 43 girls (ages 8–17) with arthritis, sickle cell anemia, and cancer, who took the Children's Hope Scale at the beginning and end of a 1-week summer camp held by Children's Mercy Hospital in Kansas City, MO (see MO Pre and MO Post in Table I). A second sample comprised 170 boys (ages 7–13) who had received a primary diagnosis of attention-deficit/hyperactivity disorder (ADHD) and who attended the Summer Treatment Program at Western Psychiatric Institute and Clinic in Pittsburgh (see PA1 in Table I). The third sample was made up of 74 nonreferred boys without ADHD who were similar in age to the previous Pittsburgh group (see PA2 in Table I). The fourth sample was made up of 143 children (70 boys and 73 girls, ages 8–16) who previously had been under treatment for cancer at the University of Texas M. D. Anderson Cancer Center (see TX in Table I). The fifth sample comprised grade-school children (154 boys and 168 girls, ages 9–13) from the Overland Park and Lawrence, KS, public schools (see KS in Table I). The means and standard deviations of total scale scores across the six samples are shown in Table I. As can be seen, the means varied from a low of 25.41 to a high of 27.03 (*Mdn* of 25.89). When translated to the children's median response on each of the six items, the score of 4.32

³To explore the factor structure issue further, the Children's Hope Scale was administered to five other samples of children after securing parental consent (see description of these additional samples in the main body of the article). Across the various samples, the three agency items loaded on one factor more highly, while the three pathways items loaded on the other factor more highly. There were some instances in which an individual item loaded incorrectly for a given sample, but overall the agency and pathways items loaded on the appropriate factor in 81.3% (i.e., 39 out of 48) of the possible instances when all samples are considered together. This pattern of loadings suggests that the agency and pathway items are phenomenologically distinguishable as revealed by children's responses, but these factors are also highly related (the agency-pathways correlations ranged from $.47$ to $.70$, with a median of $.59$). Additionally, the total variances accounted for by these factors was robust, ranging from a low of 57.2% to a high of 69.4%, with the median of 63.4%.

suggested that the children ascribed the hopeful content to themselves somewhat more than "A lot of the time," but not as much as "Most of the time."

Gender Differences. When the average scores for girls and boys were examined in the samples where both genders were represented, no significant differences emerged.

Racial Differences. There were only two samples with sufficient numbers of children from differing racial groups to allow statistical comparisons. Using the TX sample, the means for three racial groups were as follows: African American ($n = 12$) = 24.08; Caucasian ($n = 70$) = 25.34; Hispanic ($n = 59$) = 25.49. Using the PA1 sample, the means for the three racial groups were as follows: African American ($n = 26$) = 26.08; Caucasian ($n = 130$) = 25.37; Other ($n = 5$) = 29.80. In neither sample were these means statistically different.

Age Differences. Age (a 7- to 17-year-old range in the various samples) did not correlate significantly with Children's Hope Scale scores across any of the samples.

Internal Consistency

As shown in Table I, the Cronbach alphas for the Children's Hope Scale scores in each of the samples ranged from .72 to .86, with a median alpha of .77. The item-remainder coefficients ranged from .27 to .68, with a median of .54 (all $ps < .01$). Because hope theory requires the summation of agentic and pathways thoughts, the components are not meant to be used separately and as such the internal consistencies of the components are not presented, nor are the components examined separately in any of the subsequent analyses.

Temporal Stability

Because the scale was developed to be a dispositional measure, it was hypothesized that children retaking the scale should produce similar scores. In a first examination of this hypothesis, the test-retest correlation for the OK Pre sample over a 1-month interval was positive and significant, $r(359) = .71, p < .001$. In a separate examination of this test-retest relationship, the MO Pre sample took the Children's Hope Scale at the beginning and the end of their 1-week summer camp, and the correlation was positive and significant, $r(89) = .73, p < .001$.

Response Variability

The coefficients of variation (see Tabachnik & Fidell, 1989), which reflect the ratio of the standard deviations to the total scale scores, ranged from .12 to .24, with a median of .19.

Table 1. Psychometric Properties of Children's Hope Scale Scores Across Six Samples

| Measure | Sample ^a | | | | | | | |
|--|---------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| | OK Pre | OK Post | MO Pre | MO Post | PA1 | PA2 | TX | KS |
| <i>M</i> | 25.41 | 27.03 | 25.93 | 26.39 | 25.49 | 25.98 | 25.84 | 25.71 |
| <i>SD</i> | 4.99 | 4.51 | 5.23 | 5.05 | 3.63 | 3.01 | 5.01 | 6.11 |
| Coefficient of variability | .20 | .17 | .20 | .19 | .14 | .12 | .19 | .24 |
| Alpha | .74 ^c | .81 ^c | .79 ^c | .80 ^c | .73 ^c | .75 ^c | .72 ^c | .86 ^c |
| Item remainder coefficients ^b | .38/.57 | .51/.62 | .43/.61 | .43/.65 | .38/.61 | .27/.62 | .42/.50 | .61/.68 |

^aOK Pre = 197 boys and 175 girls, ages 9–14, from the 4th–6th-grade in Edmond, OK schools. OK Post = 196 boys and 173 girls from the Edmond, OK schools who retook the Children's Hope Scale after a 1-month interval. MO Pre = 48 boys and 43 girls, ages 9–17, who took the Children's Hope scale at the beginning of 1-week summer camps (held in Kansas City, MO area) for children with arthritis, sickle cell anemia, and cancer. MO Post = The same 48 boys and 43 girls 1 week after the beginning of the Kansas City, MO camps. PA1 = 170 boys, ages 7–13, diagnosed with ADHD who attended a summer program run by the Western Psychiatric Institute and Clinic in Pittsburgh, PA. PA2 = 74 nonreferred control boys who were similar in age with the PA1 group above. TX = 70 boys and 73 girls, ages 8–16, who were or had been under treatment for cancer at the University of Texas M. D. Anderson Cancer Center. KS = 154 boys and 168 girls, ages 9–13, from the Overland Park and Lawrence, KS public schools.

^bFor the item remainders, the lowest and highest coefficients appear before and after the slashes (all *ps* < .01).

^c*p* < .001 (for agency-pathways correlations).

OVERVIEW OF CONSTRUCT VALIDATION APPROACH

Before proceeding to describe the various construct validation approaches, a few prefatory words are necessary. Because we were interested in examining hopeful thinking among children who were experiencing varying life circumstances, we included samples of healthy children and samples of children who had identifiable diseases (thus, the MO Pre sample of children with arthritis, sickle cell anemia, and cancer; and, the TX sample of children with cancer), as well as a "psychological" disorder that has underlying physiological (neural) causes (thus, the PA1 sample of boys with ADHD). These latter samples were included because of our beliefs that (a) illness provides a stressor that is analogous to the other stressors (i.e., blockages) faced by children, and (b) hope is very important to the process of dealing with illness.

In subsequent sections, we describe in more detail the varying construct validation approaches. In an initial general section on convergent validity, we explore three predicted hypotheses. First, we ascertain whether there is support for the hypothesis that children's self-reported hope matches the hope as rated by knowledgeable observers. Second, we test the prediction that higher hope should be related to higher perceived competence and control. Third, we examine the prediction that higher hope relates positively to children's self-worth and negatively to their depression. In a second general section, we examine the discriminant validation studies regarding indices to which hope should bear relationships of no major magnitude. In a third general section, we present data on the predictive and incremental validity of the Children's Hope Scale. That is to say, the focus turns to outcome markers that can be predicted by scale scores (predictive validity), as well as the degree to which scores can predict the outcome beyond projections attributable to other existent measures (incremental validity). Last, in a fourth general section, we examine the self-presentational biases that may accompany responses to the scale.

CONVERGENT VALIDATIONAL STUDIES

Observers' Ratings of Hope

Assuming that children can verbalize their thoughts, and that they manifest behaviors consistent with such thinking, it was hypothesized that parents' judgments of their children's hope should correlate positively and significantly with their children's actual scores on the Children's Hope Scale. To test this hypothesis, the parents of the schoolchildren in the OK Pre completed a modified Children's Hope Scale in which the personal pronouns in the items were changed from the first to the third person. Based on their observations of their children,

parents rated the degree to which each of the six items described their child's thinking on the same 6-point response continuum that was employed for the Children's Hope Scale. As predicted, the parents' ratings of their children's hope correlated positively with their children's actual scores taken at the beginning of the study, $r(264) = .38, p < .01$, and 1 month later, $r(257) = .37, p < .01$.⁴

A similar test to the one given to the OK Pre sample was employed with the children who were given the Children's Hope Scale at the beginning and end of week-long summer camps for children with various diseases (i.e., the MO Pre and MO Post samples). One week after the completion of the camp, the principal caregiver parents rated their children's hopeful thoughts on a modified Children's Hope Scale (see above description). The parents' ratings of the children's hope correlated positively with their children's actual scores taken at the beginning and end of the camps, $r(89) = .50$ and $.53$, respectively, $ps < .01$.⁵

Competence/Control-Related Perceptions

It was hypothesized that hopeful thinking toward goals should relate positively to the child's self-perceived competence and control. This follows because perceived competence and control reflect appraisals of goal-related pursuits.

Children's Assessments of Their Competencies. Children from four samples completed the Self-Perception Profile for Children (SPP-C; Harter, 1985), which allows the child to rate self-perceptions in five areas: scholastics—perceived performance in school; social acceptance—degree of felt popularity with peers; athletics—perceived capability to perform in sports and games; physical appearance—happiness with one's looks; and behavioral conduct—children's liking for the way they behave. As can be seen in Table II, the scores on the Children's Hope Scale across four samples correlated positively and significantly (only 1 exception in 20 correlations) with the five subscales of the SPP-C. One of the major sources of competency-related thoughts in children pertains to their perceived physical capacities. Activity, with all the commensurate physical demands, is a vital part of childhood. Given this premise, our hypothesis was that children with perceptions of physical competence also should manifest elevated hope. Accordingly, the Children's Perceived Physical Efficacy Scale (Hoza &

⁴These and all of the subsequent correlations are two-tailed, although they could be one-tailed given a priori predictions. Generally, we have set the probability level at .01 because of the large numbers of predicted correlations that were examined across studies.

⁵In a more stringent test of this same observer inferred hope hypothesis, the MO Pre camp counselors were asked to make ratings of the children in a manner similar to that used with the parents. The counselors' ratings of the children's hope correlated positively with the children's actual scores taken at the end of the camp, $r(89) = .21, p < .05$. These ratings, although producing a correlation with hope that was not of the same magnitude as those obtained by the parents, are noteworthy because the counselors had only 4 days of interactions with the children.

Table II. Correlations of Children's Hope Scale with the Self-Perception Profile for Children Competence Subscale Scores in Four Samples

| Competence subscale | Sample ^a | | | |
|---------------------|---------------------|------------------|------------------|------------------|
| | OK Pre | PA1 | PA2 | KS |
| Scholastics | .59 ^c | .35 ^b | .57 ^c | .48 ^c |
| Social acceptance | .43 ^c | .23 ^b | .38 ^b | .32 ^c |
| Athletics | .34 ^c | .26 ^b | .35 ^b | .29 ^c |
| Physical appearance | .46 ^c | .22 ^b | .00 | .29 ^c |
| Behavioral conduct | .41 ^c | .27 ^b | .34 ^b | .40 ^c |

^aOK is the sample of 372 Edmond, Oklahoma schoolchildren, $df = 359-368$ for these individual correlations. PA1 is the sample of 166 of the 170 boys diagnosed with ADHD in the summer program run by the Western Psychiatric Institute and Clinic in Pittsburgh. For these individual correlations, $df = 164$. PA2 is the sample of 74 control boys who participated in the summer program in Pittsburgh. For these individual correlations, $df = 72$. KS is the sample of 322 Overland Park and Lawrence schoolchildren, and $df = 320$ on these individual correlations.

^b $p < .01$.

^c $p < .001$.

Ryckman, 1989), which has been developed and validated in order to tap children's self-efficacy perceptions in the subareas of running/jumping, organized sports, exercises, and strength/fitness/coordination, was given to the two samples of boys at the Western Psychiatric Institute and Clinic. Consistent with this logic, higher hope as measured by the Children's Hope Scale correlated positively with each of the subscales of the Children's Perceived Physical Efficacy Scale (note that the correlations for the ADHD sample are listed first, followed by the corresponding correlations for their similar-age controls): running/jumping, $r(89) = .27, p < .01$ and $r(45) = .39, p < .01$; organized sports, $r(89) = .46, p < .001$ and $r(45) = .43, p < .01$; exercises, $r(89) = .32, p < .01$ and $r(45) = .50, p < .01$; and strength/fitness/coordination, $r(89) = .40, p < .01$ and $r(45) = .54, p < .01$.

Perceived Helplessness Attributional Style. The Children's Attributional Style Questionnaire was developed and validated in order to measure children's control-related attributions for the good and bad outcomes in their lives (Kaslow, Tanenbaum, & Seligman, 1978). Children's attributions are assessed along three dimensions: internal/external, stable/unstable, and global/specific. The helpless attributional style is one in which the child makes less internal, stable, global explanations for the good things, and more internal, stable, and global explanations for the bad things. More specifically, the helpless attributional pattern rests most strongly on the latter attributional propensity, that is, the child's inability to distance himself or herself from negative events. Our a priori prediction, based on

hope theory, was that higher hope children should exhibit a slight propensity to distance themselves from negative outcomes. Thus, hope does not share the major defining attributional characteristic of the helplessness model. On the other hand, we predicted that higher hope children should manifest their perceived control by attempting to link themselves attributionally to positive outcomes. We have made this distinction elsewhere (see Snyder, 1994) in positing that hopeful thinking is basically undergirded by approach thinking toward positive goals, and to a lesser degree it is a way of thinking in which children distance themselves from negative outcomes. In a test of the aforementioned reasoning, the Children's Attributional Style Questionnaire was given to the Western Psychiatric Institute and Clinic sample of boys diagnosed with ADHD and their nonreferred controls. The results for these correlations are shown in Table III, where it can be seen that the children scoring higher on the Children's Hope Scale exhibit a pattern of perceived control reflecting a cognitive (attributional) attachment to positive outcomes, and a slight propensity to distance from negative outcomes.

Self-Worth and Depression

Self-Worth. It was noted in the introduction that a child's felt self-worth (or esteem) should flow out of perceived hopeful thoughts toward goals. More

Table III. Correlations of Children's Hope Scale with the Children's Attributional Style Questionnaire Subscale Scores in Two Samples

| Attribution style subscale | Sample ^a | |
|------------------------------|---------------------|------------------|
| | PA1 | PA2 |
| Internal for Positive Events | .13 | .43 ^b |
| Stable for Positive Events | .32 ^b | .44 ^b |
| Global for Positive Events | .22 ^b | .26 |
| Total for Positive Events | .32 ^b | .52 ^b |
| Internal for Negative Events | -.10 | -.12 |
| Stable for Negative Events | -.07 | -.19 |
| Global for Negative Events | -.24 ^b | -.11 |
| Total for Negative Events | -.20 | -.19 |

^aPA1 is 166 of the sample of 170 boys diagnosed with ADHD in the summer program run by the Western Psychiatric Institute and Clinic in Pittsburgh. The *df* for these individual correlations all were 164, except for the global for negative, which was 165 because all 167 boys were included in this analysis. PA2 is the sample of 74 control boys for those run from the summer program in Pittsburgh. The *df* for these individual correlations all were 72.

^b*p* < .01.

specifically, it was hypothesized that higher hope should relate to elevated self-worth. As a test of this prediction, the global self-worth index of the SPP-C (Harter, 1985) was taken along with the Children's Hope Scale, and the predicted positive correlations were found in the following four samples: OK Pre $r(359) = .52, p < .001$; PA1 $r(164) = .23, p < .01$; PA2 $r(72) = .37, p < .01$; KS $r(320) = .55, p < .001$.

Depression. Given that lower hope children should be ineffective in pursuing their goals, especially when such goals are impeded, it was reasoned that they should be higher in depression-related feelings. Based on this logic, it was predicted that children with higher scores on the Children's Hope Scale should report less depression in their lives. The Child Depression Inventory (CDI; Kovacs, 1985), a brief symptom reporting depression instrument for children ages 8 through 16, was given to the Oklahoma sample of children, as well as the two Western Psychiatric Institute and Clinic samples. As predicted, the higher scores on the Children's Hope Scale correlated negatively with scores on the CDI: OK Pre, $r(345) = -.48, p < .001$; PA1 $r(162) = -.27, p < .001$; PA2 $r(71) = -.40, p < .001$.

DISCRIMINANT VALIDATION STUDIES

Hopelessness

As discussed in the introduction, the only other hope-related measure for children is Kazdin et al.'s (1983) Hopelessness Scale. Based on the fact that the Hopelessness Scale taps the degree to which children have negative expectancies about oneself and the future, it was posited that such scores would exhibit *slightly* negative correlations with scores on the Children's Hope Scale. The basis for this prediction is that the lack of negative expectations is not the same as having positive expectations. In regard to this hypothesis, the boys diagnosed with ADHD and their similar-aged controls in the Western Psychiatric Institute and Clinic sample completed the two scales. Results yielded correlations in the predicted negative direction, but they did not reach statistical significance, $r(35) = -.18$ and $r(13) = -.24$, respectively.

Intelligence

Another issue related to the discriminant validity of the Children's Hope Scale is the question of whether scores on this new scale are basically a reflection of intelligence. Elsewhere (Snyder, 1994; Snyder, Harris, et al., 1991), we have reasoned that hope is not synonymous with intelligence per se, but rather taps a cognitive/motivational set related to goal pursuits. In a test of the hope-intelligence relationship question, the boys with the ADHD diagnoses (PA1 sample)

took either the WISC-R (Wechsler, 1974) or the WISC-III (Wechsler, 1991), and their scores on the Children's Hope Scale did not correlate significantly with the verbal score, $r(159) = .04$, the performance score, $r(159) = .04$, or the full-scale score, $r(159) = .03$.

PREDICTIVE AND INCREMENTAL VALIDATIONAL STUDIES

Predictive Validity

Contrary to the hypotheses related to intelligence and hope, it was posited that Children's Hope Scale scores should relate positively to scores on standardized achievement tests. Children's capacities to form goals and to mobilize themselves along chosen pathways to those goals are important in acquiring and maintaining the information taught in school. As a test of this hypothesis, the Children's Hope Scale scores obtained in the OK Pre sample were correlated with their subsequent scores on the Iowa Test of Basic Skills (Hieronymous & Hoover, 1985), which is a widely used achievement test for kindergarten through 12th-grade students (Lane, 1992). As theorized, the scores on the Children's Hope Scale and cumulative percentile scores on the Iowa Test of Basic Skills were related positively and significantly, $r(100) = .50$, $p < .001$.

Incremental Validity

Another issue in the development of a new individual differences measure is incremental validity, which is the degree to which a new scale increases our ability to make predictions beyond projections derived statistically from scores on previously available measures. For example, the Children's Hope Scale would exhibit incremental validity if it could predict achievement scores beyond projections attributable to related concepts. The set of data with the Oklahoma sample allowed for a test of this issue. A general question, on this point, would be whether the scores on the Children's Hope Scale augment the prediction of achievement scores beyond those scores stemming from indices of children's self-worth. Using the Iowa scores as the criterion variable in hierarchical multiple regressions, forcing the global self-worth subscale of the SPP-C into the equation at Step 1 resulted in $R^2 = .04$, $p < .05$; when hope scores were forced in at Step 2, the prediction was augmented, increment in R^2 (referenced as ΔR^2 subsequently) = .22, $p < .001$.

An even more stringent test of this incremental validity question involves the use of the scholastic competence subscale of the SPP-C. Using the Iowa scores as the criterion variable and forcing the scholastic competence subscale

of the SPP-C into the equation at Step 1 resulted in $R^2 = .38$, $p < .001$; when hope scores were forced in at Step 2, the prediction was augmented, $\Delta R^2 = .02$, $p = .05$.

SELF-PRESENTATIONAL BIASES: THE DISTORTION/REALITY BALANCE

In earlier test construction literature, it was expected that the responses to a new scale should be examined so as to rule out any distortions related to negative or positive response biases. Since the 1980s, however, the growing perspective has been that *positively* biased responding should be viewed as an informative part of scale content rather than something artifactual (e.g., McCrae & Costa, 1983). Instead of the traditional view of socially desirable responding as providing discriminant validation information, for example, this newer perspective is that social desirability can contribute convergent input about the nomological network of a scale. As such, socially desirable responding has been viewed as part of a positively biased self-presentational style that can be related to adaptive coping. Accordingly, we predicted that scores on the Children's Hope Scale should evidence a slight positive relationship with indices tapping the children's propensities to present themselves in a socially desirable light. In the sample of Kansas schoolchildren (KS), therefore, we administered the Children's Social Desirability Questionnaire (Crandall, Crandall, & Katkovsky, 1965). The correlation between scores on the Children's Hope Scale and the Children's Social Desirability Questionnaire was positive, $r(303) = .21$, $p < .001$. These results suggest a slight positive bias for higher hope children. Additionally, in the sample of boys diagnosed with ADHD (PA1), the 6-item Lie subscale score of the Revised Children's Manifest Anxiety Scale was employed as an index of socially desirable responding (see Reynolds & Paget, 1983). Scores on the Children's Hope Scale correlated positively with more socially desirable responding, $r(66) = .27$, $p < .03$.

DISCUSSION

The agency and pathway subscales were factorally identifiable as subcomponents of the Children's Hope Scale, and this pattern appeared across samples of healthy and pediatric children. Further, these two factors accounted for a robust amount of the variance. Although the agency and pathway components are factorally identifiable, it should be noted that the correlations between them range from approximately .50 to .70, thereby supporting the theorized positive relationships. On this point, we caution against using the agency and pathways

components separately because of (a) the model premise that such thoughts must be added in order to measure hopeful goal-directed thinking, (b) the theoretical and empirical relatedness of the components, and (c) the internal instability of scales having only three items.

Even though the scale manifests two distinguishable and yet interrelated components as was theorized, it should be emphasized that it displays acceptable overall internal consistency. Given that the Cronbach alphas and the item-remainder coefficients are of similar magnitudes to those obtained for the adult Hope Scale, it appears that the sampled healthy and pediatric children were not hampered by cognitive inconsistencies in reporting their goal-directed thoughts.

The Children's Hope Scale was designed to reflect relatively enduring goal-directed thinking, and the positive and high test-retest correlations are consistent with this intention. This temporal stability of the Children's Hope Scale mirrors that found with the dispositional Hope Scale for adults (Snyder, Harris, et al., 1991). Further longitudinal research should be conducted to ascertain whether scale scores are stable over months and even years. That scores on the Children's Hope Scale were stable over time does not preclude, however, variability among individuals in responding to scale. Indeed, the coefficient of variability indices suggest that the scale does elicit considerable response variability across different children. Assuming adequate internal reliability, this variability of responses across subjects is desirable because it suggests sensitivity to individual differences, and it facilitates the capability of scale scores to bear relationships to other measures. Having demonstrated that the Children's Hope Scale is a sensitive, yet dispositional, index for measuring hope, it is also important for future research to develop a state version of the scale that tracks situational hope.

Within the ranges sampled in our various populations, there were no age differences in scores on the Children's Hope Scale. It was our assumption that a child's level of hope would be set by toddlerhood, and should not vary over the subsequent years. One cannot make longitudinal inferences, however, on the basis of the cross-sectional age cohorts that were obtained in the present samples. Accordingly, the more definitive test of our hypotheses rests on future research in which the Children's Hope Scale scores of the same children are collected over the course of their middle childhood years.

No gender differences emerged in any of our samples. This replicates the findings involving lack of gender differences for adults who have taken the dispositional Hope Scale (Snyder, Harris, et al., 1991), and the State Hope Scale (Snyder et al., 1996). One explanation is that there truly are no gender differences in hopeful thoughts about goals. Another possibility not tested by the present data, however, is that the boys and girls who responded to the particular items may have been envisioning differing types of goals. Thus, it

may be that both genders are equally high in agency and pathway thoughts for goals that they view as "appropriate" for their gender. For future researchers and practitioners who are using the Children's Hope Scale, therefore, it may be important to ascertain the actual goals that a given boy or girl is entertaining. This specification of goals should be especially important for samples of children with chronic disease who are targeting outcomes or steps in the treatment of their illnesses.

The lack of racial differences in hope was testable in only two samples, and the means were not statistically different. Obviously, other samples are needed before speculating about possible racial differences, or lack thereof, in scores on the Children's Hope Scale.

Turning to the convergent validation results, the children's goal-directed thoughts were judged with some degree of accuracy by parents and, to a lesser degree, by camp counselors. This follows because goal-directed thoughts may be verbalized by children, and they may have actual behavioral manifestations. The present observer ratings, however, provide validation support for the Children's Hope Scale. For future researchers who are interested in measuring the hope in children, it may be useful to employ a triangulated approach in which the children's self-report, observations made about them by the professional staff, and behavioral markers are taken.

As noted earlier, children's hopeful thinking is built upon a foundation of perceived proficiency at pursuing goals. Using a measure of self-reported competency, there is convergent validation support for the positive hope-perceived competency relationship. Likewise, the control-related attributional data lend credence to our theoretical premise of hope as reflecting a goal-approach type of thinking. That is to say, children scoring higher on the Children's Hope Scale appear to link themselves to positive outcomes, and to a lesser degree they distance themselves from negative outcomes. In the degree to which the competence and control perceptions of pediatric children are influencing positive health outcomes, the present findings suggest that it is important to examine the moderator and mediator role that hope plays in these processes.

The convergent validation data regarding self-worth and depression also lend substantiation to the theorized positive correlations of such indices to hope. That is to say, higher hope children reported feeling more positively about themselves and less depressed. Whether hope is the antecedent concept cannot be tested by the present correlational procedures, but we have additional laboratory evidence indicating that manipulations increasing one's sense of successful goal pursuits have the effects of increasing felt worth (and esteem) and decreasing depression-related emotions, and that hopeful thinking supersedes the esteem and emotional reactions (Snyder et al., 1996). Likewise, other evidence with adolescent burn survivors suggests that their self-reported hope provides unique variance in predicting the self-worth (Barnum, Snyder, Rapoff, Mani, &

Thompson, in press).⁶ Because of the potential measurement and content overlap between self-esteem and hope, however, future researchers may want to examine the shared and unique variances of these two variables, especially in regard to predicting children's health outcomes.

Turning to the issue of discriminant validity, the present findings suggest that scores on the Children's Hope Scale correlate slightly negatively with hopelessness. This lends support to our speculation in the introduction that having positive expectations about goal pursuits is not the same as lacking negative expectancies. Such findings also are buttressed by those with the Children's Attributional Style Questionnaire, wherein children scoring higher in hope did not display strong tendencies to distance themselves from negative events. One potential implication for pediatrics is that we may not need to spend time in attempting to disabuse children of negative expectations, but rather may want to focus their attentions on attaining the positive possible health outcomes. In this regard, we emphasize that hope should operate in a similarly adaptive fashion in the thinking of children with and without health problems.

Along with the hopelessness discriminant validation findings, the present data on intelligence are worthy of mention. Hope is not synonymous with intelligence as reflected by the correlational data described earlier. Theoretically, we have argued that hope is a cognitive/motivational set that is not dependent on intellectual capacity per se (assuming at least a minimal intellectual endowment). In working with pediatric populations, therefore, it can be assumed that most children probably have the intellectual capacities to employ hopeful thinking.

In terms of its predictive utility, the present results indicate that the Children's Hope Scale provides moderate predictive power in regard to cognitive achievements (e.g., 25% of the shared variance as related to scores on the Iowa Test of Basic Skills). Hope should relate to children's achievements because most important childhood events involve goal-related activities. In addition to predicting school-related achievement, it should be pointed out that Children's Hope Scale scores also augmented the predictions beyond those that were made on the basis of perceived school competency. Further, in relation to the other more global indices of self-worth, scores on the Children's Hope Scale provide considerable increments in predictive power in regard to cognitive achievements. Therefore, the available evidence indicates that the Children's Hope Scale is useful in making achievement predictions, but that it also has incremental validity in expanding predictive power relative to other scales. These findings are relevant to pediatric samples because school-related achievements are an important part of all childhoods.

The positive correlations between scores on the Children's Hope Scale and

⁶In a study of children with sickle cell disease, hope as measured by the Children's Hope Scale did not provide unique variance in predicting the depression of these children, but it did provide unique predictive variance in regard to their anxiety about their illness (Lewis & Kliewer, 1995).

socially desirable responding suggest that higher hope children engage in slight positive distortions about themselves. We have additional data with the Children's Hope Scale suggesting that high-hope children perceive themselves as uniquely invulnerable to sources of harm in their environments (Hinton-Nelson, Roberts, & Snyder, 1996), and this extends the aforementioned positive distortion findings. These positive distortion results, together with the perceived positive competency, control, and self-worth findings, paint a picture of the higher hope children as thinking well of themselves in undertaking the tasks of childhood. Research has documented the adaptiveness of such positive self-distortions *when these distortions or biases are in the slight to moderate range* (Taylor & Brown, 1988). In this regard, because blockages associated with physical problems may constrain a child's hope, there must be limits to the propensity to make positive distortions. There is one reported study using the Children's Hope Scale that allows for an analysis of level of hope as related to severity of a physical problem (see Kliewer & Lewis, 1995). In particular, within a sample of 39 African American children diagnosed with sickle cell disease of varying severities (as determined medically by physicians), lower hope as measured by scores on the Children's Hope Scale was related to greater disease severity, standardized beta = $-.44$, $p < .01$. This finding suggests that there are boundary conditions under which the positive distortion inherent in responding to the Children's Hope Scale is reigned in by reality factors such as those related to severe physical illness. For people working with pediatric samples, it may be appropriate to help such children to develop and sustain *positive outcomes thoughts that are realistically tenable*. This appears to be what high-hope children do normally as they successfully navigate the nonstressful and stressful events of childhood (see Snyder, 1994; Snyder et al., in press).

In placing the findings in regard to the Children's Hope Scale in perspective, it is important to discuss the limitations of the present series of studies. This is the introductory article on the development and initial validation of the scale, and as such there is considerable further work to be done in order to understand the properties of the scale. Additionally, the present studies generally are not longitudinal in nature and, accordingly, we must be careful in overinterpreting the dispositional properties of the scale. The present methodologies also are based largely on self-report, and in future research it would be helpful to employ hard outcome markers (e.g., compliance to medication and rehabilitation regimens, recovery from surgery, and medical indices tapping bodily functioning) that hope should relate to and predict. On this latter point, prospective designs are warranted so that children's hope is tested for its predictive power in relation to *chronologically later physiological, behavioral, observed, and self-report markers*. Other samples of healthy and ill children also are needed; the present samples are limited by their particular geographical, gender, racial, and health status compositions, and as such future research should expand the parameters of the populations samples. Last, the magnitudes of the relationships in the present

studies generally account for anywhere from 5 to 25% of the variance. Although these relationships almost invariably surpass the requisite, conservative probability level of .01, the actual clinical utility of these relationships must be considered modest.

In the context of the aforementioned caveats, we nevertheless suggest that the Children's Hope Scale has met the appropriate theoretical, psychometric, and construct validation criteria for self-report instruments. Accordingly, the scale appears to have promise for pediatric psychology researchers. One obvious advantage of the scale is that it is brief, and takes only a few minutes to administer. The Children's Hope Scale is an individual-differences measure that reflects a risk-resistant factor that would be useful in the prediction of psychosocial adjustment, pain, and medical adherence outcomes in acute and chronically ill children. Related research with adults already has found evidence for the predictive utility of positive expectations in relation to a variety of medical outcomes (see for reviews Scheier & Carver, 1992; Snyder, Irving, & Anderson, 1991), and the Children's Hope Scale may provide similar predictive information about children. The construct and attendant measure of hope also can be incorporated into existing theoretical or heuristic models in pediatric psychology (e.g., the Children's Health Belief Model; Bush & Iannotti, 1990). Additional questions pertain to the moderator and mediator properties of hope in the coping activities of children (e.g., Lewis & Kliewer, 1996).

Our guiding assumption has been that the acquisition and employment of goal-directed thinking is critical for effective functioning throughout the developmental sequence, and illnesses are a fundamental part of this process. The Children's Hope Scale may aid us in understanding this important thinking process. By identifying the high-hope children and studying their effective coping strategies in dealing with health problems, we can discover what may work to benefit other less hopeful children. The good news, echoing the Aristotelian sentiments that lead this article, is that we may find that most children are abundantly hopeful. Equally important, because hope is an ally of health, our task is to identify those children who need further nurturance and education so as to improve their hopeful thinking. The measurement of hope provides a necessary tool in this process.

APPENDIX

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 you are in most situations. Place a check inside the circle that describes YOU the best. For example, place a check (✓) in the

circle (○) above “None of the time,” if this describes you. Or, if you are this way “All the time,” check this circle. Please answer every question by putting a check in one of the circles. There are no right or wrong answers.

1. *I think I am doing pretty well.*

○ ○ ○ ○ ○ ○
 None of A little of Some of A lot of Most of All of
 the time the time the time the time the time the time

2. *I can think of many ways to get the things in life that are most important to me.*

○ ○ ○ ○ ○ ○
 None of A little of Some of A lot of Most of All of
 the time the time the time the time the time the time

3. *I am doing just as well as other kids my age.*

○ ○ ○ ○ ○ ○
 None of A little of Some of A lot of Most of All of
 the time the time the time the time the time the time

4. *When I have a problem, I can come up with lots of ways to solve it.*

○ ○ ○ ○ ○ ○
 None of A little of Some of A lot of Most of All of
 the time the time the time the time the time the time

5. *I think the things I have done in the past will help me in the future.*

○ ○ ○ ○ ○ ○
 None of A little of Some of A lot of Most of All of
 the time the time the time the time the time the time

6. *Even when others want to quit, I know that I can find ways to solve the problem.*

○ ○ ○ ○ ○ ○
 None of A little of Some of A lot of Most of All of
 the time the time the time the time the time the time

Notes: When administered to children, this scale is not labeled “The Children’s Hope Scale,” but is called “Questions About Your Goals.” The total Children’s Hope Scale score is achieved by adding the responses to the six items, with “None of the time” = 1; “A little of the time” = 2; “Some of the time” = 3; “A lot of the time” = 4; “Most of the time” = 5; and, “All of the time” = 6. The three odd-numbered items tap agency, and the three even-numbered items tap pathways.

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