Hope, Goals, and Pathways: Further Validating the Hope Scale with Observer Ratings

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Abstract

Objective: For the past two decades, hope theory (Snyder, 1994) has been an important framework for conceptualizing goal pursuits. Surprisingly, however, there has been little effort to test the underlying suppositions of hope theory or to further validate the measurement of hope with the Hope Scale (Snyder et al., 1991).

Method: In Study 1, participants (N = 162, M_{age} = 19, 61% female) completed the Hope Scale (Snyder et al., 1991) and nominated goals they would like to accomplish in the next few months. Goals were coded on several dimensions. In Study 2, participants (N = 118, M_{age} = 19, 59% female) completed the Hope Scale, measures of optimism and self-efficacy, and generated workable pathways (i.e., routes) for achieving standardized goals.

Results: Hope scores predicted setting objectively important, prosocial, long-term, and challenging goals. Hope (but not optimism or self-efficacy) was associated with generating more pathways for standardized goals.

Conclusions: The results of these studies generally support the tenets of hope theory and provide further validation evidence for the Hope Scale. As expected, people with higher hope were more likely than their lower-hope counterparts to engage in what has traditionally been considered successful goal-setting behavior. Hope is associated with important goal-relevant behaviors and efforts to increase hopeful thought may be important in helping individuals to move toward important life outcomes.

Keywords: hope theory, pathways, goals, goal achievement, goal setting

Hope, Goals, and Pathways: Further Validating the Hope Scale with Observer Ratings

Hope theory (Snyder, 1994) is an important framework for conceptualizing successful goal pursuits. Hope has been linked to achievement of academic (Snyder et al., 2002), athletic (Curry, Snyder, Cook, Ruby, & Rehm, 1997), and personal growth goals (Feldman, Rand, Kahle-Wrobleski, 2009), as well as psychological functioning (Feldman & Snyder, 2005). According to hope theory, individuals with higher hope, in comparison to their lower-hope counterparts, set goals that are both more ambitious and attainable, energetically pursue these goals, and develop a greater number of workable routes for reaching these goals (Snyder, 2002). Based on these theoretical propositions and the evidence that hope is associated with successful goal outcomes, interventions to increase hope have been developed and tested (Cheavens, Feldman, Gum, Michael, & Snyder, 2006). Surprisingly, however, there has been little effort to validate the Hope Scale beyond associations with other self-report measures. We know little, for instance, about the ways in which hope (as measured by the Hope Scale; Snyder et al., 1991) is related to the processes of setting goals and generating pathways for pursuing those goals. Using observer-ratings of goals and pathways, we attempted to further validate the Hope Scale (Snyder et al., 1991) and determine whether hope scores are related to goal-setting and pathways-generating behaviors.

The Hope Framework

Snyder and colleagues (Snyder, 1994; Snyder et al., 1991) developed a cognitive, goal-centered theory of hope. Goals are mental targets that anchor both agency (i.e., motivation-related cognition) and pathways (i.e., planning-related cognition; Snyder, 2002). People use agency and pathways thinking iteratively to attain their goals. In the late 1980s, Snyder first observed that people tend to think in terms of goals when they consider their hopes (Snyder, 2002). Thus, according to hope theory, goals are ubiquitous and guide our intentional behavior.

That is, effortful behavior is organized in order to attain or excel at something; alternatively, behavior may be organized to avoid, decrease, or terminate something. Hopeful people believe they will successfully reach their goals through the development of viable plans (pathways) and the determination (agency) to use those plans. In fact, recent evidence suggests that scores on the Hope Scale are related to activation in neural regions thought to be related to goal-directed behaviors, including reward processing, motivation production, and problem-solving (Wang et al., 2017).

Goals. In hope theory, goals serve three functions. First, goals serve as context for specific pathways and agency thoughts. In other words, it is important to know people's goals in order to determine whether or not they have generated pathways likely to lead them toward those goals and whether their beliefs associated with the use of those pathways are warranted. Second, goals serve as outcome measures. When someone reaches her goal, we consider this to be a successful outcome. Third, goal outcomes provide feedback about goal pursuit abilities. Over time, people use feedback from goal outcomes to inform their future agency and pathways thinking. For example, following successful goal pursuit outcomes, the evidence increases for thoughts such as "I am able to meet important goals in my life" and "I can think of many ways to reach my goals." Thus, although the Hope Scale (Snyder et al., 1991) does not specifically assess goals, they have always been an integral part of hope theory.

There are a number of dimensions on which goals can vary that have been discussed in the context of hope theory (Cheavens & Ritschel, 2014; Snyder, 2002). First, goals exist within different temporal frames, spanning minutes (e.g., getting to my next class) to years (e.g., completing my degree). Second, goals can be more or less specific. Well-specified goals have concrete endpoints (e.g., lose 20 pounds) and/or a measure of progress or success that is inherent

to the goal (e.g., adequately care for my child). Third, goals vary in probability of attainment. Some goals are almost certain to be accomplished, and others are unlikely to be successfully completed. Fourth, goals can be dependent on or independent of other people. In other words, individuals can set goals that they can accomplish themselves or goals that rely on the help of others to complete. Fifth, goals can be classified as approach-oriented or avoidance-oriented. In approach-oriented goals, people are moving toward a particular end-point; they are trying to get, achieve, or increase a given outcome. In avoidance-oriented goals, people are moving away from a particular end-point; they are attempting to reduce, get rid of, or attenuate the impact of a particular outcome. Last, goals vary in the degree to which they benefit the individual or the group. Some goals involve an outcome that advantages the pursuer alone (e.g., becoming famous, making a grand sum of money). Other goals, however, might benefit a larger group of people (e.g., opening a soup kitchen, finding a cure for Alzheimer's disease).

Snyder (2002) theorized that hope should be associated with the specificity and importance of goals. In other words, higher hope individuals should focus their attention on goals that they deem important, and these goals should be well-developed. Thus, hope is hypothesized to be positively related to attending to the goals deemed most important by the individual. Snyder (2002) noted that generating workable pathways for a given goal requires that the goal be clearly specified, and generating agency for a given goal is much more likely when that goal is important to the individual. Goals that are important to the individual may also be more likely to be congruent with intrinsic motivation and set in an approach-oriented framework. There is evidence that people tend to have goals in various domains and that lower-hope individuals are likely to be less satisfied than their higher-hope counterparts with outcomes in the domains most important to them (Sympson & Snyder, 1997). As such, lower hope individuals may manifest

difficulties in articulating and specifying important goals as well as in maintaining focused effort on their most important goals. It also has been suggested that individuals with high hope are more likely to set difficult goals (Snyder, Cheavens, & Sympson, 1997) that may require a longer time to complete.

In early writings, Snyder posited that hope was related to intermediate levels of goal attainment probability (Snyder, 1994; Snyder et al., 1991). He and his colleagues (Snyder, 1994; Snyder et al., 1991) suggested that goals with an extremely high likelihood of attainment simply do not require either high levels of agentic motivation or plentiful pathways. Similarly, goals with extremely low probabilities of success were hypothesized to interfere with hopeful thought through failure experiences. In later writing, however, Snyder (2002) suggested that hope may not be related to objective goal difficulty because high-hope individuals are likely to infuse difficulty (or "add flair") into high probability goals as well as to persevere in the face of low probability goals and/or to break such goals into more do-able subgoals. Hope also has been theorized to be related to goals that serve the greater good (Snyder et al., 1997) or are more prosocial. Finally, hope, particularly the agency component, is believed to tap into an individual's belief that she can accomplish desired outcomes through her own efforts (e.g., Snyder, 1994).

Pathways. Snyder (2002) posited that high-hope people should generate more pathways toward goals than their low-hope counterparts (Snyder et al., 1997). Furthermore, high-hope people are theorized to be able to anticipate obstacles to their goals and generate alternative routes that will allow for successful goal pursuits even in the face of blockages. This skill is thought to be one of the distinguishing features between hope and optimism (Snyder, Sympson, Michael, & Cheavens, 2001). Hope theory also suggests that hope should be associated with the

generation of better pathways, including pathways that are more specific to the goal, able to be enacted by the individual, and likely to lead to successful goal attainment (Snyder, 1994).

Associations among Goal-Relevant Behaviors and Hope Scale Scores

Although the connections between hope and both the characteristics of goals and the generation of pathways have been well explicated in theoretical writings and the research base linking hope to desired outcomes continues to flourish (e.g., Espinoza et al., 2017; Scioli et al., 2016), investigations of the specific goal-setting and goal-pursuit behaviors theorized to be associated with hope scores have been scarce since the original Hope Scale validation paper (Snyder et al., 1991). This is particularly true when one considers contributions to the literature that do not rely solely on self-report of goal properties. In this original article, Snyder et al. (1991) found that hope scores were associated with number of goals generated in different life domains, tendency to focus on the likelihood of goal success, perception of a higher probability of goal attainment, and goal difficulty. For example, college-student participants were asked to select a task to complete from a number of tasks ranging from easy to difficult. Hope scores were significantly correlated with the difficulty of the task chosen. This association remained significant even after accounting for optimism scores and grade point averages.

Likewise, there is evidence that high-hope participants are able to generate more pathways than lower hope participants (Snyder et al., 1991). When asked to list potential strategies for obtaining a desired grade, high-hope college students generated more pathways than medium hope students, who generated more pathways than low-hope students. Students also rated the likelihood that they would use each pathway and their certainty that the pathway would successfully lead to the desired grade goal. These ratings were combined to create an overall pathways index. High-hope students had higher pathways indices than low-hope students. More

recently, researchers have shown that pathways scores on the Hope Scale are related to concrete planning (Southerland et al., 2016) and endorsement of behavioral strategies, including physical activity strategies, relevant to the goal of weight management (Nothwehr, Clark, & Perkins, 2013).

The Current Studies

Hope is related to successful goal attainment (e.g., Feldman, Rand, & Kahle-Wrobleski, 2009; Snyder et al., 2002) and is theorized to be related to setting goals with particular properties and generating a greater number of pathways for goals. However, with the exception of limited early work by Snyder et al. (1991), the validity of the Hope Scale has not received much attention. Further, the limited extant research has depended primarily on participants' self-reports of their perceptions regarding the quality of their goals and pathways. In contrast, in the two studies reported here, participants' goals and pathways were coded by a team of raters, enabling us to determine the relation between hope scores and objective assessments of skillful goal-setting and pathway generation. In Study 1, we hypothesized that hope scores would be associated with markers of skillful goal-setting, including higher ratings of goal specificity, difficulty, importance, and approach-orientation. We also expected that higher-hope participants would generate goals that would be rated as more pro-social and less reliant on others. In Study 2, we hypothesized that hope scores would be associated with the number of pathways generated in response to a standardized set of goals. We also predicted that hope scores would be associated with the quality of pathways, including ratings of pathways' relevance to goals, quality, and ability to be measured. Furthermore, we hypothesized that the number of pathways generated would be uniquely related to hope scores and not merely accounted for by scores on other measures of generalized positive future expectancies. We included measures of optimism

and self-efficacy as both of these constructs are closely related to Snyder's conceptualization and measurement of hope (e.g., Fowler, Weber, Klappa, & Miller, 2017; Zhou & Kam, 2016); however, pathways generation is hypothesized to differentiate hope from both constructs (e.g., Snyder et al., 2001). Thus, these tests provide further tests of the discriminate validity of the Hope Scale.

Study 1 Methods

Participants

A total of 162 undergraduate students at a large Midwestern university participated in Study 1. The sample was 61% female and ranged in age from 18 to 33 years ($M = 18.97$, $SD = 1.72$). All participants were enrolled in an introductory psychology course and received class credit for study participation. There were no exclusion criteria for participation and no other demographic information was collected. One participant's score was an outlier (i.e., greater than 3 SDs from the mean) on the Hope Scale (Snyder et al., 1991) and was removed from analyses. All analyses were completed with and without this participant; neither significance tests nor patterns of results were changed.

Measures

The Hope Scale (HS; Snyder et al., 1991) is a 12-item self-report scale designed to measure dispositional hope. The scale, which includes four distracter items, is composed of two subscales: the Pathways subscale (i.e., perceived ability to identify and develop routes to goals) and the Agency subscale (i.e., perceived determination to successfully reach goals). Sample items include: "There are lots of ways around any problem" (pathways) and "Even when others get discouraged, I know I can find a way to solve the problem" (agency). Participants rate each item on an 8-point Likert-type scale ranging from 1 (*definitely false*) to 8 (*definitely true*). Snyder

et al. (1991) reported good test-retest reliability ($r = .85$ over three weeks). The internal consistency estimates of the Hope Scale items were good for this sample (HS total: $\alpha = .83$; Pathways: $\alpha = .78$; Agency: $\alpha = .73$).

Procedure

Participants completed the HS and generated goals as a part of a larger, published study (Feldman et al., 2009), which showed that hope-related measures at an initial assessment time-point predicted subsequent participant-rated goal attainment at a second assessment time-point, three months later. However, Feldman et al. (2009) did not explore the content of participants' goals. In contrast, for the present study, we examined the relationship between initial HS scores and the characteristics of participant goals, as rated by independent observers. Thus, we analyzed the HS scores and the goals that participants generated from the first assessment point only. At the first assessment point, Feldman et al. (2009) asked participants to report to classrooms in groups of 15 to 20, where they were seated at separate desks and completed study questionnaires. In addition to completing the HS, participants were asked to generate a list of seven goals that they would like to complete in the following three months. Participants were not given any limitations regarding the type of goals to nominate, and, as such, these goals encompassed diverse areas of life. Some representative goals were: "Get a 3.0 GPA," "Win the mid-states bowling tournament," "Break my social circle and meet different types of people," and "Dedicate more time in my life to God."

A team of undergraduate research assistants (N = 5), at a separate university and supervised by authors who were not involved in the Feldman et al. (2009) study, rated each goal on eight goal-relevant descriptors using a 7-point Likert-type scale (rated 0 – 6). Specifically, each goal was rated on: 1) approach orientation, 2) specificity, 3) difficulty, 4) time to

completion, 5) degree of change involved, 6) reliance on others for completion, 7) prosocial focus, and 8) objective importance. The raters also categorized goals into one of ten life domains (e.g., family, achievement, health; adapted from Hayes, Strosahl, & Wilson, 1999); for these ratings, raters were ask to choose the life domain that best reflected each goal. They were further instructed to identify the primary domain if multiple domains were relevant to the goal. All of these coded dimensions were developed through review of the aforementioned theoretical literature regarding the ways in which hope is related to goal properties (e.g., Cheavens & Ritschel, 2014; Snyder, Cheavens, & Sympson, 1997; Snyder et al., 1991). Raters were trained by the first and second authors; training involved didactic and group coding meetings using similar goals. Training continued until the group routinely obtained intraclass correlation coefficients greater than or equal to ICC .80 for each goal descriptor (approximately five weeks).

Data Analytic Plan

First, we used the ratings generated from the coders to calculate an average score for each descriptor of every goal provided by participants, resulting in a single score for each of the eight descriptors per goal. This was done to check variability and distributions as well as to examine bivariate relations collapsed across goals. These average goal descriptor ratings were examined for frequency, range, means, and standard deviations. Three of the descriptor ratings (i.e., approach-orientation, reliance on others to complete, prosocial goal) were not normally distributed and were consequently dichotomized to best reflect the distribution of the ratings and meet model assumptions. Other than the outlier mentioned previously and the distribution of these three variables, the data met assumptions for the analyses. We used Pearson correlational analyses to assess the degree of association among the averaged goal descriptor ratings. In order to account for the hierarchical structure of the data (i.e., goals nested within participants), we

used multilevel modeling (MLM) to assess the relationship between participants' HS scores and each of the goal descriptor ratings. Specifically, we constructed 2-level models in which a given descriptor rating (criterion variable) for each goal (Level-1 predictor) was predicted by HS score (Level-2 predictor). In our MLM analyses, HS, a continuous Level-2 predictor, was transformed to a grand-centered variable in accordance with recommendations from Curran and Bauer (2011). Following further recommendations from Curran and Bauer, each model was completed using restricted maximum likelihood estimation, an unstructured covariance structure of the residuals, and the Kenward-Roger method for calculating degrees of freedom. We ran one model for each goal descriptor and a global effect size statistic (pseudo-R^2) was computed for each model from the correlation of the observed and predicted outcome values, as suggested by Singer and Willet (2003). We have included pseudo- R^2 estimates for significant models.

Study 1 Results and Discussion

Before beginning the analyses, we examined the distribution of HS scores and generated inter-rater reliability estimates. The mean HS score was 51.54 ($SD = 5.31$, $R = 37 - 63$, item mean = 6.44), with a mean of 26.24 on the Agency subscale ($SD = 2.98$, $R = 17 - 32$, item mean = 6.56) and 25.37 on the Pathways subscale (SD = 3.10, $R = 19 - 32$, item mean = 6.34). Although mean HS scores were relatively high, this is within the range of expected HS scores for college student samples (Lopez, Ciarlelli, Coffman, Stone, & Wyatt, 2000). Reliability estimates suggested that we had good to excellent agreement between raters (Koo & Li, 2016). ICCs for all goal descriptors were as follows: Domain = .94, Approach Orientation = .85, Specificity = .82, Difficulty = .81, Time to Completion = .73, Degree of Change = .91, Reliance on Others = .87, Prosocial = .95, Objective Importance = .92.

Description of Goals

Participants generated goals that spanned, on average, five life domains ($M = 4.52$, $SD =$ .94, $R = 2 – 7$). Academic (31%), identity (18%), and social (14%) life domains were the most frequently represented (see Table 1 for frequency of all domains). Overall, goals were rated as significantly more approach-oriented (70%) than avoidance-oriented (χ^2 (1, $N = 1134$) = 188.22, $p < .001$), more reliant on self (60%) than others (χ^2 (1, $N = 1134$) = 38.15, $p < .001$), and less prosocial (33%) than self-serving (1, $N = 1134$) = 134.13, $p < .001$). In examining the descriptor rating scores (see Table 2), one can see that participants generated goals that, on average, had relatively high specificity and were relatively short in time to complete, consistent with study instructions that participants list goals that they wanted to achieve by the end of the semester. The goals were rated as fairly easy to obtain and somewhat objectively important or valued.

Several goal descriptor ratings were significantly associated with each other. As can be seen in Table 3, goals that were rated as requiring a longer duration for completion tended to be rated as more difficult to achieve, more objectively important, and less specific. Similarly, more objectively important goals were likely to be rated as requiring more self-reliance and as being more difficult to obtain.

Goal Descriptors and Hope

Four of the eight goal descriptors were significantly related to participants' levels of hope. As can be seen in Table 4, multilevel models indicated that HS scores accounted for significant variance in the difficulty, time to complete, and objective importance of goals, as well as the degree to which the goals were rated as prosocial. Specifically, participants with higher HS scores generated goals that were more difficult to obtain, objectively important, prosocial, and required a longer duration to complete. HS scores were not related to ratings of approach

orientation, specificity, degree of change required, or reliance on others for successful completion. HS scores also were unrelated to the number of different domains represented by the seven goals ($p = .92$).

The results of Study 1 suggest that hope, as measured by the HS, is related to observer ratings of goal characteristics. Specifically, HS scores were associated with the tendency to set goals that are more difficult, take longer to complete, are objectively valued and important, and are likely to benefit others. These findings provide partial support for the validity of HS scores in that hope scores are related to better goal-setting behaviors, as suggested by hope theory Snyder, 2002; Snyder et al., 1997; Snyder et al., 1991).

Study 2 Methods

Participants

A total of 118 undergraduate students at a large Midwestern university participated in Study 2. The sample was primarily female (59%) and ranged in age from 18 to 23 years ($M = 18.86$, $SD = 1.14$). Participants self-identified as Caucasian (80%), African American (9%), Asian (7%), American Indian (1%), and other (3%). There were no exclusion criteria, and all participants were enrolled in an introductory psychology course where they received partial course credit for study participation. One participant was an outlier (i.e., greater than 3 SDs from the mean) on the Pathways subscale of the HS and was thus excluded from analyses. All analyses were completed with and without this participant; neither significance tests nor patterns of results were changed.

Measures

The Hope Scale (HS; Snyder et al., 1991). See description in Study 1. For this sample, internal consistency estimates were good (i.e., Hope Scale: α = .82; Pathways: α = .82; Agency: α = .72).

The Life Orientation Test (LOT; Scheier & Carver, 1985) is a 12-item self-report scale designed to assess dispositional optimism, defined as a generalized expectancy of positive outcomes. Four items are distracter items and are not included in the final score. Example items include: "I always look on the bright side of things" and "I'm always optimistic about my future." Participants provide a rating for each item using a 5-point Likert-type scale ranging from 0 (*strongly disagree*) to 4 (*strongly agree*), with higher scores indicating greater optimism. Scheier and Carver (1985) reported good internal consistency (α = .76) and 4-week test-retest reliability (r = .79) for the LOT. In this sample, the internal consistency was good (α = .86)

The Self-Efficacy Scale (SES; Sherer et al., 1982) is a 30-item trait-like self-report measure of general self-efficacy that includes 7 distractor items. Participants provide a rating for each item using a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), with higher scores reflecting greater self-efficacy. Example items include: "When I have something unpleasant to do, I stick to it until I finish it" and "Failure just makes me try harder." The internal reliability for this sample was good (α = .87).

Procedure

In addition to completing the self-report measures, participants were provided with three goals and asked to generate as many pathways as they could to achieve each of these goals. Participants were given up to an hour to complete the study and completed all study procedures alone in small research rooms. The goals were:

Goal A: *You have a special event coming up in 6 weeks and you want to look your best. List all the ways you can think of to get in shape for the special day.*

Goal B: *Last week your friend confided in you that she has lost interest in school, her friends, and extracurricular activities. She also admits that she has been feeling really down lately. List all of the ways you can think of to help your friend.*

Goal C*: Ultimately, your goal is to get into graduate school after college. You have already arranged for a summer internship, and you also think it would be a good idea to improve your grade point average. List all of the possible ways you can think of to raise your GPA.*

Undergraduate research assistants (N = 3) rated each pathway provided by participants on six descriptors: relevance (i.e., specific to this goal), measurable (i.e., well-operationalized), difficulty, quality (i.e., likely to lead to the goal), approach-orientation, and independence (i.e., enacted without help). Although there is overlap with the characteristics of goals that were rated in Study 1 (e.g., difficulty, approach-orientation), there are several ways in which we would hypothesize that pathways (i.e., plans to pursue goals) would differ from well-articulated goals themselves. For example, goals exist as entities unto themselves, but pathways are, by definition, relative to a goal. Thus, there are some pathways descriptions that likely would not be relevant to goals (e.g., relevance to a particular goal) and some goal descriptions that might not be relevant to pathways (e.g., time to complete). However, because pathways can sometimes be conceptualized as a set of smaller sequential sub-goals, there are some descriptors that would be relevant to both (e.g., approach-orientation). Thus, a separate coding manual was used to generate pathways ratings. Our hypotheses about the properties of pathways were more exploratory than our hypotheses related to goal descriptors. Conceptualizations of hope (e.g., Cheavens & Ritschel, 2014; Snyder, 1994) are quite clear in predictions that hope should be associated with the generation of more pathways and pathways that will aid the individual in getting to his goal. However, the properties of "good" pathways are not well-specified. Raters

were trained to code each descriptor using a 7-point Likert-type scale (rated 0 to 6) and practiced

coding sample pathways until the group obtained intraclass correlation coefficients ≥ .80 for each

pathway descriptor.

ta Analytic Plan

We averaged descriptor rating across raters for each pathway and used the averages for

data analyses. The data were analyzed using similar methods to Study 1, including Pearson

correlational analyses and multilevel modeling. The Pearson correlational analyses use data

averaged across pathways ratings. In multilevel modeling analyses, a 3-level model was used

with pathways (Level 1) nested within goals (Level 2), and goals nested within participants

(Level 3). These models were constructed following the recommendations of Curran and Bauer

(2011), including grand-centered predictor variables (e.g., HS scores), restricted maximum

likelihood estimation, unstructured covariance structure of the residuals, and use of the Kenward-

Roger method for calculating degrees of freedom. Models were constructed identifying HS

scores as a predictor of each of the pathway descriptor ratings, with each goal nested into the

model. Further, similar models were constructed to assess the association between pathway

generation and trait levels of optimism (i.e., LOT) and self-efficacy (i.e., SES) relative to hope.

All data were examined to ensure model assumptions were appropriately satisfied.

Study 2 Results and Discussion

Before beginning analyses, we examined the distribution of HS scores and inter-rater

reliabilities. Total HS scores ($M = 51.42$, $SD = 6.48$, $R = 30 – 64$, item mean = 6.43), as well as

scores on the Agency subscale ($M = 25.95$, $SD = 3.62$, $R = 14 – 32$, item mean = 6.49), and

Pathways subscale ($M = 25.34$, $SD = 4.06$, $R = 14 – 32$, item mean = 6.34) were relatively high

but within the expected range for college students (Lopez et al., 2000). The ICCs for the six

pathways ratings ranged from .60 to .82, indicating moderate to good agreement between raters.[1]

(Koo & Li, 2016). Specifically, the post-training ICCs for pathway descriptors were as follows:

Relevance = .60, Measurable = .68, Difficulty = .73, Quality = .82, Independence = .74,

Approach = .69.

Pathways Descriptor Ratings

Participants provided approximately four pathways per goal ($M = 4.33$, $SD = 2.72$, $R = 1$

- 14). As can be seen in Table 5, pathways tended to be relevant to the goal, easy to use, of

higher than average quality, and measurable. Pathways tended to be approach-oriented and able

to be enacted independently. Compared to Goals B and C, the pathways for Goal A were rated as

less relevant, lower quality, and less approach-oriented ($ps < .05$). The pathways for Goal C were

rated as less measurable and more difficult to use than pathways created for Goals A and B ($ps <$

.05). As can be seen in Table 6, quality ratings were significantly associated with relevance

ratings. Pathways that were rated as less reliant on the aid of others were rated to less difficult to

use and less measurable.

Pathways and Hope

As can be seen in Table 7, multilevel models indicated that, across goals, HS scores were

positively associated with the number of pathways provided. Conversely, neither LOT nor SES

scores were related to the number of pathways generated. We also examined the degree to which

HS scores accounted for differences in pathway ratings (see Table 8). HS scores did not

significantly predict any of the six pathway descriptor ratings when using 95% CI.

Collectively, these findings suggest that participants with higher hope generated more

pathways in response to the standardized goals. Hope was uniquely associated with pathway

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[1]Four raters were originally trained but one was removed from the team due to lower levels of agreement with the rest of the coding team. With all four raters, the ICCs for the eight goal descriptors ranged from .60 to .73.

generation; neither optimism nor self-efficacy was associated with number of pathways generated in response to standardized goals. This adds support to the theoretical assertion that hopeful thought is associated with the ability to produce several ways to reach goals (Snyder et al., 1991; Snyder, 2002).

General Discussion

Hope theory and its primary measure, the Hope Scale, were originally developed in the early 1990s (Snyder et al., 1991. Since that time, this conceptualization of hope has served as the predominant model in the psychology literature. In this model, Snyder (1994; 2002) proposed that hope should be associated with effective goal-setting behaviors and generation of multiple pathways to reach goals. Although some early behavioral laboratory evidence (Snyder et al., 1991) supported these propositions, there have been few attempts to examine the basic tenets of hope theory or further validate the Hope Scale since that time, particularly using research paradigms that do not rely solely on self-report. The results of these two studies support the theoretical underpinnings of hope theory and offer further evidence regarding the validity of the Hope Scale as a measure of this construct. Specifically, the present studies provide evidence that Hope Scale scores are associated with setting goals that are more difficult, long-term, important, and prosocial. Additionally, we found that hope is associated with the number of pathways generated in response to standardized goals. In total, these results suggest that higher hope is associated with specific goal-setting and goal-pursuit behaviors that may increase the likelihood of successful goal attainment. These results also are in-line with Snyder et al.'s (2002) contention that "false hope" (i.e., circumstances in which having high hope would be more maladaptive than having low hope) is unlikely to be problematic. That is, as Snyder and colleagues noted, although high hope individuals have a tendency to set lofty goals, they also engage in the behaviors that

make goal success more likely, even for difficult goals. Of course, having higher hope does not ensure that one's goals are inherently adaptive, just that those goals are more likely to be achieved. Some higher-hope individuals could pursue goals that, if accomplished, would adversely impact themselves or those around them (see Snyder (2002) for a discussion of the paradoxical link between higher hope and suicide).

There is ample evidence from previous work that hope is associated with successful goal attainment (e.g., Curry, Snyder, Cook, Ruby, & Rehm, 1997; Feldman et al., 2009; Snyder et al., 2002). Our findings are broadly consistent with the notion that setting "good" goals may explain the relation between hope and goal attainment. As shown in the present study, people with higher hope appear more likely than their lower-hope counterparts to set objectively valued/important, prosocial, long-term, and challenging goals. It is possible that goals with these characteristics may be more likely to be accomplished. Past research, for instance, has linked prosocial goals to greater behavioral persistence (Bing & Burroughs, 2001; Grant et al., 2007; Naff & Crum, 1999; Vanteenkiste, Lens, & Deci, 2006), which is likely to yield greater goal accomplishment. Similarly, some research has demonstrated that intrinsic goals (which are related to value or importance) are associated with greater levels of both effort and goal attainment (Sheldon, 2001; Sheldon & Elliot, 1999). Unfortunately, none of the studies mentioned measured hope. As such, future studies that test mediational models (e.g., hope predicts goal-setting, which in turn, predicts goal persistence or outcome) will be important in helping us to better understand the role of goal-setting as a mechanism in the hope-goal-outcome relation.

Although Snyder and colleagues (e.g., Snyder et al., 1997) have long suggested that hopeful individuals are concerned with the well-being of others and communities at large, this is the first study to empirically test this association. The Hope Scale does not include any items that

tap into prosocial goals and, in fact, the items are focused solely on an individual's perceptions about his or her ability to generate and use pathways. Thus, it is not immediately obvious how this construct would predict prosocial goal-setting. One possible explanation is that setting and achieving goals that serve others results in more and stronger positive affect which, in turn, serves to reinforce setting such goals in the future. We would like to see this model tested with a longitudinal design.

Finally, we found that hope predicted the number of pathways generated in response to a set of standardized goals. This serves as construct validation for the Hope Scale (Snyder et al., 1991) by demonstrating agreement between the perception that one can generate pathways and behavioral evidence of such. This is particularly important given that number of pathways generated was not related to optimism or self-efficacy, suggesting that this association is not merely a result of a generalized positive future expectancy. It also provides evidence that counters the criticism that hope appears to be redundant with other positive psychology constructs, such as optimism (see Aspinwall & Leaf, 2002). Recently, some researchers have suggested that perhaps pathways thinking should not be considered a component of hope because it is not strongly associated with lay conceptualizations of hope (Tong, Fredrickson, Chang, & Lim, 2010) or goal performance (Crane, 2014). However, our results suggest that pathways thinking, as assessed by the Hope Scale, predicts important goal-relevant behavior. It is possible that generating a greater number of pathways would allow for more choice in how to best pursue important goal outcomes. We look forward to research that tests the links between generation of pathways and goal outcomes. This research would be particularly useful to the degree that assessment of goal obstacles is included.

Hope scores were not associated with ratings of pathways descriptors. Although these analyses were more exploratory than the goal descriptor analyses, we expected higher hope individuals to use strategies for pathways generation similar to those they might use for goal setting. Of note, the relevance of the pathway to the goal was significantly related to hope scores in this sample and is the only pathway descriptor that is explicitly identified in hope theory (e.g., Cheavens & Ritschel, 2014; Snyder, 1994). However, the 95% confidence interval generated through the bootstrapping analyses suggest that this association may be spurious. The relations between hope and the goal-specific relevance of the pathways generated might be a fruitful area of future research but we found no evidence that other pathways properties are significantly related to hope.

One limitation of the present research is that, like other studies of hope that are conducted with undergraduate students, both samples had relatively high mean hope scores. This restriction of range in HS scores may have limited the power to detect associations between hope and some of the goal or pathway ratings. This is likely a limitation of all research that assesses hope and other positive future-oriented constructs in samples of undergraduate students. Undergraduates likely have concerns that differ from the general population, often being more focused on issues of identity and self-presentation (Sears, 1986). The goals reported by our participants, thus, may not be representative of those generated by other samples. The use of college samples is widespread in the hope literature (e.g., Curry, Snyder, Cook, Ruby, & Rehm, 1997; Snyder et al., 2002; Snyder et al., 1991; Tong, Fredrickson, Chang, & Lim, 2010). As such, in the future, researchers should consider replicating the findings of the present studies in age and educationally diverse samples.

Another limitation of the present research is that Study 2 relies primarily on self-reported information. Participants self-reported their pathways thinking for hypothetical goals; although this is a behavioral measure of goal generation and pathways were then rated by observers, it remains unclear if self-reported pathways thinking in a laboratory study accurately reflects how people think when pursuing goals in the real world or if those thoughts influence actual goal achievement. Future research should examine the associations between HS scores, prospective goal-related thinking, and objectively-measured progress or achievement of goals. Finally, we recognize that the model proposed by Snyder (1994, 2002) is not the only way to operationally define hope and that this model does not include all constructs and processes that may be important in hopeful thought (e.g., developmental experiences, emotion, spiritual beliefs). However, the Hope Scale is the most widely used measure of hope in the psychological literature and the data here add further support to the validity of this measure.

The results of these two studies provide empirical evidence consistent with several of the basic tenets of hope theory and further validate the Hope Scale as a measure of hope as a goal-relevant construct. Hope is associated with setting goals that are difficult, long-term, objectively important, and prosocial, as well as with the number of pathways generated in response to goals. We hope that these findings are useful in the continuing quest to understand the ways in which hopeful thinking is linked to the process of goal pursuit.

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References

Aspinwall, L. G., & Leaf, S. L. (2002). In search of the unique aspects of hope: Pinning our

hopes on positive emotions, future-oriented thinking, hard times, and other people.

Psychological Inquiry, 13, 276-321.

Bing, M. N., & Burroughs, S. M. (2001). The predictive and interactive effects of equity

sensitivity in teamwork-oriented organizations. *Journal of Organizational Behavior, 22*,

271–290.

Cheavens, J. S. & Ritschel, L. A. (2014). Hope theory. In M. M. Tugade, M. N. Shiota, & L. D.

Kirby (Eds.) *Handbook of Positive Emotions* (pp. 396 – 410). New York, NY: Guilford

Press.

Crane, M. F. (2014). The differential impact of agency and pathway thinking on goal pursuit and

university exam performance. *Personality and Individual Differences, 58*, 20 – 25.

Curran, P. J. & Bauer, D. J. (2011). The disaggregration of within-person and between-person

effects in longitudinal models of change. *Annual Review of Psychology, 62*, 583 – 619.

Curry, L. A., Snyder, C. R., Cook, D. L., Ruby, B. C., & Rehm, M. (1997). Role of hope in

academic and sport achievement. *Journal of personality and social psychology*, *73*, 1257.

Espinoza, M., Molinari, G., Etchemendy, E., Herrero, R., Botella, C., Barious Rivera, R. M.

(2017). Understanding dispositional hope in general and clinical populations. *Applied

Research in Quality of Life, 12*, 439 – 450.

Feldman, D. B., & Kubota, M. (2015). Hope, self-efficacy, optimism, and academic

achievement: Constructs and levels of specificity in predicting college grade-point

average. *Learning and Individual Differences, 37*, 210-216.

Feldman, D. B., Rand, K. L., & Kahle-Wrobleski, K. (2009). Hope and goal attainment: Testing a basic premise of hope theory. *Journal of Social and Clinical Psychology, 28*, 479 – 497.

Feldman, D. B., & Snyder, C. R. (2005). Hope and the meaningful life: Theoretical and empirical associations between goal-directed thinking and life meaning. *Journal of Social and Clinical Psychology, 24*, 401-421.

Fowler, D. R., Weber, E. N., Klappa, S. P., & Miller, S. A. (2017). Replicating future orientation: Investigating the constructs of hope and optimism and their subscales through replication and expansion. *Personality and Individual Differences, 116*, 22 – 28.

Grant, A. M., Campbell, E. M., Chen, G., Cottone, K., Lapedis, D., & Lee, K. (2007). Impact and the art of motivation maintenance: The effects of contact with beneficiaries on persistence behavior. *Organizational Behavior and Human Decision Processes, 103*, 53–67.

Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (1999). *Acceptance and commitment therapy: An experiential approach to behavior change.* NewYork: Guilford Press.

Koo, T. K. & Li, M. Y. (2016). A guideline of selecting and reporting intraclass correlation coefficients for reliability research. *Journal of Chiropractic Medicine, 15*, 155 – 163.

Lopez, S.J., Ciarlelli, R., Coffman, L., Stone, M., & Wyatt, L. (2000). Diagnosing for Strengths: On Measuring Hope Building Blocks. In C.R. Snyder (Ed.). *Handbook of Hope Theory, Measures and Applications* (pp.57-85). San Diego: Academic Press.

Naff, K. C., & Crum, J. (1999). Working for America: Does public service motivation make a difference? *Review of Public Personnel Administration, 19*, 5–16.

Scheier, M. F. & Carver, C. S. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology, 4*, 219 – 247.

Scioli, A., Scioli-Salter, E. R., Sykes, K., Anderson, C., & Fedele, M. (2016). The positive contributions of hope to maintaining and restoring health: An integrative, mixed-method approach. *The Journal of Positive Psychology, 11*, 135 – 148.

Sheldon, K. M. (2001). The self-concordance model of healthy goal striving: When personal goals correctly represent the person. In Peter Schmuck and Kennon Sheldon (Eds.), *Life goals and well-being: Towards a positive psychology of human striving* (pp. 18-36). Ashland, OH: Hogrefe & Huber Publishers.

Sheldon, K. M., & Elliot, A. J. (1999). Goal striving, need satisfaction, and longitudinal well-being: The self-concordance model. *Journal of Personality and Social Psychology,76*, 482-497.

Sherer, M., Maddux, J. E., Mercandante, B., Prentice-Dunn, S., Jacobs, B., & Rogers, R. W. (1982). The self-efficacy scale: Construction and validation. *Psychological Reports, 51*, 663 – 671.

Singer, J. D. & Willet, J. B. (2003). *Applied longitudinal data analyses: Modeling change and event occurrence*. New York, NY: Oxford University Press.

Snyder, C. R. (1994). *The psychology of hope: You can get there from here*. New York, NY: The Free Press.

Snyder, C. R. (2002). Hope theory: Rainbows in the mind. *Psychological Inquiry, 13*, 249 – 275.

Snyder, C. R., Cheavens, J., & Sympson, S. C. (1997). Hope: An individual motive for social commerce. *Group Dynamics: Theory, Research, and Practice, 1*, 107 – 118.

Snyder, C. R., Harris, C. Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., Yoshinobu, L., Gibb, J., Langelle, C., & Harney, P. (1991). The will and the ways:

Development and validation of an individual differences measure of hope. *Journal of Personality and Social Psychology, 60*, 570 – 585.

Snyder, C. R., Rand, K. L., King, E. A., Feldman, D. B., & Woodward, J. T. (2002). "False" hope. *Journal of Clinical Psychology, 58*, 1003 – 1022.

Snyder, C. R., Shorey, H., S., Cheavens, J., Pulvers, K., M., Adams, V. H., & Wiklund, C. (2002). Hope and academic success in college. *Journal of Educational Psychology, 94*, 820 – 826.

Snyder, C. R., Sympson, S. C., Michael, S. T., & Cheavens, J. (2001). Optimism and hope constructs: Variants on a positive expectancy theme. In E. C. Chang (Ed.) *Optimism and Pessimism: Implications for theory, research, and practice* (pp. 101 – 125). Washington, DC: American Psychological Association.

Southerland, J. L., Slawson, D. L., Pack, R., Sorensen, S., Lyness, J. M., & Hirsch, J. K. (2016). Trait hope and preparation for future care needs among older adult primary care patients. *The Journal of Aging and Mental Health, 39*, 117 – 126.

Sympson, S. C. & Snyder, C. R. (1997). Development and initial validation of the Domain Specific Hope Scale. (Unpublished masters thesis). University of Kansas, Lawrence, KS.

Tong, E. M. W., Fredrickson, B. L., Chang, W., & Lim, Z. X. (2010). Re-examining hope: The roles of agency thinking and pathways thinking. *Cognition and Emotion, 24*, 1207 – 1215.

Vansteenkiste, M., Lens, W., & Deci, E. L. (2006). Intrinsic versus extrinsic goal contents in self-determination theory: Another look at the quality of academic motivation. *Educational psychologist*, *41*(1), 19-31.

Wang, S., Xu, X., Zhou, M., Chen, T., Yang, X., Chen, G., & Gong, Q. (2017). Hope and the

brain: Trait hope mediates the protective role of medial orbitofrontal cortex spontaneous

activity against anxiety. *Neuroimage, 157*, 439 – 447.

Zhou, M. & Kam, C. C. S. (2016). Hope and general self-efficacy: Two measures of the same

construct? *The Journal of Psychology: Interdisciplinary and Applied, 150*, 543 – 559.

Table 1

Frequency of Goal Domains

Domain	*n*	*%*
Academic	355	31.31
Identity (e.g., personality, individual traits, appearance)	203	17.90
Friend	156	13.76
Material things	113	9.96
Hobby/ pleasure	96	8.47
Health (physical or mental)	64	5.64
Family	59	5.20
Career/ work	46	4.06
Spiritual	23	2.03
Community	19	1.68

Table 2

Goal Descriptors: Mean, Standard Deviation, and Range

Continuous Descriptors	M	SD	R
Specificity	3.72	1.38	.20 – 6
Difficulty	1.78	0.82	0 – 5
Time to Complete	2.86	0.96	0 – 6
Degree of Change	3.36	1.13	0 – 5.4
Importance	2.72	0.64	0 – 4.8

Binary Descriptors	% = 1
Approach	70.37
Reliance on Others	40.83
Prosocial	32.80

Note. $N = 1134$. For Approach, 1 = Approach, 0 = Avoidance. For Reliance on Others, 1 = Reliance on Others, 0 = Independent. For Prosocial, 1 = Prosocial, 0 = Focused on Self. Time to Complete = time to completion, Degree of Change = degree of change involved, Importance = objective importance, Approach = approach orientation, Reliance on Others = reliance on others for completion, Prosocial = prosocial focus

Table 3

Correlations of Goal Descriptors

		1	2	3	4	5	6	7	8
1	Total domains	-							
2	Specificity	-.04	-						
3	Difficulty	-.01	.15**	-					
4	Time Complete	-.01	-.55**	.27**	-				
5	Change	.02	.13**	.13**	-.30**	-			
6	Importance	-.01	-.09**	.49**	.44**	-.01	-		
7	Approach	-.05	.10**	.05	-.10**	.16**	.02	-	
8	Reliance Others	.02	-.21**	-.20**	-.04	.10**	-.26**	.05	-
9	Prosocial	.08**	-.24**	-.18**	.19**	-.10**	.21**	-.04	-.35**

Note. N = 1134

**p* < .01

Time to Complete = time to completion, Change = degree of change involved, Importance = objective importance, Approach = approach orientation, Reliance on Others = reliance on others for completion, Prosocial = prosocial focus

Table 4

Hope as Predictor of Goal Descriptors

Continuous Descriptors	Df	F	p	b	se	95% CI	pseudo R^2
1. Specificity	1, 158	.03	.86	-.002	.009	[-.02, .02]	
2. Difficulty	1, 158	5.60	.02	.01	.005	[.002, .02]	0.31
3. Time to Complete	1, 159	4.38	.04	.02	.007	[.001, .03]	0.48
4. Change	1, 159	.15	.70	.003	.008	[-.01, .02]	
5. Importance	1, 159	5.60	.02	.01	.004	[.002, .02]	0.44
Binary Descriptors							
6. Approach	1, 159	.03	.87	-.002	.01	[-.03, .02]	
7. Reliance on Others	1, 159	.36	.55	-.008	.01	[-.03, .02]	
8. Prosocial	1, 159	8.32	.005	.04	.01	[.01, .06]	

Note. 95% CI = upper and lower limits of confidence interval. MLM analyses for each goal descriptor. Time to Complete = time to completion, Change = degree of change involved, Importance = objective importance, Approach = approach orientation, Reliance on Others = reliance on others for completion, Prosocial = prosocial focus.

Table 5

Pathway Descriptors: Mean, Standard Deviation, and Range

Continuous Descriptors	All Goals *M(SD)*R	Goal A *M(SD)*R	Goal B *M(SD)*R	Goal C *M(SD)*R
Total Pathways	4.33(2.72) 1 - 14	4.52(2.92) 1 - 14	4.12(2.53) 1 - 13	4.33(2.68) 1 - 13
Relevance	3.24(1.10) 0 –5.67	2.58(.83) 0 - 5.67	3.41(.77) 1 – 5.67	3.74(1.27) .33 - 5.67
Measurable	3.47(.95) 0 – 6	3.52(1.15) 0 - 6	3.54(.73) 1.33 – 5	3.36(.90) 1 – 5.67
Difficulty	1.62(.67) 0 - 5	1.61(.87) 0 – 5	1.51(.44) .33 - 3	1.72(.58) .33 - 5
Quality	2.95(.93) 0 - 6	2.59(.85) 0 - 5.33	2.83(.67) .67 – 5	3.44(1.02) .33 - 6
Binary Descriptors	%	%	%	%
Independence	57.65	20.30	95.51	26.06
Approach	81.28	24.13	52.05	49.81

Note. Goal A: N = 808. Goal B: N = 757. Goal C: N = 775. Relevance, Measurable, Difficulty, and Quality rated from 0 to 6. Independence rated: 1 = Independent, 0 = Relies on Others to Complete; Approach rated: 1 = Approach; 0 = Avoidant.

Table 6

Correlations of Pathway Descriptors across all Goals

	Descriptors	1	2	3	4	5	6
1	Total Pathways	-					
2	Relevance	-.14**	-				
3	Measurable	.01	.19**	-			
4	Difficulty	.01	.07**	-.23**	-		
5	Quality	-.16**	.66**	-.03	-.03	-	
6	Independence	.01	-.19**	-.32**	-.32**	.15**	-
7	Approach	-.03	.12**	.11**	-.11**	.19**	.04

Note. N = 2340.

**p <.01.

Table 7

Hope, Optimism, and Efficacy as Predictors of Pathway Generation across Goals

Independent Models:	Factors	*df*	*F*	*p*	*b*	*se*	*95% CI*	*pseudo R²*
	Hope Total	1, 127	8.27	.005	.05	.02	[.01, .08]	.44
	Self-Efficacy	1, 123	.20	.66	.004	.009	[-.01, .02]	
	Optimism	1, 102	.38	.54	.01	.02	[-.02, .04]	

Multivariate Model:	Factors	*df*	*F*	*p*	*b*	*se*	*95% CI*	*pseudo R²*
	intercept				4.03	0.14	[3.75,4.30]	.45
	Goal	2, 1905	4.00	.02				
	Hope Total	1, 106	7.07	.01	.06	.02	[.02, .11]	
	Self-Efficacy	1, 104	.67	.42	-.01	.01	[-.04, .02]	
	Optimism	1, 98	1.38	.24	.02	.02	[-.02, .06]	

Note. 95% CI = upper and lower limits of confidence interval. Independent models are MLMs of each construct separately; the multivariate model includes all constructs.

Table 8

Hope as a Predictor of Pathway Descriptors

Descriptors	*df*	*F*	*p*	*b*	*se*	*95% CI*	*pseudo R²*
Relevance	1, 111	2.40	<.001	-.005	.004	[-.013, .002]	.51
Measurable	1, 109	.35	.56	.002	.004	[-.005, .010]	
Difficulty	1, 119	14.92	.85	-.001	.000	[-.001, .001]	
Quality	1, 108	2.30	.13	-.005	.003	[-.011, .001]	
Independence	1, 1952	0.00	.96	-.001	.010	[-.020, .019]	
Approach	1, 1952	2.47	.12	.016	.010	[-.035, .004]	

Note. 95% CI = upper and lower limits of confidence interval.