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### Profiles of hope: How clusters of hope relate to school variables



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#### ABSTRACT

In a diverse sample of 297 adolescents, four clusters based on the agency and pathways subscales of the Children's Hope Scale were derived via cluster analysis: high hopers (n=105), high agency thinkers (n=73), high pathway thinkers (n=57), and low hopers (n=62). We examined differences among clusters on psychological (consideration of future consequences, perceived life chances, perceived stress, and self-esteem) and educational constructs (academic self-concept, academic investment, and self-reported academic achievement). We also examined differences among hope clusters by sex, grade, and socioeconomic status. Results indicated that (a) the hope clusters derived were theoretically consistent with hope theory, (b) there were differences in the demographic makeup of the hope clusters with effect sizes ranging from small to medium, (c) students with different hope profiles differed on the outcome variables with about 50% of the effect sizes ranging from medium to large, and (d) high hopers and high agency thinkers had the most adaptive outcomes. The findings suggest that hope may be a useful variable for determining academic and psychological risk as well as a potential avenue for intervention in adolescence.

#### 1. Introduction

Academic success during the adolescent years has been linked to several positive outcomes later in life. Adolescents with higher grade point averages (GPA) earn more money as adults (French, Homer, Popovici, & Robins, 2015; Oehrlein, 2009), are more likely to be accepted into highly ranked colleges (Espenshade, Hale, & Chung, 2005), are more likely to be successful in college (Noble & Sawyer, 2004), and are more likely to be hired after graduating from college (Barr & Mcneilly, 2002) than those with lower GPAs. Further, students who graduate from college generally have higher status jobs, are happier overall, and live longer lives than those that do not graduate (Egerter, Braveman, Sadegh-Nobari, Grossman-Kahn, & Dekker, 2009; Pascarella & Terenzini, 2005). As can be expected, predicting academic success during adolescence is an area of research that receives substantial attention (see Hattie, 2009 for a review). Perception-based constructs have received substantial attention recently in the academic achievement literature (Paunesku et al., 2015; Yeager & Walton, 2011). This increased focus has come about for at least two reasons: (a) several perception-constructs have been implicated in academic functioning, including closing the achievement gap, and (b) interventions that target perception-based constructs can be quick, effective, and long lasting (Walton & Cohen, 2007, 2011; Yeager & Walton, 2011).

One perception-based construct that appears to have the potential to substantially impact the academic success of adolescent students is trait hope (Snyder, 2002), "a relatively stable personality disposition" (Snyder, Lopez, Shorey, Rand, & Feldman, 2003, p. 123). Although hope can also be assessed as a state (Snyder et al., 1996), that is, "a temporary frame of mind" (Snyder et al., 2003, p. 123), in this paper, all discussions of hope are in terms of hope as trait. In addition to being strongly correlated with academic achievement (e.g., r = 0.69; Feldman & Kubota, 2015), intervention studies have indicated that hope can be changed in as little as 90 minutes (Feldman & Dreher, 2011), and the changes have been substantial (average d = 0.40; Weis & Speridakos, 2011) and have been maintained for as long as 18 months (Marques, Lopez, & Pais-Ribeiro, 2011).

In this paper, we examined the relationship between hope and several psychological and educational variables that are associated with adaptive functioning in adolescence. However, first, we review hope theory and the literature on hope in schools. Next, we discuss some influential school variables and how they relate to hope. Finally, we present a study examining how different profiles based on the two components of hope relate to these variables.

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#### 1.1. Hope

Hope, defined as one's perceived ability to execute envisioned paths to future goals, is a two-component cognitive-motivational construct (Snyder, 2002; Snyder et al., 1991). Hope encompasses how individuals choose goals, how they plan to accomplish chosen goals, their motivation for accomplishing chosen goals, and their belief in their capacity to accomplish chosen goals. Hope is primarily measured in child and adolescent populations using the Children Hope Scale (Snyder et al., 1997) and in adult populations using the Adult Hope Scale (Snyder et al., 1991).

One component of hope is pathways. Pathways is one's perceived ability to envision routes to one's goals (Snyder et al., 1991). Put another way, pathways is one's perceived capacity to envision and produce a roadmap to a better future, irrespective of one's current circumstances. For example, if a student in high school wants to obtain a job as a college professor, his ability to envision himself as a professor in vivid detail will make up part of his pathways thinking, whereas his ability to envision steps to accomplish that goal (e.g., going to college, taking the Graduate Record Examination, excelling in graduate school) will make up the other part. The theoretical importance of pathways is embodied in a quote by William Ward (n.d.): "If you can imagine it, you can achieve it". Snyder (2002) argued that students who are high in pathways produce (a) more elaborate, creative, and specific plans of action to accomplish their goals, (b) more realistic goals, and (c) alternative paths to accomplish goals in the event their initial route proves to be untenable. In contrast, students who are low in pathways typically produce (a) unclear and vague courses of action to accomplish their goals and (b) idealistic and inappropriate goals for their current level of achievement; they also do not produce alternative paths to goals (Snyder, 2002).

The other component of hope is agency. Agency is one's belief, along with the corresponding motivation and confidence, that one can accomplish one's envisioned goals (Snyder, 2002; Snyder et al., 1991). Whereas pathways refers to individuals' perceived ability to see the goals they want to accomplish and the roadmap to achieve them, agency refers to their ability to believe in themselves to accomplish those goals, as well as the motivation to do the work that will propel them along the goal-achievement pathway. Agency also encompasses the determination to persist throughout the goal-achievement process when setbacks occur. Continuing the example above, the student's agency would be his belief, motivation, and confidence in himself that he could excel in college, on the GRE, and in graduate school, and finally attain his goal of being a professor. Students who are high in agency are typically more persistent (Snyder, 1994), more motivated to accomplish their goals (Snyder, 2002), and more likely to engage in strategies that help them to persist during stressful situations (e.g., positive self-talk, Snyder, Lapointe, Crowson, & Early, 1998).

As agency and pathways are both components of hope, they are intercorrelated (Adelabu, 2008; Arif & Yousuf, 2010). However, there is substantial structural validity evidence in support of hope's 2-factor structure. In the study introducing the Adult Hope Scale, Snyder et al. (1991) reported that the 2-factor structure was supported in eight samples - six college student samples and two outpatient samples - and reported correlations among the subscales ranging from 0.38 to 0.57. This finding was replicated in the study introducing the Children's Hope Scale (CHS; Snyder et al., 1997). Snyder et al. (1991), which concluded that agency and pathways were "related, but not synonymous" and speculated that "future research may unravel differential correlates of agency and pathways and may yield information pertaining to their separate construct validity and utility" (p. 582). Although Snyder (2002) continued to theorize about the two factors, a total hope score is typically used in research. In this study, we use the two factors of hope as initially theorized.

#### 1.1.1. Validity evidence supporting hope as a construct

Hope has been distinguished from related constructs like self-efficacy and optimism both theoretically and empirically. Researchers have argued that hope is experienced under different conditions than selfefficacy and optimism, and is elicited in different circumstances (Bruininks & Malle, 2005; Snyder, 2002). For example, optimism is likely to be experienced when students believe that they will accomplish a desirable future goal, like getting an A in a math course, but do not know how the good grade will come about. This feeling of optimism changes to hope when those students envision a pathway to getting the A in the math class; that is, when they know how they will accomplish earning the A and in turn feel a sense of agency in the process of the A coming about (Snyder, 2002). Self-efficacy is different in that it is likely to be experienced before either hope or optimism. Self-efficacy is likely to be experienced in the can phase whereas hope and optimism are likely to be experienced in the will phase (Snyder, 2002). Continuing the example from above, students are likely to experience a sense of self-efficacy when they are deciding whether or not they can get an A in the math class.

Hope has also been shown to be empirically different than self-efficacy and optimism in several studies. Using confirmatory factor analysis, Bryant and Cvengros (2004) found that a joint examination of hope and optimism items resulted in the best fit when the items from the two constructs loaded on separate factors. Feldman and Kubota (2015) found that general hope shared 44% of the variance with general self-efficacy (r = 0.67) and that academic hope shared a similar amount of variance with academic self-efficacy (r = 0.66), indicating that about 56% of the variance in the constructs is unique. Mirroring these findings, Ben-Naim, Laslo-Roth, Einav, Biran, and Margalit (2017) reported that both the pathways and agency subscales of hope shared about 42% of variance with academic self-efficacy (r = 0.65 & 0.64respectively), whereas Dixson, Worrell, Olszewski-Kubilius, and Subotnik (2016) found that hope shared about 20% of variance with academic self-efficacy (r = 0.45). All three of these studies indicate that more than half of hope's contribution is unique. Finally, correlations between hope and optimism range from 0.23 to 0.56 (Feldman & Kubota, 2015; Magaletta & Oliver, 1999; Coyle, & Vera, 2010).

Hope is also meaningfully related to several educational and psychological constructs in the literature. Hope has been found to correlate with academic achievement at all levels of education, even after controlling for ability (Curry, Snyder, Cook, Ruby, & Rehm, 1997; Snyder et al., 2002) and academic engagement (Marques, Lopez, Fontaine, Coimbra, & Mitchell, 2015). Researchers have found that hope is positively associated with several additional outcomes, such as success in competition (Curry & Snyder, 2000), general wellbeing (Parker et al., 2015; Satici, 2016), problem solving ability (Snyder et al., 1991), resilience (Satici, 2016), and social competence (Sympson, 1999). Longitudinal studies have shown hope to be related to life satisfaction after a year (Marques, Lopez, & Mitchell, 2013) and to more favorable developmental trajectories over a three-year span (Schmid et al., 2011). Additionally, researchers have found hope is inversely related to several negative outcomes, such as anxiety (Arnau, Rosen, Finch, Rhudy, & Fortunato, 2007), depression (Snyder, 2004), and PTSD (Hassija, Luterek, Naragon-Gainey, Moore, & Simpson, 2012).

#### 1.1.2. Hope and demographic variables

Several studies have examined how hope relates to gender, race, age, and SES. Results from the majority of studies examining gender have indicated that hope scores do not differ significantly based on gender (Adelabu, 2008; Snyder et al., 1997, 2002, 2003). However, Valle, Huebner, and Suldo (2004) found that women reported significantly higher hope scores than men, but with a small effect size (d = 0.16). Results from studies examining whether hope scores differ significantly across race are mixed. Although some studies indicate that hope scores do not differ significantly based on race (Adelabu, 2008;

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