A Longitudinal Study of the Stability of Hope in Late Adolescence

DISSERTATION

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By

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Research continually demonstrates the importance of trait hope on mental and physical health as well as academic achievement. Nonetheless, psychologists have failed to thoroughly examine aspects of hope theory, itself. The two factor structure of hope (agency and pathways) has been repeatedly supported, but little research has focused on the theorized stability of trait hope. To date, only 3, poorly conducted, empirical studies have measured the stability of trait hope for longer than a 3-month period; furthermore, study conclusions have been mixed (Langelle, 1989; Mashunkashey-Shadlow, 2009; Valle et al., 2006). In order to address this dearth of research, a 2-year longitudinal, non-experimental, panel study was used to measure the stability of trait hope among late adolescents. The convenience sample (N=147) consisted of 11th and 12th grade students from 2 large high schools in central and north central Ohio. The Trait Hope Scale (Snyder et al., 1991) and State Hope Scale (Snyder et al., 1996) measured participants’ levels of state and trait hope at 4 time periods, approximately 6 months apart. Grade point average, likelihood to dropout of school, and various demographic variables were also measured. Results indicate that both trait and state hope are unstable. Despite its instability, trait hope significantly predicted participants GPA’s at each phase of measurement. Trait hope was also associated, although minimally, with likelihood to dropout of school. No differences were discovered between trait hope and demographic
variables. This study provides preliminary information about the trajectory of hope in adolescence and adds to the refinement of hope theory. Implications for psychologists include developing and using interventions to increase hope. Further, facilitating hope in adolescents will increase academic achievement and reduce school dropout.
To Mom, Dad, Brock, & Andrew

who teach me to count

while showing me that the best things in life

can’t be measured.
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In a gentle way you can shake the world. -Mahatma Gandhi

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Publications


Fields of Study

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Chapter 1: Introduction

Theoretical Foundation

Positive psychology’s revolutionary vision catalyzed a shift in the field of psychology away from a disease model toward the enhancement of the quality of life through a focus on strengths (Seligman & Csikszentmihalyi, 2000). Research on one such strength – hope – has expanded its conceptualization beyond initial references in Greek mythology and ancient philosophy into a widely used, measurable construct.

Although hope has also been conceptualized as a relational process (Gaskin & Forte, 1995; Marcel, 1962 in Farran, Herth & Popovich, 1995), a component of personality (Lazurus, 1999; Roth & Hammelstein, 2007; Tierney, 1994), and an emotion (Averill, Caitlin, & Chon, 1990; Bagozzi, Baumgartner, Pieters, & Zeelenberg, 2000; Bloch, 1986; Davidson, Jackson & Kalin, 2000; Frijda, 2000; Lazarus, 1999; Mowrer, 1960; Roseman, 1991), cognitive hope theory is the most widely accepted, empirically demonstrated, and superiorly conceptualized.

Originally proposed by Erikson (1964), hope was cognitively defined as “the enduring belief in the attainability of fervent wishes, in spite of dark urges and rages which mark the beginning of existence” (p. 118). Stotland (1969) expanded this definition to include the perceived probability of goal attainment. Since that time, Breznitz (1986) and Farran et al. (1995) worked to further develop a cognitively defined
theory of hope adding references to perceived control and action. Building on these
cognitive theorists, Snyder (1994) offered the most well-developed and researched theory
of hope. According to Snyder, “Hope is a positive motivational state that is based on an
interactively derived sense of agency and pathways” (p. 287).

Snyder’s (1994) definition, accepted for the current research, clearly involves
three distinct components – goals, agency thinking, and pathway thinking. The guiding
assumption of hope theory is that goals are the cognitive anchors of hopeful thinking
(Snyder, 1994; Snyder, 2000a, Snyder, Cheavens, & Symson, 1997; Snyder, Symson,
Michael & Cheavens, 2000). Goals are defined as any object, experience, or outcome
that one imagines and desires; further, goals can vary according to time frame and
importance (Snyder, 1994). The second component of Snyder’s (1994) hope theory –
pathway thinking – is the mental capacity to create effective strategies for goal attainment
and produce alternative goal attainment strategies when initial attempts are blocked.
Additionally, agency thinking represents one’s perceived motivation to enact goal
attainment strategies (Snyder, 1994). These thoughts represent the mental energy to
begin enacting goal attainment strategies as well as the appraisal of the capability to
persevere in the pursuit of goals despite obstacles. Pathway and agency thoughts are both
additive and iterative over the course of a given sequence of goal-directed cognitions
(Snyder et al., 1991). Thus, pathways and agency thoughts build on one another.
Because of the bidirectional and additive relationship, hope necessitates both pathway
and agency thought (Snyder, 1994). As such, hope is the sum of both pathway and
agency thinking.
The importance of hope has been repeatedly demonstrated over the past decade. Hope research shows the positive impact of hopeful thinking on academic performance, mental health, and physical health. Cheavens, Michael, and Snyder (2005) found that students with high hopefulness demonstrated superior academic performance when compared to students with low hopefulness across all levels of education. Similarly, research has demonstrated the impact of hope on school grades in elementary (Snyder et al., 1997), junior high (Gilman et al., 2006), high school (Gilman et al., 2006; Snyder et al., 1991) and college (Snyder et al., 1991; Snyder et al., 2002). The impact of hope on academic performance is so strong that Ciarrochi, Heaven, and Davies (2007) concluded that hope predicts a greater amount of variance in school grades than self-esteem or positive attributional style.

Preliminary research has also linked hope to student retention. Worrell and Hale (2001) found that adolescent students who were at-risk for dropping out of school, but possessed high levels of hope were significantly less likely to dropout than their low hope counterparts. Similarly, Snyder, Shorey, et al. (2002) conducted a longitudinal investigation and found that hopeful college students were less likely to dropout or be dismissed for academic performance than hopeless students. Although further investigation must be done to confirm these preliminary findings, the outlook is promising.

There is also “a long history” of psychologists evaluating the relationship between hope and psychological health (Cheavens et al., 2005, p. 124). The evidence is clear; hope is a strong predictor of mental health. In fact, hope predicts better overall
adjustment (Cramer & Drykacz, 1998; Kwon, 2002), positive affect (Cramer & Drykacz, 1998; Shorey, Snyder, Yang & Lewin, 2005), life satisfaction (Bailey, Eng, Frisch & Snyder, 2007), and self-worth (Bailey et al., 2007). As expected, high levels of hope are also related to lower rates of suicidal thinking, suicide attempts (Range & Penton, 1994; Roswar斯基 & Dunn, 2009), self-deprecatory thinking, and depression (Gilman, Dooley & Florell, 2006; Snyder, 1999). Hopeful thinking clearly demonstrates a positive impact on mental health, but also positively impacts physical health.

The impact of hopeful thinking on physical health has been demonstrated at both the level of health prevention and secondary health maintenance. At the prevention level, hopeful thinking predicts more knowledge about potential threats to physical health and greater intentions to engage in illness prevention behaviors (Irving, Snyder & Crowson, 1998; Snyder, 2002). Similarly, Cheavens et al. (2005) demonstrated that hopeful individuals engage in more physical exercise that those with low hope. Hope also works at the level of health maintenance by helping people manage the negative impact of physical ailments. Stanton, Danoff-Burg, and Huggins (2002) empirically demonstrated that hope predicted perceived health after surgery as well as less distress and fewer visits to the physician among cancer patients. Similar findings have been demonstrated for a variety of diseases including: major burn injuries (Barnum, Snyder, Rapoff, Mani, & Thompson, 1998), visual impairment (Jackson, Taylor, Palmatier, Elliott, & Elliot, 1998), severe injuries from automobile accidents (Elliott & Kurylo, 2000), and renal failure (Billington, Simpson, Unwin, Bray, & Giles, 2008). Furthermore, people high in hope also report less pain with physical ailments, a greater likelihood to use coping strategies
(Berg, Snyder, & Hamilton, 2008), and more adherence to treatment than their low hope counterparts (Berg, Rapoff, Snyder and Belmont, 2007). In fact, the physical benefits of hopeful thinking are so powerful Begley and Blackwood (2000) argue that withholding the truth from a medical patient in order to protect their hope can be morally acceptable. Clearly, research has demonstrated the importance of hope on physical health both in the prevention of physical ailments and managing the impact of ailments when they do occur.

Despite increased interest in hope and empirical documentation of its value, considerable gaps remain in our substantive knowledge base (Cutliffe, 2006). Other areas of life that could be positively impacted by hope remain relatively unexamined. For example, a dearth of research exists regarding the relationship between hope and student dropout. The results of Worrel and Hale (2001) and Snyder et al. (2002) suggest promise for utilizing hope to decrease dropout; however, more research must be conducted to replicate these findings.

Research has also failed to thoroughly examine aspects of hope theory, itself. Although the two factor structure of hope (agency and pathways) has been repeatedly supported (Snyder et al., 1991), there remains disagreement about the theorized stability of dispositional hope. According to Snyder et al. (1991), hope is indeed an enduring pattern of thinking about oneself in relation to life goals. In fact, hope’s independence from situational factors distinguishes it from optimism (Snyder, 1989). Unfortunately, these hefty theoretical assertions claim stability over an individual’s entire lifespan, but were based on correlations (3-week: \( r = .85 \), 8-week: \( r = .73 \), 10-week: \( r = .82 \)) between test and retest scores over a period of only 10-weeks (Snyder et al., 1991). Further, hope
theory proposes that the stability of hope is established by middle childhood and increases with age (Snyder, 1994).

Theorists assert a variety of mechanisms including cognitive resiliency (Snyder et al., 1991), self-referential cognitions (Snyder, 2000), ongoing positive internal dialogues (Snyder, LaPointe, Crowson & Early, 1998), operant conditioning (McDermott & Snyder, 1999), and social learning (Rodriguez-Hanley & Snyder, 2000) maintain hope levels after they are established. Hollaran and Snyder (1990) and Tierney (1994) related a cognitively defined sense of hope to measures of personality, thereby concluding that because hope is related to personality it can be assumed to be stable.

Despite these theoretical assertions that hope is stable, many theorists argue that hope is an unstable construct. Even Snyder (1994) asserts that for most people, most of the time, hope is stable; however, the author admits that this “does not mean that hope will not, or cannot change” (p. 69). Furthermore, Snyder (1998) argues that individuals with low hope can benefit from an infusion of situational hope (Snyder, 1998), indicating that hope can be influenced through situations and change over time. Life events including child abuse, prejudice, loss of a parent, divorce, and traumatic life events have also been theorized to impact hope, suggesting instability (Barnum, 1993; Snyder, 1994).

Arguments for the stability of hope based on its association to personality are also subject to scrutiny. Mischel (1968, 1999) argues that the relationship between behaviors across situations varies more due to situational attributes than personality; thus, personality is unstable or nonexistent. Quackenbush (2001) suggests that the stability thesis of personality is insensitive to falsification. Others suggest that personality
development is not complete, thus unstable, until young adulthood (Roberts & DelVecchio, 2000; Roberts, Walton & Viechtbauer, 2006). In sum, suggestions that hope is stable because of its association to personality fail to consider arguments regarding the instability of personality.

The theorized stability of hope, a cognition, is dependent on the trajectory of cognitive development. Piaget’s (1926) developmental theory suggests that the final stage of cognitive development, the Formal Operational Stage, is not complete, if ever complete, until adulthood. This presumption has been supported by a variety of authors (Case, 1998; Goldberg, Maurer & Lewis, 2001; Keating, 2004). Because hopeful thinking is related to cognitive development and cognitive development is not complete until adulthood (with some adults never fully reaching the Formal Operational Stage), the cognition – hope – cannot be assumed to be stable until cognitive development is complete.

In order to rectify contradictory messages about the stability of hope in hope theory, a differentiation was proposed between stable and unstable forms of hope (Sympson, 1991). To this point, discussion has revolved around the construct of trait hope or dispositional hope. However, an alternative to trait hope – state hope – has also been documented in the literature and must be considered. State hope was defined by Sympson (1991) as a “construct of time-limited hope that varies as a function of life experiences” (p. 1). State hope is theorized to reflect the appraisal of those events that are transpiring in everyday life (Ybasco, 1994) and varying according to ongoing conditions (Sympson, 1991). Thus, by definition, state hope is unstable. State hope
demonstrates a variable base upon which more enduring, trait hope, is built (Ybasco, 1994). Nevertheless, the need to distinguish between state and trait hope based only on stability, while maintaining the same definition (a two-factor structure containing agency and pathway thoughts), is evidence for the instability of hope.

Theoretical assertions regarding hope’s instability, the impact of life events on hope levels, an alternative form of hope defined based on instability, the instability of personality, continued personality development into adulthood, and continued cognitive development into adulthood suggest that hope is unstable; still, the mere three longitudinal, empirical studies measuring the stability of hope are the most useful measure of instability. To date, only three empirical studies (Valle, Huebner & Suldo, 2006; Mashunkashey-Shadlow, 2009; Langelle, 1989) have been conducted to measure the stability of hopeful thinking in a mentally and physically healthy population for longer than a 10-week period.

Langelle (1989) conducted a cross-sectional study of trait hope and found mixed conclusions. Initial analysis revealed that levels of hope were not related to age, suggesting stability. However, when marital status and joint monthly income were controlled, results demonstrated that persons in their twenties had higher levels of hope than persons in their thirties and forties, which suggests that hope is unstable. In order to rectify these contradictory findings, Mashunkashey-Shadlow (2009) and Valle et al. (2006) conducted longitudinal measurements over multiple-year periods.

Mashunkashey-Shadlow (2009) examined trait hope in a population of Native American children over a 3-year period. The author concluded that there was no
difference in hope scores between measurement phases; however, the study demonstrates weak methodology, subjecting the results to severe biases. Mashunkashey-Shadlow (2009) examined the stability of hope with an abysmal attrition rate (49%), yet made no statistical attempt to control for this validity threat. Given the unacceptable attrition rate, it is unclear if findings represent the stability of hope or if participants with unstable levels of hope were unaccounted for during follow-up measurement.

Valle et al. (2006) measured the stability of trait hope among middle and high school students over a 1-year period. Results indicated a test-retest reliability coefficient of .47, which the authors concluded indicates moderate stability. Like Mashunkashey-Shadlow (2009) however, Valle et al. (2006) had pronounced methodological errors. Study results are questionable because the measurement instrument was used outside the population range for which it was tested for validity and reliability, $t$-tests were conducted at $\alpha=.01$, potentially causing small changes in hope to be undetected (type II error), and data collection occurred near the time of the September 11, 2001 terrorist attacks potentially threatening internal validity. Finally, a reduction in test-retest reliability from Snyder et al. (1997) 1-month measurement interval ($r=.73$) compared to Valle et al. (2006) 1-year measurement interval ($r=.47$) seems to indicate that trait hope is less stable over time. Due to study limitations and inconclusive findings, the results of Valle et al. (2006), Mashunkashey-Shadlow (2009), and Langelle (1989) do not clarify the debate regarding the stability or instability of hope. Thus, future empirical study must rigorously test the stability of hope.
Noticing the lack of useful longitudinal research on hope, many authors have called for additional investigation in this area (Farran et al., 1995; Langelle, 1989; Mashunkashey-Shadlow, 2009; Snyder, 1994, 2002; Sympson, 1991; Valle et al., 2006). Farran et al. (1995) state, “Future research should incorporate longitudinal designs to explore how hope and hopelessness vary by developmental stage or whether they are ongoing and constant over time” (p. 196). Clearly, it is crucial that the stability of both state and trait hope be tested longitudinally and not just presumed based on theory and poorly designed studies alone.

Purpose of the Study

A longitudinal study examining the instability of trait and state hope in healthy adolescents was necessary to resolve the debate about the construct’s instability. Demonstration of instability was crucial because recent research recognizing the importance of hope has lead to the development of hope enhancing interventions; however, the effectiveness of these interventions depends on the presumption that hope is malleable. If, in fact, hope is stable, then interventions aimed to increase hopeful thinking will be unsuccessful and need not be employed. Nevertheless, hope theorists have been inconclusive as to the stability or instability of hope. Hope literature inadequately demonstrates the construct’s stability or instability for several reasons: (1) theoretical assertions support both the construct’s stability and instability; (2) little empirical research has examined the stability of hope over long periods of time; (3) the few empirical research studies conducted suggest mixed conclusions about the stability of hope. Lack of theoretical clarity about the stability or instability of hope and
inconclusive empirical support for the stability of hope required further empirical investigation.

Research Questions and Suppositions

In order to remediate the deficit of research in these areas, the following research questions were investigated:

Research Question One
Is trait hope stable over a 2-year period?

Although theoretical research partially supports the stability of trait hope, the instability of trait hope is substantiated by a variety of explanations including: the influence of life events on hopeful thinking, an alternatively defined, unstable conceptualization of hope (state hope), the impact of intervention on hope levels in the short term, the instability of personality due to situational variables, the continued development of personality throughout adolescence, and the continued development of cognition into adulthood. Furthermore, the three empirical studies measuring hope over the long term (Langelle, 1989; Mashunkashey-Shadlow, 2009; Valle et al., 2006) offer reason to believe the construct is unstable. Based on this theoretical and empirical foundation, the demonstration that hope is an unstable construct may provide a rationale for future development, research, and implementation of hope interventions.

Supposition 1: Trait hope is expected to be unstable in late adolescence.

Research Question Two
Is state hope stable over a 2-year period?
State hope is defined as “time-limited hope that varies as a function of experiences” \( \text{(Sympson, 1991, p. 1)} \). As defined and demonstrated \( \text{(Borders, 1993; Sympson, 1991; Ybasco, 1994)} \), state hope shares a two-factor structure (agency thinking and pathway thinking) with trait hope, but it is unstable. Investigation of this research question was crucial for several reasons. First, few studies have investigated the stability of state hope. Second, because trait and state hope are defined identically with the exception of stability, then the demonstration that neither trait nor state hope is stable will reveal that, in fact, the two constructs may be empirically indistinguishable.

**Supposition 2:** State hope is expected to be unstable in late adolescence.

**Research Question Three**

Does trait hope predict grade point average?

High levels of hope are related to many aspects of the academic environment, in turn, explaining the relationship between hope and academic achievement. Hopeful students are more likely to set concrete academic goals and then create and enact strategies to reach those goals \( \text{(Cheavens et al., 2005)} \). Likewise, hopeful students employ more effective and flexible goal directed strategies \( \text{(Gilman, Dooley & Florell, 2006)} \), have more persistence in goal pursuits \( \text{(Snyder et al., 1991)} \), and perceive greater control over their environment \( \text{(Chang, 1998; Snyder et al., 2002)} \). Hopeful students also experience less psychological distress, school maladjustment, and self-deprecatory thinking \( \text{(Gilman et al., 2006)} \). These factors are theorized to contribute to the ability of trait hope to predict grade point averages in junior high school students \( \text{(Gilman, Dooley} \)).
& Florell, 2006), high school students (Gilman et al., 2006; Snyder et al., 1991), and college students (Chang, 1998; Snyder et al., 1991; Snyder, Shorey, et al., 2002).

**Supposition 3:** Trait hope will predict grade point average.

*Research Question Four*

Does trait hope predict students’ likelihood to dropout of high school?

Preliminary findings (Snyder, Shorey, et al., 2002; Worrel & Hale, 2001) suggest that hope predicts likelihood of student dropout. Ong, Edwards, and Bergeman (2006) suggest that state hope serves as a protective mechanism to keep negative emotions low, allow the recovery from stress, and enable the person to focus on new strategies for academic success. Others propose that hopeful students’ greater satisfaction with academic progress (Chang, 1998), better social competence (Barnum et al., 1998), greater pleasure in forming relationships (Snyder, Hoza, et al., 1997), more feelings of control over the environment (Chang, 1998; Snyder et al., 2002) and high levels of school connectedness (You et al., 2008) create a barrier to dropout. Thus, findings are expected to confirm the results of Snyder, Shorey, et al. (2002) and Worrell and Hale (2001), hopefulness predicts less likelihood to dropout.

**Supposition 4:** Trait hope is expected to predict likelihood to dropout of school.
Chapter 2: Literature Review

References to hope, as a topic, can be found in ancient mythological accounts, religious texts, and philosophical debates. As Barrack Obama’s presidential campaign demonstrated, hope remains a prominent and powerful construct today. Unfortunately, hope lacked research until the later part of the twentieth century (Elliot, 2005). Today, the scientific investigation of hope is expanding, making it increasingly important to recognize how hope theory has developed and grown. The current study was built upon a thorough examination of hope literature. Both theoretical and empirical publications were carefully reviewed, exposing the need for longitudinal research regarding the stability of hope. This chapter will provide a review of the literature relevant to hope theory, the importance of hope, and the stability of hope. The theoretical positions and empirical findings presented here justify the current research questions and hypotheses.

Historical and Theoretical Underpinnings of Hope Theory

History of Hope

The oldest and most well known story of hope comes from Greek mythology, in which Zeus sought revenge against the mortal Prometheus for stealing fire from the gods (Snyder, 2000a). In order to intact his revenge, Zeus created Pandora. She was sent to earth with a box, but told never to open it. Unable to resist the temptation, Pandora opened the box, releasing great plagues such as gout, colic, envy and spite. Before the
box could be closed, the only remaining occupant was hope. Although, the story of Pandora provides no indication if the remaining hope was just another source of suffering or an antidote for the unleashed plagues, the story provides the first documented reference to hope (Snyder, 2000a).

Philosophers Sophocles and Nietzsche offered subsequent discussions about hope. They argued, based on the story of Pandora and personal conceptualizations that hope only served to stretch the suffering of humankind (Snyder, 2000a). Euripides agreed, calling hope a “curse upon humanity” (Snyder, 2000a, p. 4). Later scholars and political leaders including Benjamin Franklin, Francis Bacon, and William Shakespeare contributed to the cynicism about hope, asserting that hope was an illusion, lacking substance (Snyder, 2000a). Opponents to these cynics, such as Kierkegaard, identified hope as “the passion for the possible” (in Averill, Caitlin, & Chon, 1990, p. 104).

Later references to hope included its adoption as an integral part of spirituality, as defined by Judeo-Christianity (Elliot, 2005). In fact, numerous theologians suggest that hope cannot be separated from faith and that neither could exist without the other (Clark, 2003). The foundation of this argument is that both faith and hope are based on spiritual structure, aimed at making judgments about uncertain outcomes (Farran et al., 1995). Others even suggest that hope, along with faith and love, are the essence of religion (Dutney, 2005; Elliot, 2005). Hope within biblical texts is solely centered on God and His word, linked to a future that is promised (by God) to be good, and enables the transformation of the present into a source of good (Elliot, 2005). As such, the existence
of hope is not doubted; hope is either rightfully placed in God, or wrongfully placed elsewhere (Elliot, 2005).

More recently, the cognitive conceptualization of hope has been applied to the understanding of religious behavior. Snyder, Sigmon, and Feldman (2002) examine the practice of religion within the framework of cognitive hope theory. These authors explained that religions often dictate many of a religious person’s most valued goals, which become the foundation for hopeful thinking. Furthermore, reading sacred texts, pondering the words of religious leaders, and discussing ideas with members of the religious community are sources of pathway thinking (Snyder, Sigmon, et al., 2002). Religious persons navigate goal blockages using prayer and rituals to maintain higher levels of pathway thinking (Snyder, Sigmon, et al., 2002; Ciarrocchi, DyLiacco & Deneke, 2008). Finally, religion instills agency through specific religious beliefs, sense of connection with the deity, supportive resources inherent in most religious communities, and religiosity (Snyder, Sigmon, et al., 2002; Ciarrocchi et al., 2008). The connection between religion and hope can obviously be understood through a cognitive understanding of the construct. More importantly, the willingness of a diverse group of authors to assert a cognitive explanation for the relationship between hope and religion clearly indicates that the study of hope has moved beyond philosophy and religion into empirical investigation.

*Theoretical Underpinnings*

Although Greek mythology and spiritual references to hope have sustained its presence for centuries, the psychological and medical conceptualization of hope was
primarily derived from three sources: existentialism, social learning theory, and developmental theory. Consequently, hope was divested of any religious, philosophical, or social connotations and identified as a psychological variable operating on the individual (Elliot, 2005). By the 1960’s “hope could no longer be defined by nor confined to the religious realm” (Elliot, 2005, p. 14).

Existentialism addresses existence as unexplainable, asserting themes of suffering, meaninglessness, and despair resulting from a hostile and indifferent universe (Farran et al., 1995; Smith, 2007). Further, existentialism emphasizes the rationale attributes of hope, such as choice, responsibility, and consequences of actions (Farran et al., 1995). The phenomenological nature of experiences is also a tenet of both existentialism and hope theory (Smith, 2007).

Bandura’s (1977a) social learning theory provides the greatest theoretical foundation for hope theory. Social learning theory emphasizes the self-regulatory capacity of humans to plan, create, imagine, and engage in foresight as well as the reciprocal interaction of the individual’s behavior, personal factors, and the environment. As such, appropriate behavior is modeled by others and goals determine behavior. According to social learning theory, hopefulness and self-motivation are the result of clearly defined subgoals that are instrumental in achieving larger goals (Farran et al., 1995). Still, social learning theory asserts that hope is not a total theory of behavior, just an aspect of personal motivation (Farran et al., 1995).

Erikson’s (1964) epigenetic developmental model provides support for later relational and cognitive conceptualizations of hope. In this model, hope is based on early
trusting relationships with caregivers and cumulative experiences in society. Hope represents one of several basic human qualities, Erikson (1964) calls virtues, which are vital to safeguard the psychosocial survival of man and assure human adaptation. Because hope is the first virtue to be developed, the development of all subsequent virtues depends on the appropriate development of hope, suggesting its absolute importance (Elliot, 2005; Erikson, 1964). Next, relating hope to dependence on others suggests that survival is the explanatory cause of hope. Finally, growth of hope out of trusting relationships provides a rationale for a relationally derived sense of hope (Elliot, 2005). Although the epigenetic development model, existentialism, and social learning theory forwarded the study of hope, the construct was not fully defined nor the sole focus of research until very recently.

Role of Positive Psychology

The advent and development of positive psychology had a major influence in the advancement of hope research. Positive psychology aims to “catalyze a change in the focus of psychology from only preoccupation with repairing the worst things in life to also building positive qualities” (Seligman & Csikszentmihalyi, 2000, p. 5). Before World War II the field of psychology had three goals: curing mental illness, making the lives of all people more productive and fulfilling, and identifying and nurturing high talent (Seligman & Csikszentmihalyi, 2000). Due to the birth of the Veteran Affairs and National Institute of Mental Health, grant dollars have been allocated primarily to study and treat pathology (Seligman & Csikszentmihalyi, 2000; Snyder, Rand, & Sigmon, 2002). As a result, the field of psychology adopted a disease model of remediating
illness and began to ignore the value of personal strengths. To address this problem, Seligman and Csikszentmihalyi (2000) introduced positive psychology, a revolutionary vision of psychological practice focused on improving current strengths in order to improve life and prevent illness.

In this way, positive psychology laid the foundation for research of psychological strengths – such as hope. Because of its emphasis on understanding and enhancing adaptive ways of functioning, hope theory clearly fit the positive psychology model (Snyder, Rand, et al., 2002). Researchers began scientifically addressing the importance of hope, often using different definitions and conceptualizations (Farran et al., 1995). The most common of these conceptualizations are hope as a relational process, an aspect of personality, an emotion, and a cognition; notably, the cognitive conceptualization remains the most well developed, rigorously tested, and widely accepted.

Conceptualizations of Hope

Each conceptualization of hope – relational, personality trait, affective, and cognitive – has contributed to the advancement of hope research; thus, all are presented. It is crucial to note, however, the numerous limitations of the relational and emotional conceptualizations justify the use of the more superior cognitive conceptualization in the current study.

Hope as a Relational Process

Although admittedly the weakest conceptualization of hope, the construct has been defined as a relational process, inspired by love, which occurs between persons (Gaskin & Forte, 1995; Marcel, 1962 in Farran et al., 1995). Erikson (1964, 1982) noted
that hope is a relational process, first developed by early caregiver relationships and then molded by later life experiences with others. In essence, relational conceptualizations of hope represent the attributes of others that help people to successfully navigate crises (Farran et al., 1995). An elderly population identified relationships with family members as important aspects of their hope development and maintenance (Westburg, 2001). In fact, Westburg (2001) observed the lowest hope in elderly women whom had experienced a break in caregiver attachment, due to death or separation, before the age of ten. The author concluded that the failure of initial caregiver relationships to foster hope suppressed the individual’s later capacity for hope development.

Caregivers of a terminally ill population also reported that their relationships with family members and their experience of the ill person’s love gave them hope and contributed to their persistence (Farran, Keane-Hagerty, Salloway, Kupferer & Wilken, 1991). Likewise, Farran et al. (1995) suggests that relational attributes of hope enable healthy persons to successfully navigate traumatic life events. Research demonstrates that social experiences with family and peers mediate the relationship between hope and adolescent substance abuse (Carvajal, Clair, Nash, & Evans, 1998), further supporting the association between hope and interpersonal relationships.

More recently the conceptualization of hope as a relational process has occurred within the context of the therapeutic relationship. The use of the therapeutic relationship to increase hope was first proposed by Stotland (1969) in which he cited three means by which a person can influence another’s level of hope: (1) the gift of presence, (2) communicating positive expectations for the target person, and (3) exhibiting a
confidence in the other’s likelihood to overcome difficulties. A model of bereavement counseling purports that hope is increased through the implicit projection of hope within the therapeutic connection with the client (Cutcliffe, 2006). The implicit projection of hope is accomplished through the experience of human care and connection, countering the projection of hopelessness from others, unwavering commitment from the therapist, and the re-discovery of trust (Cutcliffe, 2006). Likewise, Flaskas (2007) reports a bidirectional association between the therapeutic relationship and the client’s experience of hope, such that client’s hope influences the alliance and the alliance influences the client’s hope.

Despite these assertions, others (Averill et al., 1990; Shorey et al., 2003; Snyder, 1994, 2000a; Snyder et al., 1991) conclude that hope is either a cognitive or affective construct, but is developed and maintained, in part, by interpersonal relationships. Confirming this assertion, correlational research by Snyder et al. (1991) measured hope cognitively and found that compared to people low in hope, hopeful people describe themselves as being more effective at establishing interpersonal relationships and more likely to function in the independent role within the relationship. These associations were attributed to cognitive components such as shared goals, exposure to a greater number of goal directed pathways, and role modeling (Snyder, 1994; Snyder et al., 1991).

Although relational theorists (Cutcliffe, 2006; Erikson, 1964, 1982; Flaskas, 2007; Stotland, 1969; Westburg, 2001) argue that individuals’ relationships are central to the definition of hope, it appears that relational conceptualizations of hope are merely explanations of the development and maintenance of hope as defined by cognitive or
emotional conceptualizations. In fact, measures used by relational theorists conducting empirical investigations primarily reflect affective or cognitive definitions (Cutcliffe, 2006; Flaskas, 2007; Westburg, 2001). Given the poorly defined and infrequently measured relational definition of hope, hope research has focused almost exclusively on affective and cognitive definitions. The current study will follow this precedent by not using the relational conceptualization of hope in the construct’s measurement.

*Hope as an Personality Trait*

A second conceptualization of hope regards the construct as an aspect of personality. Although Snyder’s (1994) cognitive hope theory fails to specifically identify hope as a personality trait, the author does suggest that explanations for the enduring nature of hopeful thinking can be found in personality research. Likewise, Roth and Hammelstein (2007) and Lazarus (1999) theorized that hope is both a personality trait and an emotion. Tierney (1994) conducted the first and only study to demonstrate the relationship between hope and personality traits. The study compared high and low hope individuals on 23 personality traits and personality profiles. Results indicated that personality profiles did, indeed, explain the variance in hope scores. One factor, independence, explained the largest percentage of variance (27%) in hope. Individuals who score high on independence are self-sufficient and resourceful (Tierney, 1994). These characteristics are similar to the characteristics outlined by Snyder (1994) in which high hope individuals are defined as having higher perceived control, ability to solve problems, positive affect, and positive goal expectancies. Other personality traits such as confidence, ambition, self-assurance, optimism about the future, drive to do well, and
flexibility were also found to distinguish low hope individuals from high hope individuals (Tierney, 1994). All in all, personality types were able to differentiate people with high and low levels of hope, suggesting that trait hope may, in fact, be an aspect of personality (Tierney, 1994).

Examination of the Big Five personality dimensions, specifically conscientiousness and neuroticism, demonstrates another potential link between personality and hope. The conscientiousness dimension relates to traits that are careful, thorough, and governed by the conscious (McCrea & Costa, 1987). McCrea and Costa (1987) use adjectives such as adherence to plans, energetic, directed, persevering, and scrupulous to define and measure high conscientiousness. Adjectives used to describe low conscientiousness included thoughtlessness and aimless. Interestingly, Snyder (1994) used each of these terms associated with high conscientiousness to describe those high in hope and each of these terms used to describe low conscientiousness to describe a person low in hope. Hopeful persons are characterized by goal setting and perseverance in pursuit of goals (Snyder, 1994), two characteristics also used to identified persons high in conscientiousness. Furthermore, Zweig and Webster (2004) related goal orientation and persistence in pursuit of goals to conscientiousness. The theoretical underpinnings of personality theory surrounding conscientiousness and Hope Theory demonstrate a relationship between the two constructs.

Hopeful thinking may also be categorized by the Big Five personality dimension neuroticism, which represents the propensity to experience a variety of negative affects (McCrae & Costa, 1987). Measurement of neuroticism takes into account one’s ability to
cope, impulsivity versus planning, and self-referent behaviors (McCrae & Costa, 1987). The authors suggest that people high in neuroticism may enact wishful thoughts as opposed to planned (pathway) thoughts. On the contrary, persons low in neuroticism are characterized by positive affectivity including optimism. The relationships between optimism, positive affectivity, and planned thinking underscore the relationship between hope and neuroticism. Indeed, significant, high correlations between these constructs (Holleran & Snyder, 1990) suggest a relationship between hope and personality.

The consideration of hope as a personality trait has significant implications for the construct’s theoretical stability; however, hope has not been included as a measure on personality profiles. In other words, personality profiles can be used to predict levels of hope (Tierney, 1994) but do not measure it directly. Further, conceptualizing hope as a personality trait does not preclude it from also representing a relational factor, an emotion, or a cognition. Therefore, the current study regards the relationship between hope and personality as an important theoretical consideration when examining the stability of hope, but unrelated to measurement of the construct.

Still, the conceptualization of hope as either an emotion or cognition is rather complicated. In fact, one of the greatest debates among hope theorists is the debate over the primacy of cognition or emotion in the experience of hope (Sears, 2007). The Dictionary of Psychology (VandenBos, 2006) defines hope as “an emotion characterized by the expectation that one will have positive experiences and by the belief that one can influence one’s experiences in a positive way” (p. 447). The inclusion of both cognitive
(i.e. expectations and beliefs) and affective aspects of hope in this definition demonstrates that both affective and cognitive conceptualizations must be considered.

Hope as an Emotion

Numerous authors conceptualize hope as an emotion (Averill et al., 1990; Bagozzi et al., 2000; Bloch, 1986; Davidson et al., 2000; Frijda, 2000; Lazarus, 1999; Mowrer, 1960; Roseman, 1991). Evolutionary psychologists suggest that hope is an innate emotion primarily responsible for promoting the survival of the human species through goal directed behavior (Davidson et al., 2000). The individual’s survival goal is the propagation of genes; hope activates goal directed behaviors to reach this goal (Davidson et al., 2000).

In the most commonly cited publication conceptualizing hope as an emotion, Averill et al. (1990) asked participants to compare their subjective experience of hope to broadly accepted emotions, namely love and anger. The authors assessed hope on the five premises they assert underlie all emotions and concluded that the construct is, indeed, an emotion. First, the authors’ comparisons of participants’ experiences of hope with love and anger, led to the conclusion that hope is difficult to control. Second, hope, like all emotions, is experienced passively and without explanation. Third, hope is experienced “instinctively” as an automatic reaction, which results from socially constructed expectations and experiences (p. 45). Based on a predisposition, a person who experiences a situation in which the rules of hope apply (realistic goals, uncertainty about reaching goals, goal is a desired priority, future orientation, willingness to behave in goal directed manner) automatically experiences some level of hope. Fourth, the
emotional experience of hope affects one’s interpretation (which is cognitive) of a situation and likelihood for success. Recognizing the potential problem with including a reference to cognition in a justification for defining hope as an emotion, the authors claim great variation in the definition of cognition. Averill et al. (1990) assert that when cognition is narrowly defined as “the intellectual process in which knowledge is gained,” then hope is non-cognitive (p. 47). Fifth, the emotional experience of hope impacts behavior and motivates one to act. Emotions are acts of self-persuasion, seen especially in situations where knowledge is incomplete or interests conflict (Averill, 2001 in Averill & Sundararajan, 2005). Because future orientation is a basic tenet of hope, and future outcomes are unknown, Averill et al. (1990) posit that the experience of hope is inevitably emotional and motivating. Bloch (1986) shared this position, arguing that hope is experienced as an emotion because it stems from deeply seated drives, which when consciously experienced, are felt as impulses to action. As such, hope is comprised of thematic and narrative components: wishes for an outcome, coping responses, and belief systems. Together, these components provide the internal, emotional motivation to move toward goals (Averill & Sundararajan, 2005). Averill et al. (1990) suggests that the motivating affect, hope, is most likely to occur when goals are at an intermediate level of difficulty, reasonably attainable, under one’s control, perceived as important to the individuals’ pursuing them, and considered socially and morally acceptable. Although not one of the five criteria the authors make use of to distinguish emotions from cognitions, Averill et al. (1990) suggest that the universal experience of hope provides further support for the construct’s conceptualization as an emotion. In sum, Averill et al.
(1990) conclude that because hope conforms to the major criteria for an emotional model – hope is difficult to control, experienced passively, experienced automatically, is non-cognitive (when cognition is defined in the narrow sense), and motivates behavior – it is indeed an emotion.

Mowrer (1960), a behaviorist working with stimulus-response paradigms in animal models, identified hope as an affective secondary reinforcer. Emotions have the power to reinforce behaviors, whereas, cognitions do not (Mowrer, 1960). The author demonstrated that hope occurred with the onset of a stimulus that was associated with pleasure. Over time and additional pairings of stimuli and reinforcers, the animals increased in anticipatory activity for the stimuli. Therefore, Mowrer (1960) concludes that the emotion of hope drove animals toward their goals, suggesting that this motivation would not be possible if hope were indeed cognitive.

Lazarus (1999) also supports an emotional conceptualization of hope, asserting that hope is an emotional response to the presumed fate of goals. The author argues that hope is an emotion because it arises from a strong desire to be in a different situation than the present and from the impression that the situation can be altered. In addition, Lazarus (1999) explains that emotions represent increased behavioral, subjective emotional, and physiological activation (Bagozzi et al., 2000). Hope increases activation in these three areas; therefore, it suits the classification of an emotion (Lazarus, 1999). The author distinguishes hope from other emotions in that hope is future centered and lacks a clear, inevitable, strong action tendency unless substantially activated.
Lazarus (1999) posits that cognitive conceptualizations are flawed by the inclusion of agency thinking. The author asserts that hope exists even when persons have no control over outcomes; thus, a sense of confidence and control facilitates hope and mobilizes goal directed behavior and problem-focused coping, but it is not essential for the experience of hope. However, Lazarus (1999) does recognize the role of cognition in hope, suggesting that beliefs in the possibility for a favorable outcome (a cognitive aspect), distinguish it from optimism.

Appraisal theory (Frijda, 2000; Bagozzi et al., 2000; Roseman, 1991) provides further support for the conceptualization of hope as primarily an emotion with a secondary cognitive component. Appraisal theory asserts that emotion-eliciting situations are cognitively evaluated based on the significance of the event to one’s well-being, in terms of goal relevance, goal congruence, and ego involvement. These cognitive appraisals create action readiness profiles, which predict behavior (Bagozzi et al., 2000). Because different emotions show different action readiness profiles, emotions, such as hope, can be predicted from features of emotion-eliciting situations (Bagozzi et al., 2000; Frijda, 2000). In similar findings, Roseman (1991) demonstrated that hope increased in response to the appraisal of uncertain outcomes as positive, especially when outcomes were appraised to be caused by the self rather than by circumstances. Roth and Hammelstein (2007) also found that hope was dependent on the appraisals of specific situations. As such, appraisal theory regards the emotion - hope - as primary, but dependent on the cognitive evaluation of goal relevance, goal congruence, ego involvement, and personal control. Nonetheless, appraisal theory is consistent with
Averill et al. (1990) assertion that hope is an emotion, whose intensity is regulated by higher-order cognition.

Comparisons of the experience of hope to other emotions, its ability to motivate behavior, and associations with appraisal theory have led several researchers to conceptualize hope as an emotion (Averill et al., 1990; Bagozzi et al., 2000; Bloch, 1986; Davidson et al., 2000; Frijda, 2000; Lazarus, 1999; Mowrer, 1960; Roseman, 1991). Interestingly, emotional conceptualizations of hope rely on acquisition and conformity of rules and language, which are cognitive processes (Elliot, 2005). In fact, most emotional conceptualizations of hope rely on references to cognition to explain how the construct functions. This reliance on cognition suggests the primacy and superiority of a cognitive explanation of hope (Elliot, 2005). For this reason, the majority of hope research in the past 20 years has focused on a cognitively defined sense of hope (Farran et al., 1995; Snyder, 2002). The current study will follow this precedent.

Hope as a Cognition

In the earliest reference to hope as a cognition, Erikson (1964) defined it as “the enduring belief in the attainability of fervent wishes, in spite of dark urges and rages which mark the beginning of existence” (p. 118). This definition clearly emphasizes goal-directed cognitions. Stotland (1969) expanded this definition, using a cognitive-behavioral framework, to include the perceived probability of goal attainment. In this definition, hope was “an expectation greater than zero of achieving a goal” (p. 2). Further, the author asserted that hope was incorporated into one’s schemas based upon
previous learning and experiences. Stotland (1969) also proposed that the importance of the goal under consideration was related to a person’s subjective judgment of hope.

More recently, Breznitz (1986) defined hope as a “fleeting thought or a description of a cognitive state” (p. 296). The author suggested that hope was only powerful enough to influence behavior when it was sufficiently strong and persistent so as to induce physiological arousal. Breznitz (1986) suggested that hope can take five forms: intention, performance, protected area, bridge, and an end in itself. He also differentiated hope, a noun, and the work of hoping, where the work of hoping represents the active process or verb.

Farran et al. (1995) acknowledged hope as a rational thought process comprised of five components. First, hope requires goals and the ability to articulate one’s goals. Second, hope necessitates resources including social connections, physical and emotional energy. Third, hope is active, such that actions are taken that attempt to reach one’s goals. Fourth, hope requires a sense of control over internal states, the future, past, and present. Finally, hope requires the ability to imagine a future. According to Farran et al. (1995) high scores on each component comprise hope.

Building on previous cognitive theorists, Snyder (1994) offered the most well developed and researched theory of hope. According to Snyder, “Hope is a positive motivational state that is based on an interactively derived sense of successful (a) agency (goal directed energy), and (b) pathways (planning to meet goals)” (p. 287). Clearly, this definition involves three distinct components – goals (the foundational assumption to hopeful thinking), agency thinking, and pathway thinking.
The guiding assumption of hope theory is that goals are the cognitive anchors of hopeful thinking (Snyder, 1994; Snyder, 2000a; Snyder, Cheavens, & Sympson, 1997; Snyder, Sympson, Michael, & Cheavens, 2000). Goals are defined as any object, experience, or outcome that one imagines and desires (Snyder, 1994). Goals can vary according to time frame (i.e. short and long term goals) and importance (Snyder, 1994). In fact, only goals of “some magnitude or importance” can serve as the cognitive anchors of hope (Snyder, 1994, p. 5). Furthermore, goals with the greatest perceived importance are the most prominent in individuals’ thoughts (Snyder et al., 2005). Although goals are created under varying degrees of perceived attainment, they must include a level of attainment uncertainty (Snyder, 1994). Under optimal conditions, goals operate within intermediate degrees of goal attainment, called stretch goals (Snyder et al., 2005).

Snyder, Feldman, Taylor, Schroeder, and Adams (2000) posited that there are two general types of goals. Approach goals include maintenance goals, goals imagined for the first time, and continued progress goals. On the contrary, avoidance goals are aimed at preventing or delaying the occurrence of an unwanted situation or outcome. Either approach or avoidance goals can serve as the cognitive anchor for hope (Snyder et al., 2005).

The second component of Snyder’s (1994) hope theory – pathway thinking – is the mental capacity to create effective strategies for goal attainment and produce alternative goal attainment strategies when initial attempts are blocked. For example, the statement “There are lots of ways around any problem,” represents pathway thinking. Clearly, pathway thinking reflects the evaluation and refinement of plans in light of any
impeding circumstances that are encountered (Snyder, Cheavens, & Michael, 1999).

Pathway thinking is based, in part, on a previous history of finding one or more successful goal attainment strategies (Snyder, 1994). Persons high in hope as compared to persons low in hope perceive themselves as more effective in creating goal attainment strategies, actually are more effective at producing goal attainment strategies, and are adept at altering their routes to goal attainment so as to maximize the effectiveness of their goal pursuits (Snyder et al., 1991; Snyder, Sympson, et al., 1996).

The third component of Snyder’s (1994) hope theory – agentic thinking – represents one’s perceived motivation to enact goal attainment strategies. These thoughts reflect the mental energy to begin enacting goal attainment strategies as well as the appraisal of the capability to persevere in the pursuit of goals despite obstacles (Snyder, 2000a). Agentic thinking is encompassed in the statement, “I energetically pursue my goals.” Agentic thinking is always crucial for hope, but is most significant when impediments in goal pursuits are encountered (Snyder et al., 2005). During these instances, agentic thinking enables the focus of requisite motivation to the best alternative pathways (Snyder, 1994). Interestingly, agentic thinking is not derived from goal pursuits that are easily obtained without hindrances; instead, agency is based on previous learning during times that one was able to generate mental efforts to overcome obstacles inhibiting goal pursuits (Snyder, 1994).

Pathway and agency thoughts are both additive and iterative over the course of a given sequence of goal-directed cognitions (Snyder et al., 1991). Thus, pathways and agency thoughts build on one another. Because of the bidirectional and additive
relationship, hope necessitates both pathway and agency thought (Snyder, 1994). As such, many measures arrive at total hope by summing pathway and agency thinking (Snyder et al., 1991; Snyder et al., 1996).

Cognitive theories of hope (Breznitz, 1986; Erikson, 1964; Snyder, 1994; Snyder 2000a, Snyder, 2000a, Snyder et al., 2005; Snyder et al., 1991; Snyder, Feldman, et al., 2000; Snyder et al., 1996; Snyder et al., 1997; Snyder, Sympson, et al., 2000; Stotland, 1969) are supported by the findings of Gottschalk, Fronczek, and Buchsbaum (1993). Results from positron emission tomography (PET) scans suggest that the psychological state of hope involves, for the most part, brain areas responsible for cognition. Specifically, the prefrontal cortex demonstrated significant increases in glucose consumption, whereas subcortical regions (implicated in emotional processing) did not. Because PET scans measure gross brain activation, and the prefrontal cortex is implicated in some emotional responses, Gottschalk et al. (1993) conclude that study results support cognitive theories of hope, but do not eliminate the potential role of emotions.

Combined Model of Hope: Emotion and Cognition

Although there remains disagreement regarding the primacy of emotion and cognition, theorists in both camps have admitted the presence of affect and cognition in hope (Averill et al., 1990; Snyder, 2000a; Snyder et al., 2005). Staats (1989) defined hope as “the interaction between wishes and expectations” (p. 367). As such, hope involved both cognitive and effective components. Affectively, hope is the difference between expected positive and expected negative affect (Staats, 2001). Cognitively, hope
is the communication between positive and negative expectancies and the desires that cause them (Staats, 2001).

Affective theorists, Averill et al. (1990) admit that “contemporary psychological theory has tended to exclude hope from the category of emotion” (p. 38). The authors also assert that hope is “more cognitive than other emotions” (p. 47). In fact, Averill et al. (1990) conclude that the determination about the affective or cognitive nature of hope is dependent on the use of broad or narrow definitions of cognition found in psychological literature. According to the authors, “nothing [within the broad definition of cognition] precludes emotions from being cognitive;” thus, the ways that emotions, including hope, may and may not be cognitive “deserve careful consideration” (p. 47).

Likewise, cognitive theorists, Snyder (2000b) and Snyder et al. (2005) propose an addition to hope theory, which includes the role of emotions. Despite the authors’ assertion that cognitions are primary, they suggest that emotions follow one’s thoughts about goal pursuits; thus, emotions are a byproduct of goal directed thought (Snyder et al., 2005). Positive emotions are elicited upon perceived success of goal pursuits, whereas negative emotions are elicited upon perceived failure of goal pursuits (Snyder, 2000a; Snyder et al., 2005). Thus, the cognition, hope, frequently drives an emotional response. Positive emotions then serve to reinforce successive goal pursuits, and negative emotions provide feedback that different goal pursuit pathways must be sought out in future pursuits (Snyder, 2000a).

Despite the debate over the primacy of cognition or emotion within the experience of hope, there are fewer emotional-based theories than cognitive-based theories (Snyder
et al., 2005). Further, many emotion-based theories also incorporate cognition into their models (Snyder et al., 2005), which causes a lack of clarity and tension (Elliot, 2005). Because of affective theories dependency on cognition, lack of effective measurements of hope conceptualized affectively, and the results of brain scanning, the majority of research currently being conducted measures hope as a cognitive domain (Farran et al., 1995; Snyder, 2002). Elliot (2005) states that within the field of psychology, the cognitive conceptualization of hope as operationalized, defined, and measured has “held sway” (p. 24). Due to the weakness of the relational and affective conceptualizations of hope, as well as the inability to measure hope as an aspect of personality, the current study will align with the field and define and measure hope cognitively.

Differences between Hope and Related Constructs

Examining historical perspectives, underlying theories, alternative conceptualizations and the differences between state and trait hope are not sufficient to fully understand the construct. In order to truly conceptualize hope, there must be clarity between hope and other similar constructs. Self-efficacy and optimism, in particular, are highly associated with hope because all are positive anticipatory states (Bruininks & Malle, 2006). Self-efficacy was generally defined by Bandura (1977b) as a belief in one’s capability to reach a specific goal. Since that time, Bandura (1982, 1997) has suggested that self-efficacy is comprised of two components. First, outcome expectancies represent a person’s evaluation of the likelihood of goal attainment (Bandura, 1982, 1997). This definition closely mirrors the definition of pathway thinking. However, pathway thinking also involves the creation of initial routes to attain
goals and adjustment of routes when faced with obstacles; whereas, outcome expectancies include only the use of existing resources, not creating new (Snyder, 1994, 2002). Furthermore, outcome expectancies are related to very specific goals; pathway thinking is applied across a broader scope of one’s goals (Lackaye, Margalit, Ziv & Ziman, 2006; Snyder, 2002). Clearly, there are distinctions between outcome expectancies and pathway thinking.

The second component of self-efficacy, efficacy expectation, is one’s confidence in his or her ability to execute courses of action necessary to reach the specific goal (Bandura, 1982; Bandura, 1997). Although similar to agentic thinking within the definition of hope, efficacy expectation refers to confidence in one’s capacity to reach a goal; however, agentic thinking refers to the motivation to enact strategies (Snyder, 2002). Furthermore, agentic thinking applies to all of one’s goals; whereas, efficacy expectation applies only to a specific goal (Lackaye, et al., 2006). Another more general difference between hope and self-efficacy is that hope includes a connection to emotion (Snyder et al., 2005) while self-efficacy (Bandura, 1977a) does not. Although the constructs are similar, research has demonstrated that hope has a distinct factor structure when compared to self-efficacy (Carifio & Rhodes, 2002; Irving et al., 2004; Magaletta & Oliver, 1999).

Like self-efficacy, optimism is highly related although empirically distinct from hope (Bruininks & Malle, 2006; Bryant & Cvengros, 2004; Carifio & Rhodes, 2001; Snyder, Sympton, Michael, & Cheavens, 2001). Optimism refers to the belief that the future will be positive (Scheier & Carver, 1985). Snyder et al. (2001) found that the
primary difference between hope and optimism relates to pathway thinking. Optimism is viewed as a focus on outcome expectancies determining goal-directed behavior (agentive thinking); whereas, hope includes both agentive and pathway thinking (Snyder, 1994, 2002). Furthermore, Snyder (1994) asserts that optimism provides neither planning of routes to meet desired goals nor mechanisms for adjusting to impediments in goal pursuits, thereby causing frustration. On the contrary, pathway thinking includes the ability to create routes to achieve goals and to adjust to goal blockages.

Hope is also different from learned optimism, which involves distancing oneself from and delimiting failures, because an essential process in hope is linking oneself to potential successes (Snyder, 1994). In a study comparing hope and optimism, Bruininks and Malle (2006) found that the two constructs are empirically distinct. Hope focuses more directly on expectations about the personal attainment of specific goals; while, optimism focuses more broadly on expectations about the quality of future outcomes in general (Bruininks & Malle, 2006; Bryant & Cvengros, 2004). Byant and Cvengros (2004) also concluded that optimism is more closely related to the appraisal of personal outcomes and hope is more closely related to beliefs about personal capabilities. Despite many similarities, hope is empirically distinct from both optimism and self-efficacy.

The need to differentiate hope from related psychological constructs demonstrates its dramatic transformation from an aspect of mythological stories and philosophical debates to a well-researched empirical construct. As a result, the importance of hope has been clearly demonstrated. Because of the robust impact of hope on academic performance, school dropout, mental health, and physical health, an understanding of its
development as well as psychotherapeutic and school psychological interventions to increase hope must be explored.

Development of Hope

Many theorists have examined the development of hope as a means to gain further insight into the mechanisms that enable its profound effects. Researchers agree that the development of hope occurs early (Averill et al., 1990; Erikson, 1964; Snyder, 1994, 2000c, 2002; Shorey et al., 2003). Some authors argue that the cognitive development of infants vastly impacts the development of hope while others add that interpersonal relationships, language usage, experience with goal pursuits, and the academic environment have a profound impact (Averill et al., 1990; Erikson, 1964; Snyder 1994, 2000c).

Snyder (1994, 2000c) suggests that infants’ exploration of the environment at birth allows for the processing and encoding of new sensory information. These new sensations and the meaning assigned to them, perceptions, provide the infant with early schemas about the world around them. By attending to schematic linkages between goals and behaviors, infants and toddlers begin to understand the chronology of events (Snyder, 1994, 2000c). Often by 3-months, and certainly by 12-months, anticipatory thoughts and linkages evolve into pointing, the initial expression of goal identification (Snyder, 2000c). With continued development of the prefrontal cortex, the toddler becomes more adept at sustaining attention, which maintains goal representation despite distractions, and planning, which facilitates the imagination of various goal pursuit pathways (Snyder, 2000c). Thus, pathway thinking develops as infants form schemas and perceptions about
their immediate environment, gain a chronological understanding of events, learn subsequent associations between events and goals, and experience cognitive advancements in attention and planning (Snyder, 1994, 2000c).

Agency thinking develops after pathway thinking because it requires the infant to have knowledge of selfhood and insight into the self as the instigator (Snyder, 2000c). Still, Kaplan (1978) demonstrated that toddlers recognize themselves in a mirror by 12-21 months and use the pronoun “I” by 18-21 months. Within the first 2-years, the development of selfhood causes the recognition that one is making a move toward a desired goal which forms the basis of agency thinking (Snyder, 2000c).

Erikson’s (1964) epigenetic developmental model offers an additional explanation of hope development. According to Erikson, the child’s premier question or concern, between birth and 2-years, is whether or not to trust the world. Hope results as the child adopts a sense of trust rather than mistrust during this critical stage (Erikson, 1964). As a result, hopeful thinking relies on a person’s sense of connection with the larger universe. Likewise, Bandura’s (1977) social learning theory suggests that people learn through observing others’ behaviors, attitudes, and outcomes of those behaviors; thus, interpersonal relationships that model high agency and pathway thinking, and subsequent behavior, teach hopeful thinking to the child (Snyder, 1994). Although most research in this area has been theoretical in nature, Shorey et al. (2003) provided empirical support for a model in which parenting contributed to the formation of attachment styles, thereby facilitating the development of hopeful thinking. Secure attachment led to higher levels of agency and pathway thinking, while both anxious and avoidant attachment led to lower
levels of hope (Shorey et al., 2003). Furthermore, attachment to caregivers with high levels of hope increased the likelihood that the child will form strong attachments with others, and their goals will involve the goals of other people – a “we/me” type of goal (Snyder, Cheavens & Symson, 1997).

Interpersonal connections are especially important for the development of hope when goal blockages are encountered (Shorey et al., 2003; Snyder, 1994). Impediments to goal pursuits produce negative emotions, especially if the blockage is sizable (Snyder, 1993, 1994). Social connections with caregivers provide a resource for children in these situations to learn frustration tolerance and be assisted in discovering alternative routes to avoid the impediment and reach the goal (Shorey et al., 2003; Snyder, 2000c). On the contrary, the successful pursuit of goals produces positive emotions, especially if obstacles have been overcome in the process (Snyder, 1993, 1994). These positive emotions increase agency thinking, especially when reinforced by interpersonal relationships (Snyder, 2000c). Thus, interpersonal connections and attachment build an environment where goal impediments become opportunities for children to learn frustration tolerance, discover alternative goal pursuit pathways, and gain the perception that they are successful in the pursuit of their goals.

Like interpersonal interactions, language plays a critical role in the development of both pathway and agency thinking. Language provides children with the opportunity to reference their own capacities and volitions; in turn, children’s rumination on successful goal completion builds agency thinking (Snyder, 2000c). Furthermore, language provides a system of symbols for building mental maps of the world, which
enhance pathway thinking. The more scripts children have for a variety of situations, the better prepared they are to reach their goals in those situations (Snyder, 1994). In addition, the more similarities children recognize across situations, the more general principles they acquire about goal-directed thinking.

Academic subjects, especially in the elementary and middle school, provide a mechanism to further the development of hope (Snyder, 1994). Reading expands one’s factual information base, providing the foundation for hopeful thoughts and goals (Snyder, 1994, 2000c). Secondly, the goal pursuit activities that produced the facts being read model pathway thinking (Snyder, 2000a). Mathematics facilitates the development of hope because math terminology is similar to hope terminology (Snyder, 1994). Questions are posed as “problems,” similar to goal blockages, for which math calls for “solutions,” or pathway thinking. Math symbols also indicate the hopeful thought process – pathways with inherent agentic properties. As a whole, academic subjects increase opportunities for goal development, model pathway thinking, and even replicate the hope thought process.

Increasingly complex thinking, interpersonal relationships, experience with goal impediments, language development, and academic lessons provide opportunities for children to solidify earlier gains in hopeful thinking. Over time, children’s thoughts about themselves and their goal pursuits become more refined and complex (Snyder, 2000c). Hope theory asserts that in late adolescence a more coherent sense of personal identity offers a platform for goal directed thinking and a stable sense of hope (Snyder 1994, 2000c). Early hope development and stabilization in late adolescence enables
individuals to benefit from the powerfully positive effects of hopeful thinking. In fact, the robust impact of a fully developed sense of hope has been demonstrated on academic achievement, school dropout, mental health, and physical health.

Importance of Hopeful Thinking

Impact of Hope on Academic Achievement

Hopeful thinking greatly impacts academic performance. Students with high hopefulness demonstrate superior academic performance when compared to students with low hopefulness across elementary, junior high school, high school, and college (Cheavens et al., 2005). Snyder et al. (1997) showed a strong, significant correlation between scores on the Children’s Hope Scale and achievement test scores in elementary school students. Furthermore, elementary school students with high hope set challenging goals and perceived that achievement of these goals would lead to positive outcomes (Snyder et al., 1997). Likewise, high hopefulness has been associated with high grade point averages in junior high school students (Gilman, Dooley & Florell, 2006), high school students (Gilman et al., 2006; Snyder et al., 1991), and college students (Chang, 1998; Snyder et al., 1991; Snyder, Shorey, et al., 2002). Similarly, Ciarrochi et al. (2007) demonstrated that hope predicted a greater amount of variance in school grades than self-esteem or positive attributional style.

Hopeful thinking is also inversely related to student dropout. Worrell and Hale (2001) found that adolescent students who were at-risk for dropping out of school, but possessed high levels of hope were significantly less likely to dropout than their low hope counterparts. Similarly, Snyder, Shorey, et al. (2002) demonstrated that over a 6-year
period, students with higher levels of hope were less likely to dropout of college and less likely to be dismissed for poor academic performance than students with low levels of hope.

Several researchers have suggested explanations for this phenomenon. First, Ong, Edwards, and Bergeman (2006) suggest that state hope serves as a protective mechanism to keep negative emotions low, allow the recovery from stress, and enable the person to focus on new strategies for academic success. Furthermore, students with high levels of hope are more satisfied with their academic progress and school environment, which may increase their willingness to attend school (Chang, 1998). In addition, individuals with high hope have been shown to exhibit better social competence (Barnum et al., 1998), find more pleasure in forming relationships (Snyder, Hoza, et al., 1997), and experience higher levels of school connectedness (You et al., 2008). High school retention involves the entire high school community and environment, not just academics; thus, the relationship between hope and social competence may suggest an additional explanation for students with high hope to have lower levels of dropout. In sum, greater school connectedness, reduced negative emotional responses from stress, and greater satisfaction with academic achievement explain the lesser likelihood of high hope students to dropout of school.

Hope theory also explains the relationship between hopefulness and academic achievement. Academic achievement requires students to set concrete goals and then create and enact strategies to complete those goals (Cheavens et al., 2005). Likewise, academic tasks require agency and pathway thinking to be successful. Gilman, Dooley,
and Florell (2006) assert that low hope youth are more likely to employ ineffective or inflexible goal directed cognitive strategies. Ineffective cognitive strategies may result in lower agentic thinking, thus less motivation to reach academic goals. Hopeful students have more agency thoughts; therefore, when difficulties are encountered, high hope students rely on their reservoirs of determination (Gilman et al., 2006; Snyder et al., 2002). Hopefulness is also related to a less psychological distress, school maladjustment, and self-deprecatory thinking (Gilman et al., 2006; Snyder, 1999), which may enable hopeful students to engage in more rational problem solving than low hope students (Chang, 1998; Cheavens et al., 2005).

Students with high hopefulness are also more likely to be academically successful and less likely to dropout because of greater feelings of control over their environments (Chang, 1998; Snyder et al., 2002). This assertion is supported by the findings of Snyder (1999), who concluded that because hopeful people perceive test-taking situations as challenges, not barriers, they experience less general anxiety and less anxiety related to test taking. Further, students with low levels of hope use avoidance and disengagement thinking as opposed to problem-focused thought (Chang, 1998; Gillman, Dooley & Florell, 2006; Snyder et al., 2002). Likely as a result of greater levels of anxiety and ineffective and inflexible goal-directed strategies, low hope students do not use feedback from failure experiences in an adaptive manner so as to improve their future performances (Snyder, 1999). Instead, low hope students are prone to self-doubt and rumination, which leads to a perceived lack of control and passivity (Chang, 1998; Snyder et al., 2002). Hopeful students, on the other hand, make adaptive attributions
when they “fail.” These students believe that the “failure” feedback relates only to their
given effort or goal directed strategy on a task, not to their self-worth (Snyder, Lopez,
Shorey, Rand & Feldman, 2003). These attributions reinforce future perceptions
regarding personal control over academic success in hopeful students.

The relationship between hopeful thinking and goal orientation provides yet
another explanation for greater academic success in hopeful students. Because mastery
oriented goals focus on the process of learning and use outcomes as feedback to enhance
future learning, goal theory suggests that mastery oriented goals produce greater
academic achievement than performance oriented goals (Covington, 2000; Lackaye et al.,
2006). Likewise, hope theory posits that hopeful students are able to conceive many
strategies to reach goals and plan contingencies in the event of goal impediments (Snyder
et al., 1991). As a result, goal blockages are viewed as challenges to be overcome, rather
than failures, thereby leading to the implementation of an alternative goal directed
strategy (Snyder et al., 2002). Chang (1998) found that students with high levels of hope
employed fewer disengagement coping strategies following a goal blockage. Instead,
hopeful students use problem-solving to adjust their goal attainment strategies, which
further encourages goal pursuits. Perceiving that the goal will be met, despite obstacles,
hopeful students focus on success, minimizing distress and maximizing positive affect
(Snyder et al., 1991). These deep-strategic processes (engaged coping, advanced
problem-solving, perceived obstacles as barriers but not failures, and minimized stress)
are found in both hopeful students and students with mastery oriented goals; thus, Snyder
et al. (2002) concludes that the cognitive strategies employed by both hopeful students
and mastery oriented goal seekers facilitate academic achievement. The association between hope and mastery oriented goals provides an additional explanation for the relationship between hope and academic achievement.

The impact of hope on academic achievement is not merely due to higher levels of intelligence (Cheavens et al., 2005). Snyder et al. (2002) found that even after controlling for entrance examination scores, hope predicted college students’ grade point averages, attrition rates, and graduation rates. Likewise, hope predicted final grades in a college course after controlling for previous academic performance (Snyder et al., 1991). Despite these findings, no study has examined the role of intelligence as a moderator between hope and academic achievement specifically. Nevertheless, research has repeatedly demonstrated the predictive power of hope on academic achievement, due in part, to the psychological benefits of hope.

Impact of Hope on Mental Health

There is “a long history” of psychologists evaluating the relationship between hope and psychological health (Cheavens et al., 2005, p. 124); the evidence is clear, hope is strongly and positively related to mental health. First, higher hope is related to better overall adjustment (Kwon, 2002). Hope is positively correlated with adaptive adjustment scores on the Minnesota Multiphasic Personality Inventory in psychiatric patients (Irving et al., 1990) and college students (Cramer & Drykacz, 1998). Next, high hopefulness is positively associated with positive affect and negatively associated with negative affect and depression (Cramer & Drykacz, 1998; Shorey et al., 2005). College students with high levels of hope also report elevated levels of life satisfaction and higher levels of self-
worth even after removing the variance related to coping activities (Bailey et al., 2007; Chang, 1998; Snyder et al., 1997; Snyder et al., 1996; Valle et al., 2006). Similarly, adolescents with high levels of hope reported higher global satisfaction, less emotional distress, and less general anxiety than their low hope counterparts (Gilman et al., 2006; Shorey et al., 2005). As expected, Snyder et al. (1996) demonstrated that a treatment aimed at increasing hope also increased positive thoughts and decreased negative thoughts. People with high hope report feeling more confident, inspired, energized, and challenged by their life goals than people low in hope (Snyder et al., 1991). They also find more pleasure in forming relationships than their low hope counterparts (Snyder et al., 1997). Furthermore, hope predicts fewer internalizing and externalizing problems for at-risk students, even after accounting for the impact of social supports and stressors (Hagen, Myers & Mackintosh, 2005).

Higher levels of hope are also related to less suicidal thinking and suicide attempts (Range & Penton, 1994; Roswarski & Dunn, 2009). Hanna (1991) suggested that hope, rather than hopelessness, be used as a marker of suicidal ideation among clinical patients. This view contends that hope is a will to live in which the future is seen as ripe with possibilities, controllable, and stress and negative emotions are manageable; whereas, suicidal ideation is an intent to escape the psychological pain of life (Hanna, 1991; Irving et al., 2004; Roswarski & Dunn, 2009). This is supported by Shorey et al. (2005) findings that adolescents with high hope perceived less loss of behavioral and emotional control. Interestingly, Snyder (1994) contends that even the act of suicide, although a very low level, is a demonstration of hope. In cases of death by suicide, the
person’s desired goal state is an escape from the psychological pain; thus, suicide is a demonstration of a successful strategy to reach the goal and the energy to enact the strategy – hope.

There are several possible explanations for decreases in psychopathology with increases in hope. One explanation is that people with high levels of hope meet stressors as challenges to be overcome as opposed to insurmountable goal blockages (Cheavens et al., 2005). The perception that obstacles are temporary and potentially positive (Tennen & Affleck, 1999) enables hopeful people to use adaptive coping strategies as opposed to avoidant and disengagement coping (Chang, 1998). Use of avoidant and disengagement coping has been shown to be related to distress and decreased adjustment (Suls & Fletcher, 1985). Preoccupied with avoidance thoughts, people with low hope continue their passivity (Snyder, 2002).

Furthermore, hopefulness promotes positive adaptations to stress and strong social support networks, both of which buffer the negative impact of stressful situations and contribute to positive mental health. High levels of hope are correlated with less stress reactivity and faster stress recovery (Ong et al., 2006; Snyder, 2002). Furthermore, when stressors are encountered, people with high levels of hope are more likely to have strong social support networks to sustain them (Cheavens et al., 2005). High levels of hope are associated with more perceived social support, more positive views about interpersonal relationships and attachments to others (Barnum et al., 1998), and less loneliness (Sympson, 1999). In effect, perceptions about strong social networks and positive adaptations to stress, common in people with high levels of hope, promote mental health.
Impact of Hope on Physical Health

Like psychological health, hope has been repeatedly demonstrated to predict physical health. Hope impacts physical health through primary prevention, coping approaches that focus on eliminating or reducing health problems before they occur, and secondary prevention, involving cognitions and actions aimed at eliminating, reducing, or containing health problems that already exist (Snyder, Feldman, Taylor, Schroeder & Adams, 2000). In fact, the physical benefits of hopeful thinking are so powerful that Begley and Blackwood (2000) argue that withholding the truth from a medical patient in order to protect hope can be morally acceptable.

The role of hope in primary prevention has been repeatedly demonstrated. Irving et al. (1998) demonstrated that women with high levels of hope had more knowledge about cancer causing agents and prevention, even after controlling for previous academic performance. Hopeful women also reported stronger intentions to engage in cancer prevention activities than their low hope counterparts (Irving et al., 1998). The authors concluded that, although not studied, hope may impact the knowledge about a wide array of threats to physical health and prevention strategies. This assertion is supported by the findings of Snyder (2002) that homosexual men with high levels of hope are less likely to engage in sexual behavior related to sexually transmitted infections. Furthermore, hopeful individuals engage in more physical exercise than those with low hope (Cheavens et al., 2005). Clearly, research has demonstrated the association between hope and mechanisms to prevent physical ailments before they occur.
Hope has also been theorized to maintain physical health through secondary prevention (Snyder, 2002; Snyder, Feldman, et al., 2000). In other words, thinking hopefully allows a person to focus on ways to minimize the impact of the physical ailment in their lives and cope with the goal impediments the health problem presents. Stanton et al. (2002) empirically demonstrated the secondary health benefits of hope in patients with breast cancer. Results of the longitudinal study showed that hopeful thinking prior to breast cancer surgery predicted perceived health and sense of vigor after the surgery (Stanton et al., 2002). Results also revealed that women with high levels of hope had significantly less distress and fewer visits to the physician for cancer related ailments. Similar findings have been demonstrated for a variety of diseases including: major burn injuries (Barnum et al., 1998), visual impairment (Jackson et al., 1998), severe injuries from automobile accidents (Elliot & Kurylo, 2000), and renal failure (Billington et al., 2008).

Hope also provides secondary, physical health benefits by reducing the experience of pain and increasing treatment adherence (Snyder, 2000d). Several studies of healthy persons revealed that hopeful individuals were able to keep their hand submerged in extremely cold water twice as long as individuals with low hope (Berg et al., 2008; Snyder, 1998). Hopeful, participants also reported less pain, a greater ability to generate coping strategies, and a greater likelihood to use coping strategies than their low hope counterparts (Berg et al., 2008; Snyder, 1998).

Another secondary, health benefit of hope is an increased adherence to treatment (Snyder, 2000d). In a study of children’s adherence to a regimen of asthma treatment,
Berg et al. (2007) found that hope was a better predictor of treatment adherence than all other psychosocial and demographic variables measured. Although not yet replicated, these findings are consistent with previous research demonstrating increased persistence among hopeful individuals (Snyder et al., 1991). Factors such as treatment adherence, pain reduction, and illness prevention, illustrate the primary and secondary health benefits of hope. Provided the well established benefits to hopeful thinking, potential interventions, namely psychotherapy, aimed at increasing hope are being researched.

**Hope and Psychotherapeutics**

The remarkable benefits of hope on academic performance, mental health, and physical health have led researchers to investigate the role of hope within psychotherapy as well as identify the components of psychotherapy that are effective at increasing levels of hope.

**Hope Across Psychotherapies**

Hope is the underlying mechanism for positive psychological change across many psychotherapeutic approaches. Originally introduced by Frank (1968), ideas about hope as a shared process across differing psychotherapies have since been investigated by numerous researchers (Barker, Funk & Houston, 1988; Flaskas, 2007; Hanna & Ritchie, 1995; Klausner et al., 1998; Snyder & Taylor, 2000).

Hope theory is a common factor among successful psychotherapies as a result of each of its components – goals, agency thinking, and pathway thinking. First, clients often present for treatment because an important goal has been blocked by their symptoms (Snyder & Taylor, 2000). The goal blockage often involves the client’s
perception that they are unable to reach a more satisfying level of functioning in their lives. Because emotions result from successful or unsuccessful goal attainment, therapists across theoretical orientations trace the source of negative emotions to goal blockages in order to arrive at therapeutic goals (Snyder & Taylor, 2000).

Agentic thought is also crucial to therapy because it provides the mental energy for the client to actively participate in therapeutic activities (Snyder & Taylor, 2000). Simply beginning therapy increases agentic thinking and may be responsible for early initial gains (Illardi & Craighead, 1994; Snyder & Taylor, 2000). In a study of factors that clients believed contributed to their success in therapy, Hanna and Ritchie (1995) found that a sense of agency was rated as one of the most important factors. Further, a meta-analysis revealed that a sense of agency thinking had a .47 SD effect size on therapeutic outcomes (Barker et al., 1988), with the greatest effects from agency seen in initial psychotherapy sessions (Irving et al., 2004). As hope theory predicts, however, agentic thinking and pathway thinking combined have the greatest impact on treatment outcomes (Barker et al., 1988; Irving et al., 2004).

Initially seeking psychotherapy contributes to pathway thinking by providing a concrete example to the client of a route to solve their problems; the impact of these gains is exacerbated by the positive societal expectations about the effectiveness of psychotherapy (Snyder & Taylor, 2000). Irving, et al. (1997) found that pretreatment education, focusing on the effectiveness of therapy, contributed to increases in pathway thinking (in Snyder & Taylor, 2000). Furthermore, deconstructing long term goals into more easily conceptualized substeps, is common therapeutic practice and enhances
pathway thinking (Snyder, 1994). Another technique, mental rehearsal, allows the client to imagine potential goal blockages and means to resolve those dilemmas, which promotes pathway thinking (Snyder & Taylor, 2000). Barker et al. (1988) meta-analysis demonstrated that pathway thinking has an effect size of .55 SD on treatment outcomes. These results were replicated by Irving et al. (2004) who concluded that pathway thinking is highly associated with positive changes in later therapy and Klausner et al. (1998) who concluded that a combined agency and pathway intervention had a greater impact on the reduction of depression and anxiety symptoms than agency treatment alone.

Because of its focus on goals, agency thought, and pathway thought, hope theory is foundational for successful therapeutic intervention across a wide array of psychotherapies. In fact, negotiating hope and hopelessness in therapy is a daily practice (Flaskas, 2007); thus, it has been suggested that hope theory be taught as the foundation of all psychotherapy (Snyder & Taylor, 2000). Although hope theory has been regarded as a “metatheory of psychotherapy,” it can also explain the efficacy of specific therapeutic orientations (Taylor, Feldman, Saunders & Illardi, 2000, p. 109). Specifically, “hope enhancement may be best achieved by integrating solution-focused, narrative, and cognitive-behavioral interventions” (Lopez, Floyd, Ulven & Snyder, 2000, p. 123). The following is a review of the role of hope in these therapeutic orientations.

*Hope within Cognitive and Cognitive-Behavioral Therapies*

The most widely accepted conceptualization of hope theory, as proposed by Snyder (1994), regards hope as a cognition. The cognitive construct – hope – can clearly be applied to every phase of cognitive and cognitive-behavioral therapies (Cheavens,
Feldman, Woodward & Snyder, 2006). First, assessing hopefulness as well as other client strengths and successes will detail the client’s past goal attainments and elicit a positive emotional response (Cheavens, Feldman, Woodward, et al., 2006). Eliciting a positive emotional response within the initial intake session can thereby inflate increases in agentic thinking that accompany seeking therapy. Assessing strengths also provides the therapist with insight regarding resources that currently exist for the client as well as additional skill building that is necessary. Furthermore, cognitive therapies often train clients to produce subgoals and stretch goals, challenging yet achievable goals (Cheavens, Feldman, Woodward, et al., 2006; Snyder, Ilardi, et al., 2000). These subgoals and stretch goals facilitate effective pathway generation; in turn, successes along the pathways continuously boost agency. (Cheavens, Feldman, Woodward, et al., 2006; Taylor et al., 2000). Ongoing measurement of progress toward one’s goals, common in cognitive therapies, also reinforces agentic thinking (Snyder, Ilardi, et al., 2000).

Applying hope theory during the active treatment phase of therapy can also increase the likelihood of psychological change. Cognitive therapies frequently utilize hope theory by prescribing specific therapeutic steps, which expand the client’s goal pursuit pathways, and preparing for goal impediments, which promote the maintenance of pathway thinking (Snyder, Ilardi, et al., 2000). Presenting a treatment “rationale” and “commitment strategies” facilitates hope because the reiteration of these phrases when obstacles present themselves can engender agency thought (Cheavens, Feldman, Woodward, et al., 2006). Further, the client’s agentic thinking may increase as a result of
interacting with and vicariously learning from a therapist who has excitement and confidence in the therapeutic process and is hopeful about the client’s recovery (Snyder, Ilardi, et al., 2000).

Other strategies common to cognitive therapies also impact hope. First, negative self-talk statements and cognitive distortions lesson agency and weaken goal pursuits; thus, replacing hopeless self-talk statements with hopeful ones and modifying distortions, can raise agency and reinvigorate client’s goal pursuits (Cheavens, Feldman, Woodward, et al., 2006; Synder, Ilardi, et al., 2000). Self-monitoring and hypothesis testing promote hopeful self-talk as well (Snyder, Ilardi, et al., 2000). Homework assignments invite the client to prime agency thoughts and create chronically more accessible agency; the result is an increased likelihood that agentic thinking will be activated without priming (Riskind, 2006). To refine the effectiveness of goal pursuit pathways, therapy also provides reflection and feedback regarding pathways used during in vivo homework assignments (Taylor et al., 2000). Furthermore, exposure-based techniques enable the therapist to deliver pathways that create a sense of control and reinforce the client’s sense of agency (Taylor et al., 2000). Skills training contributes to one’s learning history, thus imparting a form of pathway thought (Snyder & Taylor, 2000).

The two common objectives of the termination phase of cognitive therapies, reviewing the process and preventing relapse, also provide boosts to hopeful thinking. First, reviewing changes that have occurred in the client’s life and the skills that they have learned during therapy reinforces successful goal accomplishment, which leads to positive emotions and increased agency (Cheavens, Feldman, Woodward, et al., 2006).
Second, relapse prevention often involves discussing potential problems and subsequent skills needed to overcome problems that may arise. These discussions help clients to build alternative pathways around goal impediments, an attribute of individuals high in hope (Cheavens, Feldman, Woodward, et al., 2006).

_Hope within Solution-Focused Therapy_

An examination of solution-focused therapy clearly illustrates its relationship to hope theory as well. First, both solution-focused therapy and hope theory are strength-based approaches (Michael, Taylor & Cheavens, 2000). Hope theory originates from the positive psychology movement; while, solution-focused therapy is oriented toward what the client does well and how the client behaves in ways that are exceptions to the problematic behavior pattern. The foundational importance of goals is another similarity between hope theory and solution-focused therapy. Clarifying goals aid the client in formulating solutions (pathways) and their behavioral correlates (agency) to achieve these goals (Michael, Taylor & Cheavens, 2000). Greater agency is built by reinforcing the accomplishment of small, reasonable goals. Also, both hope theory and solution-focused therapy are future oriented. Because of this future orientation, components of solution-focused therapy, such as the “miracle question,” force the client to examine current behaviors that cause goal blockages, thereby, enabling a change in those behaviors (Michael et al., 2000). Solution-focused life coaching and solution-focused letter writing have been shown empirically to increase hope, supporting the theorized relationship (Alexander, Shilts, Lisco & Rambo, 2008; Green, Oades & Grant, 2006); however, the impact of solution-focused therapy on hope has not been measured directly.
Regardless, hope theory and solution-focused therapy are similar in that both share a strength-based ideology, maintain goals as a foundational component, and are future oriented.

*Hope Therapy*

Another cognitive approach, hope therapy, specifically applies the tenants of hope theory to psychotherapy. The goal of hope therapy is to increase hopeful thinking and enhance goal-pursuit activities in non-clinical populations (Cheavens, Feldman, Gum, Michael & Snyder, 2006). Clients learn to (1) set meaningful, achievable, and measurable goals; (2) develop multiple goal pursuit pathways; (3) identify sources of motivation and counteract drains on motivation; (4) monitor progress toward goals, and; (5) modify goals and pathways as needed (Cheavens, Feldman, Gum, et al., 2006; Larsen, Edey & Lemay, 2007; Lopez et al., 2000). Although research on hope therapy is in its infancy, several studies have found increases in agency and pathway thinking, personal expectations, life meaning, and life satisfaction as well as decreases in hopelessness (Cheavens, Feldman, Gum, et al., 2006; Pretorius, Venter, Temane & Wissing, 2008). Despite a need for more research in hope therapy, initial positive outcomes demonstrate the efficacy of purposefully interjecting hope into psychotherapy. In sum, the union between hope theory and psychotherapy is powerful. By understanding the powerful union between hope theory and specific therapies, therapists can focus on increasing hope as a means to alleviating clients’ psychological pain and increasing their life satisfaction. Likewise, school psychologists can influence the hope with students and professionals in educational settings.
Implications of Hope Theory for School Psychologists

The implications of hope theory for school psychologists reach far beyond individual therapies. Roswarski and Dunn (2009) found that hope is most profoundly enhanced when it is addressed by multiple sources, including schools. Because of their role in consultation, assessment, and direct student contact, school psychologists are uniquely positioned to help students increase their hope.

Hope Theory within Consultation

Consultation with teachers, administrators, and parents represents an optimal opportunity for school psychologists to employ hope theory. Although the process of consultation need not change, school psychologists should focus on student and teacher strengths instead of weaknesses and problems. (Terjesen, Jacofsky, Froh & DiGuisepppe, 2004). A focus on the positive may allow the information shared during consultation to be generalized across time and situations (Terjesen et al., 2004). Consultation can also be used to encourage teachers and parents to be firm, fair, enthusiastic, and consistent in order to bring about hope in their students (Snyder et al., 2003). Snyder (2005) presents five suggestions school psychologists should promote when working with teachers: (1) care for students and spend time demonstrating this care; (2) establish and share clearly defined stretch goals for the class; (3) identify pathways to learning that involve interacting with other students; (4) enable a give-and-take feedback process to increase agency; and (5) emphasize the importance of the classroom community. Finally, a meta-analysis conducted by Durlak and Wells (1997) demonstrated the importance of promoting universal primary prevention strategies during consultation for increasing
hope. Consultation provides an ideal environment to focus on teacher, parent, and student strengths, share suggestions for increasing hope in the classroom, and promote prevention.

*Hope Theory within Assessment and Educational Planning*

Like consultation, school psychologists can utilize hope theory, and positive psychology theories in general, during the assessment and educational planning process. Although psychological assessment and report writing often focuses on deficits, Snyder, Ritschel, Rand and Berg (2006) warn that this practice can lead to self-fulfilling prophecies in which clients think and act according to assigned labels and clinicians behave in a manner that confirms these diagnostic results. The authors suggest assessment on four levels: client’s strengths (including an assessment of hope), client’s weaknesses, environmental strengths, and environmental weaknesses. Incorporating strengths assessment, including hope, into report writing can lead to a more accurate and complete client conceptualization (Snyder et al., 2006).

Strength assessments are also useful during individualized education programming; while developing goals directed at increasing students strengths, clinicians are forced to think outside of their norm, thus allowing for creative intervention strategies (Terjesen et al., 2004). Furthermore, goals focused on student strengths can serve to indirectly remediate areas of deficiency (Terjesen et al., 2004). Hope theory also suggests establishing clearer goals during educational planning. This is important because the clearer the goals, the more likely participants are to meet them (Terjesen et al., 2004).
Hope Theory and Direct Student Contact

Potentially the greatest opportunity for school psychologists to facilitate hope in students is through direct contact. While meeting with students, school psychologists should utilize values and interest inventories to help students identify and list their goals (Pedrotti, Edwards & Lopez, 2008). Of course, students’ goals must be calibrated to the student’s age and specific circumstances (Snyder, Lopez, Shorey, Rand & Feldman, 2003). Asking students about recent goals that were important to them may aid in establishing future goals as well (Snyder et al., 2003). Goal lists should then be ranked and prioritized. School psychologists should teach students to establish clear definitions of successful goal pursuits, which enable feelings of success upon goal attainment (Snyder et al., 2003). Ideally, school psychologists will promote the development of approach goals, which are more reinforcing, as opposed to avoidance goals (Snyder, 2002). Goals incorporating others interests as well as the student’s own (i.e. me/we goals) may also facilitate interpersonal interaction and promote a feeling of pleasure in helping others (Snyder et al., 2003).

Once goals have been established, school psychologists can work with students to increase their agentic thinking. School psychologists should ask students to check their goals for personal importance and decide if they are motivating enough to sustain their pursuit. This is important because students may not fully own goals imposed by peers, parents, or teachers thereby undermining intrinsic motivation (Pedrotti et al., 2008). Promoting stretch goals, initially and after successful goal attainment, also creates a sense of challenge and enhances agentic thinking (Snyder et al., 2003).
School psychologists should teach students to monitor their self-talk and replace self-criticism, which undermines agency, with more realistic and positive thinking, which facilitates agency (Pedrotti et al., 2008; Snyder et al., 2003). Furthermore, because agency depends heavily on memories of positive experiences, young children with low hope may not have a base of positive memories to sustain them (Snyder, 1994). School psychologists can serve these students by telling stories and providing books that portray how other children have overcome obstacles and been successful (Snyder et al., 2003). McDermott and Snyder (1999) found that students who were told hopeful stories and guided in discussion about how to apply the protagonists’ experiences to their own lives, made significant improvements in both self-reported and teacher ratings of hope. The authors concluded that hopeful stories provide a model for students to begin building their own sense of agency.

School psychologists can also work directly with students to develop pathway thinking. First, pathway thinking can be enhanced by teaching students to create sub-goals (Pedrotti et al., 2008; Snyder et al., 2003) and pursue these goals an achievable, one-at-a-time sequence (Snyder, 1994). School psychologists should also encourage students to identify several routes to reach a goal before the onset of goal pursuit (Snyder et al., 2003). These alternative routes will encourage goal pursuit even when goal blockages are experienced (Snyder, 1994). Likewise, students must be taught not to attribute goal blockages as failure, but rather as feedback about the goal attainment strategy (Snyder et al., 2003).
Pedrotti et al. (2008) employed these techniques during a 5-week, school-based intervention developed to enhance hope in students. The intervention included student goal creation and prioritization, pathway planning, obstacle readiness training through board games, self-talk journaling, and hope stories. Results showed hope scores were significantly larger among students who participated in the program than controls. These findings support the use of hope theory and hope interventions in direct contact with students.

The impact of hope on academic performance, school dropout, mental health and physical health has been replicated with great consistency (Snyder, 2002). Hope’s clear impact on daily functioning has demanded purposeful implementation and further investigation of its development, role in psychotherapy, and importance to school psychology. Results of these and similar investigations have continued to expand the field of positive psychology and press for greater commitment to improving current strengths. Still, investigation of hope theory is not complete. Therefore, this literature review will now turn toward examining a relatively unaddressed area of hope research – the stability or instability of hopeful thinking.

The Stability and Instability of Hopeful Thinking

A thorough understanding of the importance of hope has resulted in interventions and psychotherapies aimed at increasing clients’ levels of hope; however, the effectiveness of these interventions depends on the presumption that hope is malleable. If, in fact, hope is stable, then interventions aimed to increase hopeful thinking will be unsuccessful and need not be employed. Nevertheless, hope theorists have been
inconclusive as to the stability or instability of hope. Hope literature inadequately demonstrates the construct’s stability or instability for several reasons: (1) theoretical assertions support both the construct’s stability and instability; (2) little empirical research has examined the stability of hope over long periods of time; (3) the few empirical research studies conducted, suggest mixed conclusions about the stability of hope. Lack of theoretical clarity about the stability or instability of hope and inconclusive empirical support for the stability of hope, require examination of hope theory using the research hypothesis - hope is an unstable construct.

Literature Supporting the Stability of Hope

In order to fully examine the instability of hope it is important to examine literature suggesting the construct’s stability. A large body of theoretical hope literature suggests that hope is stable. Although not empirically demonstrated, cognitive hope theory, affective hope theory, and associations between hope and personality allude to the construct’s stability.

Cognitive Explanation of Stability

Cognitive theories of hope, the most commonly studied and referenced theories, assert that hope is a stable, dispositional trait that is established and maintained throughout one’s lifetime (Snyder, 1994). According to Snyder et al. (1991), hope is indeed an enduring pattern of thinking about oneself in relation to life goals. In fact, hope’s independence from situational factors distinguishes it from optimism (Snyder, 1989). Snyder et al. (1991) administered the Hope Scale, measuring trait hope, to people over intervals of up to 10-weeks and found that scores remained relatively stable.
Correlations between initial measurement and re-measurement were repeatedly around .8 in magnitude (3-week: \( r = .85 \), 8-week: \( r = .73 \), 10-week: \( r = .82 \)). Findings on the stability of goal directed thoughts and hopeful thoughts in children were also stable (Snyder et al., 1997). Subsequent administrations of the Children’s Hope Scale, measuring trait hope in children, over a 3-month period found scores to be quite stable, with correlations ranging from .7-.8 (Snyder et al., 1997). Furthermore, hope theory proposes that the stability of hope is established by middle childhood and increases with age (Snyder, 1994). However, Snyder (1994) acknowledged that longitudinal testing over a period of years is the most powerful methodology to demonstrate stability and admits that few studies of this type have been conducted.

Theorists argue that cognitive resiliency, self-referential cognitions, coping mechanisms, and reinforcement of previous learning sustain the stability of hope. According to Snyder et al. (1991), once pathway and agency thoughts are established, cognitive resiliency maintains hope at a consistent level. Because of an underlying sense of agency and ability to imagine multiple pathways to achieve goals, hopeful people have more goals across various arenas of life (Snyder et al., 1991). Therefore, during periods of extreme goal interference, hopeful people can rely on experiences with goal pursuits in other areas of life to sustain their agency and pathway thoughts. People with low hope, due to a lesser number and variety of goals, tend to maintain depressed levels of agency and pathway thinking (Snyder et al., 1991).

Snyder (2000b) proposes that self-referential cognitions and effective coping mechanisms are partially responsible for the stability of hope in high hope individuals as
well. As a result of past difficult experiences, hopeful people believe that they can adapt to potential difficulties and losses (Irving et al., 1998; Snyder, 1994). They also have ongoing, positive internal dialogues including self-statements such as “I can,” “I’ll make it,” and “I won’t give up” (Snyder, LaPointe, Crowson & Early, 1998). As a result, high hope individuals tend to establish a variety of goals for themselves and focus on successes rather than failures, which ultimately maintain hope. Hopeful people also use strategies such as perceiving goal setbacks as challenges, not failures, and attributing difficulties in goal pursuits to the use of the wrong strategy not an underlying lack of talent (Elliot, Witty, Herrick & Hoffman, 1991; Snyder et al., 1991; Snyder, 1989).

Previous learning, due to both social learning and operant conditioning, contributes to the development and theorized maintenance of hopeful thinking. Learning hopeful thinking occurs through operant conditioning when one establishes a goal, thinks of ways to attain it, and carries out these plans; upon successful completion, the thought process enacted to reach the goal is reinforced by the consequence – attaining the goal (McDermott & Snyder, 1999). Social learning within one’s family, or learning to think hopefully by watching one’s parents and siblings, also accounts for the development and stability of hope (Bandura, 1977). Secure attachment to one’s caregivers is paramount in the development of goal-directed thinking because it provides the child with a model of goal setting and goal directed behavior (Erikson, 1964; Rodriguez-Hanley & Snyder, 2000). McDermott and Snyder (1999) suggest that social learning explains why hopeful thinking extends over multiple generations. The authors also suggest that stability results from comfort with current thought processes and a lack of opportunity to question one’s
self-talk (McDermott & Snyder, 1999). Clearly, many cognitive theorists offer explanations regarding the mechanisms that maintain hopeful thinking; however, few of these assertions have been tested empirically.

*Emotional Explanation of Stability*

Cognitive conceptualizations of hope and cognitive factors influencing the maintenance of hope are not the only theoretical evidence for stability, however. Numerous authors define hope as an emotion (Averill et al., 1990; Bagozzi et al., 2000; Davidson et al., 2000; Izard, Libero, Putnam & Haynes, 1993; Lazarus, 1999; Pervin, 1993), several of which (Izard et al., 1993; Pervin, 1993) allude to its stability.

Hopeful individuals have different emotional reactions to goal blockages than low hope individuals, thereby, influencing the construct’s stability. Although most people have negative emotional responses to blocked goals (Snyder et al., 1996), hopeful individuals experience fewer negative emotions when their goals are blocked than their low hope counterparts (Snyder, 1998). Weaker negative emotional experiences are likely linked to high hope individuals’ ability to find alternative paths or refocus on alternative goals. Therefore, through the ability to find alternative paths, hopeful people reduce the negativity of emotional reactions to goal blockages and maintain a high, stable level of hopeful thinking (Snyder et al, 1996).

Magai and Hunziker (1993) found evidence that emotions are persistent across situations, suggesting that if hope is indeed an emotion it too should be stable. Similarly, Izard et al. (1993) use differential emotions theory to explain that emotional experiences are constant over time. Results from both a longitudinal design and cross-sectional
design purports that emotional responses remain constant across situations and ages (Izard et al., 1993). Likewise, Klein, Wassink, Kunnen, and Heymans (2004) state that stable idiosyncratic structures of emotions underlie an individual’s functioning and way of making meaning, supporting the stability of hope. Pervin (1993), specifically studied hope and concluded that a person can be characterized by specific, dominant emotions because these emotions remain stable. However, the author notes that characterizing individuals based on a constellation of several emotions is more stable and reliable than characterizing individuals on a single emotion because the mood established from the sum of emotions is more stable.

Regardless, arguments for the stability of hopeful thinking based on an emotional conceptualization are undermined by weaknesses in the emotional conceptualization. Emotional conceptualizations of hope are dependent on cognition, lack effective measurement, and are not supported by the results of brain scanning (Gottschalk et al., 1993; Elliot, 2005); thus, the majority of research currently being conducted measures hope as a cognitive domain (Farran et al., 1995) undermining arguments for the stability of hope based on an emotional conceptualization of the construct.

*Stability of Hope in Relation to Personality Theory*

The relationship between hope and personality theory provides evidence for the construct’s stability. Holleran and Snyder (1990) and Tierney (1994) found significantly high correlations between hope and personality profiles suggesting that hope is likely a component of personality. These findings have significant implications for understanding the stability of hope. Although almost no research has specifically
examined the stability of hope (Farran et al., 1995; Valle et al., 2006), a large body of research has examined the stability of personality. The intimacy of the relationship between trait hope and other theories of personality suggest that the stability of hope cannot be considered without recognition of the stability of personality.

The very definition of trait hope as a measure of individual differences suggests its relationship to personality and its stability. Kassin (2003) defined a trait as a habitual pattern of behavior, thought, or emotion. Likewise, Whitbourne, Zuschlag, Elliot, and Waterman (1992) noted that “personality traits are, by definition, inherently stable dispositions” (p. 260). McCrea and Costa (1990) defined traits as “dimensions of individual differences in tendencies to show consistent patterns of thoughts, feelings and actions” (p. 23).

The connection between hope and personality is important to examine when evaluating the stability of hope because a wide body of research demonstrates the stability of personality over long periods of time. In fact, empirical data supporting the stability of personality is so vast that the Basic Behavioral Science Task Force of the National Advisory Mental Health Council (1996) concluded that, “research on personality shows that a given individual’s overall profile on the Big Five traits is relatively stable, consistent, and predictable over many years” (p. 23). McCrae and Costa (1994, 1996) provide enormous amounts of data suggesting that stability characterizes all dimensions of personality and that a person’s personality profile will change little over time. Furthermore, stability of personality traits and profiles has been shown to increase with age (McCrea & Costa, 1990). The stability of personality traits in adulthood is
supported by studies employing a variety of research designs and thus cannot be easily dismissed as an artifact of a single methodology (Quackenbush, 2001). The robust, long-term stability coefficients observed in longitudinal studies typically range from .60-.80, suggesting that individual’s scores on measures of personality traits remain remarkably stable over a period of many years (McCrea & Costa, 1994). Research on the stability of personality is vast; thus, the association of hope and personality implies that hope, too, is a stable construct.

Summary of the Stability of Hope

As presented, many hope theorists regard hope as a stable construct. Theorists suggest that cognitive factors such as self-talk, learning, recall, and differential encoding strategies help to maintain hope’s stability. However, these assertions are made based on cognitive theories and the association of hope to other stable constructs, such as personality and emotion, despite little empirical evidence backing these assertions. A very small body of empirical evidence (Ybasco, 1994; Snyder et al, 1991; Sympson, 1991; Langelle, 1989; Mashunkashey-Shadlow, 2009; Valle et al., 2006), discussed later, addresses the stability of hope (defined as a cognition, emotion, or personality trait) specifically; thus, the stability of hope has been accepted based primarily on theoretical assertions. These assertions must be scrutinized and tested.

Literature Supporting the Instability of Hope

Suggestions of Instability within Hope Theory

Despite theoretical suggestions that hope is stable, many hope theorists, including the most widely accepted cognitive hope theory (Snyder, 1994), also provide arguments
for the construct’s instability. In fact, theoretical arguments for the instability of hope are stronger than theoretical arguments for its stability. “Many experts” suggest that hope and hopelessness represent a process in which goals and expectations change, as well as subsequent hope, particularly during times of pivotal life events or experiences (Farran et al., 1995, p. 36). Snyder (1994) asserts that for most people, most of the time, hope is stable; however, the author admits that this “does not mean that hope will not, or cannot change” (p. 69). Individuals with low hope can benefit from an infusion of situational hope (Snyder, 1998), indicating that hope can be influenced through situations and change over time. Similarly, Snyder et al. (1991) suggests that one’s level of hope now will likely be the same in the future, unless an intervention is undergone. “Naturally occurring and human-engineered events can move hope up and down” (Snyder, 1994, p. 69). Interestingly, the suggestions that life events and interventions have the capability to impact a person’s level of hope contradicts the assertion that hope is stable.

Hope theory also suggests that variations in an individual’s emotional experience result from changing, unstable, levels of hope. Snyder (1994) suggests that the emotions rage, despair, and apathy are evidence of the demise of hope within an individual. Rage is the result of blockages to profound goals and represents the first indication of the demise of hope (Snyder, 1994). Rage suggests that people are still fighting with goal impediments, but the aroused emotional state of rage cannot be maintained indefinitely (Snyder, 1994). Diminishing rage upon consistent goal blockages represents deterioration in hope (Peterson, Maier, & Seligman, 1993). Despair, reflects capitulation to the perceived blockages to goals. During periods of despair, the person is no longer
grappling mentally with goal blockages as he or she is when in rage, but instead shows a state of immobilization (Snyder, 1994). As hope declines even further, apathy is experienced. Apathy represents a cognitive extinction processes in which one no longer considers a previously desired goal to be tenable (Snyder, 1994). In effect, apathy supplants earlier hopeful thinking. Expressions of rage, despair, and apathy demonstrate responses to the instability of hope.

Like cognitive theorists, affective theorists proposing that hope is stable also suggest the construct may be unstable. Emotions can fluctuate based on situational variables, despite overall stability, therefore suggesting instability. Izard et al. (1993) contended that positive emotions – including hope – are influenced by the environment and surrounding social climate factors. Despite the authors claim that emotional experiences are stable over a 3-year period, findings demonstrate temporary changes in the experience of emotions. This finding is supported by Santos et al. (2001) conclusion that emotional experiences are influenced by stressful events and crisis. Similarly, Lazarus (1999) suggests that asserting the stability of hope ignores the great differences in emotional reactions, differences observed in the distinct psychological experiences, changes following different life conditions, and markedly different behavior patterns.

Theoretical assertions about the relationship between the maintenance of hope and the nature of blocked goals also suggest instability. Blockages of goals that hold great importance are more influential on losing hope than less valued goals (Snyder, 2000b). Likewise, goals being impeded repeatedly and the perception that obstacles in the way of attaining goals are large also reduce determination for the goal (Ford & Brehm, 1987).
Differentiating the Stability of State and Trait Hope

In order to rectify contradictory messages about the stability of hope in hope theory, a differentiation was proposed between stable and unstable forms of the construct (Sympson, 1991). To this point, discussion has revolved around the theoretically enduring construct of trait hope or dispositional hope. However, an alternative to trait hope – state hope – has also been documented in the literature and must be considered. State hope was defined by Sympson (1991) as a “construct of time-limited hope that varies as a function of life experiences” (p.1). State hope is theorized to reflect the appraisal of those events that are transpiring in everyday life (Ybasco, 1994) and varying according to ongoing conditions (Sympson, 1991). Thus, by definition, state hope is unstable (Sympson, 1991; Ybasco, 1994).

According to Snyder’s (1994) hope theory, the day-to-day fluctuations in state hope are best thought of as the variable base on which our more enduring, trait hope, is built. In other words, the daily variations in state hope contribute to our subjective estimates of trait hope. Averill et al. (1990) theorize that one may feel hopeful, in general, but also experience a variety of different, even opposing, hopelessness levels. According to these theorists, trait hope reflects our expanding analysis of our state hopes on a daily basis (Averill et al., 1990; Snyder, 1994). Because a more in depth understanding of one’s trait hope is developed with age and monitoring of state hope over time, trait hope is more malleable in childhood than adulthood (Snyder, 1994; McDermott & Snyder, 1999). On the other hand, major changes in state hope will result in changes in trait hope in adults as well (Snyder, 1994). Again, assertions regarding
these relationships between state and trait hope are merely theoretical in nature and have not been tested empirically.

On the other hand, several studies have confirmed the definition of state hope by demonstrating its instability. Ybasco (1994) revealed fluctuating levels of state hope by asking participants in the treatment condition to either recall a positive or negative event. Results indicated that thinking about a successfully attained goal significantly increased an individual’s level of state hope; whereas, recalling a negative memory decreased an individual’s level of state hope. Likewise, Sympson (1991) demonstrated the instability of state hope in the laboratory by asking participants, recruited equally from lower, middle, and high scores on trait hope, to record their level of state hope daily, for a period of 28 days. Results demonstrated significant changes in levels of state hope.

Specific situational appraisals and a history of positive and negative feedback (and the availability of these cognitions to be recalled) explain fluctuations in levels of state hope. Recalled positive feedback, about an area of performance that is important to the person, increases state hope; conversely, recalled negative feedback lowers state hope (Borders, 1993). Likewise, recall of past events in which the person was successful in the pursuit of a goal increase state hope; whereas, recall of past failures decrease state hope (Ybasco, 1994). Similarly, Roth and Hammelstein (2007) found that hope is dependent on specific situational appraisals, such that positive appraisals result in more hopeful thoughts. The findings of Roth and Hammelstein (2007), Symson (1991), and Ybasco (1994), provide support for theoretical assertions of an unstable version of hope – state hope.
Again, state and trait hope differ only based on their defined stability. As such, the debate regarding the stability of trait hope is important to consider. If, in fact, research demonstrates that trait hope is unstable, than trait and state hope are empirically and theoretically indistinguishable constructs. Nevertheless, the need to distinguish between state and trait hope based only on stability, while maintaining the same definition (a two-factor structure containing agency and pathway thoughts) is evidence for the instability of hope.

*Life Events Demonstrate the Instability of Hope*

Specific, traumatic life events are theorized to influence trait hope; thereby, providing more evidence of instability. Hope theory offers suggestions, although no empirical evidence exists to affirm them, that life events contribute to fluctuations in hope levels. A variety of traumatic life events have been hypothesized to diminish hope, suggesting the construct’s instability. First, child abuse undermines hopeful thinking and may even establish stable low hope thoughts (Snyder, 1994). Abuse by a primary caregiver is particularly detrimental because a great deal of children’s hope is developed through the lessons of their parents. Rather than being a source of stability and support, however, an abusive caregiver’s feedback shuts down the developing child’s goal-directed thinking (Snyder, 1994). Encouragement on paths to overcome obstacles is lost. Future hopeful thinking is also disturbed because instead of focusing on future goal directed thoughts that should fill childhood, the child must be preoccupied with avoiding the onslaught of the caregiver (Snyder, 1994).
Discrimination and prejudice can also undermine hopeful thinking and create instability. Discrimination means making differential judgments about people based on salient characteristics (Snyder, 1994). As such, the mental act of discrimination is unbiased, but is often followed by biased judgments that people in power make about what goals are deemed appropriate for the person who is the target of prejudice. Prejudice, whether racism, sexism, or other acts of prejudice, serve as acts of power in which a target group is not allowed access to the group’s goals (Snyder, 1994). Thus, prejudice is antithetical to the furtherance of hopeful thinking. In fact, Snyder (1994) contends that anger, demonstrated as a result of prejudice, is attributable to broad-scale goal blockages.

On the contrary, recent studies have demonstrated no differences between levels of hope and racial groups or gender (Snyder, 1995; Snyder et al., 1991; Snyder et al., 2003; Valle et al., 2006). One explanation is that persons who are the target of such racism do not entertain the same goals as those who are not the target of prejudice (Snyder, 1994). Therefore, people experiencing prejudice settle for lesser goals, but report pathway and agentic thinking that is anchored in those goals. If this assertion is correct, measurement of hope does not demonstrate variation in levels of hope, because no consideration is given to the types of goals held by participants.

The loss of a parent through death or divorce also demonstrates the instability of hope. The child’s relationship with primary caregivers serves as an ongoing, vital source or agentic and pathway thinking (Erikson, 1964). The loss of a parent results in the loss of goals that are both important and varied (Snyder, 1994). Because children and
adolescents also count on parents for help in goal-directed activities, the loss of a parent represents a blockage in the magnitude of hopeful thinking (Snyder, 1994). Evidence of this relationship is demonstrated by the predisposition of children who have lost maternal affectionate care to a pattern of helplessness in thought and depression; children no longer think they can reach their goals (Snyder, 1994).

Divorce threatens the stability of hope for different reasons. Although divorce, like loss through death, depletes hopeful thinking because of blockages to attachment, instability of hopeful thinking through divorce is more complex. Children who experience divorce, often continue to fantasize about the departed parent (Mullholland, Watt, Philpott & Sarlin, 1991). As such, the child losses more than the parent; the child may abandon ideas about the viability of a relationship as a goal for them (Snyder, 1994). Furthermore, the amount and quality of time the custodial parent spends with children is lessened following a divorce due to the need to secure financial means, overextension, stress, and exhaustion (Mullholland et al., 1991). Due to discarded relationship goals and lack of affection following divorce, hope-related thoughts diminish (Snyder, 1994).

Traumatic experiences in any form, including: natural disasters, killings, automobile accidents, serious illnesses, and physical assaults, result in changes in pathway and agentic thinking. Persons who have experienced trauma may no longer use agency and pathways related to goals; instead, the trauma is relived in their minds and becomes an all-encompassing goal blockage (Barnum, 1993). The event incapacitates the person through profound psychological problems and is related to lower levels of
hope (Barnum, 1993). All in all, theoretical and empirical research proposing that life events can diminish hope, provide further evidence of the construct’s instability.

**Instability of Hope Related to Personality Theory**

Arguments for the stability of hope based on its association to personality are also subject to scrutiny. Despite some agreement that personality is stable, others argue that personality is dependent on situational factors, thus it is unstable. In a seminal book, Mischel (1968) wrote that because behavior varies across situations, personality psychologists should abandon their efforts to explain behavior with traits and instead focus on situations. Specifically, Mischel (1968) argues that, across an array of research, the relationship between behaviors in two different situations yields correlation coefficients less than .30; thus, not enough of the variance in behavior has been explained to make it useful to assume that both behaviors are affected by some underlying personality trait. Mischel (1999) later proposed the cognitive-affective personality system approach which recognizes average tendencies that characterize a person across contexts and throughout life as well as distinctive patterns of how people respond to particular situations.

Recent empirical work has further asserted Mischel’s (1968) argument – personality traits are not stable – suggesting that hope is not stable. Raad, Sullot, and Barelds (2008) conducted several studies in which behavior was predicted from personality traits alone or personality traits in combination with situational factors. Results demonstrated that behaviors predicted by personality traits are more consistent when situational factors are considered. Fleeson (2007) found similar results and
concluded that personality traits do help to predict behavior, but within-person variability of behavior is due to situations.

Quackenbush (2001) argues, not only, that situational factors must be considered along with personality traits, but also, that McCrae and Costa’s (1994) assertion that personality is stable is not measurable and thus cannot be accepted. Quackenbush (2001) asserts that two pre-empirical assumptions must be accepted in order to demonstrate the stability of personality. These assumptions are that personality traits are transcontextual and that ‘true’ personality is reliable. However, these assumptions imply that evidence inconsistent with the personality stability thesis are due to inaccurate measurement or conceptualization. As such, the personality stability thesis is insensitive to falsification (Quackenbush, 2001).

The continued development of personality throughout adolescence and into adulthood provides further evidence that personality, and therefore hope, is unstable. Through meta-analysis, Roberts and DelVecchio (2000) demonstrate that personality traits become more consistent with time, not reaching full stabilization until age 60. Further, most development of personality occurs in young adulthood (age 20 to 40) and not earlier in adolescence (Roberts et al., 2006). Because personality is neither fully developed nor stable during adolescence, levels of hope must also be unstable during this time. Therefore, theoretical assertions that suggest the stability of hope because of its relationship to personality must be interpreted in light of arguments that personality is unstable and continues developing into adulthood.
Instability Due to Continued Cognitive Development

The stability of hope, asserted by cognitive explanations, must also be considered in light of cognitive developmental trajectories. The stability of cognitions, such as hope, are related to a person’s developmental progression. Piaget’s (1926) developmental theory suggests that the final stage of cognitive development is the Formal Operational Stage, which occurs around 11-years but progresses through adulthood. In this stage, hypothetico-deductive reasoning, in which the person starts with a hypothesis and deduces testable inferences, and propositional thought, involving the evaluation of logic propositions without referring to real-world circumstances, takes place (Piaget, 1926). Pathway thinking requires one to imagine a goal, deduce possible routes to reach that goal, and then judge the likelihood of particular routes. Clearly, the stability of hopeful thinking must be related to one’s ability to apply hypothetico-deductive reasoning and propositional thought. Thus, hope, if ever stable, cannot demonstrate stability until full cognitive development has been reached.

However, not all adults reach the Formal Operational Stage of cognitive and certainly not all adolescents are able to employ hypothetico-deductive reasoning and propositional thought (Keating, 2004). Keating (2004) surmised that only people who have had extensive guidance and practice using such strategies are able to employ them. Such practice is very rare among adolescents. Furthermore, information processing approaches also suggest that cognitive development is not fully completed, if ever completed, until adulthood (Case, 1998). For example, Goldberg et al. (2001) found that selective attention improves sharply in late childhood, but continues into adulthood.
Because hopeful thinking is related to cognitive development and cognitive development is not complete until adulthood (with some adults never fully reaching the Formal Operational Stage), the cognition – hope – cannot be assumed to be stable until cognitive development is complete. Therefore, an understanding of cognitive developmental theory further suggests the instability of hope in adolescence.

Instability of Hopelessness Suggests the Instability of Hope

As suggested by Farran et al. (1995), an examination of the instability of hopelessness strengthens the argument that hope is unstable. Hopelessness is defined as the absence of hope (Snyder, 1994) and includes both an affective and cognitive component (Farran et al., 1995). Beck, Brown, Berchick, Stewart, and Steer (1990) measured the relationship between participants’ levels of hopelessness and suicidal behavior over time. Results demonstrated that hopelessness can function both as a temporary state and an ingrained individual trait (Beck et al., 1990). As such, hopelessness fluctuates around an imagined set-point, but returns to very consistent levels during periods of crisis. Interventions have been effectively designed to decrease levels of hopelessness, thereby, suggesting its instability (Gorey, Richter & Snyder, 2001).

Given the dichotomous nature of hope and hopelessness, demonstrations of the instability of hopelessness (Beck et al., 1990; Gorey et al., 2001) suggest the instability of hope.

Empirical Research Suggests Instability

Theoretical assertions regarding hope’s instability, the impact of life events on hope, an alternative form of hope defined based on instability, the instability of personality, continued personality development into adulthood, continued cognitive
development into adulthood, and the instability of hopelessness support the hypothesized instability of hope; still, the mere three longitudinal, empirical studies measuring the stability of hope are the most useful measure of instability. Farran et al. (1995) suggested that less than 25% of all research about hope and hopelessness, regardless of methodology, has been longitudinal. Further, the authors state that rarely has data been collected at even two points in time. To date, only three empirical studies, Valle et al. (2006), Mashunkashey-Shadlow (2009), and Langelle (1989), have been conducted to measure the stability of hopeful thinking in a mentally and physically healthy population for longer than a 10-week period.

Langelle (1989) conducted a cross-sectional study of trait hope to examine the construct validity of Synder’s et al. (1991) Hope Scale. Age cohort groups were created representing physically healthy people in their twenties, thirties, and forties. No clear conclusion about the stability of hope was reached, but evidence of instability was demonstrated. Initial analysis of results revealed that levels of hope were not related to age, despite an increasing stability of hopeful thinking with age (Langelle, 1989). However, when marital status and joint monthly income were controlled, results demonstrated that persons in their twenties had higher levels of hope than persons in their thirties or forties, which suggests that hope is not stable (Langelle, 1989). This finding can be explained by Snyder’s (1994) assertion that life events impact hope as well as arguments suggesting the instability of all personality traits across situations. Consistent with these theoretical assertions, Langelle (1989) concluded that hope is a dispositional trait that may be modulated by normal adult development.
Mashunkashey-Shadlow (2009) examined trait hope in a population of Native American children and adolescents, ranging in age from 8 to 14, over a 3-year period. Differences in scores from measurement time 1 to measurement time 2 were non-significant, suggesting that hope remains stable over a 3-year time period in youth and adolescents. These findings are consistent with test-retest measures of reliability, over 3-month time periods, of both the Hope Scale (Snyder et al., 1991) and the Children’s Hope Scale (Snyder et al., 1997), but must be interpreted with extreme caution.

This study conducted by Mashunkashey-Shadlow (2009) demonstrates weak methodology, thereby, subjecting the results to severe biases. Mashunkashey-Shadlow (2009), examined the stability of hope with an abysmal attrition rate. At measurement time 1, the author measured levels of hope among N=91 Native American youth; however, at measurement time 2 only N=47 (51%) of initial respondents were re-measured. Further, no statistical attempt was made to control for study attrition. High attrition rates are problematic because respondents and nonrespondents may differ systematically on the variables of interest, leading to a sample that is not representative of the target population (Taris, 2000). In fact, persons with low levels of hope are less persistent than those with high levels of hope (Snyder et al., 1991) suggesting that study casualties may have had lower initial levels of hope or decreases in hopeful thinking. Conclusions based on analyses conducted on biased samples, such as Mashunkashey-Shadlow (2009), cannot be generalized to the target population. Study attrition was attributed to the inability to reach families or unwillingness to participate in the follow-up measurement (Mashunkashey-Shadlow, 2009). Given this unacceptable attrition rate, it
is unclear if findings represent the stability of hope in Native American youth or if those with unstable levels of hope were unaccounted for at measurement time 2. In sum, high study attrition undermines all conclusions drawn from this study.

Valle et al. (2006) hypothesized that middle and high school students’ trait hope scores would remain stable across one year. Results indicated a test-retest reliability coefficient of .47, which the authors conclude indicates moderate stability. Like Mashunkashey-Shadlow (2009), however, Valle et al. (2006) showed pronounced methodological errors. First, the study operationalized trait hope using the Children’s Hope Scale (Snyder et al., 1997), which was standardized and validated with children and adolescents ages 7-15. However, at least 17% of the study population at measurement time 1 did not fall in this age range. One-year later, this percentage would have grown even larger, but was not provided by the authors. The use of a standardized instrument with a population outside the restricted age ranges subjects the results to errors in validity and compromises results. Second, the t-test conducted to measure significance of change in time 1 and time 2 measurement was conducted at α=.01. Given this low alpha level, it is unclear whether small changes in the stability of hope occurred, but were not large enough to be detected in the analysis (type II error). Third, study participants included a convenience sample of only the 28-32% of students who returned permission; this sampling technique limits external validity (Taris, 2000). Next, the researchers admit that initial data collection, only 2-weeks following the September 11, 2001 terrorist attacks (although geographically removed from the event), may threaten the internal validity of the results. Finally, a reduction in test-retest reliability from Snyder et al.
(1997) 1-month measurement interval \((r=.73)\) compared to Valle et al. (2006) 1-year measurement interval \((r=.47)\) seems to indicate that trait hope is less stable over time. Clearly, even the relatively inconclusive findings demonstrated by Valle et al. (2006) are subject to vast methodological errors and alternative interpretations and must be interpreted cautiously. Due to study limitations and inconclusive findings, the results of Valle et al. (2006), Mashunkashey-Shadlow (2009), and Langelle (1989) do not clarify the debate regarding the stability or instability of hope. Thus, future empirical study must test the hypothesis that hope is unstable.

**Impact of Literature on Current Study**

A longitudinal study examining the instability of hope in healthy adolescents is necessary to resolve the debate about the instability of hope. The research must hypothesize the construct’s instability for a variety of reasons. First, theoretical assertions suggest that hope may be stable or unstable. However, theoretical support for the instability of hope provides a more concrete rationale than assertions of stability. Theoretical assertions of instability include: the influence of life events on hopeful thinking, an alternatively defined, unstable conceptualization of hope (state hope), the impact of intervention on hope levels in the short term, the instability of personality due to situational variables, the continued development of personality throughout adolescence, the continued development of cognition into adulthood, and the instability of hopelessness in the short term. Furthermore, the three empirical studies measuring hope over the long term, offer reason to believe the construct is unstable. Based on this theoretical and empirical foundation, the demonstration that hope is an unstable construct
may provide a rationale for future development, research, and implementation of hope interventions.

This literature review has found that hope represents the perceived ability to derive pathways to desired goals, and motivate oneself, via agency thinking, to use those pathways. In order to maximize the impact of hope on academic performance, mental health, and physical health various psychotherapies have been examined. However, a review of the literature highlights a lack of sound empirical research regarding the stability of hope. There remains a discrepancy between hope theory, which asserts that trait hope is a stable construct, and interventions aimed at increasing hope, which rely on the assumption that hope is malleable. This longitudinal study will address the dearth of research in this area and provide insight into the stability of hope.
Chapter 3: Methodology

Research Design and Procedure

Overview

A non-experimental, longitudinal design assessed the stability of trait and state hope as well as the relationship between trait hope, grade point average, and likelihood to dropout of school in a convenience sample. A panel study, in which the sample was repeatedly measured using the same questionnaires, was employed (Campbell & Stanley, 1963). This method was appropriate given the descriptive nature of the research questions, lack of variable manipulation, and absence of random sampling (Sears, 2007; Thompson, Diamond, McWilliam, Snyder & Snyder, 2005).

Strengths inherent to correlational research and longitudinal studies offer further justification for the use of a panel study. First, longitudinal research designs are the lone methodology enabling the observation of changes in a variable of interest over time (Burdens & Abbott, 2005). Second, although panel studies are correlational, the repeated nature of measurement makes the potential influence of extraneous variables less likely (Campbell & Stanley, 1963). Third, correlational research that fails to demonstrate an association between variables can rule out a large number of causal hypotheses, thereby, providing a strong approach for preliminary research (Campbell & Stanley, 1963). Fourth, panel studies enable information about change to be collected at the micro
(individual person) level (Taris, 2000). Fifth, panel studies only require the establishment of one selected sample, which was very important in the present study because accessibility to high school populations is limited.

Validity

Study validity ensures that research conclusions are drawn based on meaningful data. Attention to validity is especially important in longitudinal research (Stratford, Mulligan, Downie & Voss, 1999). Veroff, Hatchett, and Douvan (1992) pointed out that multiple measurement phases requiring contact between the researcher and the participants may actually cause changes in the very phenomena the researcher is trying to measure. Furthermore, Campbell and Stanley (1963) warned that checks on the quality of data are vital in field experiments, including the present study, where absolute requirements for causal inference are not upheld. In order to ensure valid results, each of the 12 factors proposed by Campbell and Stanley (1963) as validity threats was addressed.

Campbell and Stanley (1963) suggest that threats to internal validity question whether research conclusions are the result of the independent variable (time) or some alternative explanation. One such threat, history effects, are changes in the dependent variable caused by extraneous events that occur between phases of measurement. History can be a threat to panel studies; however, no major events occurred during measurement. Threats from testing refer to invalidity as a result of learning or previous practice on a measurement. The threat of testing, although present, was expected to be minimal because study instruments measure current perceptions of variables, not performance;
therefore, previous testing likely did not teach participants to respond a certain way in follow-up testing. As is true in most longitudinal research, experimental mortality (attrition) represented the greatest threat to the study’s internal validity. Still, numerous authors suggest that attrition has less impact on the validity of longitudinal studies than often presumed (Deeg, 2002; Kempen & VanSonderen, 2002; VanBeijsterveldt et al., 2002). To control for any impact attrition may have had on validity, the recommendation of Miller and Smith (1983) was followed; non-respondents were repeatedly contacted and asked for continued participation. Further the final responding sample was compared with the initial responding sample using statistical processes (described in Chapter 4).

A number of threats to internal validity proposed by Campbell and Stanley (1963) were not problematic to this particular panel study. First, the study has no threat of maturation on validity because time, which is responsible for maturation threats, was employed as the study’s independent variable. Second, invalidity of results due to inaccurate measurement was controlled by the selection of reliable and valid instruments. Because the sample was not selected based on extreme scores, the threat of statistical regression was not problematic. Similarly, the study utilized only one group (no control), thereby eradicating the threat of selection. Finally, because selection and maturation were not threats to the study’s internal validity, the threat of the interaction between selection and maturation was also not problematic.

Campbell and Stanley (1963) noted four threats to external validity, generalizability, that must also be considered. Reactivity to testing represents a change in the participant’s sensitivity to the experimental variable because of pretesting. Reactivity
to testing could have been a threat to external validity; however, because study instruments were not invasive and did not use the term hope specifically, reactivity to testing was likely minimal. Because the study was non-experimental (no treatment), reactive effects of experimental arrangements and multiple-treatment inference did not threaten external validity. Despite the design’s resistance to these threats, convenience sampling threatens the generalizability of the results. In other words, convenience sampling makes it impossible to determine whether research conclusions would be the same with a different sample. Still, accessibility to high school students limited the researcher’s ability to randomly sample. Comparison of the sample to the population of high school students in the state on numerous demographic variables provides some support for the generalizability of findings. However, to substantially increase generalizability, study results must be replicated with random sampling. Despite potential threats to validity, Statford et al. (1999) believe that, when using a longitudinal design, “the potential loss of validity is a justified price to pay for the richness of the data which could not otherwise be gathered” (p. 417).

Participants

The panel study included a convenience sample of 147 participants, 89 of which attended high school 1 and 58 of which attended high school 2. Both schools in the sample were selected based on demographic similarity to all state of Ohio schools, principal support, and availability of resources (i.e. timeline and budget). High school 1 was the only high school in the school district, which consisted of 6 school buildings and 2,073 students. Of the school’s 691 students, more than a third (34.8%) were
economically disadvantaged. Fourteen percent of the student body was disabled. Males comprised 53.8% of the students. Students were overwhelmingly Caucasian (98.4%) compared to only 1.6% who were multiracial. No students in the building had limited English proficiency.

High school 2 was a member of a larger district consisting of 22 school buildings and 9,217 students. Of the 1,637 member student body, only 9.8% of students were economically disadvantaged. Like high school 1, high school 2 had far more Caucasian students (77.4%) than African American students (10.1%), Asian/Pacific Islander students (6.8%), Hispanic students (4.1%), and multiracial students (1.3%). Males comprised 50.5% of the high school 2 student body. Ten percent of students had disabilities and 3.3% of students had limited English proficiency. Neither school contained students who identified their ethnicity as American Indian or Alaskan. Table 1 compares the demographics in the two schools included in the sample to the demographics of public school students throughout the entire state.
Table 1. Demographic Data for the State of Ohio, High School 1, and High School 2 in Percentages

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>Ohio</th>
<th>High School 1</th>
<th>High School 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economically Disadvantaged</td>
<td>37.7</td>
<td>34.8</td>
<td>9.8</td>
</tr>
<tr>
<td>Limited English Proficiency</td>
<td>1.8</td>
<td>NC</td>
<td>3.3</td>
</tr>
<tr>
<td>Students with Disabilities</td>
<td>14.6</td>
<td>14.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Attendance Rate</td>
<td>94.2</td>
<td>&gt;95.0</td>
<td>94.4</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>48.7</td>
<td>46.2</td>
<td>49.5</td>
</tr>
<tr>
<td>Males</td>
<td>51.3</td>
<td>53.8</td>
<td>50.5</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>16.4</td>
<td>NC</td>
<td>10.1</td>
</tr>
<tr>
<td>American Indian/Alaskan Native</td>
<td>0.1</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>1.5</td>
<td>NC</td>
<td>6.8</td>
</tr>
<tr>
<td>Caucasian</td>
<td>76.0</td>
<td>98.4</td>
<td>78.4</td>
</tr>
<tr>
<td>Hispanic</td>
<td>2.6</td>
<td>NC</td>
<td>4.1</td>
</tr>
<tr>
<td>Multiracial</td>
<td>3.4</td>
<td>1.6</td>
<td>1.3</td>
</tr>
</tbody>
</table>

*Note.* The abbreviation NC means none counted.

Due to the longitudinal nature of the study, students were measured across 2-years. All students were enrolled in the 11th grade during the first two phases of data collection; most students, having been promoted, were enrolled in the 12th grade during the final two phases of data collection. At initial data collection, ages ranged from 16-18, with a mean age of 16.26 (SD = .49). Students in this age range were studied for several reasons. First, hope theorists asserting that hopeful thinking is stable generally agree that the development of hope has finished by late adolescence (Snyder, 1994); therefore, studying these students allowed the researcher to test for stability of trait and state hope.
after the expected developmental changes had occurred. Second, studying students during their 11th and 12th grade school years allowed the researcher to measure the predictive power of hopeful thinking on academic achievement at the latest possible time in students’ secondary education careers. Third, students in this age range were feasibly studied and available.

Sample demographic data (Table 2) was consistent with demographic data of the high schools from which the samples were drawn. There were slightly more males in both high school 1 (50.6%) and high school 2 (55.2%) than females. A moderate percentage of participants in the respective samples spoke a language other than English in their homes (12.4% in high school 1; 13.8% in high school 2). The ethnic makeup of the sample was also similar to the high schools from which samples were drawn, but were not diverse. The sample from high school 1 was predominately Caucasian (89.9%) and contained no African American or Hispanic students. High school 2 was also predominately Caucasian (75.9%), but did include a small (10.3%) group of African American participants.
Table 2. Demographic Data of the Total Sample and Samples from each High School in Percentages

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>Total Sample (N = 147)</th>
<th>High School 1 (n = 89)</th>
<th>High School 2 (n = 58)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>46.9</td>
<td>48.3</td>
<td>44.8</td>
</tr>
<tr>
<td>Male</td>
<td>52.4</td>
<td>50.6</td>
<td>55.2</td>
</tr>
<tr>
<td>Item Non-Response</td>
<td>0.7</td>
<td>1.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>4.1</td>
<td>0.0</td>
<td>10.3</td>
</tr>
<tr>
<td>Asian</td>
<td>2.0</td>
<td>1.1</td>
<td>3.4</td>
</tr>
<tr>
<td>Caucasian</td>
<td>84.4</td>
<td>89.9</td>
<td>75.9</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0.7</td>
<td>0.0</td>
<td>1.7</td>
</tr>
<tr>
<td>Multiracial</td>
<td>4.1</td>
<td>3.4</td>
<td>5.2</td>
</tr>
<tr>
<td>Other</td>
<td>2.7</td>
<td>2.2</td>
<td>3.4</td>
</tr>
<tr>
<td>Item Non-Response</td>
<td>2.0</td>
<td>3.4</td>
<td>0.0</td>
</tr>
<tr>
<td>Second Language Spoken in Home</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>12.9</td>
<td>12.4</td>
<td>13.8</td>
</tr>
<tr>
<td>No</td>
<td>85.7</td>
<td>86.5</td>
<td>84.5</td>
</tr>
<tr>
<td>Item Non-Response</td>
<td>1.4</td>
<td>1.1</td>
<td>1.7</td>
</tr>
<tr>
<td>Special Education Status&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enrolled</td>
<td>6.8</td>
<td>5.2</td>
<td>94.8</td>
</tr>
<tr>
<td>Not Enrolled</td>
<td>93.2</td>
<td>7.9</td>
<td>92.1</td>
</tr>
<tr>
<td>Item Non-Response</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

<sup>a</sup> Percentages reflect the percent of participants who were enrolled in special education at any phase of data collection.
Sampling Procedure

Authorization procedures first involved gaining approval of the Institutional Review Board at The Ohio State University, central office administration of each of the districts, and teacher association representatives from each of the schools. Upon authorization from each gate-keeping party, the researcher met with both school principals to discuss the details of the study and request access to students. Upon gaining consent for building participation, each principal distributed a letter describing the research and the data collection procedure to all teachers in the building.

Although both involved convenience sampling, recruitment of individual students occurred differently in high school 1 and high school 2. Due to permission from the building principal, only students enrolled in a study hall period at high school 2 were selected for participation in the study. At times scheduled by the building principal, the researcher addressed all study hall classes. In high school 1, all 11th grade students (at the time of consent) were selected to participate. The school schedule was adjusted such that all students in the grade being studied reported to the auditorium.

At both schools, meetings with students occurred in the same fashion. A brief introduction of the researcher and the study was provided. Students were then given the opportunity to ask questions and provided an informational handout about the study. Because students were not 18 years old, students interested in participating in the study were given a parent permission form and a letter describing the research to take home to their parents. Students who returned the permission form were enrolled in the study; those who did not return the permission form were excluded. Parent permission extended
the entire length of the study. Lastly, all students with consenting parents were reminded to meet at the designated location for data collection via a school announcement.

*Data Collection Procedure*

Because of the study’s longitudinal nature, data collection occurred across four phases: phase 1 occurring in September 2008, phase 2 in May 2009, phase 3 in September 2010, and phase 4 in May 2010. Arrangements to meet with students during data collection modeled the meetings for sampling. The researcher met with high school 1 students in a single, large group meeting. At high school 2, the researcher met with participants during study hall periods for phase 1 and phase 2. During phase 3 and phase 4 (at high school 2), data was collected by homeroom teachers during participants’ homeroom periods. Explicit instructions were provided to homeroom teachers in order to ensure consistency of data collection procedures.

Upon arriving at the data collection location, all students were greeted by the researcher and thanked for their participation. In order to reduce study attrition, participants were reminded of the longitudinal nature of participation (Taris, 2000). Students were informed that their answers would remain confidential and that completing the questionnaires granted assent to participate in the research. All students granted assent at each phase of measurement. Next, each student was given a packet of questionnaires with written instructions provided on each questionnaire. Participants proceeded by filling out demographic information (e.g., gender, ethnicity), questions regarding variables of interest (e.g. grade point average, satisfaction with grade point average), and two questionnaires – Trait Hope Scale and State Hope Scale. In order to
counteract fatigue, practice, and carry-over effects, counterbalancing was employed (Girden, 1992). The measures were presented in varying orders such that each measure occurred equally as often at each phase of measurement and each measure preceded the other measures as many times as it followed. Upon completion of the questionnaires, packets were collected by the researcher. Participants were then asked to do schoolwork quietly until the entire group was dismissed. In order to reduce validity threats due to attrition, follow-up meetings were made with participants who were absent during data collection.

Taris (2000) warns that response rates of longitudinal studies tend to vary inversely with questionnaire length and the number of questionnaires administered. Likewise, Eaker, Bergstrom, Bergstrom, Adami, and Nyren (1998) found that the likelihood that people will respond to a short questionnaire is significantly higher than the likelihood of responding to a long questionnaire. Therefore, all questionnaires were included in a 4 page document, far less than the maximum 11 pages suggested by Dillman (1978). The study of a non-psychologically threatening topic, such as hope, also encouraged participation (Taris, 2000). Finally, administering questionnaires directly to the participants likely reduced non-response, but made follow-up with students who were absent more difficult.

Instruments

The Hope Scale (Snyder et al., 1991), also called the Trait Hope Scale, is a 12-item self-report questionnaire intended to measure dispositional hope in the context of a goal-setting framework (Appendix A). The Trait Hope Scale uses an 8-point Likert
format ranging from 1 = definitely false to 8 = definitely true. The scale contains two subscales, pathway thinking and agency thinking, with the total level of trait hope being measured by the sum of both subscales. In order to ensure the measurement of trait hope, items were intentionally worded by the instrument’s authors to force the respondent to think across time and situational contexts. The questionnaire has been cross-ethnically standardized for populations 16 years of age and older (Roesch & Vaughn, 2006; Snyder et al., 1991). Because of its excellent reliability and validity, the Trait Hope Scale is the most widely used measure of trait hope (Farran et al., 1995). Both internal ($r = .71 - .76$) and test-retest (3-week: $r = .85$, 8-week: $r = .73$, 10-week: $r = .82$) reliabilities have been shown to meet acceptable ranges. Well replicated factor analyses have verified the existence of two separate and related factors, with an overarching construct (Babyak, Snyder, & Yoshinobu, 1993; Roesch & Vaughn, 2006; Snyder et al., 1991). Construct and concurrent validity have been demonstrated through correlations with the Rosenberg Self-Esteem Scale ($r = .58$), Burger-Cooper Life Experience Survey ($r = .54$), Life Orientation Test ($r = .60$), and with the Generalized Expectancy for Success Scale ($r = .55$). Discriminant validity of the Hope Scale from the Hopelessness Scale has also been supported ($r = -.51$). Because of its strong psychometric properties, Steed (2002) concluded that the Trait Hope Scale is the instrument of choice when measuring hope. Likewise, Bryant and Cvengros (2004) concluded that the Trait Hope Scale is a “psychometrically superior measure of dispositional hope” compared to other measures (p. 296).
The State Hope Scale (Snyder et al., 1996) intends to measure hope at the present time in late adolescents and adults (Appendix B). The scale consists of 6-Likert items (1 = definitely false to 8 = definitely true), 3 agency items and 3 pathway items, which provide an indication of state hope when summed. Factor analysis, indeed, confirmed this model. The scale is internally reliable ($r = .93$) and variable over time (test-retest correlations ranging from $.48 - .93$) as would be expected given the theorized unstable nature of state hope. Convergent validity was demonstrated with the Trait Hope Scale ($r = .79$), State Self-Esteem ($r = .75$), Positive Affect Scale ($r = .65$), and the Daily Report Form ($r = .53$). Lack of attenuation in correlations with the Daily Report Form, after removing the variance due to trait hope, demonstrated the State Hope Scale’s discriminant validity.

A Priori Statistical Considerations

For the purposes of this study, the guidelines for interpreting correlations in the social sciences suggested by Cohen’s (1988) were adopted and used in writing research conclusions. Cohen cautioned that adhering to strictly to arbitrary guidelines for interpretation can be problematic because of the purposes and context of the study can influence the interpretation of relationships. In other words, a correlation of $.90$ may be considered very strong when considering the relationship between hope and GPA in the social sciences however a similar correlation using precise instruments in physics may not be considered a strong relationship. Nonetheless, Cohen (1988) recommends interpreting the Pearson product-moment correlation such that correlations between $.10 - .19$ are considered negligible relationships, $.20 - .29$ are weak relationships, $.30 - .39$ are
moderate relationships, .40 - .69 are strong relationships, and .70 - 1.00 are very strong relationships. Also accepted for the current study were Cohen’s (1992) recommendations that effect size be interpreted such that an $r$ of .10 is small, .30 is medium, and .50 is large.

The necessary sample size was computed after establishing alpha, power, and effect size. Based on theory and empirical evidence, a medium effect size, .30, was chosen. Alpha was set at .05, the traditional level of significance (Green, 1991). Cohen (1992) argues that for a large range of behavioral research areas, a 4 to 1 ratio best reflects the seriousness of Type I to Type II error. Therefore, because alpha was set at .05, the probability of a Type II error should be $4 \times .05 = .20$ and power would be $1 - .20 = .80$. Green (1991) suggests that $N > 104 + m$ (where $N$ equals the number of participants and $m$ equals the number of independent variables) for testing individual predictors (assuming a medium-sized relationship). Similarly, Pedhazur (1997, p. 207) suggests a subject to variable ratio of 15:1. The most complex analysis in the current study contained 7 variables. Therefore based on the recommendations of Cohen (1998, 1992), Green (1991), and Pedhazur (1997), a sample size of 112 participants (15:1, $15 \times 7 = 105$; $N > 104 + m$, $112 > 104 + 7$) was needed for analysis, based on an effect size of $r = .30$, an $\alpha = .05$, and a power of .80 ($\beta = .20$; Cohen, 1988). Notably, the actual sample size of 147 is much larger than the needed sample size as well as sample sizes used in previous studies examining the stability of hope (Langelle, 1988; Mashunkashey-Shadlow, 2009).
Study Variables

Study variables were created using total scores of the two instruments in the study as well as pertinent demographic information. Trait hope was operationalized as the sum of items on the Trait Hope Scale after distracter items were removed. Trait hope scores were considered interval level data and ranged from 8 - 64. Likewise, state hope was operationalized by summing items on the State Hope Scale. State hope was also interval with scores ranging from 6 - 48. Other study variables (Appendix C) were operationalized as follows: time was ordinal with four levels (phase 1, phase 2, phase 3, and phase 4); gender was nominal with two levels (male, female); high school location was nominal with two levels (rural, suburban); special education status was nominal with two levels (enrolled in special education, not enrolled in special education); age was ordinal (after grouping to deal with insufficient sample sizes across groups) with 2 levels (16-years-old, above 16-years-old); ethnicity was nominal (after grouping to deal with insufficient sample sizes across groups) with 2 levels (Caucasian, non-Caucasian); grade point average was ratio (ranging from .0-4.75, grade point averages above 4.00 were possible because both high schools use a weighted scale for honors courses); likelihood to dropout was operationalized as the frequency of dropout ideation was nominal (after grouping to deal with insufficient sample sizes across groups) with 2 levels (dropout ideation, no dropout ideation).

After establishing that the study was sufficiently designed to answer research questions, results were analyzed. Results are described in the following chapter. The
procedures are intended to be detailed sufficiently for future researchers to replicate the study. Such verifications of findings are welcomed and encouraged.
Chapter 4: Results

All statistical analyses were performed using SPSS Statistics 17.0, a data analysis package designed for the social sciences. Various levels of analysis were conducted: examination of plotted raw data, descriptive statistics, correlations, mixed model and repeated measures analysis of variance (ANOVA), simple linear and logistic regression. Data were plotted to provide visual estimates of outliers, growth or decline patterns, and variability. Descriptive statistics included means, standard deviations, medians, and inter-quartile ranges for all collected data. Correlational analyses were conducted between trait hope and state hope, trait hope scores at each phase of the study, and state hope scores at each phase of the study. Mixed model and repeated measures ANOVA were used to evaluate the stability of trait hope and state hope over time. Linear regression was employed to determine the amount of variation in grade point average explained by trait hope; while, logistic regression used trait hope to predict participants likelihood to experience dropout ideation or not. Statistical assumptions were checked for each analysis and, where necessary, nonparametric statistics were used.

Data Set Overview

The demographics of the study data were compared to demographics of the samples on which the instruments were empirically tested (see Table 3). Unfortunately, only age and gender of the instruments’ normative samples were available. Relative ages
and genders of participants in the study sample are similar to demographics of the participants in the instruments’ normative samples.

Table 3. Demographics of the Study Participants Compared to Demographics of Instrument Validity

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>Study a</th>
<th>Trait Hope Scale b</th>
<th>State Hope Scale</th>
</tr>
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<tr>
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<td></td>
<td></td>
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<tr>
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<td>53.5%</td>
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<tr>
<td>Male</td>
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<td>46.5%</td>
<td>48.8%</td>
</tr>
<tr>
<td>Age</td>
<td>16-20 c</td>
<td>16+</td>
<td>16+</td>
</tr>
</tbody>
</table>

a Percentages reflect the percent of participants who responded to the target item. b Percentages averaged across 6 small samples. c Ages of participants over the course of all 4 phases.

Reliability and Validity Considerations

Although attrition can be a major problem in longitudinal research, attrition was not problematic in the present study. After each phase of data collection, follow-up contact was made in order to collect data from all participants who were absent during initial data collection. Follow-up increased response rate at each phase, thereby reducing threats to validity due to attrition. The initial responding sample, phase 1, consisted of N = 151 participants. Only 2 individuals (1.32%) did not complete each of the next 3 phases, 1 of which moved from the school district thus was unable to participate. Information on the other participant who did not complete each phase was unavailable.
Both cases were removed from the final data set before analysis. Two additional cases were also removed due to the participants’ ages. Both cases were 15-years-old at phase 1 of data collection. Because the validity and reliability of both the Trait Hope Scale and the State Hope Scale were studied with populations 16-years-old and older, the data for the 2 participants who were 15-years-old at phase 1 were not valid; thus, the cases were removed. After all 4 cases were removed from the data, the final responding sample consisted of $N = 147$. Despite this excellent participation rate (97.35%), invalidity due to study attrition was checked based on the guidelines of numerous authors (Deeg, 2002; Kempen & VanSonderen, 2002; Lindner, Murphy, & Briers, 2001; Miller & Smith, 1983; VanBeijsterveldt et al., 2002). Chi square analysis compared the initial responding sample to the final responding sample on age ($\chi^2 = .01; p = .99$), gender ($\chi^2 < .01; p = .99$), primary language spoken ($\chi^2 = .01; p = .91$), and ethnicity ($\chi^2 = .17; p > 1.00$). Consistent with the assertions of Deeg (2002), Kempen and VanSonderen (2002), and VanBeijsterveldt et al. (2002), results show that the impact of study attrition did not compromise study data.

Due to requirements of the Institutional Review Board at Ohio State, participants were permitted to skip any question they felt uncomfortable answering. Therefore, item nonresponse was important to consider prior to data analysis. No protocols were less than 80% complete, the established cut-off for removing the case; thus, no protocols were removed due to extensive item non-response. Missing data due to item nonresponse was imputed using mean imputation and information from related observations. Using this method a missing value was replaced by the mean of the participant’s responses to
similar items (i.e. pathway items, agency items) at that phase. For example, a missing pathway item on the Trait Hope Scale in phase 1 was replaced by the mean of the other pathway items on the Trait Hope Scale in phase 1. Taris (2000) suggests that this method is especially acceptable if most of the variance in the missing value is accounted for in the mean of similar items, which a variety of authors argue is the case for hope scores (Langelle, 1989; Mashunkashey-Shadlow, 2009; Snyder, 1994; Valle et al, 2006). Due to the hypothesized instability of hope, this method (in which the mean value is overrepresented in the post-imputation data) was chosen because it represents the most conservative data replacement technique.

**Plotted Raw Data**

In order to examine the stability of trait hope and state hope, plots of individuals’ raw trait and state hope data over time were created. Plots were examined for interindividual and intraindividual changes in slope, where positive slope represented increases in hope and negative slope represented decreases in hope. Plots of group means demonstrated that trait hope and state hope scores increased at each phase with the greatest gain observed between phase 2 and phase 3. The pattern of growth in state hope for the entire group was identical to the pattern observed in trait hope scores; namely, state hope increased at each phase with the greatest gains in state hope observed between phase 2 and phase 3.

Plots of each individual’s trait hope scores at each phase were also examined. An examination of individual’s changes in trait hope was important because simply examining group means could have neglected instability of individuals. For example, if
one individual’s trait hope increased while another individual’s decreased, changes in
trait hope, when averaged across the group, would have been lost. Instability, defined by
changes of more than 8 points on trait hope scores between phases, was observed in
87.08% of cases. Notably, 12.93% of cases reported stable levels of trait hope across all
phases. Female respondents were somewhat more likely (15.90% of females versus
10.4% of males) to report stable trait hope levels. Of the participants reporting unstable
levels of hope, 42.97% followed the same pattern as the group mean, increases in hope at
each phase. An additional 42.97% demonstrated an unstable trait hope profile such that
scores increased and decreased by more than 8 points. The remaining 14.06% of
participants with unstable trait hope decreased at each phase. Notably, fewer (5.00%) of
non-Caucasian participants reported a declining trend in trait hope than their Caucasian
counterparts.

Plots of intraindividual stability of state hope showed similar results. The vast
majority of respondents (89.11%) reported unstable levels of state hope. Of participants
reporting unstable state hope, 32.06% showed an upward trend similar to the upward
trend seen in group state hope scores, while 12.21% reported a downward trend and
55.73% reported both upward and downward changes in state hope. Notably,
consideration of gender, age, ethnicity, special education status, and high school location
did not help to explain which cases reported unstable state hope versus which cases did
not.

Variance was observed by examining the “fan shape” of the individual data lines
on the plot. Expansion of the “fan shape” represented greater variation among later
phases of trait and state hope collection, further justifying the need to check homoscedasticity assumptions before conducting inferential data analysis. Plotted data demonstrated minimal variance in either trait or state hope scores although variance in state hope scores was greater than variance in trait hope scores.

Before any data analysis could be conducted, extreme scores were examined for recording errors and improper entry. Based on the recommendation of Lomax (2007), extreme scores were defined as any observation two or more standard errors from the mean. Numerous extreme scores were identified, but all were determined to be valid data points and were used in analyses. The presence of extreme scores necessitated an examination of the normality of distributions.

Normality of Study Variables

The distributions of trait hope, state hope, GPA, and likelihood to dropout were examined using histograms, Q-Q plots, skewness and kurtosis statistics, as well as Kolomogorov-Sminov (D) and Shapiro-Wilk (W) tests of normality (Table 4). Visual inspection of histograms and Q-Q plots suggested that the data were normal. Likewise, Lomax (2007) suggests that non-zero kurtosis will have minimal effect on regression and ANOVA estimates; further, skewness values < 2 are not cause for concern. As seen in Table 4, skewness values for trait hope (ranging from -1.40 to -.85), state hope (ranging from -1.17 to -.56), and GPA (ranging from -1.48 to -.70) are all < 1.5. Further, normality assumptions are less rigid when sample size is large (Field, 2009). Large sample size and moderate skewness values suggest that, for the purposes of parametric analyses, normality can be assumed. Likelihood to dropout was highly positively skewed.
(ranging from 4.62 to 5.72), indicating that the majority of respondents report little likelihood they will dropout, while few report a high likelihood of dropout. The non-normality of the likelihood to dropout was taken into consideration in all analyses.

On the contrary to other measures of normality, statistical testing of normality demonstrated that none of the variables were normally distributed (Table 4). Kolmogorov-Smirnov statistics were significant for overall distributions and at each phase and ranged from $D = .09$ to $D = .54$. Likewise, Shapiro-Wilk statistics, ranged from $W = .26$ to $W = .97$ and were significant overall and at each phase. The null hypothesis for both tests of normality, which indicated that the respective variable was normally distributed, was rejected for each variable at each phase. Nonetheless, it is unclear if significant Kolmogorov-Smirnov and Shapiro-Wilk statistics are due to the study’s relatively large sample size or deviations that are practically non-normal.

Normality assumptions of parametric statistics are based on normal distributions in the population, not the sample (Field, 2009). Field (2009) notes that sources of data other than the distribution of the sample should be used to determine if a target variable is normally distributed in the population. Snyder (1994) asserts that trait hope is normally distributed in the population while Sympson (1991) suggests state hope is normal in the population. Therefore, it is unclear if the population distributions of trait and state hope are normal. Kolmogorov-Smirnov and Shapiro-Wilk statistics suggest that trait and state hope are not normally distributed, while previous research (Snyder, 1994; Sympson, 1991), skewness statistics below 2 (Lomax, 2007), and the study’s large sample size support the acceptance of normality assumptions. Thus, when available, both parametric
and non-parametric analyses are presented. This approach enables the author to draw conclusions using the power of parametric statistics as well as the robustness of non-parametric statistics.
Table 4. Distribution Statistics and Tests of Normality for Study Variables

<table>
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<th>Kurtosis</th>
<th>SE</th>
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<td>.54**</td>
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</table>

**p < .01.
Descriptive Statistics

To gain an initial understanding of the data, medians, inter-quartile ranges, means, and standard deviations of Trait Hope Scale scores and the State Hope Scale scores were observed. Results suggest that both trait and state hope are present much of the time among participants. When compared to the interpretative guidelines established by Snyder et al. (1991) mean scores on the Trait Hope Scale across all phases ($\bar{x} = 51.04$, $SD = 7.31$), at phase 1 ($\bar{x} = 49.30$, $SD = 7.66$), at phase 2 ($\bar{x} = 50.33$, $SD = 5.95$), at phase 3 ($\bar{x} = 52.03$, $SD = 6.85$), and at phase 4 ($\bar{x} = 52.52$, $SD = 8.18$) were in the “High Hope” range. Likewise, scores on the State Hope Scale across all phases ($\bar{x} = 37.58$, $SD = 6.23$), at phase 1 ($\bar{x} = 36.28$, $SD = 6.04$), at phase 2 ($\bar{x} = 36.72$, $SD = 5.99$), at phase 3 ($\bar{x} = 38.53$, $SD = 5.64$) and phase 4 ($\bar{x} = 38.80$, $SD = 6.88$) were in the “High Hope” range based on the guidelines established by Snyder et al. (1996).

Because the normality of trait and state hope distributions is unclear (Table 5), means and standard deviations should be interpreted cautiously as they are likely impacted by extreme scores. Nonetheless, Snyder et al. (1991) and Snyder et al. (1996) did not provide qualitative descriptors of median scores, therefore, qualitative comparisons with normative data were given based on mean scores. Further, designations of “High Hope” are reasonable because all hope distributions are negatively skewed (median scores are higher than mean scores).

Cronbach’s alpha reliability coefficients were moderately high ranging from .70-.86 on the Trait Hope Scale and .72-.83 on the State Hope Scale. Internal consistency of the measures was similar to internal consistency standards established by the scales’
authors, .71-.76 and .93 respectively. Internal reliability of the study instruments was acceptable.

Medians, inter-quartile ranges, means, and standard deviations for other study variables were also calculated. Grade point averages ranged from 1.50 – 4.75; GPA’s above 4.00 were possible because both high schools studied offer “weighted” GPA’s, measured on a 5.00 scale, for students enrolled in honors classes. Grade point averages were relatively high (Median = 3.50, IQR = 1; \( \bar{x} = 3.43 \), SD = .62). Conversely, participants reported a low likelihood that they would dropout of high school (Median = 1, IQR = 0; \( \bar{x} = 1.17 \), SD = .63).
<table>
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<tr>
<th>Variable</th>
<th>Median</th>
<th>IQR</th>
<th>Mean</th>
<th>SD</th>
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Correlational Analysis

To gain a better understanding of the statistical relationships between study variables, correlational analyses were conducted. Assumptions of the Pearson product-moment correlation require data be measured at the interval level and normal distributions of both variables being correlated (Field, 2009). Because the normality of trait and state hope is unclear (see Normality discussion) parametric Pearson product-moment correlations (Table 6) as well as non-parametric Spearman’s rho correlation coefficients (Table 7) were computed.

In order to assess the relationship between state and trait hope, Trait Hope Scale scores were correlated with State Hope Scale scores at each phase. Strong correlations were observed between trait and state hope at phase 1 \((r = .75, p < .01; r_s = .75, p < .01)\), at phase 2 \((r = .76, p < .01; r_s = .70, p < .01)\), at phase 3 \((r = .81, p < .01; r_s = .77, p < .01)\), and at phase 4 \((r = .79, p < .01; r_s = .71, p < .01)\). These results suggest that, at each phase, if a participant reported high levels of trait hope they also reported high levels of state hope.

Following the example of Valle et al. (2006) who explored the stability of hope over time, Pearson product-moment correlation coefficients and Spearman rho correlation coefficients compared the association of trait hope scores at each phase. The association of state hope scores at each phase was examined in the same manner. Interpretation of the variables’ stability was made based on Cohen’s (1988) recommendations where \(r = .1\) represents a weak correlation, \(r = .3\) a moderate correlation, and \(r = .5\) a strong correlation. Results, presented in Table 6, suggest that trait hope at each phase, as
measured by total Trait Hope Scale scores, was weakly to moderately correlated ($r = .01 - .26; r_s = .02 - .23$). Trait hope scores were less stable over time, indicated by significant correlations in trait hope during phases 1 and 2, 2 and 3, and 3 and 4, but not among phases that were not directly connected chronologically. Although some trait hope scores are significantly correlated, results indicate that even in the strongest correlation of trait hope scores ($r = .26$, observed between phases 2 and 3) a large portion of variability (93.24%) in trait hope cannot be predicted by previous trait hope scores.

State hope, as measured by total State Hope Scale scores, was also weakly to moderately correlated ($r = .04 - .26; r_s = .03 - .27$). By definition state hope is unstable (Sympson, 1991); therefore as expected, no pattern of significant correlations was observed. Taken together these correlational analyses suggest that further analyses of the stability of trait and state hope are warranted.
Table 6. Pearson Product-Moment Correlations of Hope Across Phases

<table>
<thead>
<tr>
<th>Phase</th>
<th>1</th>
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<th>3</th>
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</tr>
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<tbody>
<tr>
<td><strong>Trait Hope Scale</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Phase 1</td>
<td>__</td>
<td>.23**</td>
<td>.01</td>
<td>.07</td>
</tr>
<tr>
<td>Phase 2</td>
<td>__</td>
<td>.26**</td>
<td>.21*</td>
<td></td>
</tr>
<tr>
<td>Phase 3</td>
<td>__</td>
<td></td>
<td>.21*</td>
<td></td>
</tr>
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<td>Phase 4</td>
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<td></td>
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<tr>
<td><strong>State Hope Scale</strong></td>
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</tr>
<tr>
<td>Phase 1</td>
<td>__</td>
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<td>.05</td>
<td>.13</td>
</tr>
<tr>
<td>Phase 2</td>
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<td>.04</td>
<td>.22**</td>
<td></td>
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<td>.04</td>
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<tr>
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*p < .05. **p < .01.
Table 7. Spearman’s Rho Correlations of Hope Across Phases

<table>
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<th>3</th>
<th>4</th>
</tr>
</thead>
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<td>.07</td>
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<td>.23**</td>
<td>.23**</td>
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<td>Phase 3</td>
<td>__</td>
<td></td>
<td>.16*</td>
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<td>Phase 4</td>
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<td></td>
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</tr>
<tr>
<td><strong>State Hope Scale</strong></td>
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<tr>
<td>Phase 1</td>
<td>__</td>
<td>.24**</td>
<td>.06</td>
<td>.09</td>
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<td>Phase 2</td>
<td>__</td>
<td>.08</td>
<td>.27**</td>
<td></td>
</tr>
<tr>
<td>Phase 3</td>
<td>__</td>
<td></td>
<td>.03</td>
<td></td>
</tr>
<tr>
<td>Phase 4</td>
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</tbody>
</table>

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

Instability of Trait Hope

*Mixed Model Analysis of Variance*

Mixed model analysis of variance (ANOVA) investigated the stability of trait hope (Research Question 1) as well as the impact of age, gender, high school location, ethnicity, and special education status on trait hope. Mixed model ANOVA is a combination of one-factor repeated measures and two-factor fixed effects models. This approach enabled the researcher to examine the stability of trait hope using within-subject comparisons while using between-subjects comparisons to examine the impact of
demographic variables on trait hope. Trait hope served as the within-subjects factor with 4 levels (phase 1, phase 2, phase 3, and phase 4). Between-subjects factors were age, gender, high school location, ethnicity, and special education status; each had 2 levels. Due to the lack of ethnic diversity in the study sample, the size of each non-Caucasian ethnic group was too small to compare group means; thus, ethnicity was recoded into only two categories (Caucasian and non-Caucasian). Similarly, there were only 3 participants who began the study at age 18; therefore, age was recorded into only two levels (16-years-old and above 16-years-old). Finally, each subject responded to every level of trait hope, but to only one level of the between-subjects factors.
Table 8. Five-Factor Mixed Model ANOVA Summary Table

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
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<td></td>
<td></td>
</tr>
<tr>
<td>Trait Hope</td>
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<td>394.61</td>
<td>131.54</td>
<td>3.06*</td>
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<tr>
<td>Residual</td>
<td>15747.15</td>
<td>366.00</td>
<td>43.03</td>
<td></td>
</tr>
<tr>
<td>Between-Subjects:</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>1</td>
<td>31.89</td>
<td>31.89</td>
<td>.52</td>
</tr>
<tr>
<td>Location</td>
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<td>157.08</td>
<td>157.08</td>
<td>2.54</td>
</tr>
<tr>
<td>Gender</td>
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<td>11.02</td>
<td>.18</td>
</tr>
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<td>Ethnicity</td>
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<td>11.52</td>
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</tr>
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<td>75.85</td>
<td>1.23</td>
</tr>
<tr>
<td>Age * Gender</td>
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<td>62.86</td>
<td>62.86</td>
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<td>33.93</td>
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<td>Location * Gender</td>
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<td>39.45</td>
<td>.64</td>
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<td>89.78</td>
<td>1.45</td>
</tr>
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<td>Location * SPED</td>
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<td>7.83</td>
<td>7.83</td>
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<td>Gender * Ethnicity</td>
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<td>Gender * SPED</td>
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<td>Age * Location * Gender</td>
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<td>121.05</td>
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<tr>
<td>Residual</td>
<td>122</td>
<td>7538.59</td>
<td>61.79</td>
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</tr>
</tbody>
</table>

Note: 3-way, 4-way, and 5-way contrasts involving special education status and ethnicity were not conducted because of limited sample size in each cell (< 5).

*p < .05.
Within-Subjects Comparisons

Within-subjects comparisons examined the stability of trait hope (Research Question 1). The use of a within-subjects factor to test the stability of hope was demonstrated by Mashunkashey-Shadlow (2009) and Snyder et al. (1996). This precedent is crucial given the lack of empirical studies measuring the stability of hope. As with all analyses, within-subjects designs have advantages and disadvantages. Within-subjects comparisons allowed the researcher to compare multiple trait hope means, while controlling the type I error rate (Lomax, 2007). This would not be possible with multiple iterations of the t-test. Because participants were held constant, variance due to other sources of error could be extracted, resulting in greater power to test within-subjects effects (Lomax, 2007). On the contrary, the repetition of measurement may have affected performance (practice effects, fatigue effects, and carry-over effects) despite counterbalancing to control these threats to validity.

The null hypotheses of within-subjects comparisons (H_0: \mu_A = \mu_B = \mu_C = \mu_D) were tested against the alternative (H_1: not all \mu_s are equal). In practical terms, the null hypotheses suggested that trait hope was stable, while the alternative suggested that trait hope was unstable. Results (F(3, 15747.15) = 3.06, p = .03) suggest that the null hypothesis be rejected for the alternative. There was a significant effect of phase on trait hope indicating that trait hope is unstable. Post hoc analysis using the Bonferroni correction revealed differences in trait hope levels between phases 1 and 3 (p = .01), phases 1 and 4 (p < .01), and phases 2 and 4 (p = .02).
**Assumptions of Within-Subjects Comparisons**

Within-subjects comparisons assume normality in the population, homogeneity of variance, and homogeneity of covariance (Field, 2009; Lomax, 2007; Vonesh & Chinchilli, 1997). Compound symmetry is present when the assumptions of both homogeneity of variance and covariance are met; however, Vonesh and Chinchilli (1997) assert that compound symmetry is more strict than necessary to ensure accurate conclusions. Instead, both conditions can be relaxed as long as variance and covariance follow a pattern known as sphericity. Sphericity suggests that the variance in the difference scores will be the same at all phases of measurement (Field, 2009). In other words, if you were to take each pair of phases, and calculate the difference between each pair of scores, then it is necessary that these differences have equal variances.

Sphericity was checked using the Mauchly’s test \( \chi^2_M \). This analysis tested the null hypothesis, variances are equal, against the alternative hypothesis, that variances are not equal. Results of Mauchly’s test were significant \( \chi^2_M(5) = .86, p < .01 \) suggesting that there were significant differences between the variances trait hope scores at each phase. The assumption of sphericity was not met. Field (2009) and Girden (1992) recommend implementing the Huynh-Feldt correction for \( \varepsilon > .75 \). Because \( \varepsilon = .93 \), degrees of freedom were corrected using Huynh-Feldt estimates of sphericity. By reducing the degrees of freedom of the \( F \) test, the \( F \)-ratio was more conservative. Although the lack of sphericity was taken into consideration during the ANOVA, it was unclear if the assumption of normality was met (see discussion in Normality section). Because ANOVA is robust to violations of normality (Field, 2009; Vonesh & Chinchilli,
1997), results were interpreted. Nonetheless, within-subjects effects were compared to
the non-parametric Friedman’s ANOVA to ensure accuracy of conclusions.

Friedman’s Analysis of Variance

The Friedman’s ANOVA ($\chi^2_F$) compares several group means when the same
participants take part in each condition and the resulting data are not normally distributed.
Friedman’s ANOVA deals with non-normality by ranking data across phases, summing
ranks of each phase, and comparing summed scores for statistical differences. Results of
the Friedman’s ANOVA indicate that trait hope changed over time ($\chi^2_F(3) = 19.81, p <
.01$). Post-hoc tests were conducted using the Wilcoxon signed-rank ($Z_W$) test on each of
the 6 comparisons (i.e., phase 1 and phase 2, phase 1 and phase 3, phase 1 and phase 4,
phase 2 and phase 3, phase 2 and phase 4, phase 3 and phase 4). A Bonferroni correction
was applied ($\alpha = .05/\text{number of comparisons} = .05/6$) such that statistical significance
was established at $\alpha = .0083$. Significant differences were demonstrated between trait
hope at phase 1 and phase 3 ($Z_W = -3.5, p < .001$), phase 1 and phase 4 ($Z_W = -3.52, p <
.001$), phase 2 and phase 3 ($Z_W = -2.82, p = .005$), and phase 2 and phase 4 ($Z_W = -3.61,
\ p < .001$). Results confirm within-subjects effects of parametric, mixed-model ANOVA
and indicate that trait hope is unstable.

Between-Subjects Effects Comparisons

Between-subjects comparisons considered the relationship between high school
location, age, gender, ethnicity, and special education status on trait hope. No significant
main effects or interactions were observed. Trait hope of participants from rural and
suburban high schools were not different ($F(1, 122) = 2.54, p = .11$). There was also no
main effect for age ($F(1, 122) = .52, p = .47$) indicating that those participants 16-years-old reported equal levels of trait hope as those 17-years-old and older. Likewise, males and females reported equal levels of trait hope ($F(1, 122) = .18, p = .67$). Trait hope of Caucasian respondents was not different from the trait hope of non-Caucasian respondents ($F(1, 122) = 3.83, p = .05$). Finally, special education status ($F(1, 122) = .19, p = .67$) had no impact on trait hope. As seen in Table 8, no significant interaction effects were observed.

*Assumptions of Between-Subjects Comparisons*

In addition to the assumptions discussed previously, between-subjects comparisons of mixed model ANOVA’s assume homogeneity of variance and independence of factors. Residuals were randomly displayed, suggesting the assumption of independence is satisfied. Homogeneity of variance was also checked. Levene’s Test ($F_L$) was significant at phase 1 ($F_{L1} (19,122) = 2.35, p < .01$), phase 3 ($F_{L3} (19,122) = 2.07, p < .01$), and phase 4 ($F_{L4} (19,122) = 2.35, p < .01$) of the dependent variable (trait hope) indicating heterogeneity of variance. However, Field (2009) suggests that in large samples Levene’s test is more strict than is needed to demonstrate homogeneity of variance. Field (2009) recommends subtracting the lowest factor variance from the highest factor variance and assuming homogeneity of variance if the result is under 2. The difference between the highest variance ($s^2$(gender) = .25) and the lowest variance ($s^2$(special education status) = .06) is $s^2 = .19$; thus, the assumption of homogeneity of variance was met.
Instability of State Hope

Repeate Measures Analysis of Variance

Repeated measures ANOVA was used to examine the stability of state hope. The null hypotheses (H₀: μₐ = μ₇ = μ₉ = μ₄) that state hope was stable was tested against the alternative (H₁: not all μs are equal) that state hope was unstable. Time (i.e. the number of phases) was identified as the independent variable, while state hope was the dependent variable.

Results of the RM ANOVA were $F(3, 438) = 7.13, p < .01$ suggesting the null hypothesis be rejected for the alternative (Table 9). There was a significant effect of time on state hope; state hope is unstable. Post hoc comparisons using the Bonferroni correction revealed differences in state hope levels between phases 1 and 3 ($p = .01$), phases 1 and 4 ($p < .01$), phases 2 and 3 ($p = .04$), and phases 2 and 4 ($p = .01$).

Table 9. Repeated Measures ANOVA Examining the Stability of State Hope

<table>
<thead>
<tr>
<th>Source</th>
<th>Df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Hope</td>
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<td>707.46</td>
<td>235.82</td>
<td>7.13**</td>
</tr>
<tr>
<td>Residual</td>
<td>438</td>
<td>14495.04</td>
<td>33.09</td>
<td></td>
</tr>
</tbody>
</table>

$p < .01$.

Assumptions of Repeated Measures Analysis of Variance

Assumptions of the RM ANOVA were checked. Sphericity was assumed based on non-significant results of Mauchly’s test ($\chi^2_M(5) = .96, p = .36$). It was unclear if
normality assumptions were met (see discussion in Normality section). Although several authors report that RM ANOVA is robust to minor violations of the normality assumption (Field, 2009; Vonesh & Chinchilli, 1997), a non-parametric Friedman’s test was employed to verify findings of the RM ANOVA.

Friedman’s Analysis of Variance

Results of the Friedman’s ANOVA indicate that state hope changed over the time \( \chi^2_{F}(3) = 21.50, p < .01 \). Wilcoxon signed-rank tests \( (Z_S) \) were used to follow-up this finding. A Bonferroni correction was applied \( (\alpha = .05/\text{number of comparisons} = .05/6) \) such that statistical significance was established at \( \alpha = .0083 \). Post hoc analysis show significant differences between state hope at phase 1 and phase 3 \( (Z_S = -3.12, p = .002) \), phase 1 and phase 4 \( (Z_S = -3.48, p = .001) \), phase 2 and phase 3 \( (Z_S = -2.77, p = .006) \), and phase 2 and phase 4 \( (Z_S = -3.36, p = .001) \). Results confirm parametric RM ANOVA and indicate that state hope is unstable.

In order to address the predictive power of trait hope on grade point average (GPA) and students’ perceived likelihood to dropout, linear and logistic regression were employed. Precedent for the use of regression in the measurement of the impact of hope has been well established (Berg et al., 2007; Irving et al., 2004; Sears, 2007). Using linear and logistic regression allowed the researcher to quantify the variance in the grade point average and in the likelihood to dropout explained by trait hope.

Impact of Trait Hope on Grade Point Average

The independent variable, trait hope, was used to predict variance in the dependent variable, GPA (Research Question 3). Pearson-product moment correlations
(Table 10) were moderate and significant at phase 1 \( (r = .39, p < .01) \), phase 2 \( (r = .27, p < .01) \), phase 3 \( (r = .33, p < .01) \), and phase 4 \( (r = .39, p < .01) \). Positive correlation coefficients observed at each phase indicated that as trait hope increased so did GPA. The obvious relationship between trait hope and GPA indicated that further analysis through linear regression was warranted.
Table 10. Means, Standard Deviations, and Correlations for GPA and Trait Hope at Each Phase

<table>
<thead>
<tr>
<th>Variable</th>
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<td>_</td>
<td>.39**</td>
</tr>
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<td>_</td>
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<tr>
<td><strong>Phase 2</strong></td>
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<tr>
<td>GPA</td>
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<td>.60</td>
<td>_</td>
<td>.27**</td>
</tr>
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<td>_</td>
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<td><strong>Phase 3</strong></td>
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</tr>
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<td>.33*</td>
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</tr>
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<td>_</td>
<td>.39**</td>
</tr>
<tr>
<td>Trait Hope</td>
<td>52.52</td>
<td>8.18</td>
<td>_</td>
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</tr>
</tbody>
</table>

**Note.** Despite uncertainty regarding normality of variables’ distributions in the population, linear regression is based on means and standard deviations; thus, these statistics are presented.

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

**Linear Regression Analysis**

Simple linear regression predicted the variance in GPA that can be explained by trait hope (Research Question 3). This statistical analysis was used because only one
predictor of GPA, trait hope, was considered. Linear regression applies the method of least squares to fit a line to the data. In this way, the variability in GPA that can be explained by trait hope was quantified (Table 11).

When all phases of trait hope are considered together the resulting model is represented by the equation \( \hat{y} = 1.91 + .03x + \varepsilon \). The model was significant \( (F(1,541) = 67.38, p < .01) \) indicating that trait hope improves our prediction of GPA over predicting GPA without consideration of trait hope. Notably, trait hope predicted 11.1% of the variance in GPA \( (R^2 = .111) \). However, results should be interpreted cautiously. Trait hope is unstable (see previous discussion); thus, the impact of trait hope on GPA is better understood by regressing trait hope scores at each phase on GPA at each phase.

At phase 1, the amount of variability in GPA predicted from trait hope was modeled by \( \hat{y} = 1.57 + .04x + \varepsilon \). The model was significant \( (F(1,132) = 23.23, p < .01) \), indicating that the null hypothesis, the amount of variability in GPA explained by trait hope is equal to 0, was rejected for the alternative. Trait hope explained 15.0% of the variance in GPA \( (R^2 = .150) \). Further, for each 1-point increase in trait hope, GPA increased by .39.

At phase 2, the simple linear regression model was represented by \( \hat{y} = 2.00 + .03x + \varepsilon \). The amount of variability in GPA explained by trait hope was significant \( (F(1,131) = 10.10, p < .01) \). Specifically, trait hope explained 7.2% of the variance in GPA \( (R^2 = .072) \). For each 1-point increase in trait hope, GPA increased by .27.

At phase 3, the linear regression model \( (\hat{y} = 1.71 + .03x + \varepsilon) \) was also significant \( (F(1,134) = 16.67, p < .01) \). The null hypothesis was rejected for the alternative, suggesting that the amount of variance in GPA explained by trait hope is not equal to 0.
In fact, trait hope explained 11.1% of the variance in GPA. $\beta = .39$ indicating that for every 1-point change in trait hope, GPA increased by .39.

At phase 4, the amount of variability in GPA predicted from trait hope was modeled by $\hat{y} = 1.89 + .03x + \varepsilon$. The model was significant ($F(1,139) = 25.09, p < .01$), indicating that the null hypothesis, the amount of variability in GPA explained by trait hope is equal to 0, was rejected for the alternative. Trait hope explained 14.7% of the variance in GPA ($R^2 = .147$). Further, for each 1-point increase in trait hope, GPA increased by .39.

<table>
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<tr>
<th>Phase</th>
<th>$R^2$</th>
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<th>ANOVA</th>
<th>B</th>
<th>SEB</th>
<th>B</th>
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<tr>
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<td>$F$</td>
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<td></td>
</tr>
<tr>
<td>Phase 1</td>
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<td>.143</td>
<td>1, 132</td>
<td>.04</td>
<td>.01</td>
<td>.39**</td>
</tr>
<tr>
<td>Phase 2</td>
<td>.072</td>
<td>.064</td>
<td>1, 131</td>
<td>.03</td>
<td>.01</td>
<td>.27**</td>
</tr>
<tr>
<td>Phase 3</td>
<td>.111</td>
<td>.104</td>
<td>1, 134</td>
<td>.03</td>
<td>.01</td>
<td>.33**</td>
</tr>
<tr>
<td>Phase 4</td>
<td>.153</td>
<td>.147</td>
<td>1, 139</td>
<td>.03</td>
<td>.01</td>
<td>.39**</td>
</tr>
<tr>
<td>Across Phases</td>
<td>.111</td>
<td>.109</td>
<td>1, 541</td>
<td>.03</td>
<td>&lt;.01</td>
<td>.33**</td>
</tr>
</tbody>
</table>

**$p < .01$.**

Assumptions of Linear Regression

Simple linear regression requires that five assumptions be met (Field, 2009; Lomax, 2007). First, errors in prediction, residuals ($e$), are assumed to be independent
and random. The plots of residuals (e versus X) demonstrated no systematic display of points, suggesting independence. Durban-Watson statistics were near 1 for each regression (Table 12), indicating some positive correlation of error terms. Second, linear regression assumes homogeneity of variance among residuals. Plots of residuals demonstrated an expansion of the range of variance in later phases, indicating heterogeneity of variance needed further evaluation. Levine’s test of homogeneity of variance was significant for linear regression at phases 1 and 2 (Table 12); therefore, homogeneity of variance cannot be assumed for phases 1 and 2. Third, linear regression assumes residuals will be normally distributed. Normality was assessed by reviewing Q-Q plots of residuals as well as Kolmogorov-Smirnov and Shapiro-Wilk statistics. Residuals were not normally distributed (ranging from $D(543) = .06$ to $D(134) = .13$).

Fourth, linear regression assumes a linear relationship among the variables. This assumption was checked by examining a scatterplot of trait hope versus GPA and observing no systematic pattern of points. Further, an inspection of the residual plot showed a horizontal ban of residuals mainly contained within $± 2$ standard errors across values of GPA, suggesting linearity. Finally, simple linear regression assumes that values of the independent variable, trait hope are fixed. This assumption was upheld by using a likert scale.
Table 12. Assumptions of the Linear Regression Predicting Grade Point Average from Trait Hope

<table>
<thead>
<tr>
<th>Phase</th>
<th>Durban-Watson</th>
<th>Levine</th>
<th>Kolmogorov-Smirnov</th>
<th>Shapiro-Wilk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$d_a$</td>
<td>$df$</td>
<td>$F_L$</td>
<td>$df$</td>
</tr>
<tr>
<td>Phase 1</td>
<td>.99</td>
<td>29, 104</td>
<td>1.81*</td>
<td>134</td>
</tr>
<tr>
<td>Phase 2</td>
<td>.97</td>
<td>26, 106</td>
<td>2.15**</td>
<td>133</td>
</tr>
<tr>
<td>Phase 3</td>
<td>1.14</td>
<td>27, 108</td>
<td>1.35</td>
<td>136</td>
</tr>
<tr>
<td>Phase 4</td>
<td>.49</td>
<td>31, 109</td>
<td>1.53</td>
<td>141</td>
</tr>
<tr>
<td>Across Phases</td>
<td>.94</td>
<td>40, 502</td>
<td>1.27</td>
<td>543</td>
</tr>
</tbody>
</table>

*Independence of residuals assumed when $1 \leq d \leq 3$.

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

Transformation of Data and Corresponding Linear Regression

In order to correct the numerous violations of assumptions among linear regression analyses, trait hope and GPA data were transformed at each phase using a natural logarithmic (base 10) transformation as recommended by Field (2009). This approach maintains both the relative differences between participants for a given variable and the relative differences between variables. The logarithmic transformation mathematically shrinks the right tail of the distribution. Because the trait hope and GPA were negatively skewed at each phase, data were reversed (by subtracting all values from the maximum value of the target variable at that phase) before and after the
transformation. Transformed trait hope and GPA scores were then analyzed using linear regression.

Assumptions of linear regression were tested on transformed data. With the exception of the independence assumption, transformed data met all assumptions of linear regression (Table 13). Independence assumptions were not upheld at phase 2 ($d = .61$) or phase 4 ($d = .33$), only minimally problematic in phase 1 ($d = .89$) and across all phases ($d = .71$), and were upheld at phase 3 ($d = 1.03$). Because all other assumptions were met for each linear regression of transformed data, the results are believed to be accurate.

Table 13. Assumptions of the Transformed Linear Regression Predicting Grade Point Average from Trait Hope

<table>
<thead>
<tr>
<th>Phase</th>
<th>Durban-Watson</th>
<th>Levine</th>
<th>Kolmogorov-Smirnov</th>
<th>Shapiro-Wilk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$d_a$</td>
<td>$df$</td>
<td>$F_L$</td>
<td>$df$</td>
</tr>
<tr>
<td>Phase 1</td>
<td>.89</td>
<td>29, 104</td>
<td>.86</td>
<td>134</td>
</tr>
<tr>
<td>Phase 2</td>
<td>.61</td>
<td>26, 106</td>
<td>1.62</td>
<td>133</td>
</tr>
<tr>
<td>Phase 3</td>
<td>1.03</td>
<td>27, 108</td>
<td>1.04</td>
<td>136</td>
</tr>
<tr>
<td>Phase 4</td>
<td>.33</td>
<td>31, 109</td>
<td>.93</td>
<td>141</td>
</tr>
<tr>
<td>Across Phases</td>
<td>.71</td>
<td>40, 502</td>
<td>.92</td>
<td>543</td>
</tr>
</tbody>
</table>

$^a$ Independence of residuals assumed when $1 < d > 3$.

* *$p < .01$. 

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Transformed trait hope and GPA data at each phase and across phases was analyzed using linear regression. Results were consistent with findings of linear regression analysis before the data were transformed – trait hope predicted a significant amount of variance in GPA at each phase and across phases (Table 14). Because conclusions of linear regression for both the transformed data and the non-transformed data are identical, interpretation of trait hope’s impact on GPA was made using linear regression analyses before the data were transformed.

Table 14. Linear Regression of Transformed Data Predicting Grade Point Average from Trait Hope

<table>
<thead>
<tr>
<th>Phase</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>ANOVA</th>
<th>B</th>
<th>SEB</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>df</td>
<td>F</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase 1</td>
<td>.086</td>
<td>.079</td>
<td>1, 132</td>
<td>12.09**</td>
<td>.42</td>
<td>.12</td>
</tr>
<tr>
<td>Phase 2</td>
<td>.055</td>
<td>.047</td>
<td>1, 131</td>
<td>7.35**</td>
<td>.30</td>
<td>.11</td>
</tr>
<tr>
<td>Phase 3</td>
<td>.150</td>
<td>.144</td>
<td>1, 134</td>
<td>22.50**</td>
<td>.46</td>
<td>.10</td>
</tr>
<tr>
<td>Phase 4</td>
<td>.071</td>
<td>.064</td>
<td>1, 139</td>
<td>10.08**</td>
<td>.18</td>
<td>.06</td>
</tr>
<tr>
<td>Across Phases</td>
<td>.075</td>
<td>.073</td>
<td>1, 541</td>
<td>42.91**</td>
<td>.23</td>
<td>.04</td>
</tr>
</tbody>
</table>

**p < .01.

Impact of Trait Hope on High School Dropout

Research supposition 4 proposed that a student’s likelihood to dropout of school, operationalized as dropout ideation, could be predicted based on trait hope scores. Examination of trait hope means and standard deviations for both participants with
dropout ideation and participants without dropout ideation (Table 15) indicate that at phase 1 ($t = 3.06, p < .01$), phase 3 ($t = 2.17, p < .05$), and across all phases combined ($t = 4.25, p < .01$) students without dropout ideation have higher levels of trait hope. Thus, further analysis through logistic regression was warranted.

### Table 15. Means and Standard Deviations of Trait Hope by Dropout Groups at Each Phase

<table>
<thead>
<tr>
<th>Phase</th>
<th>No Dropout Ideation</th>
<th>Dropout Ideation</th>
<th>$t_{a}$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>$\bar{x}$</td>
<td>SD</td>
</tr>
<tr>
<td>Phase 1</td>
<td>129</td>
<td>50.28</td>
<td>6.33</td>
</tr>
<tr>
<td>Phase 2</td>
<td>126</td>
<td>50.83</td>
<td>5.67</td>
</tr>
<tr>
<td>Phase 3</td>
<td>126</td>
<td>52.38</td>
<td>6.75</td>
</tr>
<tr>
<td>Phase 4</td>
<td>134</td>
<td>52.70</td>
<td>8.13</td>
</tr>
<tr>
<td>Across Phases</td>
<td>515</td>
<td>51.56</td>
<td>6.86</td>
</tr>
</tbody>
</table>

$a$ Independent samples.

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

**Logistic Regression**

Logistic regression predicted whether participants experience dropout ideation or not based on participants trait hope (Research Question 4). Logistic regression with forced entry was used because the dependent variable (likelihood to dropout) was dichotomous while the independent variable (trait hope) was interval. Forced entry was appropriate provided the presence of only one independent variable and the explorative
nature of the analysis (Field, 2009). Logistic regression applied maximum likelihood estimation after transforming dropout ideation into a logit variable (the natural log of the odds of the dependent occurring or not) (Field, 2009). In this way, logistic regression estimated the odds of a participant experiencing dropout ideation. Because trait hope is unstable, as previously demonstrated, the impact of trait hope on dropout at each phase was calculated (Table 16).

At phase 1, the model was represented by $P(\text{Dropout Ideation}) = \frac{1}{1 + e^{-4.14 - 0.14 \text{Trait Hope} + \varepsilon}}$ where $P$ was the probability of a participant experiencing dropout ideation and $e$ is the base of natural logarithms. The Wald statistic ($\chi^2_w$) tested the null hypothesis that trait hope made no difference in the ability to predict whether a student would experience dropout ideation. Results indicate that ($\chi^2_w(1) = 14.82, p < .01$) the null was rejected for the alternative, trait hope made a significant impact on the ability to predict whether a student will experience dropout ideation. One unit increase in trait hope reduced the likelihood that a student would experience dropout ideation by $Exp(\beta) = .87$. Consistent with these findings, Hosmer-Lemeshow, goodness-of-fit test, showed non-significant results ($\chi^2(8) = 14.77, p = .13$), suggesting that the null hypothesis not be rejected. At phase 1, using trait hope to predict dropout ideation is better than predicting dropout ideation without consideration of trait hope.

Logistic regression of trait hope on dropout ideation at phase 2 is represented by $P(\text{Dropout Ideation}) = \frac{1}{1 + e^{-1.70 - 0.08 \text{Trait Hope} + \varepsilon}}$ where $P$ is the probability of a participant experiencing dropout ideation and $e$ is the base of natural logarithms. The null hypothesis of the Wald statistic was not rejected ($\chi^2_w(1) = 3.39, p = .07$) indicating
that trait hope did not significantly increase the ability to predict whether a participant will experience dropout ideation. The odds ratio \( \text{Exp}(\beta) = .93 \) also demonstrates that trait hope made little difference in predicting group membership.

The model at phase 3, represented by \( P(\text{Dropout Ideation}) = \frac{1}{1 + e^{-(1.78 - .08 \text{Trait Hope} + \varepsilon)}} \), was consistent with findings at phase 1. The Wald statistic was significant \( \chi^2(1) = 5.40, p < .05 \), indicating that trait hope increased the likelihood of a correct prediction of participants who experience dropout ideation. Although the model’s goodness-of-fit was relatively poor \( \chi^2(8) = 23.67, p < .01 \), one unit increase in trait hope reduced the likelihood that a student would experience dropout ideation by \( \text{Exp}(\beta) = .92 \).

Logistic regression at phase 4 is represented by \( P(\text{Dropout Ideation}) = \frac{1}{1 + e^{-(.06 - .05 \text{Trait Hope} + \varepsilon)}} \) where \( P \) is the probability of a participant experiencing dropout ideation and \( e \) is the base of natural logarithms. The Wald statistic was not significant \( \chi^2(1) = 2.36, p = .13 \); thus, the null hypothesis was not rejected. Trait hope did not improve the prediction of participants’ likelihood to experience dropout ideation. Similarly, the odds ratio \( \text{Exp}(\beta) = .95 \) and Nagelkerke \( R^2 = .04 \) indicate that almost no variability in the prediction of dropout ideation can be explained by trait hope.

When logistic regression was conducted across all phases, trait hope significantly predicted dropout ideation group membership better than predicting dropout ideation group membership without consideration of trait hope. The model \( P(\text{Dropout Ideation}) = \frac{1}{1 + e^{-(1.94 - .09 \text{Trait Hope} + \varepsilon)}} \), where \( P \) is the probability of a participant experiencing dropout ideation and \( e \) is the base of natural logarithms, was tested. The Wald statistic
was significant ($\chi^2_w(1) = 26.34, p < .01$), indicating that trait hope increased the likelihood of a correct prediction of participants who experience dropout ideation.

Likewise, Hosmer-Lemeshow goodness-of-fit test was not significant ($\chi^2(8) = 9.50, p = .30$). The odds ratio indicated that for a 1-unit increase in trait hope, participants’ likelihood to experience dropout ideation is reduced by $\text{Exp}(\beta) = .92$.

Table 16. Logistic Regression Analysis Predicting Dropout Ideation from Trait Hope

<table>
<thead>
<tr>
<th>Phase</th>
<th>B</th>
<th>SEB</th>
<th>$R^2_a$</th>
<th>Hosmer-Lemeshow</th>
<th>Wald</th>
<th>$\chi^2$</th>
<th>Df</th>
<th>$\chi^2_w$</th>
<th>Exp(β)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1</td>
<td>-.136</td>
<td>.035</td>
<td>.239</td>
<td>8</td>
<td>14.774</td>
<td>1</td>
<td>14.819**</td>
<td>.872</td>
<td></td>
</tr>
<tr>
<td>Phase 2</td>
<td>-.077</td>
<td>.042</td>
<td>.046</td>
<td>8</td>
<td>9.763</td>
<td>1</td>
<td>3.394</td>
<td>.925</td>
<td></td>
</tr>
<tr>
<td>Phase 3</td>
<td>-.081</td>
<td>.035</td>
<td>.077</td>
<td>8</td>
<td>23.672**</td>
<td>1</td>
<td>5.397*</td>
<td>.922</td>
<td></td>
</tr>
<tr>
<td>Phase 4</td>
<td>-.052</td>
<td>.034</td>
<td>.039</td>
<td>8</td>
<td>10.765</td>
<td>1</td>
<td>2.360</td>
<td>.949</td>
<td></td>
</tr>
<tr>
<td>Across Phases</td>
<td>-.086</td>
<td>.017</td>
<td>.095</td>
<td>8</td>
<td>9.491</td>
<td>1</td>
<td>26.335**</td>
<td>.917</td>
<td></td>
</tr>
</tbody>
</table>

*a Nagelkerke $R^2$.

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

Assumptions of Logistic Regression

The assumptions of logistic regression were checked to ensure accuracy of results. Unlike other regression models, logistic regression does not assume linearity between variables, normally distributed factors, or homogeneity of variance. Instead, logistic regression only assumes that the dependent variable is discreet, each cell contains
sufficient responses, absence of multicollinearity, and independence of residuals (Field, 2009). These assumptions were met; thus, logistic regression is a reasonable indicator of the predictability of dropout based on trait hope.

Data analysis involved examination of plotted raw data, descriptive statistics, correlations, mixed model and repeated measures ANOVA, simple linear and logistic regression. Results of these procedures support the research suppositions in terms of the instability of trait hope, the instability of state hope, and the impact of hope on GPA. Results regarding the impact of trait hope on dropout ideation were mixed. A discussion of the findings is found in the following chapter, including speculation about why the divergent supposition was only partially supported by the data. Additionally, implications for fields of applied psychology, limitations of the study, and recommendations for future research will be discussed.
Chapter 5: Discussion

A 2-year longitudinal, non-experimental, panel study was used to measure the stability of trait hope, stability of state hope, and relationships between trait hope and demographic variables, GPA, and likelihood to dropout of school in late adolescence. Hope theory is comprised of two components: agency thinking, the sense of cognitive energy one uses to reach goals, and pathway thinking, the perceived ability to create effective goal-attainment strategies (Snyder, 1994). Although this two-factor structure of hope is well established, few empirical studies have examined the stability of trait hope. The current research found that trait and state hope are unstable and that trait hope is a predictor of academic achievement. Results further the field of positive psychology and support the enhancement of adaptive functioning to improve academic achievement (Seligman & Csikszentmihayi, 2000; Snyder, Rand, & Sygmon, 2002). Levels of trait hope were no different among participants of different ages, ethnicities, genders, type of high school (suburban versus rural), or type of educational services received (general education versus special education). This finding suggests that trait hope should be considered when assessing strengths of adolescents, regardless of the person’s demographic profile. Further, trait hope significantly predicted academic achievement at all phases of data collection. Although trait hope only predicted the likelihood of students to dropout of school some of the time, further research in this area is warranted.
Overall, these findings build on the considerable gaps in our substantive knowledge base about hope and warrant consideration in intervention and future research.

Hope and Demographic Variables

Findings

Snyder and his colleagues have repeatedly demonstrated no relationship between trait hope and gender, ethnicity, or socioeconomic status (Snyder, 1995; Snyder et al., 1991; Snyder et al., 2003; Valle et al., 2006). Findings from the current study add support to this literature – no main effects or interactions were observed between trait hope and gender, ethnicity, type of high school, age, or special education status. Specifically, male and female participants, Caucasian and non-Caucasian participants, participants attending rural and suburban schools, participants 16-years-old and those above 16, and participants in general education and special education reported the same levels of trait hope. Further, 2-way interaction effects revealed no differences in trait hope.

The findings, no main or interaction effects of demographic variables on trait hope, are counterintuitive to knowledge regarding the impact of discrimination on functioning, but are consistent with hope theory (Snyder, 1994) and can be explained by variations in the magnitude of goals for each demographic group. Prejudice, whether racism, sexism, or other acts of prejudice, serve as acts of power in which a target group is not allowed access to the group’s goals; thus, prejudice is antithetical to the furtherance of hopeful thinking. However, persons of minority groups who are the target of such discrimination do not entertain the same goals as those who are not the target of prejudice.
(Snyder, 1994). People experiencing prejudice settle for lesser goals, but report pathway and agentic thinking that is anchored in those goals. Thus, measurement of trait hope did not demonstrate variation in levels of hope, because hope measurement is based on agency and pathway thinking regardless of the valance of goals held by participants. Prejudice commonly faced by minority groups may impact goal setting, but does not impact trait hope.

Notably, results may have been impacted by the relatively homogeneous sample. For example, Sears (2007) found, in a larger sample of special education students, that special education status was related to trait hope. However, in the current research only $n = 10$ participants were enrolled in special education at any time during the study; thus, it is unclear if the non-significant effect was due to consistent levels of trait hope across both special education and regular education students or due to a lack of power.

Similarly, a lack of ethnic diversity in the sample forced the researcher to group ethnicity into two categories (Caucasian and non-Caucasian). The non-Caucasian group was small ($n = 20$), therefore it, too, may have lacked the power needed to detect differences in trait hope based on ethnicity. The small sample of non-Caucasian and special education students was additionally problematic when examining interaction effects. The results of 3-way, 4-way, and 5-way interactions were based on small cell sizes ($n < 5$), therefore, not interpretable (Field, 2009). Future research should include diverse samples, samples of urban schools, and further investigation of main and interaction effects.
Implications

In adolescence, trait hope is consistent across gender, ethnicity, age, enrollment in a rural or suburban high school, and enrollment in general or special education. As such, trait hope can function as a universal strength for all adolescents and should be considered as a potential intervention strategy regardless of a person’s demographic characteristics. Because no group is more at-risk to experience low trait hope levels, universal assessment and intervention is warranted. Proactive universal assessment and intervention should be conducted in all high school classrooms in order to promote increased agency and pathway thinking.

Instability of Trait Hope

Findings

The stability of trait hope is highly debated in hope literature. Many hope theorists regard trait hope as a stable construct. According to Snyder et al. (1991), hope is indeed an enduring pattern of thinking about oneself in relation to life goals. In fact, Snyder (1989) argues that trait hope’s independence from situational factors distinguishes it from optimism. Cognitive resiliency (Snyder et al., 1991), self-referential cognitions (Snyder, 2000b), coping mechanisms (Irving et al., 1998; Snyder, 1994; Snyder et al., 1998), and reinforcement of previous learning (McDermott & Snyder, 2000) have been proposed to sustain levels of trait hope. Holleran and Snyder (1990) as well as Tierney (1994) argue that strong associations with measures of personality demonstrate that trait hope is a personality trait and therefore should also be considered stable. Measurements
of trait hope over 10-week time periods demonstrated stability in both adults (Snyder et al., 1991) and children (Snyder et al., 1997).

Unfortunately, only three empirical studies have investigated the stability of trait hope for periods longer than 10-weeks. In a cross-sectional study of trait hope, Langelle (1989) found that when marital status and joint monthly income were controlled, persons in their twenties had higher levels of hope than persons in their thirties and forties. The author concluded that trait hope is a dispositional trait that may be modulated by normal adult development. Following a 3-year study of the stability of trait hope in Native Americans, Mashunkashey-Shadlow (2009) concluded that trait hope was stable; however, severe attrition (49%) without statistical control, severely compromised the validity of findings. Likewise, Valle et al. (2006) concluded that trait hope is moderately stable despite employing a measurement outside the age range for which it was validated, an abnormally low type II error rate, historical threats to internal validity, and a reduction in stability over time. Because of study limitations and inconclusive findings, the results of Langelle (1989), Mashunkashey-Shadlow (2009), and Valle et al. (2006) did not offer strong evidence in support of theoretical assertions regarding the stability of trait hope. Thus, the stability of trait hope has been accepted based primarily on theoretical assertions.

Supposition 1, trait hope is unstable, tested previous assertions regarding trait hope’s stability. Results of within-subjects comparisons of a mixed model ANOVA as well as Friedman’s ANOVA suggest that trait hope is unstable. Differences between participants trait hope levels at phase 1 and phase 3, phase 1 and phase 4, and phase 2 and
phase 4 indicate that trait hope changes over time. Consistent with the findings of Snyder et al. (1991), Snyder et al. (1997), Langelle (1989), and Valle et al. (2006), trait hope was stable over short periods of time; however, trait hope was not stable over 1 and 2-year periods in time. This finding is also consistent with assertions of Snyder et al. (1990), who suggest that the stability of trait hope decreases over time.

In fact, the instability of trait hope is supported by numerous theorists. “Many experts” suggest that hope and hopelessness represent a process in which goals and expectations change, as well as subsequent trait hope, particularly during times of pivotal life events or experiences (Farran et al., 1995, p. 36). Snyder (1994) asserts that child abuse causes preoccupation with avoiding the abusive adult, thereby disturbing the child’s focus on the future, blocking goal directed thinking, and depleting trait hope. Because primary caregivers serve as ongoing, vital sources of agentic and pathway thinking (Erikson, 1964), the loss of a primary caregiver also results in the loss of goals, the loss of support in reaching one’s goals, and ultimately the loss of hopeful thinking (Snyder, 1994). Likewise, discarded relationship goals and lack of affection following divorce diminish hope related thoughts (Snyder, 1994). Finally, traumatic experiences as well as subsequent reliving of the experiences, emotional numbness, and hypervigilance become all-encompassing goal blockages that incapacitate the person and lower levels of trait hope (Barnum, 1993). Furthermore, expressions of rage, despair, and apathy are the result of blockages to profound goals, frustration with goal impediments, and the acceptance that a previous goal is no longer attainable (Peterson et al., 1993; Snyder, 1994). Snyder (2000b) asserts that blockages of meaningful goals influence the loss of
trait hope to a greater extent, suggesting trait hope’s instability. All in all, theoretical and empirical research proposing that life events diminish trait hope as well as assertions that rage, despair, and apathy are demonstrations of the loss of trait hope, support the current study’s findings that trait hope is unstable.

Several authors consider hope a personality trait and thereby assert its stability (Holleran & Snyder, 1990; Tierney, 1994); however, an examination of arguments that personality is dependent on situational factors and thereby unstable explain the current findings. In a seminal book, Mischel (1968) argues that personality psychologists should abandon their focus on stable traits and instead focus on situational factors that determine behavior. More recent research has supported this claim (Fleeson, 2007; Raad et al., 2008). Quakenbush (2001) argues that not only must situational factors be considered along with personality traits, but also that McRae and Costa’s (1994) assertion that personality is stable is not measurable. Independent from the debate surrounding the stability of personality, Roberts and DelVecchio (2000) demonstrate that the majority of personality development occurs in young adulthood (age 20 to 40) such that personality is still developing and cannot be stable in adolescence. Overall, arguments for the development of personality in adolescence and the instability of personality explain the current findings that trait hope is unstable.

Because trait hope is a cognition and cognitive development continues through adulthood, cognitive-developmental research provides further understanding of the instability of trait hope. Pathway thinking requires one imagine a goal, deduce possible routes to the goal, and then judge the potential success of each route. This cognitive task
requires hypothetico-deductive reasoning, in which a person forms a hypothesis, deduces testable inferences, and evaluates the inferences before applying the hypothesis to real-world circumstances (Keating, 2004). Hypothetico-deductive reasoning is developed during the Formal Operational Stage of cognitive development, which occurs around 11-years but progresses through adulthood with some adults never reaching the Formal Operational Stage (Keating, 2004; Piaget, 1926). Furthermore, information processing approaches also suggest that cognitive development is not fully completed, if ever completed, until adulthood (Case, 1998; Goldberg et al, 2001). Because hopeful thinking is related to cognitive development and cognitive development is not fully completed until adulthood (with some adults never reaching the Formal Operational Stage), the instability of the cognition – trait hope – in adolescence is understood.

An examination of the instability of hopelessness strengthens the argument that trait hope is unstable. Hopelessness is defined as the absence of hope (Snyder, 1994) and includes both an affective and cognitive component (Farran et al., 1995). Beck et al. (1990) found that hopelessness can function both as a temporary state and an ingrained individual trait. As such, hopelessness fluctuates around an imagined set-point, but returns to very consistent levels during periods of crisis. Interventions have been effectively designed to decrease levels of hopelessness, thereby, suggesting its instability (Gorey et al., 2001). Given the dichotomous nature of hope and hopelessness, demonstrations of the instability of hopelessness (Beck et al., 1990; Gorey et al., 2001) support the finding that trait hope is unstable.
Finally, the instability of trait hope, via an increase across phases, in late adolescence is understandable in the context of adult development. Late adolescence is the commencement of adulthood, and as such, is a time of preparation for the future. Furthermore, hope, by its very nature, is future-oriented; therefore, trait hope is compatible in nature with participants’ urge for realization as they approach high school graduation (Langelle, 1989).

Implications

The instability of trait hope in adolescence clarifies the theoretical debate regarding the construct’s stability, offers an opportunity to intervene in order to improve functioning, and suggests that trait hope and state hope are not independent constructs. As previously presented, many hope theorists regard trait hope as a stable construct while providing numerous explanations of its instability. This study provides the first rigorous test of the stability of trait hope in late adolescence. Results crucially transform hope theory such that trait hope is considered unstable. This is important because the relationships between trait hope and academic achievement, physical health, and mental health must consider the construct’s instability. Because hope theory promotes the stability of trait hope, the majority of previous research has not considered how the predictive power of trait hope changes over time, a consideration that will be important from this research forward.

The instability of trait hope in adolescence offers an ideal opportunity to increase adolescents’ trait hope in order to improve academic achievement, physical health, and mental health. Because hope theory has previously asserted that trait hope is stable, little
research or practical application of the theory has focused on methods of increasing trait hope. However, cognitive and cognitive-behavioral therapies, solution-focused therapy, and hope therapy, are closely aligned to principals of hope theory and likely increase trait hope. The use of these interventions as well as the development of new interventions in order to increase trait hope should be considered based on the finding that trait hope is unstable.

By differentiating trait hope from state hope, an unstable form of hope that varies according to life events, Symson (1991) attempted to explain the instability of hope despite theoretical suggestions regarding its stability. Although state hope theory and research provides evidence for the instability of hopeful thinking, the construct’s development was made before theoretical assertions of trait hope’s stability were empirically demonstrated. These findings empirically demonstrate that trait hope is unstable in late adolescence; as such, trait hope and state hope are, by definition, the same during this developmental period. Thus, these findings create parsimony in hope theory by eliminating the distinction of trait and state hope in adolescence.

Instability of State Hope

Findings

State hope was defined by Symson (1991) as a “construct of time-limited hope that varies as a functioning of life experiences” (p. 1). In this regard, daily life experiences are suggested to impact state hope. State hope alters one’s immediate sense of determination, efficacy, and desire or ability to plan and engage in goal pursuits. Consistent with this definition of state hope and supposition 2, findings suggest that state
hope is unstable in late adolescence. Differences in state hope were measured between phase 1 and phase 3, phase 1 and phase 4, phase 2 and phase 3, and phase 2 and phase 4.

The instability of state hope in adolescence is consistent with previous research in this area. Symson (1991) demonstrated the instability of state hope by asking participants, recruited equally from lower, middle, and high trait hope scores, to record their level of state hope daily, for a period of 28-days. Ybasco (1994) revealed the instability of state hope by asking participants to either recall a positive or negative life event. Results indicated that thinking about a successfully attained goal significantly increased an individual’s level of state hope.

Fluctuations in levels of state hope can be explained by appraisals of specific situations and a history of positive and negative feedback (and the availability of these cognitions to be recalled). Recalled positive feedback, about an area of performance that is important to the person, increases state hope; conversely, recalled negative feedback lowers state hope (Borders, 1993). Likewise, recall of past events in which the person was successful in the pursuit of a goal increase state hope; whereas, recall of past failures decrease state hope (Ybasco, 1994). Similarly, Roth and Hammelstein (2007) found that hope is dependent on specific situational appraisals, such that positive appraisals result in more hopeful thoughts. In sum, Roth and Hammelstein (2007), Symson (1991), and Ybasco (1994) provide theoretical arguments for the instability of state hope.

Implications

Results demonstrating the instability of state hope provide additional evidence that state hope is indeed unstable as well as evidence that state hope and trait hope are
empirically indistinguishable. Again, state and trait hope differ only based on their
defined stability, while maintaining the same structure (a two-factor structure containing
agency and pathway thoughts). The measured instability of trait hope and state hope
during adolescence demonstrates that the constructs are, by definition, indistinguishable
during that developmental period. As previously stated, results provide parsimony to
hope theory, by acknowledging the need for only one form of hope – an unstable
construct consisting of the summation of agency and pathway thinking.

Trait Hope Predicts Grade Point Average

Findings

Previous literature has demonstrated that trait hope impacts academic
performance. Cheavens et al. (2005) found that students with high hopefulness
demonstrated superior academic performance when compared to students with low
hopefulness across elementary, junior high school, high school, and college. Snyder et al.
(1997) found a strong significant correlation between scores on the Children’s Hope
Scale and school-based achievement tests among elementary school students. High
hopefulness has been associated with GPA in junior high school students (Gillman et al.,
2006), high school students (Gillman et al., 2006; Snyder et al., 1991), and college
students (Chang, 1998; Snyder et al., 1991; Snyder, Shorey, et al., 2002). Ciarrochi et al.
(2007) concluded that trait hope predicts a greater amount of variance in school grades
than self-esteem or positive attributional style. Further, Cheavens et al. (2005) conclude
that the impact of trait hope on academic achievement is not merely due to higher levels
of intelligence. Although numerous studies have demonstrated the relationship between
trait hope and academic achievement, the vast majority of previous research has been conducted by Rick Snyder and his colleagues. The current study expands hope literature by replicating previous findings independent of previous researchers.

Supposition 3, trait hope will predict GPA, was supported. Linear regression, both before and after transformation of the data, demonstrated that trait hope significantly predicted GPA at each phase and across the entire study. Trait hope explained between 7.2% and 15.3% of the variance in GPA.

The impact of trait hope on GPA can be explained by hope theory. Academic achievement requires students to set concrete goals and then create and enact effective strategies to complete those goals (Cheavens et al., 2005). Youth with low trait hope are more likely to employ ineffective or inflexible, goal-directed, cognitive strategies (Gillman et al., 2006). Further, ineffective cognitive strategies may result in lower agentic thinking and less motivation to reach goals. Hopeful students have more agency thoughts; therefore, when obstacles are encountered in their academic goal pursuits, high hope students rely on their reservoirs of determination (Gillman et al., 2006; Snyder et al., 2002). Students with high trait hope also experience less general anxiety and less anxiety related to test taking because they perceive test-taking situations as challenges, not barriers (Snyder, 1999). Further, hopeful students attribute feedback from “failed” goal pursuits to their given effort or goal-directed strategy on a task, not to their self-worth (Snyder, Lopez, et al., 2003). These attributions reinforce future perceptions regarding control over academic success.
Snyder et al. (2002) posits that the strong association between hope theory and goal theory offers an explanation to the mechanisms by which trait hope influences GPA. Goal theory suggests that mastery goals focus on learning and use goal attainment feedback to enhance future learning; performance goals focus on external indicators of success, such as grades, and use goal attainment feedback to shape one’s perceptions of his or her ability (Covington, 2000; Lackaye et al., 2006). Mastery goals are associated with higher academic achievement (Covington, 2000). Mastery oriented goal seekers and hopeful students exercise the same deep-strategic cognitive processes (engaged coping, advanced problem-solving, perceiving obstacles as barriers but not failures, and minimizing stress); thus, Snyder et al. (2002) concludes that these cognitive processes facilitate academic success in mastery oriented students as well as hopeful students.

**Implications**

Because trait hope is a powerful predictor of academic success, facilitating trait hope in students is necessary. Trait hope is most profoundly enhanced when it is addressed by multiple sources, including schools (Roswarcki & Dunn, 2009). Within consultation and direct contact with students, school psychologists should focus on student and teacher strengths instead of weaknesses (Terjesen et al., 2004).

Furthermore, trait hope enhancing interventions should be implemented across tiers with increasing intensity. Based on a 3-tiered model in which intervention is universal (classroom wide in both general education and special education classrooms), targeted (small group instruction with at-risk students), and intensive (one-on-one instruction with students experiencing significant dysfunction) students with a wide range...
of hope levels would be supported. A meta-analysis of teacher consultation demonstrated the importance of promoting universal primary prevention strategies during consultation to increase trait hope (Durlak & Wells, 1997).

To facilitate this process, school psychologists will need to work with school administrators as well as general and special education teachers to develop hope-enhancing teaching strategies which can be frequently incorporated into the classroom setting (Sears, 2007). Snyder (2005) provides five suggestions that school psychologists should promote when working with teachers in order to increase students’ trait hope: (1) care for students and spend time demonstrating this care; (2) establish and share clearly defined stretch goals for the class; (3) identify pathways to learning that involve interacting with other students; (4) enable a give-and-take feedback process to increase agency; and (5) emphasize the importance of the classroom community. Utilizing many of these approaches, Marques, Lopez, and Pais-Rubeiro (2009) found success with their program, Making Hope Happen: A Program to Foster Strengths in Middle-School Students. After only 5-weeks of universal implementation of a trait-hope-enhancing intervention, students’ trait hope increased, regardless of baseline level, and increases were maintained for 18-months.

The impact of trait hope on GPA also has important implications for pre-referral intervention teams, applied psychologists conducting assessments, and individualized education planning teams. Pre-referral intervention teams, responsible for supporting at-risk students and students with some dysfunction in schools, ought to consider hope enhancing interventions as a means of academic and emotional support before a student
is referred to a special education evaluation. School psychologists and school counselors should assist in implementing these interventions. Likewise, applied psychologists would be remiss if they did not assess clients’ hopeful thinking during cognitive, educational, and emotional assessment. Snyder et al. (2006) warn that assessment and report writing that only focuses on client deficits can lead to self-fulfilling prophecies in which clients think and act according to assigned labels and clinicians behave in a manner that confirms these diagnostic results. Individualized education planning teams should then use the results of strength-based assessments to create clear goals that foster students’ strengths in order to remediate deficits. This is important because the clearer the goals, the more likely students are to meet them (Terjersen et al., 2004).

Trait Hope Predicts School Dropout

*Findings*

Initial research exploring the relationship between trait hope and school dropout suggests hopeful thinking reduces school dropout. Worrell and Hale (2001) found that among at-risk students, students with high trait hope were significantly less likely to dropout than their low hope counterparts. Among college students, Snyder, Shorey, et al. (2002) found higher retention rates among hopeful students over a 6-year period.

Supposition 4 suggested that trait hope would predict students’ likelihood to dropout (operationalized as dropout ideation), such that students with high trait hope would have lower dropout ideation. Findings, in part, support this supposition. Logistic regression demonstrated that when all phases were considered together, trait hope significantly predicted whether a participant would experience dropout ideation. Due to
the instability of trait hope, the association between trait hope and dropout was also considered at each phase. Findings are mixed, such that at phase 1 and phase 3 trait hope did predict dropout ideation, but at phase 2 and phase 4 trait hope did not predict dropout ideation.

Findings can be best understood by thoroughly examining when participants were measured. During phase 1 and phase 3, in which trait hope predicted dropout, the school-year had just begun; while, during phase 2 and phase 4, in which trait hope did not predict dropout, the school-year was nearly over. Therefore, although a small portion of students experienced dropout ideation at the beginning and the end of the school year, trait hope did not predict dropout at the end of the school-year. Increases in trait hope suggest that throughout the school-year students’ agentic thinking increased thereby increasing the likelihood to persist in goal pursuits (Snyder et al, 1991). Likewise, successful enrollment, without dropping out, created a history of successful goal attainment strategies, which strengthened pathway thinking. Increases in pathway thinking indicate that students’ perceptions of their abilities to create strategies to succeed academically and stay in school (goal attainment pathways) also increased. Thus, increases in trait hope likely diminished rumination over dropout (Chang, 1998; Snyder et al., 2002) and may have prevented actual dropout (Worrell & Hale, 2001; Snyder, Shorey, et al., 2002), but did not eliminate all dropout ideation. In order to analyze data despite severe non-normality and small sample of participants with dropout ideation, dropout ideation was grouped dichotomously (group 1 included participants with dropout ideation, regardless of frequency of ideation, and group 2 including participants with no
dropout ideation). Because increases in trait hope likely reduced dropout ideation without totally eliminating it, dichotomous grouping limited the researcher’s ability to detect changes in dropout due to trait hope. In sum, increases in trait hope likely decreased dropout ideation at all phases, but the change was not observed at phase 2 and phase 4 because of dichotomous grouping.

Another plausible explanation for mixed findings is a lack of power. Very few students experienced dropout ideation (the largest sample of students with dropout ideation at any one phase was n = 15). Small sample sizes likely caused type II error at phase 2 and phase 4 such that the researcher was unable to detect differences in dropout ideation resulting from trait hope. Overall, a lack of power is likely responsible for the inability to detect actual changes in dropout ideation as a result of trait hope.

Nonetheless, trait hope did predict dropout ideation group membership for the system as a whole, at phase 1, and at phase 3. Hope theory provides numerous explanations of this finding. Many of the explanations for the relationship between trait hope and GPA apply more broadly to the relationship between trait hope and academic achievement as well to the inverse relationship between trait hope and dropout ideation. Specifically, inflexible cognitive strategies among low hope youth prevent consideration of adaptive coping mechanisms and lead to dropout ideation (Gillman et al., 2006). Unlike hopeful students, students with low trait hope have low agency thinking and subsequently fewer internal sources of determination (Gillman et al., 2006; Snyder et al., 2002). Students with low trait hope also attribute failed goal-pursuits as evidence of their low self-worth, as opposed to feedback about the goal attainment strategy (Snyder,
Lopez, et al., 2003). Because low self-worth is associated with school dropout, low hope students attributions subject them to greater dropout ideation.

In addition, other aspects of hope literature explain why trait hope inversely predicts dropout ideation. First, hopeful students experience less psychological distress, school maladjustment, and self-deprecatory thinking enabling them to engage in more rational problem solving than low hope students (Chang, 1998; Cheavens et al., 2005). Hope helps keep negative emotions low, allows for the recovery from stress, and enables the person to focus on new strategies for academic success (Ong et al., 2006). Second, hopeful students experience less dropout ideation because they perceive greater control over their environments (Chang, 1998; Snyder et al., 2003). Instead of using feedback from failed goal attainment strategies in an adaptive manner, students with low trait hope are prone to self-doubt and rumination which leads to a perceived lack of control and passivity (Chang, 1998; Snyder et al., 2002). Third, students with low levels of trait hope use avoidance and disengagement thinking as opposed to problem-focused thought (Chang, 1998; Gillman et al., 2006); one form of school avoidance thinking is dropout ideation. Fourth, students with high levels of trait hope are more satisfied with their academic progress and the school environment, which increases their willingness to attend school (Chang, 1998). Hopeful individuals also exhibit better social competence (Barnum et al., 1998) and find more pleasure in forming relationships (Snyder, Hoza, et al., 1997); thus, hopeful students feel more school connectedness (You et al., 2008). All in all, less psychological distress, greater perceived control over their environments, more
problem-focused coping, and greater school connectedness explain the lesser likelihood of students with high trait hope to dropout of school.

**Implications**

The impact of trait hope on school dropout has numerous implications. As described in the implications for increases in GPA due to trait hope, tiered, school-wide, hope enhancing interventions should also be employed to reduce dropout. Likewise, individualized education planning teams should involve students who are at-risk for dropout in the goal setting process and should encourage the development of specific goals and routes to achieve the goals.

Because students at-risk for dropout frequently receive counseling services, school psychologists are ideally positioned to implement hope enhancing therapeutic strategies. Because trait hope is the underlying mechanism for positive psychological change across many psychotherapies (Frank, 1968), simply providing therapy can increase students’ trait hope and ultimately reduce dropout. Further, beginning therapy increases agentic thinking (Illardi & Craighead, 1994; Snyder & Taylor, 2000). Seeking psychotherapy also contributes to pathway thinking by providing a concrete example to the student of a route to resolve their academic dysfunction; the impact of these gains is exacerbated by the positive societal expectations about the effectiveness of psychotherapy (Snyder & Taylor, 2000).

Within therapy, negative emotions should be traced to goal blockages to arrive at therapeutic goals (Snyder & Taylor, 2000). School psychologists should help students deconstruct their long term goal (graduation) into more easily conceptualized substeps in
order to facilitate pathway thinking (Snyder, 1994). Pathway thinking should also be enhanced through mental rehearsal, which allows the student to imagine potential barriers to graduation or barriers to short term academic goals. The school psychologist and student should work preemptively to resolve those dilemmas (Snyder & Taylor, 2000).

While “hope enhancement may be best achieved by integrating solution-focused, narrative, and cognitive-behavioral interventions,” each therapeutic approach can uniquely enhance trait hope and thereby reduce dropout (Lopez et al., 2000, p. 123). Within cognitive and cognitive-behavioral frameworks, school psychologists should elicit positive emotional experiences and increases in agentic thinking by assessing students’ strengths and past goal attainment (Cheavens, Feldman, Woodward, et al., 2006). Facilitating “commitment strategies” will be important because reiteration of these phrases when a student experiences dropout ideation or other goal blockages can engender agentic thinking (Cheavens, Feldman, Woodward, et al., 2006). Negative self-talk regarding dropout and cognitive distortions about the student’s likelihood to academically succeed should be modified and replaced with positive self-talk (Cheavens, Feldman, Woodward, et al., 2006). Self-talk should remind the student of his or her strengths, skills, and behaviors that enable him or her to be academically successful. Finally, homework assignments should be assigned in order to challenge distorted thinking about the student’s likelihood for academic success and increase agency thinking (Riskind, 2006). Reflection on homework assignments in the session will also provide feedback regarding the effectiveness of pathways (Taylor et al., 2000). Overall,
cognitive and cognitive-behavioral strategies should be implemented in order to increase hopeful thinking and reduce dropout ideation.

Solution-focus therapy and hope therapy are other reasonable alternatives that could be implemented in order to increase hopeful thinking and subsequently reduce dropout ideation. Within this approach, agency is built by reinforcing the accomplishment of small, reasonable goals (i.e. attend class 80% of the time). Further, future-oriented components of solution-focused therapy, such as the “miracle question,” force the student to examine current behaviors that cause academic problems (Michael et al., 2000). Hope therapy should be implemented so that students learn to (1) set meaningful, achievable, and measurable goals; (2) develop multiple goal pursuit pathways; (3) identify sources of motivation and counteract drains on motivation; (4) monitor progress toward goals, and (5) modify goals and goal attainment strategies as needed (Cheavens, Feldman, Gum, et al., 2006; Larsen et al., 2007; Lopez et al., 2000). Overall, school psychologists should build trait hope and subsequently reduce dropout ideation in students through indirect consultation with school personnel and direct contact with students using cognitive, cognitive-behavioral, solution-focused, or hope therapy.

Limitations

There were several limitations of the study. First, the sample was limited for variables such as ethnicity, special education status, and school dropout. The relatively homogenous sample was due to the inability to recruit students in an urban school setting, sampling restrictions placed on the researcher by building administrators, an inability to gain parent and/or student consent, and the tendency of participants to underreport
personal weaknesses. Specifically, dropout ideation and special education status were likely underreported. The percentage of the sample enrolled in special education was about half that of students enrolled in special education for the entire school; thus, special education students were underrepresented in the sample. Although the exact cause of this phenomenon cannot be determined and may be related to a different likelihood of students in special and general education to return permission forms or some other explanation, the underrepresentation of special education students is likely a result of under-reporting. The literature suggests that students tend to be less than forthcoming in rating their weaknesses, such as need for additional educational services or thoughts about dropout. Therefore, it is likely that some participants enrolled in special education did not report their enrollment in the study. Underreporting of dropout ideation likely influenced the limited sample size of students considering dropout as well. Small samples of students with dropout ideation, special education students, and non-Caucasian students limited the power of analyses exploring the relationships between these variables and hope.

Additionally, statistical analyses examined the stability of trait and state hope among the entire sample. Although individual’s trait and state hope scores were plotted and individual changes observed, quantitative analyses did not capture individual changes in hope. Time series designs with only a few individuals would provide greater insight into intraindividual changes. Importantly, quantitative analysis of intraindividual changes in trait hope using a time series design would not change instability conclusions, but would add precision and additional understanding to the causes of trait hope’s
instability. For the purposes of initial stability testing, however, this study’s design was appropriate.

Reactivity to testing, which represents a change in participants’ sensitivity to the experimental variable because of pretesting (Campbell & Stanley, 1963), may have also limited findings. However, because study instruments were not invasive and did not use the term hope specifically, reactivity to testing was likely minimal. Next, data collection at high school 2 was not entirely consistent across all four phases. Phase 1 and phase 2 data was collected by the researcher during study halls, while phase 3 and phase 4 data was collected by homeroom teachers during homeroom periods. To reduce potential bias, explicit directions were provided to teachers in order to ensure consistency of data collection procedures. Furthermore, Statford et al. (1999) conclude that “the potential loss of validity [using a longitudinal design] is a justified price to pay for the richness of the data which could not otherwise be gathered” (p. 417). Finally, because the study did not employ a random sample, generalizability may be limited to the sample population.

Future Research

The instability of trait hope in adolescence was demonstrated. However, it is unclear if trait hope is unstable at other times of human development. Future research must examine the stability of trait hope during child development as well as adult development. These studies could provide insight as to whether trait hope is always unstable or if trait hope is only unstable during adolescence. Furthermore, a significant amount of theory exists to explain the mechanisms that create instability in hopeful thinking (Barnum, 1993; Case, 1998; Erikson, 1964; Goldberg et al, 2001; Langelle,
1989; Peterson et al., 1993; Raad et al., 2008; Roberts & DelVecchio, 2000; Snyder, 1994; Tierney, 1994), but none of these theories have been empirically tested. Future research should examine the causes of instability in trait hope as well as factors that influence its development. Time series designs focusing on intraindividual changes would meet this need.

Based on the findings of the current study, state hope and trait hope are both unstable forms of hope; thus, replication of these findings is important to create parsimony with hope theory. Future research should measure both trait and state hope very frequently and over a considerable period of time, therefore, identifying if trait and state hope are, in fact, empirically indistinguishable.

Currently, measures of trait hope fail to detect differences in hope levels based on differing demographics; however, it is unclear if there are truly no differences in levels of hope or if populations who experience discrimination simply anchor hopeful thoughts in lower level goals. Future research should work to develop and measure a construct that considers both the valance of goals and the magnitude of agentic and pathway thinking, thus, differing levels of hope among minority populations who experience discrimination can be detected.

Findings suggest that hope theory has promise to impact school dropout. Future research must explore the relationship between trait hope and school dropout with a much larger sample of students considering dropout.

Finally, Snyder’s (1994) call for the development of hope enhancing interventions has largely been ignored. Applied psychologist should focus on developing interventions
that enhance hope and other strengths, trending away from the medical model focused primarily on the amelioration of deficits. Additional research should be done to confirm the effectiveness of using existing psychotherapies, namely cognitive, cognitive-behavioral, solution-focused, and hope therapy, on trait hope. In light of this study’s findings, research must also consider the maintenance of hopeful thinking as a result of intervention.

Conclusion

The data from this study suggest that trait hope is indeed unstable in adolescence, resolving the highly theoretical debate. This finding can be explained by the influence of life events on hopeful thinking, the instability of personality due to situational variables, the continued development of personality throughout adolescence, and the continued development of cognition into adulthood. Consistent with the literature, the instability in state hope was also demonstrated. Because state and trait hope differ only in their theorized stability, results suggest that there is, in fact, no difference between the constructs. Consistent with hope theory, trait hope predicted a significant amount of the variance in GPA. Trait hope also predicted students’ likelihood to dropout of school some of the time. Thus, hope enhancing interventions provide an opportunity to foster not only mental and physical health, but also academic achievement. Gender, ethnicity, age, special education enrollment, and type of high school made no difference in trait hope. In sum, hopeful thinking is a powerful, albeit unstable, construct with the potential to positively impact both academic achievement and retention.
List of References


Appendix A: Trait Hope Scale

**Directions**: Read each item carefully. Using the scale shown below, please select the number that best describes YOU and put that number in the blank provided.

1 = Definitely False
2 = Mostly False
3 = Somewhat False
4 = Slightly False
5 = Slightly True
6 = Somewhat True
7 = Mostly True
8 = Definitely True

_____ 1. I can think of many ways to get out of a jam.
_____ 2. I energetically pursue my goals.
_____ 3. I feel tired most of the time.
_____ 4. There are lots of ways around any problem.
_____ 5. I am easily downed in an argument.
_____ 6. I can think of many ways to get the things in life that are important to me.
_____ 7. I worry about my health.
_____ 8. Even when others get discouraged, I know I can find a way to solve the problem.
_____ 9. My past experiences have prepared me well for my future.
_____ 10. I’ve been pretty successful in life.
_____ 11. I usually find myself worrying about something.
_____ 12. I meet the goals that I set for myself.
Appendix B: State Hope Scale

**Directions:** Please take a few moments to focus on yourself and what is going on in your life *at this moment*. Once you have this "here and now" set, go ahead and answer each item according to the following scale:

1 = Definitely False  
2 = Mostly False  
3 = Somewhat False  
4 = Slightly False  
5 = Slightly True  
6 = Somewhat True  
7 = Mostly True  
8 = Definitely True

______ 1. If I should find myself in a jam, I could think of many ways to get out of it  
______ 2. At the present time, I am energetically pursuing my goals.  
______ 3. There are lots of ways around any problem that I am facing now.  
______ 4. Right now, I see myself as being pretty successful.  
______ 5. I can think of many ways to reach my current goals.  
______ 6. At this time, I am meeting the goals that I have set for myself.
Appendix C: Demographic Questionnaire

Age: ______

Gender:  □ male      □ female
Ethnicity:  □ Caucasian, non-Hispanic  □ African American  □ Hispanic
          □ Asian          □ Multi-racial  □ Other_______

Do you plan to attend a 4 year college after high school graduation?
□ Definitely Yes
□ Probably
□ I don’t know
□ Probably Not
□ Definitely Not

Do you plan to attend a 2 year college after high school graduation?
□ Definitely Yes
□ Probably
□ I don’t know
□ Probably Not
□ Definitely Not

Do you plan to attend a vocational school after high school graduation?
□ Definitely Yes
□ Probably
□ I don’t know
□ Probably Not
□ Definitely Not

How often have you thought about dropping out?
□ Never
□ Almost Never
□ Fairly Often
□ Very Often
□ Always

GPA: ____________
How satisfied are you with your GPA?
- Very Dissatisfied
- Dissatisfied
- Somewhat Satisfied
- Satisfied
- Completely Satisfied

Are you currently enrolled in special education?  □ Yes  □ No

Are you currently enrolled in gifted education/university courses?  □ Yes  □ No

Involvement in Extracurricular Activities (Check all that apply):
- Fall Sport
- Winter Sport
- Spring Sport
- Intramural Sports
- Other Sport Involvement
- Band
- Choir
- Future Farmers of America (FFA)
- Student Council
- National Honor Society
- Health Promotion Organization (e.g., Teen Institute, Students Against Destructive Decisions)
- Other __________________________________________________________
- Other __________________________________________________________

How satisfied are you with your level of involvement in extracurricular activities?
- Very Dissatisfied
- Dissatisfied
- Somewhat Satisfied
- Satisfied
- Completely Satisfied

Have you consistently held a job during the current academic school year?  □ Yes  □ No

If Yes, approximately how many hours per week do you work? _________________