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TRAIT HOPE AS A MODERATOR OF THE EFFECTS OF HASSLES AND UPLIFTS ON
DEPRESSIVE SYMPTOMS IN COLLEGE STUDENTS

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Dissertation

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Clinical Psychology

Trait Hope as a Moderator of the Effects of Hassles and Uplifts on Depressive Symptoms

Chairperson: Duncan G. Campbell, Ph.D.

Major Depression is the leading cause of disability in the United States and has been studied for decades. Research suggests that daily hassles may increase the likelihood of depressive symptoms while daily uplifts may help protect against depressive symptoms (Mayberry & Graham, 2001). Snyder's hope theory (Snyder et al., 1991) provides an avenue for understanding how hope can protect against symptoms of depression. Hope, hassles, uplifts, and depressive symptoms were assessed at three time points with one-month intervals in a sample of 186 undergraduate students via self-report measures. Results, analyzed using a Generalized Estimating Equation, were threefold: there was (1) a significant main effect of trait hope ($\chi^2 = 9.18, p = .01$), (2) a significant main effect of uplifts ($\chi^2 = 3.96, p < .05$), and (3) a significant two-way interaction between trait hope and uplifts ($\chi^2 = 3.94, p = .05$). No significant findings related to hassles were observed. These findings are consistent with prior hope and hassle/uplifts theories, but expand upon research by demonstrating longitudinal findings and a unique hope/uplifts relationship. Implications for a concurrent analysis of hassles and uplifts and clinical interventions with hope-based and uplift-based elements are discussed.

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Introduction

According to the National Institute of Mental Health (2012), Major Depression is the leading cause of disability in the United States for individuals between the ages of 15 and 44. Major depression affects nearly 15 million adults (6.7% of the United States population) in a given year and onset can occur at any age (NIMH, 2012). These numbers increase considerably when examining the broader category of mood disorders. Depression is also a significant risk factor for suicide, which claims approximately 30,000 lives in the US each year (NIMH, 2012). The conceptualization and treatment of depression has improved significantly over previous decades, but additional gains (e.g., research, treatment, access to care) are still needed to help combat the high prevalence and negative impact of this disorder. This study attempts to contribute to that process by testing a theoretical model in which hope provides protection against depression in the face of daily hassles and uplifts.

Beck's cognitive theory of depression is widely utilized in psychological research and clinical practice for understanding the onset and maintenance of depressive symptoms (Beck, Rush, Shaw, & Emery, 1979). The theory suggests that the cognitive triad (negative views of the self, the world, and the future), distorted schemas, and cognitive errors are primary contributors to the depressive experience. The relationship between stressors (such as daily hassles) and one's cognitive appraisal of stressors may also exacerbate depressive symptoms. Hassles (negative, burdensome, and frustrating daily events) and uplifts (positive daily events that are perceived favorably) have been investigated in relation to depression, primarily separately rather than concurrently (Kanner, Coyne, Schaefer, & Lazarus, 1981). Research suggests that daily hassles may increase the likelihood of depressive symptoms while daily uplifts may help protect against

depressive symptoms (e.g., Havermans, Nicolson, & deVries, 2007; Havermans, Nicholson, Berkhof, & deVries, 2010; Kinney, Stephens, Franks, & Norris, 1995; Ravindran, Matheson, Griffiths, Merali, & Anisman, 2002; Vargas & Arnett, 2010; Williams, Hagerty, Murphy-Weinberg, & Wan, 1995).

Although distinctly different from the cognitive theory of depression, hope theory and depression dovetail in conceptually meaningful ways. Snyder and colleagues (1991) define hope as a cognitive, goal-directed construct composed of agency thinking, pathways thinking, and goal-directed pursuits. Hope theory provides another avenue for understanding how individual strengths help protect an individual against dysphoria, and how the loss of hope may contribute to the onset and continuance of depression. The role of hope and its protective effects against depression and dysphoria have been evidenced in many research studies (Campbell & Kwon, 2001; Cheavens, Feldman, Gum, Michael, & Snyder, 2006; Cheavens, Michael, & Snyder, 2005; Davidson & Wingate, 2011; Davidson, Feldman, & Margalit, 2012; Edwards, Rand, Lopez, Snyder, 2007; Geiger & Kwon, 2010; Kwon, 2000; Kwon, 2002; Lloyd & Hastings, 2009; Mednick et al., 2007; Reff, Campbell, & Kwon, 2005; Snyder, Cheavens, & Simpson 1997; Snyder, LaPointe, Crowson, & Early, 1998; Vilaythong, Arnau, Rosen, & Mascaro, 2003).

Research based on Snyder's hope theory has also shown that hope protects against symptoms of depression and potentially damaging effects of negative daily events. That is, high-hope individuals, as compared to low-hope individuals, are less likely to experience depressive symptoms, even when experiencing negative daily events (Snyder et al., 1991; Visser, Loess, Jeglic, & Hirsch, 2012). However, a simultaneous examination of hope, hassles and uplifts on depressive symptoms across time has not been done, despite the fact that such a study would

provide a more accurate representation of unique daily events or experiences and their potential cumulative effects.

The primary aim of this study is to examine concurrently trait hope, daily hassles, and daily uplifts as predictors of depression across time. To achieve this goal, trait hope, daily hassles, daily uplifts, and depressive symptoms were measured in a nonclinical, undergraduate, sample at baseline. Daily hassles, daily uplifts, and depressive symptoms were measured at time one and time two, in one month intervals. The first hypothesis of this study is threefold: independent of all other variables, trait hope was expected to have a protective effect against depressive symptoms across time, uplifts were predicted to have a protective effect against depressive symptoms across time, and hassles were expected to increase depressive symptoms. The second hypothesis of the study is that there would be an interaction effect for trait hope and hassles over time. In particular, those with high hope and low hassles were expected to experience low levels of depressive symptoms, while those with low hope and high hassles were expected to experience higher levels of depressive symptoms.

The sections that follow provide a brief review of Beck's cognitive theory of depression, the hassles and uplifts literature, and a summary of empirical evidence demonstrating the influence of hassles and uplifts on depressive symptoms. A comprehensive review of hope theory is also included. This review examines primary aspects of hope theory such as agency, pathways, and goals. Then, an additional examination of an elaborated model of hope, composed of the hope hierarchy, the role of affect, developmental origins, and critiques of hope theory, is performed. This is followed by an exploration of the measurement and application of hope

theory, including empirical evidence for hope's protective role against depression. Finally, an integration of these domains, the rationale for the present study, and hypotheses are provided.

Cognitive Theory of Depression

Beck's cognitive model of depression is widely used and accepted in contemporary psychological research and clinical practice (Beck, Rush et al., 1979). The model proposes that depression arises through the action of three concepts: the cognitive triad, distorted schemas, and cognitive errors (or faulty information processing). Hopelessness, reciprocal interaction, and the cognitive diathesis-stress model account for how depression may be exacerbated or prolonged.

Cognitive Triad, Distorted Schemas, and Cognitive Errors

The cognitive triad provides a rationale for understanding a depressed person's experience and includes three cognitive patterns: a negative view of the self, a negative view of experiences in the world, and a negative view of the future. Depressogenic views of one's self include "defective, inadequate, diseased, or deprived" self-perceptions. Depressed and depression prone persons attribute negative experiences to perceived personal deficiencies rather than to external variables (Beck, Rush et al., 1979, p. 11). The depressed individual devalues him or herself as being undesirable, worthless, or lacking the skills, abilities, or characteristics required for well-being. Depressogenic views of one's experiences include believing that the world makes impossible demands or presents obstacles that interfere with one's ability to achieve life goals. The depressed person perceives interactions with his or her environment as signifying defeat or deprivation. Depressogenic views of one's future include the expectation of continued failures, hardships, frustrations, and deprivations. New endeavors are laced with the expectation of failure, and thoughts of the future include perceived unremitting and potentially

indefinite difficulties, despite possible evidence to the contrary. Activation of the cognitive triad of depression theoretically results in a negative affective experience and motivational lethargy (Beck, Rush et al., 1979).

Schemas, mental structures or ideas about ourselves and circumstances, represent the second element in Beck's cognitive model of depression and influence how we process information and experiences. In the depressed individual, schemas are distorted by repetitive thoughts characterized by the cognitive triad. Because the person with depression forms, utilizes, and retains distorted schemas, the appraisals and conceptualizations of one's experiences or circumstances are often distorted to fit those schemas. The consequences of this pattern of filtering information include the maintenance and strengthening of distorted schemas and the persistence of painful and self-defeating attitudes despite evidence to the contrary. Finally, as distorted schemas become stronger and more accessible, they are readily activated by a wider array of stimuli. As such, the person with depression is less likely to activate non-depressogenic schemas or demonstrate voluntary control over his/her thought processes (Beck, Rush et al., 1979).

The third and final element in the cognitive model of depression includes cognitive errors, or faulty information processing. Beck identifies six cognitive errors the person with depression is prone to employ: arbitrary inference, selective abstraction, overgeneralization, magnification and minimalization, personalization, and absolutist/ dichotomous thinking. These errors in processing information strengthen and validate the person with depression's beliefs in his or her faulty cognitions and schemas (Beck, Rush et al., 1979).

Hopelessness, Reciprocal Interaction, and Cognitive Diathesis-Stress

An important adjunct to the cognitive model of depression is Beck, Kovacs, and Weissman's (1975) exploration and conceptualization of the hopelessness model. Hopelessness is a specific type of cognitive error where individuals with depression predict that future tasks, future events, and/ or general life outcomes will yield negative outcomes (Beck, 1991). Hopelessness is a future-oriented cognition that impairs goal attainment and predicts suicidal intent and action. In fact, hopelessness is a stronger predictor of suicidal ideation or attempts than depression (Beck, 1991; Beck et al., 1975; Beck, Kovacs, & Weissman 1979; Steer, Kumar, Beck, 1993).

While depressive cognitions predominate Beck's model, these cognitions and the individual who experiences them do not operate in isolation from the world. To account for this, Beck suggests a reciprocal interaction model that operates as follows: a person with depression may withdraw from significant others, and in turn, those significant others may respond with negative thoughts, feelings, and behaviors towards that individual. The person with depression has their own negative self-beliefs, which are activated or aggravated, and they then become further isolated. This cycle can be entered at any step and, as a worst-case scenario, may result in a person becoming so depressed that he or she may become unreceptive to the supportive efforts of others (Beck, Rush et al., 1979).

Finally, Beck's cognitive theory of depression has cognitive diathesis-stress elements, such that previously generated, dysfunctional schemas become activated when a stressor (e.g., psychological stress, biological imbalance) is experienced, resulting in a distorted view of the self and the world. While the cognitive model of depression includes cognitive, behavioral, and

affective elements, the cognitive contributions in this model predominate Beck's theory and provide a detailed rationale for the onset and continuance of the depressive experience (Beck, Rush et al., 1979).

Hassles and Uplifts

Hassles are negative daily events that are experienced as burdensome, frustrating or upsetting, while uplifts are positive daily events that are perceived favorably (Kanner et al., 1981). Hassles and uplifts include experiences such as interpersonal conflicts, deadlines, or time constraints (hassles) or supportive friends, job security, and positive feedback at work (uplifts). Hassles and uplifts are (a) distinctly different from life events, and (b) have unique relationships to depressive symptoms that have been conceptualized (c) via a transactional approach and characteristic style.

Daily Events versus Life Events

Hassles and uplifts research originated from the exploration of dramatic or significant life events and their impact on physical health (Holmes & Rahe, 1967; Kanner et al., 1981; Rahe, Meyer, Smith, Kjaer, & Holmes, 1964). While major or significant life events (e.g., moving or the death of a loved one) are important, methodological issues and poor relationships with physical health outcomes led researchers to examine negative daily events (hassles), positive daily events (uplifts), and their cumulative effects on somatic and psychological health outcomes (Kanner et al., 1981). Studies comparing hassles (e.g., job dissatisfaction or difficulties with friends) and uplifts (e.g., completing a task or having good relationships with co-workers) with significant life events show that hassles, as compared to life events, are more related to physical health outcomes and are better predictors of psychological symptomatology (DeLongis, Coyne,

Dakof, Folkman, & Lazarus, 1982; Kanner et al., 1981). Hassles are also better predictors of psychological symptoms than they are of somatic symptoms, suggesting that an examination of hassles and uplifts in psychological domains may be warranted (Folkman, Lazarus, Gruen, & DeLongis, 1986).

Hassles, Uplifts, and Depression

The relationship between hassles and negative affect has been observed in a few different studies. For example, Williams and colleagues (1995) tested causal relationships between depressive symptoms, specific stressors, and coping styles via a path analysis. Hassles had a direct relationship or path to symptoms of depression and multiple indirect relationships through other contributing variables (e.g., evasive coping style, drugs, habits, seriously considering quitting school). Additionally, in a sample of patients with remitted bipolar disorder, those with current depressive symptoms and previous depressive episodes experienced more hassles, and perceived those hassles as more stressful than healthy volunteers (Havermans et al., 2007). Havermans and colleagues (2010) also found that, within that same sample of bipolar patients, those with depressive symptoms one standard deviation above the bipolar group mean were more likely to experience negative affect in response to hassles than bipolar patients with subclinical depressive symptoms.

While some studies predominantly explore hassles independent of uplifts, the examination of hassles and uplifts concurrently may provide the best indicator of psychological well-being or psychopathology (Kanner et al., 1981). Three reasons for this are readily apparent. First, where hassles increase depressive symptomatology, uplifts tend to protect against depressive symptoms. Since their effects on depressive symptoms are different, examining each

concurrently may help clarify the interplay that exists between them. Second, hassles and uplifts are not the inverse of each other (Maybery, Jones-Ellis, Neale, & Arentz, 2006). Because hassles and uplifts are two qualitatively different parts of the same conceptual model, measuring only one does not fully represent the concept of “hassles and uplifts.” Finally, a concomitant examination of hassles and uplifts also most accurately represents the daily experience of an individual, as it is highly unlikely that a person would experience only hassles or only uplifts. As such, an understanding of the relationship between depressive symptoms, hassles, and uplifts may be strongest when examining both hassles and uplifts concurrently.

Multiple studies have examined the protective role of uplifts against depressive symptoms and the concurrent examination of hassles and uplifts. For example, Ravindran et al., (2002) found that individuals with depression, as compared to individuals without depression, perceived more hassles and fewer uplifts, and treatment resistant individuals perceived the most hassles. In a study on caregivers, hassles had a strong inverse relationship with well-being, while uplifts appeared to have a protective effect on well-being (Kinney et al., 1995). Finally, in a study on hassles, uplifts, and depression in patients with multiple sclerosis, uplifts and social support interacted significantly to predict depression, while no interaction effect was observed with hassles (Vargas & Arnett, 2010).

Transactional Process and Characteristic Style

The relationship between hassles and uplifts and depression has been conceptualized in two ways, through the transactional process and through one’s characteristic style. As described by Lazarus, DeLongis, Folkman, and Gruen (1985), the transactional process suggests that an environmental event or stressor (such as a hassle) is best understood with appreciation of the

characteristics of the individual who perceives the event. The person-environment relationship in the experience of hassles is bidirectional, mutually reciprocal, and involves an appraisal of the hassle as taxing to one's resources, capabilities, or personal agenda (such as goals or commitments) (Folkman et al., 1986). This person-environment relationship extends beyond momentary appraisal to include a process that unfolds over time. For example, while a single hassle isolated in time may be a minor event, multiple hassles over time can impact physical and psychological health (DeLongis et al., 1982). The person-environment relationship in the experience of uplifts is also likely to be bidirectional, mutually reciprocal, and involving a personal appraisal. However, while a series of hassles may be perceived as more taxing, the accumulation of many uplifts over time may protect an individual from psychological decline or the negative effects of hassles (DeLongis et al., 1982).

In addition to the transactional process, Kanner and colleagues (1981) suggest that hassles or stressors may also originate from a person's characteristic style, his or her routine environment, and their interaction. For example, the way that an individual copes with problems or approaches problem solving may increase or decrease the likelihood of hassles; while the way that same individual regulates his/her emotional response and reaction to hassles may affect the perceived severity of hassles and their impacts on psychological health (DeLongis, Folkman, & Lazarus, 1988). Interestingly, the concepts of transactional process and characteristic style are similar and complimentary to Beck, Rush, and colleagues' (1979) reciprocal interaction model. For example, an individual may experience a perceived hassle (such as time constraints at work) as challenging or taxing to one's resources. Two possible outcomes may include avoiding the hassle or working harder to overcome the hassle. Avoiding the hassle can increase the perceived

difficulty of the hassle (as the time constraint becomes more constricted) and may result in additional hassles (missed deadlines may affect people or situations, which now become additional hassles that previously did not exist). When the time constraint hassle emerges again in the future, it is perceived even more negatively, due to the previous negative appraisal and the characteristic response style. In turn, the individual may respond to the recurrence of that particular hassle in an increasingly negative pattern over time, with cumulative effects, such that the individual experiences a greater depletion of resources in response to that hassle, even if the hassle remains constant. Particularly in the case of the person with depression, a negative appraisal of that hassle may be exacerbated by depressive beliefs, and depressive beliefs may exacerbate negative appraisals, contributing to a cycle of negative appraisals towards the hassle, and towards one's ability to manage it successfully.

The second possible outcome, working harder to overcome the hassle, may decrease the likelihood of that hassle or of other hassles. For example, working harder to accomplish tasks within a time constraint may prevent subsequent constraints or decrease the perception of these constraints as being hassles. The individual may be able to address the hassle with minimal depletion of personal resources. When the time constraint hassle emerges again in the future, it may be more likely to be perceived as manageable due to the previous neutral or positive appraisal. In turn, the individual may respond to the recurrence of that particular hassle in a way that minimizes or eliminates the role of that perceived hassle on personal resources, capabilities, goals, or commitments, and reduces the likelihood of subsequent hassles.

Cognitive Theory of Hope

Snyder's cognitive theory of hope is subsumed under the large domain of positive psychology. This theory outlines the primary cognitive and peripheral affective components of hope in an elaborative model. Extensive research suggests that the cognitive theory of hope is conceptually different from competing models of hope, can be measured in multiple ways, and has many different applications.

Positive Psychology

Positive psychology is the scientific study of an individual's positive experiences, states, and traits, and the social structures that facilitate and maintain their development (Seligman & Csikszentmihalyi, 2000; Seligman, Steen, Park, & Peterson, 2005). While tenets of positive psychology originated across multiple disciplines and across time, the culmination of these ideas into an all-encompassing discipline is relatively recent (Seligman & Csikszentmihalyi, 2001). The focus on positive experiences, states, and traits diverges from the traditional clinical psychology focus on pathology. In fact, proponents of positive psychology suggest that the alleviation of pathology or suffering does not presuppose a patients' well-being or fulfillment. Rather, this alleviation only takes away one of the potential barriers to well-being, while human strengths (e.g., hope, gratitude, esteem, etc.) help facilitate well-being (Duckworth, Steen, & Seligman, 2005).

Nine years after its inauguration, a meta-analysis of forty-nine independent clinical intervention studies with positive psychology elements (e.g., positive reminiscence, gratitude, forgiveness, rehearsal of positive statements, kindness, goals training, personal strengths, positive psychotherapy, positive writing, kindness, well-being, and mindfulness) suggested that

positive psychology interventions significantly increase well-being and decrease depression (Sin & Lyubomirsky, 2009). In particular, non-depressed participants scored higher on measures of well-being than depressed participants, and well-being increased linearly with age. Significant differences were also observed relative to intervention format, intervention time, and comparison groups. The individual treatment format was more effective in increasing well-being and reducing symptoms of depression than group treatment. Individual and group treatments were more effective than self-administered treatment. Longer interventions yielded greater gains in well-being than shorter interventions, and positive psychology interventions were more effective in relieving depression than no-treatment control groups, placebo activity groups, or treatment as usual groups. The meta-analysis of all intervention studies yielded a medium effect size, suggesting that not only do positive psychology interventions work to alleviate symptoms of depression, but they seem to work well (Sin & Lyubomirsky, 2009). This is in comparison to moderate to large effect sizes found in the general literature and meta-analyses of CBT with various treatment targets, including disorders along the depression and anxiety spectrums (Butler, Chapman, Forman, & Beck, 2006).

While it is beyond the scope of this paper to examine each positive psychology concept or intervention, an examination of Snyder's hope theory (1991), an exemplar of positive psychology, will follow. Theoretical constructs and extensive research enable an understanding of how hope has protective effects against depression and other mental illnesses.

Agency, Pathways, and Goals

Snyder and colleagues (1991) define hope as a cognitive construct composed of reciprocally related components, agency (or agentic) thinking and pathways thinking. Both

agency and pathways are required for goal-directed pursuits (Snyder et al., 1991). Agency thinking is the motivational component of hope and includes the drive or sense of determination required for individuals to initiate goal-directed behavior (Snyder, 2000b; Snyder et al., 1991). Agency thinking is required for the setting of goals, and provides the requisite motivation to pursue alternate pathways when goals are blocked (Oettingen & Gollwitzer, 2002; Snyder, 2000b; Snyder, Lehman, Kluck, & Monsson, 2006; Snyder, Rand, & Sigmon, 2002). Conversely, pathways thinking involves one's perceived ability to produce potential routes to goals (Snyder, 2000b). Both agency and pathways thinking play iterative and additive roles, enhancing each other in the goal pursuit process. Agency thinking provides the motivation to continue to pursue or enhance pathways thinking, and pathways thinking provides routes via which a desired goal may be actively pursued (Oettingen & Gollwitzer, 2002; Snyder, 2000b; Snyder, 2002; Snyder, Cheavens, & Michael, 2005; Snyder et al., 1991; Snyder, Lehman et al., 2006; Snyder, Rand et al., 2002).

Goals, which are the anchor of hope theory, provide endpoints or targets for the iterative activity of agency and pathways cognition (Snyder, 2002; Snyder, 2000b; Snyder, Cheavens, & Michael, 2005; Snyder, Lehman et al., 2006). Goal types can be dichotomized in four ways: specific versus vague, approach versus avoid, maintenance versus enhancement, and high probability versus low probability (Snyder, 2002; Snyder, Cheavens et al., 2005; Snyder, Feldman, Shorey, & Rand, 2002; Snyder, Feldman, Taylor, Schroeder, & Adams, 2000). Specific, clearly defined goals provide the opportunity for the development of clear pathways and enhance the likelihood of attaining those goals, as opposed to vague or poorly defined goals, which hinder pathways development. Approach goals are generally positive goals where one is

attempting to achieve a desired goal via one of three methods: creating a new goal, sustaining a present goal, or expanding upon a goal where progress has already been made. In contrast, avoidance goals include delaying an unwanted outcome, or preventing an unwanted outcome from happening. Maintenance goals are the goals of daily living that enable an individual to continue functioning as he or she normally would, while enhancement goals augment what is already perceived to be acceptable in our lives. High probability goals are easily attained, where low probability goals are more difficult to achieve. While high and low probability goals are considered appropriate for goal-directed behavior, intermediate probability goals are considered ideal for activating agency and pathways thinking (Snyder, 2002; Snyder, Cheavens et al., 2005; Snyder, Feldman et al., 2002; Snyder, Feldman et al., 2000).

The agency and pathways components of hope highlight the cognitive appraisals of an individual's goal-related activities (Snyder et al., 1991). For example, a person with high agency thinking is motivated to pursue goals, whereas a person with low agency thinking fails to generate the drive needed to engage actively in goal pursuit. A person high in pathways thinking, as compared to one low in pathways thinking, is able to generate more potential routes to goals, and to amend routes when faced with goal barriers or goal blockages (Snyder, Ilardi, Michael, & Cheavens, 2000). Additionally, a person high in agency thinking may be high or low on pathways thinking, while a person high in pathways thinking may be high or low on agency thinking. An individual with both high agency and pathways thinking is considered to be a high-hope individual, whereas a person with both low agency and low pathways thinking is conceptualized as a low-hope individual (Snyder, 2000b; Snyder et al., 1991; Snyder, Ilardi, Michael et al., 2000). Due to their heightened sense of agency and pathways thinking and goal

pursuit, high-hope individuals generate more goals overall than low-hope persons. High-hope persons' goals are also more specific, more likely to represent approach goals, and encompass more life domains than the goals of low-hope persons. Finally, high-hope persons are likely to be more decisive about their goal pursuits, and should be more likely to pursue and attain difficult goals (Snyder, 2002; Snyder, Cheavens et al., 2005; Snyder, Cheavens, & Sympson, 1997; Snyder, Ilardi, Michael et al., 2000).

Though predominantly a cognitive model, elements of hope theory implicate affect as a peripheral agent of change in the context of goal barriers, surprise events, emotional feedback and feedforward loops. Additionally, developmental origins and development of hope are acknowledged as contributors to the hope experience.

The Role of Affect in a Cognitive Hope Model

Goal barriers.

Goal barriers or blockages--situations where goal directed behavior is hindered or halted--can produce negative affective states (Snyder, Feldman et al., 2002). In order to maintain goal-directed behavior under these circumstances, creating new pathways and reinvesting in agentic thinking is often necessary. In other situations, "re-goaling" may be employed, where an individual's current pursuit of a desired goal is discontinued, the goal is abandoned, and energy is reinvested into an auxiliary goal (Snyder, Feldman et al., 2002). In a manner similar to the conception of stress advanced by Lazarus and colleagues (1985), high hope individuals may evaluate situations as a positive challenge and may be likely to maintain agency and pathways thinking, low hope individuals may experience decreased agency and pathways thinking or discontinue goal pursuits altogether (Snyder et al., 1991). According to hope theory, high hope

individuals, armed with the belief that they can generate additional pathways (pathways thinking) and actively pursue those pathways (agency thinking) experience less negative affect than low hope individuals (Snyder, Ilardi, Michael et al., 2000). Because environmental events are best interpreted with the characteristics of the individual in mind, high hope individuals may be more likely to interpret a situation as a positive challenge, whereas low hope individuals may interpret the same situation as a goal barrier or blockage.

Surprise events.

Surprise events differ from goal barriers or blockages in that they are external from normal goal pursuit, but can still elicit positive or negative affect, depending on the type of surprise event that occurs (Snyder, 2002; Snyder, Cheavens et al., 2005). In fact, contingent upon the circumstances, hassles and uplifts may concurrently be surprise events that elicit positive or negative affect. These emotions elicit arousal that impact agentic thinking, which, in turn, affect pathways thinking. The incorporation of surprise event emotions into the goal-directed cognitive process ultimately affects the goal pursuit cognitions and subsequent behaviors (Snyder, 2002; Snyder, Cheavens et al., 2005). For example, looking up and seeing a beautiful sunset (surprise event) may elicit positive affect, but is external from normal goal pursuit. Nonetheless, the positive affect impacts agency thinking (e.g., positively by increasing agency thinking or negatively by serving as a distraction). The impacted agency thinking, in turn, affects pathways thinking (e.g., increased agency thinking improves pathways thinking or decreased agency thinking decreases pathways thinking). Finally, enhanced or diminished agency and pathways thinking impacts subsequent goal pursuit.

Emotional feedback and feedforward loops.

The development of trait hope, goal barriers or blockages, and surprise events all relate to a prominent, though secondary, aspect of Snyder's cognitive hope model: the emotional feedback and feedforward information loop (Lopez, Snyder, & Pedrotti, 2003). In this loop, trait hope (where agentic thinking and pathways thinking predominate potential goal attainment) is supplemented by residual emotions related to past successes or failures at goal attainment (Lopez et al., 2003). These residual emotions, known as the "emotion set," affectively influence one's self perceptions of goal-directed capabilities and expected outcomes (Lopez et al., 2003; Snyder, 2002; Snyder, Cheavens et al., 2005). This represents a feedforward loop, in that affect impacts future goal-directed behaviors. Once goal-directed behaviors are initiated, an affective element persists until goal attainment or failure occurs, at which point the affective element then reinforces the original emotion set. This represents a feedback loop, in that affect impacts the original emotion set. As such, affective information regarding future agency and pathways thinking as well as a reinforcement of that original emotion set comprise an iterative emotional feedback and feedforward information loop in the hopeful individual (Lopez et al., 2003; Snyder, 2002; Snyder, Cheavens et al., 2005).

While the relay of information in this loop is similar for high and low hope individuals, the affective information carried through this loop for each group is dissimilar. High hope individuals tend to have a more positive emotion set, which reflects positive and active feelings surrounding goal-directed behavior. Behaviors of a high hope individual with a positive emotion set may include positive self-talk and attention to the available stimuli required to initiate successful goal pursuit. Low hope individuals, on the other hand, have a more negative emotion

set, which reflects negative and passive feelings surrounding goal-directed behavior. Behaviors of a low hope individual with a negative emotion set may include self-critical rumination, distraction, and failure to identify or maintain attention towards the available stimuli required to initiate successful goal pursuit (Snyder, 2002; Snyder, Cheavens et al., 2005). Figure 1 presents a conceptual diagram of hope theory's elaborated model and the relationship between the emotion set, outcome values, and the feedback and feedforward loop.

Developmental Origins

With trait hope and the chronic nature of the feedback and feedforward loop, it stands to reason that hope has origins in infancy. Snyder and Lopez (2007) theorize that hope is learned with no genetic contributions, and outline the developmental origins and processes of hopeful thinking (see also Snyder, 2000a; Snyder, Cheavens et al., 1997; Snyder, Feldman et al., 2002). This developmental learning history is included in Snyder's (2000a) elaborated hope model as a precursor to the emotion set and the rest of the iterative cognitive process of hope (Figure 1). Pathways thinking originates when an infant links external sensations and perceptions to the meeting of basic needs. At approximately six months of age, an awareness of pathways thoughts being related to desired goals forms and strengthens, resulting in the infant identifying his or herself as an entity separate from outside stimuli. Once self-recognition occurs, comprehension of "self as an instigator" soon follows, and agentic thinking begins (Snyder, 2000a; Snyder, Cheavens et al., 1997). Once an infant acquires agency and pathways thinking in the pursuit of a goal, these patterned cognitions ensue across the lifespan, with continued skill development occurring at exponential rates across developmental milestones through childhood. Interruptions to this process (such as events stemming from a neglectful or chaotic environment where basic

needs are not met), may result in difficulty identifying causal relationships, perceived lack of control, depression, or other elements with the potential to hinder hopeful thinking or lead to low hope thinking (Snyder, Feldman et al., 2002).

While agency and pathways thinking begin in infancy and become relatively stable throughout the lifespan, Rodriguez-Hanley and Snyder (2000) note that an individual can lose hope for a variety of reasons (e.g., childhood difficulties, divorce, adult abuse, workplace, disability, aging, chronic pain, and chronic illness) and an individual's hope profile affects the potential to lose hope. (Hope profiles, generally discussed in aggregate as "high hope" or "low hope," actually represent the sum of varying levels of agency thinking and pathways thinking.) For example, those already low on hope may be more susceptible to losing hope than a high hope individual, though no hope profile is impervious to the potential loss of hope (Rodriguez-Hanley & Snyder, 2000; Snyder, 2002). (For a comprehensive overview of the developmental origins of hope theory, see Snyder, 2000a.)

The Elaborated Model of Hope Theory: An illustration

To help intertwine the aforementioned hope principles, consider an example of a high-hope individual, Jane, through the elaborated model of hope theory (Snyder, 2002). As an infant, Jane is able to link external sensations and perceptions (such as being fed or nurtured) to the meeting of basic needs (e.g., hunger or safety/affiliation, respectively), which marks the beginning of pathways development. At approximately six months of age, after months of consistent repetition of these associations, Jane becomes aware of these pathways being related to desired goals (again, such as being fed or nurtured). The result of this awareness is Jane's new knowledge of "self" as a separate entity from these outside stimuli. As a result, infant Jane

initiates agency thinking in the pursuit of having basic needs met, which is the goal that anchors the pursuit. In this fashion, Jane moves beyond crying in response to unmet needs and begins engaging in age-appropriate goal-directed behavior, such as babbling or reaching out towards her parents in an effort to have her needs met.

This process of engagement in agency and pathways thinking during goal pursuit is generally reinforced by success in goal pursuit, and continues throughout childhood, adolescence, and all stages of adulthood. For example, goals that are age and skill appropriate for young Jane may facilitate this process, as opposed to goals that are not well-matched to her age or abilities or are thwarted by outside factors. The repetition of agency and pathways thinking and goal attainment contributes to a general emotion regarding future goal attainment. In Jane, the general emotion is positive, due to prior goal attainment successes. This general emotion is expressed in the Elaborated Model of Hope Theory as the “emotion set,” which is the result of the developmental process of becoming hopeful, and is the precursor to the outcome value. The outcome value is the combination of Jane’s goal attainment thoughts and her emotion set, which influence her attention to and subsequent pursuit of an upcoming goal. In particular, if Jane has past success in meeting new people, and has a positive emotion set regarding meeting new people, then the goal pursuit of meeting new people is likely to be important enough to consider and eventually pursue (outcome value), even though goal pursuit has not yet started. This process also represents the feedforward loop in this model.

After accounting for learning history and pre-event experiences, a specific event sequence marks the remainder of the elaborated model of hope theory. This specific event can be illustrated by Jane deciding to meet one new person. This particular goal is the anchor of goal-

pursuit behavior and agency and pathways thinking. Because Jane is high in hope, she is sufficiently motivated to pursue her goal (agency thinking) and is able to generate multiple routes to this goal (pathways thinking). Specifically, Jane is engaging in agency thinking because she is anticipating meeting a new person, and she is engaging in pathways thinking by considering different places to meet people (e.g., at work, social events, or volunteer opportunities). For Jane, agency and pathways thinking work together in the goal pursuit process, and help keep her engaged in pursuing the goal of meeting a new person.

Interestingly, during this process, two unique experiences may occur: a surprise event and/or a stressor. The surprise event is an outside event that invokes positive or negative affect. Suppose, for example, that Jane decided to meet a specific person at work, and learned prior to meeting that person that she and the person shared a mutual friend whom Jane likes and trusts. That surprise event could elicit positive affect, which, in turn, enhances agency thinking. On the other hand, a stressor represents a barrier to hopeful thinking. As an example, Jane may plan to introduce herself to a new person at work, but becomes too burdened with deadlines and workload. The affect related to the stressor feeds back to agency thoughts, pathways thoughts, outcome values, emotion sets, and general hope thoughts. This represents the feedback loop and affects subsequent goal pursuits. Fortunately for Jane, as a high-hope individual, the potential stressor may be considered a challenge (Lazarus et al., 1985) and Jane stays engaged in agency and pathways thinking and the goal-directed process. As such, she decides to introduce herself at the beginning of the following week, a point at which she meets her goal. This goal attainment, similar to a stressor, is part of the feedback loop, affecting the same elements of this elaborated model.

This example of a high-hope individual provides a practical application of the elaborated model of hope theory to a conventional human experience. In the instance of daily hassles and uplifts, a person may engage in this process frequently in the course of a single day. This illustration also aligns well with the Lazarus and colleagues' (1985) transactional process (the person-environment relationship in the experience of hassles is bidirectional and requires a personal appraisal of that hassle) and Kanner and colleagues' (1981) characteristic style (the way a person responds to their stressors impacts the perceived severity of that stressor and the likelihood of subsequent stressors). One important aspect of this model not clearly addressed in this illustration is how the development of hope over time, which is trait-like, interplays with the hopeful thinking process during the event sequence, which is potentially state-like, domain-specific, or goal-specific. The hope hierarchy helps clarify these relationships.

The Hope Hierarchy

While Snyder's model emphasizes agency, pathways, and goals as central cognitive elements, and goal barriers, surprise events, and the emotional feedback and feedforward loop as peripheral affective elements, the hope hierarchy draws attention to the interplay between different types of hope. Snyder's model asserts explicitly that hope is a robust cognitive set that is relatively stable across time and situations, despite transient fluctuations that may be experienced in response to temporary circumstances or events (Snyder et al., 1991). In other words, hope is both trait-like and state-like. For example, cognitions implicating perceived success or failure (and the subsequent affective responses) in any particular goal pursuit encompass a person's experience of state-like hope. Yet, through the repetition of goal pursuits, and continued reinforcement of perceived outcomes and subsequent affective states, a cognitive

set regarding goal pursuit gradually forms, and then informs future cognitions regarding goal-directed behavior. Through this process an individual develops and experiences a trait hope (Snyder, 2002; Snyder, Cheavens et al., 2005; Snyder, Feldman et al., 2000; Snyder, Thompson, Shorey, & Heinze, 2003). In this way, repeated experiences of state hope impact trait hope and vice versa.

In addition to trait hope and state hope, Snyder, Feldman, and colleagues (2002) identify domain-specific hope and goal-specific hope as two additional types of hope that interplay between themselves, state hope, and trait hope. These four types of hope are conceptualized as four distinct levels of a hope hierarchy (Snyder, Feldman et al., 2002). At the bottom of the hierarchy resides the aspect of hope that is most stable across time and experiences: trait hope. While trait hope involves an individual's self-perception of his or her aptitude for general goal attainment, the next level of the hierarchy, state hope, involves one's momentary perception of goal attainment ability. As such, it is less stable across time and experiences than trait hope, fluctuating with and influenced by a person's mood across circumstances and time. Domain-specific hope, or the perceived ability to achieve goals in specific domains of life (i.e., social relationships, academics, romantic relationships, family life, work, and leisure activities), is the next level of the hope hierarchy (Lopez, Ciarlelli, Coffman, Stone, & Wyatt, 2000; Snyder, Feldman et al., 2002). In regards to goal-directed thoughts and behavior, domain-specific hope is more specific than state or trait hope. Finally, at the top level of the hope hierarchy resides goal-specific hope. Goal-specific hope is the least stable across time and experiences, as it is confined to a specific goal, rather than a broader domain, general state, or pervasive trait (Snyder, Feldman et al., 2002).

The theoretical hope hierarchy provides value in understanding an individual's experiences, as each level "interacts with and reciprocally determines each of the other levels" (Snyder, Feldman et al., 2002, p. 300). For example, an individual may have high trait hope while concurrently experiencing low hope in a particular domain of life (domain-specific hope), at a particular moment (state hope), or in regard to a specific event (goal-specific hope). This individual would be relatively hopeful in most of life's pursuits, but the experience of low hope with any other type of hope may be somewhat equalized by the individual's high trait hope. Conversely, domain-specific, state, or goal-specific hope experiences may affect an individual's trait hope. There are numerous ways that these four types of hope can interplay with each other and have an impact upon each other. As with Beck, Rush, and colleagues' (1979) reciprocal interaction model and Lazarus and colleagues' (1985) transactional processes with hassles and uplifts, the hope hierarchy conceptualizes the importance of the person-environment relationship in the appraisal of individual experiences and dispositional factors in the formation of hope.

Critiques of Hope Theory

While the comprehensive hope model enjoys considerable research and theoretical support, it has some limitations. Critiques of hope theory span three domains: cross-cultural, theoretical construct, and measurement issues. While Lopez and colleagues (2003) remark that the hope construct is universally experienced, they also acknowledge that hope will vary in definition and context across cultures. It is important to notice, for example, that the majority of hope research has been conducted on college students, with relatively minimal representation of non-majority culture individuals. Some recent work on North American non-majority racial groups, including African Americans, has demonstrated important differences in the hopeful

individual (see “Ethnic Minority Groups” section, below; e.g., Adams et al., 2003; Chang & Banks, 2007; Danoff-Burg, Prelow, & Swenson, 2004; Davidson & Wingate, 2011; Davidson, Wingate, Slish, & Rasmussen, 2010; Hinton-Nelson, Roberts, & Snyder, 1996; Snyder & Lopez, 2007). Despite these efforts, more research is needed in order to understand how comparable the hope experience is across cultures. (See “Ethnic Minority Groups” section, below, for details.) In addition to cross-cultural limitations, concerns over the theoretical hope construct have been raised, with emphases on agency thinking (Carver & Scheier, 2002; Chang, 1998; Tennen, Affleck, & Tennen, 2002), goals (Carver & Scheier, 2002; Chartrand & Cheng, 2002), and self-regulation (Aspinwall & Leaf, 2002; Vohs & Schmeichel, 2002).

Snyder’s concept of agency as the perceived ability and motivational element in goal-directed behavior raises the question of whether one’s perceived ability matches one’s actual ability, an issue which is not assessed on hope measures (Tennen et al., 2002). In addition, Snyder’s model states that both agency and pathways thinking are equal contributors to goal-directed behavior. However, goals that require the reliance on outside factors (such as other individuals, specific events, or the passage of time) suggest that personal agency is not always equally relevant in obtaining desired outcomes. Other factors that are not accounted for in hope theory, such as trust in the future or general confidence, may play central roles in goal attainment (Aspinwall & Leaf, 2002; Carver & Scheier, 2002; Tennen et al., 2002). While these ideas suggest that, situationally, agency thinking plays a smaller role in hope theory, agency thinking has also been suggested to be a larger contributor to goal-directed behavior than pathways thinking (Chang, 1998).

Concerns have also been raised regarding how goal types impact motivational factors. According to Snyder (1991), these impacts are quantitative in nature, but speculation has been raised regarding qualitative differences in three goal-type categories and their impact on motivational forces. First, approach and avoidance goals are composed of different motivating factors that impact hopeful thinking in manners that are overlooked in hope theory (see Carver & Scheier, 2002 for discussion). Second, abstract and concrete goals impact one's perceived sense of control differently, as causal influences can be more easily attributed to abstract goals. Thus, appraisals of one's ability to engage in goal-directed behavior with abstract goals may be qualitatively different than when working with concrete goals (Carver & Scheier, 2002). Third, non-conscious goal pursuit is antithetical to hope theory's cognitive model, which requires conscious appraisals of one's perceived abilities, as perceptions of one's abilities are not possible when engaging in non-conscious goal pursuit (Chartrand & Cheng, 2002). Snyder's emotion feedback and feedforward loop and developmental origins of hopeful thinking may contain elements of non-conscious appraisals and behaviors, though the issue is not directly addressed.

Another concern includes self-regulation, which is not addressed in hope theory but may play an important role in hopeful thinking and goal directed behavior. Vohs and Schmeichel (2002) cite Baumeister and Heatherton (1996) and Heatherton and Baumeister (1996) in conceptualizing self-regulation as "an intrapsychic mechanism that controls desires, impulses, and motivations" (p. 318). Vohs and Schmeichel (2002) speculate that high hope individuals utilize more self-regulation resources in generating self-control and hopeful thinking than low hope individuals do. Theoretically, this should deplete regulatory resources at a faster rate, and result in the generation of fewer pathways thoughts, a circumstance that is more characteristic of

low-hope individuals. Yet, low hope individuals engage in self-regulation in response to greater levels of negative affect than their high hope counterparts. Thus, there are qualitative differences in the underlying construct of goal-directed behavior that are not addressed in Snyder's model (Vohs & Schmeichel, 2002). (For a detailed review of, and responses to, these and other concerns, see Carver & Scheier, 2002; Shorey, Snyder, Rand, Hockemeyer, & Feldman, 2002; and Snyder, Rand, King, Feldman, & Woodward, 2002.)

Finally, measurement concerns surrounding Snyder's hope theory have been raised. For example, the emotional feedback and feedforward loop in Snyder's elaborate hope model is not included on trait hope measures, preventing an opportunity to understand the unique variance accounted for by this aspect of hopeful thinking (Carver & Scheier, 2002). Concerns regarding overlap with other positive psychology constructs have also been raised (e.g., Snyder, Symphon, Michael, & Cheavens, 2001). Psychometric testing and outcomes on the hope measures, particularly convergent and discriminant validity, have attempted to address these concerns (see Edwards et al., 2007 and Lopez et al., 2000 for summative reviews), but a brief review is warranted.

Competing Models of Hope

Snyder's hope theory has been contrasted with other models with hopeful elements. Snyder's model of hope emphasizes goal-related thinking, perceived capacities for agency thinking, perceived capacities for pathways thinking, and the interplay between agency-related and pathways-related thinking. Outcome values are important but not as strongly emphasized as the aforementioned factors. In relationship to these features, similarities and differences between

Bandura's self-efficacy, Seligman's optimism, esteem theories, and problem-solving theories are briefly outlined below.

Bandura's self-efficacy.

Bandura's self-efficacy model is the most similar of all competing models to Snyder's hope theory and emphasizes goal-directed cognitions and the situational context surrounding the development and continuance of perceived self-efficacy (Bandura, 1977; Bandura, 1982). Psychological processes, including the expectation of self-efficacy, contribute to the initiation, strength, and duration of self-efficacy when experiencing obstacles or stressors (Bandura, 1977). In hope theory terminology, Bandura's model places primary emphasis on agency thinking and goal outcomes, while pathways thinking is not a central part of this model. In contrast, hope theory places equal emphasis on agency thinking and pathways thinking in understanding goal directed behavior. Further, in hope theory, agency-related thinking, pathways-related thinking, and goal-related thinking can be examined and understood in circumstantial (state) and chronic (trait) contexts (Snyder, Ilardi, Cheavens et al., 2000). Finally, a study by Magaletta and Oliver (1999) examining the predictive value of Snyder's hope theory and Bandura's self-efficacy theory on well-being, found that hope accounted for unique variance in predicting well-being that could not be accounted for by self-efficacy, suggesting that these two models are different.

Seligman's optimism.

The theory of learned optimism springs from the learned helplessness model and notes that aspects of our depressive or non-depressive experience are learned and modified at the individual level (Seligman, 1998). Unlike Snyder's hope theory, Seligman emphasizes the attributions that one makes regarding outcomes in his or her life. An optimistic attributional style

is characterized by external, variable, and specific attributions regarding negative outcomes or experiences, rather than internal, stable, and global attributions, a style that is more characteristic of the individual with depression (1998). The importance of attributional style is not addressed in hope theory, though the two models do have a goal-related emphasis, which is more pronounced in hope theory. Furthermore, hope theory addresses motivational elements such as agency-related thinking and pathways-related thinking; whereas Seligman's learned optimism model does not (Snyder, Ilardi, Cheavens et al., 2000). Finally, because agency and pathways thinking in pursuit of goals are addressed, hope theory serves as a future-directed model in contrast to Seligman's learned optimism model (Snyder, Ilardi, Cheavens et al., 2000).

Esteem theories.

According to Hewitt (1998), esteem theories emphasize the importance of positive self-referential emotions, and infer that esteem is affected by the positive or negative experience of goal pursuit activities (as cited in Snyder, Ilardi, Cheavens et al., 2000). As such, esteem theories lean towards being emotion-based models, rather than being a cognitive model like hope theory. Esteem theories share with Snyder's hope theory the assumption that goal directed behavior and goal related thinking play roles in obtaining the desired outcome. However, while esteem theories imply that goal directed behavior is related to the sense of esteem an individual possesses, it is not a central feature, as it is in hope theory (Snyder, Ilardi, Cheavens et al., 2000). Again, research lends support to hope theory being a different model from self-esteem and measures of hope have been found to have predictive properties beyond the unique variance in the self-esteem model (Curry, Snyder, Cook, Ruby, & Rehm, 1997; Snyder, Cheavens, & Michael, 2005).

Problem-solving theories.

Heppner and Hillerbrand (1991) suggest that problem-solving theories focus on a person's identification of a desired goal (goal-related thinking) and his or her perception of that goal as important in value. According to D'Zurilla, problem-solving theories also emphasize the use of one or multiple routes to the desired goal (pathways-related thinking) (as cited in Snyder, Ilardi, Cheavens et al., 2000). While both of these ideas are strongly shared with Snyder's hope theory, a focus on motivation towards the desired goal (agency-related thinking) is found exclusively in Snyder's model (Snyder, Ilardi, Cheavens et al., 2000).

While Snyder's hope model shares some similarities with Bandura's self-efficacy, Seligman's optimism, esteem theories, and problem solving theories, convergent validity analyses between hope and competing models of goal-directed behavior suggest that hope theory is also uniquely different in explaining and measuring goal directed behavior. For example, trait hope correlated .5 to .6 with Scheier & Carver's (1985) Life Orientation Test and Rosenberg's (1965) Self-Esteem Scale (as cited in Edwards et al., 2007; Lopez et al., 2000). Trait hope also correlated positively with Wheeler's (1980, 1991) General Well-Being Questionnaire (as cited in Magaletta & Oliver, 1999).

Applications of Hope Theory

The development of hope theory has included many studies demonstrating the protective role of hope against depression and dysphoria in different demographic groups, different life domains, and across time. Hope theory has also been developed to explain the onset, experience, and treatment of depression.

Hope as a protective factor across demographic groups.

Studies of hope (discussed below) across demographic groups include children and adolescents, college-age, graduate, and military students, middle age and older adults, ethnic minorities, parents, and health care providers.

Children and adolescents.

Hope has demonstrated relationships with a variety of healthy outcomes in children and adolescents. For example, high hope is associated with higher adaptive indicators and lower maladaptive indicators, as indicated by the Children Hope Scale and the Behavioral Assessment System for Children (Gilman, Dooley, & Florell, 2006). A one-year longitudinal study of hope's protective role against adverse life events in middle school and high school students yielded an interaction effect between hope and stressful life events to predict subsequent life satisfaction levels. Children and adolescents with low hope had decreased life satisfaction when stressful life events increased. However, for those with high hope, there was no relationship between stressful life events and later levels of life satisfaction (Valle, Huebner, & Suldo, 2006).

Hope in children and adolescents has also been linked to family, interpersonal, and social influences. In studies of hope and exposure to violence, victimization, and abuse, the highest levels of hope were reported by those who had observed violent acts but did not experience them personally (Hinton-Nelson et al., 1996), while those who experienced childhood neglect and abuse experienced lower hope than children who did not (Grewal & Porter, 2007). Hope has also been related to perceived parenting styles. In a four-year longitudinal study, high hope at baseline predicted high hope four years later when an authoritative parenting style was perceived by children, as compared to an authoritarian parenting style, which was related to low self-

esteem (Heaven & Ciarrochi, 2008). Finally, structured interviews with hopeful elements (e.g., sense of connection, seeking assistance), relying on external resources (e.g., luck, God, avoidance or success) and relying on internal resources (e.g., escaping, persistence, good manners, and avoidance) were incorporated into a qualitative study of 183 Tanzanian youths, ages twelve to eighteen, who either lived on the streets, formerly lived on the streets, or had always lived at home (Nalkur, 2009). Youths who had always lived at home utilized more internal resources (persistence, good manners) and the external resource of success, while street youth utilized the internal resource of escaping, the external resource of luck, avoidance, and seeking assistance. Nalkur concluded that environmental factors contribute to the development of a personal sense of hope and hope-related outcomes (2009).

Treatment interventions and theoretical clinical applications of hope have also been applied to children and adolescents. In a six-month longitudinal study at a residential treatment facility, McNeal and colleagues (2006) implemented a teaching family model and hope-based treatment interventions expected to improve hopeful thinking. Results showed an increase with agency and pathways thinking, despite initial hope scores being lower than Snyder and colleagues' (1997) reported means in the general population (as cited in McNeal et al., 2006). Youths with higher levels of psychopathology on intake were lower in agency hope at intake and achieved the greatest gains in agency hope at the end of treatment, as compared to same-aged peers who endorsed less psychopathology at intake (McNeal et al., 2006). Despite these efforts, a systematic review examining cognitive behavioral therapy with hopeful elements in adolescents observed no differences between treatment and the control groups (Venning, Kettler, Elliott, & Wilson, 2009). The authors observed that not enough groups utilized hope-based elements to

perform robust statistical analyses in their systematic review, suggesting that additional randomized control trials of longitudinal intervention studies with hope-based elements on children and adolescents are needed (Venning et al., 2009). Theoretical clinical applications on increasing hope in school-aged children, parents, and high-risk students include helping to set appropriate goals, developing pathways thinking, enhancing agency through evidence-based interventions with hopeful elements, and identifying hope-based outcomes such as improved physical health, athletic achievement, academic achievement, and interpersonal relationships (Lopez, Rose, Robinson, Marques, & Pais-Ribeiro, 2009; Snyder, Shorey, & Rand, 2006; Weis, 2010).

College-age, graduate, and military students.

In various studies, higher levels of hope have also been implicated in positive outcomes in college-age, graduate, and military students. For example, in a six-year, longitudinal study of 808 college-age students, high hope scores of entering college freshmen predicted higher overall grade point average and graduation completion rates, even after controlling for entrance examination scores (Snyder, Shorey et al., 2002). High hope also predicted better academic performance, after controlling for intelligence and previous academic performance (Cheavens et al., 2005), better athletic outcomes in college age students (Curry et al., 1997), and degree attainment in 443 master sergeants enrolled in two-year colleges (Savage & Smith, 2007). High hope students, as compared to low hope students, evidenced higher positive problem orientations and rational problem-solving styles, suggesting that hope-related coping has a stronger relationship with engagement versus disengagement (Chang, 1998).

Higher levels of hope have also been associated with greater psychological health in college age students. For example, hope has been found to be an important predictor of dysphoria after controlling for appraisals coping (Chang & DeSimone, 2001). High hope graduate students enrolled in statistics classes experienced less anxiety about statistics than their low hope counterparts (Onwuegbuzie, 1998; Onwuegbuzie & Snyder, 2000).

Finally, in a two-week longitudinal study by Reff and colleagues (2005), an interactive relationship between levels of hope (high or low), defense style (mature or immature), and stress (high or low) in predicting dysphoria after a natural stressor was observed, suggesting that those with low hope, an immature defensive style, and high stress were more likely to experience dysphoria than those with high hope, regardless of defensive style.

Middle age and older adults.

Studies on hope have also exposed relationships between high hope, positive outcomes, and gender differences in middle age and older adults. In one study on the parents of college-age students, results suggested that problem-solving may mediate the relationship between components of hope and psychological adjustment (Chang, 2003). In particular, this study found gender differences on pathways thinking, depressive symptoms, and problem-solving. Men reported greater pathways thinking, while women reported a stronger positive relationship between agency thinking and problem solving, and a negative relationship between agency thinking and depressive symptoms (Chang, 2003). Hope as a protective factor has also been implicated in older adults experiencing age-related declines. An examination on the process of hopeful thinking process in older adults revealed that, in the absence of differences on number of illnesses or functional disability, high hope adults had significantly greater life satisfaction and

perceived health than those who were low in hope (Wroblewski & Snyder, 2005). The authors suggested that those who are higher on hope during an age of normal physical decline are better able to modify goals and adapt to new health circumstances (Wroblewski & Snyder, 2005).

Additionally, hope-based, goal-focused group psychotherapy reduced depressive symptoms in an older cohort (mean age of 66.5; Klausner, Snyder, & Cheavens, 2000). Finally, Ong, Edwards, and Bergeman (2006) examined the relationship of trait hope, state hope, and adaptation to stress in older adults (ages 62 to 80) for forty-five days. Results suggested that higher state hope had protective benefits regarding adaptation to stress by enhancing stress recovery and reducing negative emotions. In particular, high trait hope individuals, as compared to low trait hope individuals, benefited from high state hope by having less stress reactivity and faster emotional recovery from stress (Ong et al., 2006).

Ethnic Minority Groups.

In light of additional stressors experienced by ethnic minorities (e.g., prejudice, discrimination, violence), a number of studies have examined hope's protective role for different North American ethnic minority groups. In an examination of African American, Asian American, European American, and Latino college students, hope appears to function similarly across groups when correlated with dimensions of positive and negative affect, life satisfaction, and social problem solving, but differences were observed in predictors of hope and levels of hope (Chang & Banks, 2007).

Significant predictors of agency thinking and pathways thinking were uniquely different for each group. For African Americans, in order of greatest to least significant, negative problem orientation, positive affect, positive problem orientation, avoidance style, and life satisfaction

were predictors of agency thinking, while positive problem orientation, avoidance style, and positive affect were predictors of pathways thinking. For Asian Americans, positive affect, rational problem solving, and negative affect were significant predictors of agency thinking, while positive problem orientation and positive affect were significant predictors of pathways thinking. For European Americans, life satisfaction and avoidance style were significant predictors of agency thinking, while positive affect was the only significant predictor of pathways thinking. For Latinos, rational problem solving, life satisfaction, and positive problem orientation were significant predictors of agency thinking, while life satisfaction was the only predictor of pathways thinking (Chang & Banks, 2007).

Regarding levels of hope, Latinos scored significantly higher than European Americans and African Americans on agency thinking and rational problem solving, and lower than all groups on impulsivity and carelessness style. African Americans also scored significantly higher on levels of positive affect than all other groups and greater on levels of positive problem solving orientation than European Americans. Finally, Latinos and African Americans scored higher than European Americans and Asian Americans on pathways thinking, while Asian Americans and Latinos scored significantly lower on levels of avoidance style than European Americans and African Americans (Chang & Banks, 2007).

A second study on trait hope, negative daily events, and depressive symptoms implicated high trait hope as protective against depressive symptomatology in African American, Caucasian, and Hispanic college students but not Asian American college students (Visser et al., 2012). Additionally, African Americans endorsed more religiosity, agency thinking, goals orientation, and overall hope than their Caucasian counterparts (Adams et al., 2003). Hope and

religiosity also serve a protective role in endorsing interpersonal risk factors for suicidality (Davidson and Wingate, 2011). High hope African American college students, as compared to their low hope African American peers, utilize active or approach coping skills more frequently (Danoff-Burg et al., 2004), have higher levels of life satisfaction, and possess a greater ability to cope with racism-related stress (Davidson et al., 2010).

Parents.

Hope has also been examined in parents of children with physical health and mental health challenges. For example, a strong inverse relationship between hope and stress was found in mothers of two- to five-year-old children with type I diabetes (Mednick et al., 2007). In mothers of children with intellectual disabilities, lower hope and more child behavior problems were independently related to increased depressive symptomatology, with those reporting both high agency thinking and high pathways thinking reporting the fewest depressive symptoms. Fathers who reported low agency thinking, as compared to fathers reporting high agency, experienced greater symptoms of anxiety, depression, and negative affect (Lloyd & Hastings, 2009). Finally, parents of children with externalizing disorders (symptoms of ADHD, ODD, and CD) were higher on agency thinking and pathway thinking than parents of children with intellectual disabilities or health conditions. A positive relationship between hope and adaptive psychological functioning, independent of optimistic attributional styles, at the individual and familial levels was also observed (Kashdan et al., 2002). Kashdan and colleagues suggest that high-hope parents who engage in hopeful behaviors may help them concurrently achieve personal aspirations and indirectly and positively affect other family members, though additional research is needed to understand this relationship (2002).

Health care providers.

In the health care field, providers who work with patients with chronic conditions have a unique opportunity to instill hope in those who may be discouraged by the chronic and disabling nature of disease. In particular, a study on health care providers assisting patients with HIV suggests that providers high in agency thinking were better able to help patients set goals, devise plans, and overcome barriers, as compared to low agency thinking providers. A potential benefit from working with high agency thinking providers is the instillation of hope, particularly pathways thinking, in their HIV patients (Westburg & Guindon, 2004). Finally, a one-year longitudinal study examining British pediatric primary care clinicians responsible for identifying and enrolling children into an asthma management program showed that high agency thinking in providers was related to greater identification and enrollment of asthma cases, as compared to low agency thinking providers (Tennen, Cloutier, Wakefield, Hall, & Brazil, 2009).

Hope as a protective factor across life domains.

The protective effects of hope across different domains of life have been demonstrated in the academic domain, work domain, the physical health domain, and the psychological health domain.

Academic domain.

Significant relationships have been reported between high hope and better academic performance, higher scores on achievement tests in grade school children, and higher grade point average scores for high school teens and college students (Snyder et al., 1991; Snyder, Hoza et al., 1997; Snyder, Thompson et al., 2003). Hope theorists provide theory-based guidelines to school psychologists and teachers on how to improve and implement hopeful thinking in

students in academic, athletic, and social arenas. Specific suggestions include incorporating one-on-one time into lesson plans, incorporating clear goals with a range of lengths and levels of difficulty, identifying multiple pathways to these goals, and modeling enthusiasm and consistency (Snyder, 2005; Snyder, Lopez, Shorey, Rand, & Feldman, 2003).

Hope-enhancing techniques may be utilized to improve academic performance in traditional and at-risk students (Lopez et al., 2009; Snyder, Shorey et al., 2006). The primary goal in the academic arena is for teachers and school psychologists to enhance hope in regular and high-risk students by modeling high hope and by implementing hopeful techniques during the educational process. Recommended steps to enhancing hope in students include administering a hope measure, teaching the student the basic tenets of hope theory, structuring hope for the student, creating positive and specific goals, practicing actions and visualizing outcomes, student reporting of experiences, and continuing to implement and utilize learned techniques and principles to new objectives (Lopez et al., 2009).

Work domain.

The protective effects of hope on job performance and problem solving in employees is also evident. In a series of studies of employees in varied job levels and industries, Peterson and Byron (2008) examined the relationship between trait hope and job performance. After controlling for self-efficacy and cognitive ability, high hope employees achieved higher job performance than their low hope counterparts. In addition, high hope employees produced qualitatively and quantitatively greater solutions to a work-related problem than low hope colleagues.

Physical health domain.

The relationship between hope, psychological factors and physical experience has been demonstrated in an experimental study examining trait hope and pain tolerance on a cold pressor task (Snyder, Berg et al., 2005). Participants who were high on hope tolerated cold water significantly longer than participants who were low on hope, which suggests that the psychological element of hope can positively impact one's experience of pain (Snyder, Berg et al., 2005). In addition, studies on hope and physical health support the notion that being hopeful may also affect one's management of physical health conditions. For example, high hope women reported more hope-related coping responses and were more knowledgeable about cancer than low hope women, even when variance due to academic performance, previous experiences with cancer among family or friends, and positive or negative affectivity was held constant (Irving, Snyder, & Crowson, 1998).

The role of hope has also been examined in individuals with a stigmatizing medical condition, traumatic brain injury, and spinal cord injury. Those with a stigmatizing medical condition were more likely to benefit from an information resource (website) and to visit that website if they were higher on pathways and agency, respectively. Higher hope individuals also experienced a shorter duration of symptoms (Vernberg, Snyder, & Schuh, 2005). Patients with traumatic brain injury experienced an increase in domain-specific hope after a six week intervention study, while a study on spinal cord injury patients demonstrated that those with low hope perceived their injuries as more threatening than those higher on overall hope (Kennedy, Evans, & Sandhu, 2009; Wilbur & Parente, 2008). For summative reviews of studies and theories on hope and physical health (e.g., people with spinal cord injuries, severe arthritis,

blindness, fibromyalgia, breast cancer, burn survivors and vehicle accident survivors), see Cheavens et al., 2005; Creamer et al., 2009; Edwards et al., 2007, and Snyder, Cheavens et al., 2005.

Psychological health domain.

Numerous studies of hope and psychopathology show consistent support for the protective effects of hope against dysphoria and pathology. For example, an eight-week hope-based intervention demonstrated a reduction in symptoms of psychopathology, including depression and anxiety (Cheavens, Feldman, Gum, Michael, & Snyder, 2006). High hope has also served to protect against the depressive effects of rumination (Geiger & Kwon, 2010), depression in parents of children with intellectual disabilities (Lloyd & Hastings, 2009), and anxiety in parents of children with Type I diabetes (Mednick et al., 2007). The interactive effects of hope with more stable aspects of a person, such as interpersonal style or defensive style, paint a supportive, yet potentially more nuanced picture of the protecting effects of hope for people at-risk for depression.

For example, a study on domain-specific hope (interpersonal or achievement-oriented) and interpersonal style (sociotropy/interpersonal or autonomy/achievement oriented) has also examined the protective ability of hope against dysphoria (Campbell & Kwon, 2001). In an interpersonal hope/sociotropic interpersonal style pairing, those low on interpersonal hope experienced greater dysphoria than those with high interpersonal hope, while those experiencing the greatest dysphoria were those with low interpersonal hope and a highly sociotropic interpersonal style. Likewise, in an achievement-oriented hope/sociotropic interpersonal style pairing, those low on achievement-oriented hope experienced greater dysphoria than those with

high achievement-oriented hope, while those experiencing the greatest dysphoria were those with low achievement-oriented hope and a highly sociotropic interpersonal style (Campbell & Kwon, 2001). Comparable significant relationships were observed in achievement-oriented hope/autonomy interpersonal style and interpersonal hope/autonomy interpersonal style pairings. However, in both of these pairings, an interaction effect was observed in female participants such that females low in autonomy interpersonal style experienced similar levels of dysphoria, regardless of the level of achievement-oriented hope, but when autonomy rose, the level of achievement-oriented hope played a greater role in protecting against dysphoria, such that females high in autonomy experienced greater levels of dysphoria when achievement-oriented hope was lowest. Similarly, females low in autonomy experienced similar levels of dysphoria regardless of the level of interpersonal hope, but when autonomy rose, the level of interpersonal hope played a greater role in protecting against dysphoria, such that females high in autonomy experienced greater levels of dysphoria when interpersonal hope was lowest (Campbell & Kwon, 2001). These results suggest that domain-specific hope, while accounting for interpersonal style, plays a protective role against dysphoria. Domain-specific hope (interpersonal and achievement-oriented) may also play a uniquely protective role against dysphoria in women who express varied levels of autonomy. Specifically, women who endorse high levels of autonomy experience less dysphoria as hope increases across interpersonal or achievement-oriented hope domains.

In a series of studies examining the relationship between hope and defensive style, support exists for the integration of psychodynamic aspects of defensive style (where an immature defensive style is characterized by turning against self, turning against others,

projection, and reversal; and a mature defensive style is characterized by intellectualization) and cognitive hope theory (Kwon, 2000; Kwon, 2002; Reff et al., 2005).

In particular, low hope individuals with an immature defensive style experienced the greatest levels of dysphoria, whereas high hope individuals experienced low levels of dysphoria regardless of style (Kwon, 2000). Findings were supported in a follow-up study that controlled for anxiety (Kwon, 2002), and partially supported in a follow-up study that introduced a natural stressor (undergraduate course examination scores) (Reff et al., 2005).

Studies on hope and other positive psychology concepts have also demonstrated the protective effects of hope. Those who score high on hope, as compared to their low hope peers, tend to demonstrate greater school-based skill development, sense of coherence, and self-efficacy (Davidson et al., 2012), and are more likely to, when prompted, experience humor in spite of recent stressors (Vilaythong et al., 2003). In those who endorse religiosity, high hope individuals are less likely to contemplate suicide (Davidson & Wingate, 2011). Finally, those high in hope tend to make different, healthier decisions than those low in hope. For example, high hope individuals opt for more challenging or difficult goals as compared to low hope people, and, when given the option, gravitate towards audiotaped messages with successful goal attainment content, more than their low hope counterparts (Snyder, Cheavens et al., 1997; Snyder et al., 1998). (For additional reviews of studies and theories on hope and psychological adjustment, see Cheavens et al., 2005 and Edwards et al., 2007.)

Hope as a protective factor across time.

The protective role of hope has been demonstrated in numerous cross-sectional studies and experimental studies. In addition, the protective effects of hope across time have also been demonstrated in longitudinal studies on middle and high school students, college freshmen and

undergraduates, former participants from an aging study, and British pediatric primary care clinicians. Longitudinal clinical intervention studies with hope-based elements have also focused on brain injury patients, individuals with current or past psychiatric treatment, pre-therapy group completers, depressed older adult outpatients, and residential treatment facility patients. The enduring effects of hope have been observed in longitudinal studies from as little as two weeks to as much as six years.

For example, a one-year longitudinal study of 699 middle and high school students on hope and adverse life events demonstrated the moderating role of hope on stressful life events and life satisfaction. In particular, high hope students at baseline were more likely than low hope students to endorse a higher life satisfaction after one year regardless of level of stressful life events (Valle et al., 2006). In the longest hope study to date, hope scores predicted overall grade point average and graduation rates in college freshmen after controlling for entrance examination scores (Snyder, Shorey et al., 2002). In a four-year longitudinal study of 884 Catholic, Australian high school students on trait hope, self-esteem, and perceived parental styles, a general decline over time in trait hope and self-esteem, particularly for females, was observed. A perceived authoritative parental style at baseline was related to high hope four years later, while a perceived authoritarian parental style was related to low self-esteem over time (Heaven & Ciarrochi, 2008). In the undergraduate population, scores of hope, self-efficacy, and sense of coherence held constant over one month (Davidson et al., 2012), while low hope, high defense immaturity, and high stress predicted higher rates in dysphoria after poor test performance (Reff et al., 2005). In a forty-five day study on trait and state hope, 27 former participants of an aging study (mean age of 72.1 years) who endorsed high trait hope experienced greater adaptation to

stress. In addition, the protective effects of state hope against negative emotion were greater for those who were also high in trait hope (Ong et al., 2006). Finally, a one-year longitudinal study of 127 British pediatric primary care clinicians who scored high on agency thinking were more likely to identify and enroll new cases of pediatric asthma into a health management program than their lower agency thinking colleagues (Tennen et al., 2009).

Additionally, a six-week hope intervention on fourteen traumatic brain injury adult patients focused on enhancing domain-specific agency and pathways thinking in a group treatment format. Fourteen topics were discussed and included items such as “learning self-talk about succeeding,” “thinking of difficulties encountered as reflecting wrong strategy, not lack of talent,” and “cultivating friends with whom you can talk about goals” (Wilbur & Parente, 2008, p. 26). Participants experienced statistically significant increases in hope across the social relations, romantic relationships, work, and leisure activities domains. Statistically significant improvements in hope levels in the academic and family relationships domains were not observed, though none of the participants were currently enrolled in school (Wilbur & Parente, 2008). An eight-week empirical study on a hope-based group therapy procedure on 32 individuals who had received past psychological treatment or were currently in treatment also demonstrated support for a hope-based intervention.

Participants reported greater agency thinking, self-esteem and meaning of life, and decreased symptoms of depression and anxiety over time (Cheavens, Feldman, Gum et al., 2006). Relationships were also observed in hope-based group treatments of 11 and 12 weeks between high hope at time one with greater well-being, coping, and emotion regulation (Irving et al., 2004), and decreased perceived disability and increased overall hope (Klausner et al., 2000)

at time two, respectively. Finally, a six-month longitudinal study of teenagers at a residential treatment facility examined hopeful elements of a teaching family model, which utilized token economies, self-government, social skills training, and a rolling program evaluation process. Improvements in agency and pathways thinking were observed in participants post treatment, with the greatest gains observed in residents who scored higher on psychopathology and lower on overall hope at intake (McNeal et al., 2006).

Hope as a protective factor against depression.

In addition to studies on the positive impact of hope on different demographic groups, life domains, and periods of time, theory-based proposals also outline the protective effects of hope on dysphoria. For example, (Snyder, 2000c) suggests that hope plays an adaptive role in the bereavement process. Bereavement is conceptualized by an individual's loss of interpersonal goals, which subsequently blocks agency and pathways thinking. By revising or replacing lost goals, agency thinking and pathways thinking can be restored and subsequently enhance adaptive thoughts and behaviors (Snyder, 2000c). Hope theory has been developed in greater detail to explain how the loss of hope impacts the onset and experience of depression, how hope protects against depression, and how instilling hope can reduce or eliminate depressive symptoms. Central to these explanations is the role of successes and failures in goal attainment, agency generation, and pathways generation, as well as the notion that those with high levels of hope are more likely to be protected against the onset of depression, duration of depression, and relapses (Cheavens, 2000).

The loss of hope and the onset and experience of depression.

While Snyder's hope theory is a predominantly cognitive model, cognitions experienced in relation to actual or perceived goal pursuit, attainment, or loss result in subsequent positive or negative emotional experiences. The leap from experiencing a negative emotion to experiencing depression may occur when there are goal blockages, a lack of agency, or insufficient pathways (Cheavens, 2000).

Three ways that goal blockages may contribute to the experience of depression include having an important or fundamental goal blocked, choosing unsatisfying goals, or having a general expectancy for failure. Goals and individual sets must have some level of perceived importance in order to impact or initiate agency and pathways thinking. When a less important goal is blocked, an individual may experience a nominal level of negative emotion. However, when a highly important or fundamental goal is blocked, an individual will experience a heightened level of negative emotion, and potentially an increased likelihood of depression (Cheavens, 2000).

Unsatisfying goals include setting and striving towards minimal or impossible goals. Cheavens purports that minimal goals that can be unequivocally met are not actually goals, but rather, certainties (2000). In this instance, there is no challenge in attaining the goal, nor is there the opportunity to reinforce or strengthen one's abilities or perceived abilities. Conversely, impossible goals have nearly no chance of being met and increase the likelihood of goal blockages and failures, which, in turn, generates negative feelings and diminishes one's perceived abilities to achieve goals. Finally, when an individual has a general expectation that he or she will fail in his or her goal pursuit, they are at greater risk of being unsuccessful in their

goal pursuits, which reinforces their general expectancy for failure, diminishes agency and pathways thinking, and increases the likelihood of becoming depressed (Cheavens, 2000).

Two ways that a lack of agency may contribute to the experience of depression include experiencing an agency loss from a goal blockage or having chronically low agency. When an individual experiences several goal blockages, particularly when the goal is important, he or she may become less willing to set new goals. Repetition of this process over time diminishes a person's agency, increases one's susceptibility to depression, and becomes one potential contributing factor to the experience of chronically low agency (Cheavens, 2000).

Individuals with chronically low agency may experience insufficient agency to set goals, insufficient motivation to pursue goals when goals exist, or an inability to acknowledge or appreciate when a goal has been achieved. Chronically low agency is particularly problematic in that it increases the risk of depression, while depression concurrently increases the likelihood of chronically low agency (Cheavens, 2000).

Two ways that an insufficient number of pathways may contribute to the experience of depression include the inability to generate pathways or the inability to disengage from dead-end pathways. Failure to generate pathways may be an actual inability or a perceived inability to generate pathways towards goals. In either instance, goal blockages are more likely to occur than if multiple pathways were derived, resulting in a perception of failure, goal blockages, and an increased likelihood of depression. While actual and perceived abilities are typically positively related, it is possible for an individual to perceive his or her abilities to generate pathways as being less than they actually are, which contributes to an increased risk of depression. An inability to disengage from dead-end pathways also increases the possibility of experiencing

depression. Individuals who confine themselves to believing there is only one way to achieve a goal make achieving those goals more difficult, as they are unlikely to engage in the adaptive iterative process of creating alternate pathways or re-goaling after experiencing barriers (Cheavens, 2000).

The protective effects of hope against depression.

After examining how a breakdown of hope can contribute to the onset or continuance of depression, we can contrast how hope can protect individuals from experiencing depression. Setting multiple goals, having a generalized expectancy for success, focusing on past successes, and generating growth-seeking goals are all hope-related actions that protect against the likelihood of depression. In setting multiple goals at any given point in time, an individual is exercising more pathways and agency thinking, and is preventing any one goal blockage from being devastating, as multiple other goals are still being pursued (Cheavens, 2000). Contrary to the generalized expectancy for failure, having the generalized expectancy for success protects an individual against depression. When one expects success in relation to goal pursuits, goal blockages are more likely to be viewed as setbacks rather than as failures. Unlike perceived failures, “setbacks” facilitate additional agency and pathways thinking in the continuance of goal pursuit (Cheavens, 2000). The generalized expectancy for success is closely related to and partly contingent upon focusing on past successes (as compared to focusing on past failures). While focusing on past successes may improve the generalized expectancy for success, how an individual conceptualizes past failures can also improve this expectancy for success. For example, an individual capable of emotionally distancing his or her self from past failures and learning from past failures, is more likely to make the distinction between past failures versus

being a failure, and can utilize past learning experiences in future goal pursuit endeavors (Cheavens, 2000). Finally, an individual who pursues growth-seeking goals is likely to learn, or grow, or improve during the goal pursuit process simply by the nature of the type of goal being pursued. In contrast, an individual who pursues validation-seeking goals is more susceptible to reduced self-esteem and depressive experiences (Dykman, 1998). As a final point regarding hope and depression, Cheavens (2000) suggests that clinicians introduce skills to depressed clients to increase hope-related cognitions and actions and to ameliorate symptoms of depression.

The role of developing hope to reduce symptoms of depression.

Theoretically, a hope-based treatment includes increasing agency and pathways thinking, and setting appropriate goals. The feedback loop in these processes contributes to the desired outcome, with clients becoming independent hope agents (Cheavens, Feldman, Woodward, & Snyder, 2006). For therapists, the development of a healthy therapeutic alliance includes modeling hopeful elements, forming a hopeful working relationship, and utilizing hope measures during treatment. Hope measures may include formal assessment strategies, but can often be housed more therapeutically in a narrative or qualitative format (Cheavens, Feldman, Woodward et al., 2006; Lopez et al., 2004). Hopeful elements can complement most clinical intervention modalities, but may work especially well with cognitive behavioral therapies, where the modifications of negative beliefs surrounding goal-setting are prominent (Snyder, Ilardi, Cheavens et al., 2000).

The anchor for therapeutic change is based upon the therapy goals that are pursued by the client. The hopeful therapeutic alliance emphasizes respectfully negotiating therapy goals via a hope-based process that is framed with a general expectancy for success (Cheavens, 2000;

Cheavens, Feldman, Woodward et al., 2006). In regards to goal setting, the type of goals being set can help infuse hope into a person's life. In particular, setting intrinsic rather than extrinsic goals may be more rewarding for an individual. Additionally, concrete, manageable goals promote greater pathways and agency thinking than vague or unmanageable goals, which are difficult to define. Approach goals tend to be more empowering for an individual and result in measurable markers of success, rather than avoidance goals, which may be aversive and chronic, with no clear termination point or marker that a goal has been reached (Cheavens, 2000). Once a client has successfully overcome or mastered his/her presenting problems, establishing relapse prevention techniques provides new goals for the client to master, thus continuing the hopeful therapeutic process and protecting against relapse of the original symptoms (Snyder, Ilardi, Cheavens et al., 2000).

When a client initiates the therapy process, agentic thinking is already activated, as he or she has made the decision to seek treatment (Snyder, Ilardi, Michael et al., 2000). Cultivating agentic thinking in therapy includes acknowledging and praising their decision to seek treatment, eliciting the verbalization of the client's dedication to therapy, mental rehearsal to overcoming barriers, reframing negative self-talk, and developing positive self-referential statements, and developing a physical exercise plan (Cheavens, 2000; Cheavens, Feldman, Woodward et al., 2006; Snyder et al., 1998; Snyder, Ilardi, Michael et al., 2000; Weis, 2010).

Because agency and pathways thinking are iterative, activating pathways thinking (e.g., generating multiple pathways to goal attainment) can increase agency thinking as well (Cheavens, Feldman, Woodward et al., 2006). Pathways thinking may be enhanced through skills training that focuses on and increases a client's perception of his or her ability to generate

pathways. Pathways thinking may also be enhanced by recognizing past successes, accomplishments, or goal attainment that a depressed client may be unable to observe on their own. If past or current goal attainments are sparse or not identifiable, the clinician can generate successes in the therapy setting first, and then encourage goal pursuits outside of therapy that build upon the improved perception and recognition of success. For example, working collaboratively with the client to set a reasonable and achievable agenda during the therapy session enables the client to recognize definable progress, as well as to be proactive in generating the goals and working towards goal attainment (Cheavens, 2000).

While the role of hope as a protective factor in clinical interventions has not been studied with the same vigor as the relational or predictive utility of hope, some studies (e.g., Cheavens, Feldman, Gum et al., 2006; Irving et al., 2004; Klausner et al., 2000; Wilbur & Parente, 2008) and many theoretical postulations suggest the utility and importance of hope-based interventions. Hope, considered to be an important part of the curative process during therapeutic change and the subsequent experience of joy (Dick-Niederhauser, 2009), and has been applied to all stages of the therapeutic process. There has also been additional examinations of utilizing hopeful elements in the assessment/intake, termination, relapse prevention, program evaluation, and report writing processes (Cheavens, Feldman, Woodward et al., 2006; Lopez et al., 2004; Snyder, Ilardi, Cheavens et al., 2000; Snyder, Ritchel, Rand, & Berg, 2006). The theoretical application of hopeful elements in clinical practice includes child therapy, brief services, and across psychotherapy approaches (Michael, Taylor, & Cheavens, 2000; Snyder & Taylor, 2000; Snyder, Ilardi, Cheavens et al., 2000; Weis, 2010).

Hope, Hassles, Uplifts, and Depressive Symptoms

Snyder's cognitive theory of hope focuses on agency thinking and pathways thinking as motivational factors of goal directed behavior (Snyder et al., 1991). Agency thinking is the drive required for one to set goals, initiate goal-directed behavior, and pursue alternate pathways when goals are blocked, while pathways thinking is the perceived ability to produce possible routes to goals. Both agency and pathways thinking play an iterative and additive role, enhancing each other in the goal pursuit process (Snyder, 2000b; Snyder et al., 1991; Snyder, Lehman et al., 2006).

Considerable research has provided ample support that hope plays a key role in protecting against symptoms of depression or dysphoria (e.g., Campbell & Kwon, 2001; Davidson & Wingate, 2011; Geiger & Kwon, 2010; Kwon, 2000; Kwon, 2002; Lloyd & Hastings, 2009; Mednick et al., 2007; Reff et al., 2005). Moreover, an increased potential for depressive symptoms can be evidenced in the breakdown of hope. Illustrations of how hope can deteriorate include having low agency (e.g., experiencing a loss of agency after goal blockages, or having chronically low agency), inadequate pathways (e.g., not being able to generate multiple pathways or disengage from dead-end pathways), or having unattainable or unsatisfying goals (e.g., becoming demoralized from a goal blockage, setting goals that are unsatisfying, or expecting to fail at goals that we set) (Cheavens, 2000).

With the well-established relationship between hope and depression, it is unsurprising that elements of the loss of hope can also be understood in the context of Beck and colleagues' (1979) cognitive model of depression. For example, each instance where a loss of hope occurs may result in the activation of the cognitive triad of depression. This activation may be related to

a negative view of the self (e.g., a perception that one is not capable of generating adequate agency thinking, pathways thinking, goal directed behavior, or achieve goals), a negative view of experiences (e.g., that goals are likely to not be met, or that goal-directed behavior is too difficult), and/or a negative view of the future (e.g., through perceived repeated past failures, developing generalized expectancy for failure on future endeavors). Perceiving one's agency thinking, pathways thinking or goal-directed thinking as being poorer than they actually are may reflect a cognitive error that, when repeatedly employed, may result in a distorted schema. Because the experience of hope is iterative and additive across time (Snyder, 2000b), the reciprocal interaction and cognitive diathesis-stress elements of depression may also contribute to the depressive experience (Beck, Rush et al., 1979).

Research has also focused on the relationship between hassles, uplifts, and depressive symptoms. Those who perceive more hassles experience greater depressive symptoms, as compared to those who perceive fewer or less severe hassles (Williams et al., 1995; Havermans et al., 2007; Havermans et al., 2010). Conversely, perceived uplifts have been shown to protect against depressive symptoms (Kinney et al., 1995; Ravindran et al., 2002; Vargas & Arnett, 2010). DeLongis and colleagues' (1982) transactional process, or the perceived relationship between the individual, hassles, and uplifts that unfolds over time, also shares components of Beck, Rush, and colleagues' (1979) transactional process.

Present Study

Because perceived hassles or uplifts may be related to a person's characteristic problem-solving style, examining hassles, uplifts, and depressive symptoms in concert with more stable aspects of an individual, such as trait hope, is reasonable but relatively unexplored. Only one

study has examined the hope-hassles-depression relationship, for example, and this study was cross-sectional (Visser et al., 2012). The authors found that trait hope was related to fewer depressive symptoms, negative life events were related to increased depressive symptoms, and an interaction between the trait hope and negative life events was observed. In particular, high- as compared to low-hope individuals were less likely to experience depressive symptoms, even when experiencing negative daily events (Visser et al., 2012). The current study replicates and expands upon these findings to examine the longitudinal relationship between hope, hassles, and uplifts over time. Additionally, it is unclear how the chronic nature of trait hope may relate to the varied experience of hassles and uplifts on depressive symptoms over time. In fact, because hassles and uplifts can vary on a daily basis and across time, examining hope, hassles, and uplifts across time represents a more accurate picture of an individual's daily experiences.

This study expands upon previous hope studies by examining the role of hope in moderating the relationships between hassles, uplifts and depressive symptoms across time. Participants were assessed for levels of trait hope through self-report measures. Participants then reported depressive symptoms and recalled recent hassles and uplifts at three different time points, in one-month intervals in this two-month, longitudinal study with time-dependent covariates.

Hypotheses

Primary and exploratory hypotheses were postulated based upon the density of literature supporting them. There appears to be more support for the current study's hope-based and hassles-based hypotheses. As such, all main effects are considered primary hypotheses, but

uplift-based hypotheses, when examined in interactive patterns, are proposed as exploratory.

Primary hypotheses included the following:

1. Main effects were expected for trait hope, hassles, and uplifts as predictors of depression over time. Trait hope was expected to have a moderating effect against depressive symptoms such that high-hope individuals, as compared to low-hope individuals, would experience fewer depressive symptoms across time, independent of hassles or uplifts. Additionally those who experienced significantly more uplifts than those who did not were expected to experience less depressive symptomatology across time, independent of trait hope or hassles. Finally, hassles were anticipated to demonstrate a main effect relationship with depression over time. It was expected that those who experienced significantly more hassles than those who did not would experience greater depressive symptomatology across time, independent of trait hope or uplifts.
2. An interaction effect for trait hope and hassles over time was expected. It was hypothesized that trait hope would moderate the relation between hassles and depressive symptomatology. Specifically, depression over time was expected to be lowest for high hope people versus low hope people who experience hassles.

The following exploratory hypotheses were also tested:

3. An interaction effect for trait hope and uplifts was expected. It was hypothesized that trait hope would moderate the relation between uplifts and depressive symptomatology. Specifically, depression over time was expected to be lowest for high hope people who experience uplifts versus low hope people who experience uplifts.

4. Finally, a three-way interaction effect for trait hope, uplifts, and hassles over time was expected. It was hypothesized that the interaction between uplifts and hassles would vary across different levels of hope. Specifically, depression over time was expected to be lowest for high hope people versus low hope people who experience uplifts and hassles. Specifically, depression would be lowest for high hope people who endorse high uplifts ratings and low hassle ratings, as compared to low hope people who endorse low uplifts ratings and high hassles ratings.

Methods

Participant Characteristics

The final sample consisted of 186 University of Montana undergraduate participants. Table 1 presents participants' demographic characteristics. Typically, participants were between the ages of 18 and 24 (88.7%), were female (78.5%), were not Hispanic/ Latino (95.2%), and were Caucasian (87.6%). The majority (66.1%) of participants had never been married, and most were enrolled full time (94.6%) in either their first (53.2%) or second (25.8%) year of college. Nearly half of all participants were employed or self-employed part time (45.7%). The remaining participants were either employed full time (2.7%), or were not employed and either not looking for work (29.0%) or currently looking for work (20.4%).

Procedures

All study procedures were approved by the University of Montana Institutional Review Board; informed consent was obtained from all participants. Participants were undergraduate college students currently enrolled in a Psychology 100 class, and were recruited via one of two methods: (1) paper advertisements at the Psychology 100 Research Pool Notification Table, or

(2) verbal announcement during the university's "Screening Day" for research participants, at which time they received two research credits. In either instance, participants were provided with written instructions on how to participate in the online study, and directed to the online informed consent and baseline measures. Participants provided contact information, which was kept separate from research data, and earned two research credits for completing baseline measures online. They were asked to indicate their interest in participating in two follow-ups in one-month intervals for an additional four research credits (two credits at each time interval). All interested participants were notified via email of the follow-up surveys, which were administered online, with the requirement of being completed within one week of being contacted. All who participated in the study and provided accurate contact information were debriefed via email at the conclusion of the study.

Measures

Baseline measures, in the order in which they were administered, included the following: demographic questions (Appendix A); the Center for Epidemiologic Studies Depression Scale (CES-D) (Radloff, 1977), to measure depressive symptoms; the Goals Scale (Snyder et al., 1991), to assess trait hope; the Positive Event (Uplift) Scale for University Students (Maybery, 2003), to measure the quantity and intensity of positive life events; and the Negative Event (Hassle) Scale for University Students (Maybery, 2004), to measure the quantity and intensity of negative daily events. At each of the follow up times, the administration order of measures was CES-D first, Uplifts second, and Hassles third. The rationale for order of administration was based upon two studies by Maybery and colleagues who found, when hassles were administered first, significantly fewer uplifts were reported (2002). A reciprocal but non-significant trend was

also observed (fewer hassles are reported when the uplifts survey was administered first) (Maybery et al., 2002).

Depressive symptoms.

Depressive symptoms were measured by the CES-D (Appendix B), a 20-item scale intended for administration to the general population (Radloff, 1977). The CES-D contains statements that participants endorse according to their frequency of depressive experiences over the course of one week. Response options range from “Rarely or none of the time (less than 1 day)” to “Most or all of the time (5-7 days)” (Radloff, 1977). The CES-D has a response range of 0 to 60 and a cutoff score of 16 to indicate clinically significant symptoms of depression (Radloff, 1977). Examples of CES-D statements include “I was bothered by things that usually don’t bother me,” “I felt hopeful about the future,” and “I enjoyed life” (Radloff, 1977). In previous research, measures of internal consistency included coefficient alphas (.84 to .90) and split-half reliabilities (.76 to .85) across four different samples. Test-retest reliabilities ranged from .51 to .67 across two and four week intervals, respectively (Radloff, 1977). Consistent with previous research, internal consistency reliability estimates at time points one, two, and three in the present sample were excellent (.91, .92, and .91, respectively).

Trait hope.

Trait Hope was measured by the twelve-item, self-report, Adult Dispositional Hope Scale (Snyder et al., 1991) (Appendix C). The measure (also known as the Trait Hope Scale, or the Goals Scale when administered), includes four items assessing hopeful agency thinking, four items measuring hopeful pathways thinking, and four filler items that are excluded from the hope scores (Snyder et al., 1991). The sum of agency and pathways items yield a total trait hope score.

The possible range of scores on the Goals Scale is 8 to 64 with no specific cutoff delineating high hope from low hope. However, higher scores on this measure indicate higher levels of hope (Snyder et al., 1991). Statements assessing agency thinking include items such as “I energetically pursue my goals” and “I’ve been pretty successful in life.” Statements assessing pathways thinking include “I can think of many ways to get out of a jam” and “There are lots of ways around any problem” (Snyder et al., 1991, p 585). Instructions on the measure ask participants to answer questions in relation to themselves on an eight-point continuum from 1 (“Definitely False”) to 8 (“Definitely True”).

Internal consistency reliability estimates across the total scale and two subscales are acceptable. Cronbach’s alphas range from .74 to .84 for agency, .63 to .80 for pathways, and .74 to .84 for the total scale (Snyder et al., 1991). Acceptable test-retest reliabilities lend support to the theoretical construct of hope as a trait. Test-retest reliabilities observed by Anderson (1988) over three weeks and Harney (1989) over eight weeks were .85 and .73, respectively (as cited in Snyder et al., 1991). Over a 10-week study, Gibb (1990) and Yoshinobu (1989) obtained test-retest reliabilities of .76 and .82, respectively (as cited in Snyder et al., 1991). In a factor analytic examination, questions loaded highly and separately on the hope agency and hope pathway constructs, respectively, indicating a two-factor structure of trait hope, as the theory suggests (Snyder et al., 1991). Higher than the previously mentioned studies, internal consistency reliability estimates at time points one, two, and three in the present sample were very good, at .88, .89, and .92, respectively.

Hassles and uplifts.

In a study designed to enhance the predictive utility of DeLongis and colleagues' (1988) Hassles and Uplifts Scale, Maybery and Graham added interpersonal events and new events relevant to a college student population in both the hassle and uplift domains (2001). The addition of these items, when assessed in the college student population, improved the predictive utility above what could be accounted for by the original Hassles and Uplifts Scale (Maybery & Graham, 2001). In a follow-up study with 289 students and a replication study with 457 students, Maybery (2004) examined the component structure and predictive utility of the revised uplift measure. Principal component analysis extracted nine factors (subscales) and 41 items that fully compose the current Positive Events (Uplifts) Scale for Undergraduate Students. Equivalent follow-up and replication studies of the component structure and predictive utility of the revised hassles measure with new interpersonal and college student items extracted 15 factors (subscales); 57 items compose the Negative Events (Hassles) Scale for Undergraduate Students (Maybery, 2003).

Positive events (uplifts).

The Positive Events (Uplifts) Scale for Undergraduate Students (Appendix D) (Maybery, n.d.), contains 41 statements that college students endorse according to their frequency and severity of daily uplifts, with a possible range of severity response scores from 0 to 205. Instructions urge participants to think about positive or uplifting events experienced in the past month. Frequency of experiences is assessed with a dichotomous response where "0" equals "Did not occur," and any of the remaining five response options denotes the event "Did occur." Severity of the event is appraised along those remaining five response options. For example, "1"

equals “Event occurred but was not uplifting,” “2” equals “Event occurred and was a little uplifting,” “3” equals “Event occurred and was somewhat uplifting,” “4” equals “Event occurred and was a lot uplifting,” and “5” equals “Event occurred and was extremely uplifting.” Questions address different positive daily events in nine domains (“Your friends,” “Work,” “Teachers/lecturers,” “Social events,” “Your course,” “Relationship with spouse/ partner (boyfriend/ girlfriend),” “Parents or parents-in-law,” “Other students,” and “Interactions at work”) (Maybery, n.d.). Cronbach’s alphas for the nine subscales range from .82 to .99, with eight subscales at .90 or higher (Maybery, 2004). Consistent with previous research, internal consistency reliability estimates at time points one, two, and three in the present sample were excellent (.93, .90, and .93, respectively). Uplifts are also assessed with one quality of life follow up question: “Thinking about the different uplifts that you endorsed above, how much have these events impacted your well-being in the past 30 days?” Responses range from one to five where “1” equals “not at all” and “5” equals “extremely.”

Negative events (hassles).

The Negative Events (Hassles) Scale for Undergraduate Students (Appendix E) (Maybery, n.d.), is a 57-item scale containing statements that tap the frequency and severity of negative daily life events. The measure is a parallel construct that is used independently from, or in concert with, the Positive Events (Uplifts) Scale. The measure is intended for use with college students, and instructions ask participants to think about hassles or negative events experienced in the past month. Frequency of experiences is assessed with a dichotomous response set identical to the Positive Events (Uplifts) Scale (where “0” equals “Did not occur,” and any of the remaining five response options denotes the event “Did occur.”). The five remaining response

options gauge the severity of the event range from one to five, where “1” equals “Event occurred but did not experience any hassle” and “5” equals “Event occurred and was an extreme hassle.” The possible range of severity scores on this measure is 0 to 285. Questions address different negative daily events in fifteen domains, including eight of the nine domains found in the Positive Events (Uplifts) Scale (the excluded domain is “Social events”). Additional domains found on the Negative Events Scale include “Money,” “Problems with children,” “Problems with relatives,” “Health problems,” “Getting a job,” “Academic limitations” and “Course interest” (Maybery, n.d.). Cronbach’s alpha was for the fifteen subscales ranged from .83 to .98, with thirteen subscales at .90 or higher (Maybery, 2003). Consistent with previous research, internal consistency reliability estimates at time points one, two, and three in the present sample were excellent (.90, .91, and .92, respectively). Hassles are also assessed with one quality of life follow up question: “Thinking about the different hassles that you endorsed above, how much have these events impacted your well-being in the past 30 days?” Responses range from one to five where “1” equaled “not at all” and “5” equaled “extremely.”

Health-related quality of life.

The Center for Disease Control Health Related Quality of Life (HRQOL, 2011) is a scale that asks questions about one’s quality of life. Three items were administered at each time point (see Appendix F). The first item asks participants to consider their physical health, including illness and injury, and to determine how many days their physical health was not good in the past 30 days. The second item asks participants to consider their mental health, including stress, depression, and problems with emotions, and to determine how many days their mental health was not good in the past 30 days. The final item asks participants to determine how many days in

the past 30 days that poor physical or mental health prevented them from engaging in their usual activities, such as self-care, work, or recreation. For all three items, responses are measured by the number of days participants endorsed poor physical health, poor mental health, or not engaging in activities, respectively. Participants are also provided a “Don’t know/ Not sure” response option.

Power Analysis

An *a priori* power analysis was conducted to determine the minimum number of participants needed. No extant research examined the longitudinal relationship between hope, hassles and depression. Thus, prior cross-sectional research (Visser et al., 2012) guided expectations regarding prospective effect sizes. Visser and colleagues (2012) observed a large effect size for their full regression model ($R^2 = .39$; $f^2 = .64$). To be on the conservative side, for this study we expected a moderate effect size ($R^2 = .15$). This expectation, plus an alpha level of .05, power of .9, and four predictors suggested that a final sample size of 108 was satisfactory.

Data Preparation

Data were collected at three different time points in the Fall 2013 semester, and again in the Spring 2014 semester, capturing 144 and 56 participants at baseline, respectively. Four participants were dropped from the study for being under the age of 18. Nine participants were dropped for providing incomplete data at multiple time points, and one participant was dropped due to random responding (based on a manual item analysis of responses). The final analytical sample included 186 study participants (133 in the fall semester and 52 in the spring semester). Data at each time point were aligned by identification code, yielding one row per participant in

SPSS. Study variables were then tested for missingness and variance stability across repeated measures.

The data were examined for missing observations, and several participants had fewer than three data points for the study variables across time. There were 180 complete data points (participants) at time one, 128 participants at time two (71% of time 1), and 102 participants at time three (80% of time 2). While it is not uncommon for attrition of participants across longitudinal studies to occur (Gibbons, Hedeker, and DuToit, 2010), it is not readily obvious as to the reason for discontinuation in this particular study. First, there was no treatment from which to attrit. One could speculate that students may have dropped their psychology 100 course, dropped out of school, received their requisite research credits from other studies, thus losing incentive to continue participation, lost interest in participation for various other reasons, or been unable to participate for unknown reasons. In the absence of being able to clearly define the reason for participant discontinuation, the missing data were treated as missing completely at random (MCAR), and were addressed within the bounds of the Generalized Estimating Equation (GEE) Model. Within GEE, missing data are addressed by applying a maximum likelihood estimation, which includes reproducing the marginal means of observed data and adjusting (inflating) standard errors to reduce the independent information generated in repeated observations (Gibbons et al., 2010). In sum, this approach addresses the issue of missingness, which helps reduce the likelihood of false positives in study outcomes (Gibbons et al., 2010).

Data were also inspected for variance stability across repeated measures using an unstructured covariance matrix. Individual study variables maintained relative stability across time points. During hypothesis testing within the GEE model, an autoregressive correlation

matrix with a lag of 1 period (AR1) was selected and utilized to correct for non-independent (within-subject) variances across repeated measures/multiple time points (Ballinger, 2004).

Data Analyses

Means, standard deviations, and correlation coefficients for all study variables at baseline and quality of life descriptive variables at baseline were calculated. All hypotheses were analyzed using a partly conditional regression model fitted using a generalized estimating equation (GEE). In addition to the aforementioned benefit of addressing missing data, the use of the GEE, a form of marginal effect linear regression model, allows general linear models to be extended to longitudinal data by removing random effects associated with previous responses (time points) (Fitzmaurice, Laird, & Ware, 2004). The GEE approach uses weighted combinations of observations to extract the appropriate amount of information from longitudinally correlated data to help produce the most accurate standard error estimates and regression parameters (Hanley, Negassa, Edwardes, & Forrester, 2003). In the current study, the GEE model simultaneously accounted for the influence of fixed effects (e.g., demographics, time, trait hope), random effects (e.g., hassles, uplifts), and non-independent observations (time-dependent covariates/ repeated measures) in independent variables, on the repeated dependent variable (depressive symptoms) (Fitzmaurice et al., 2004). Additional post hoc analyses were conducted to determine the parameters related to the statistically significant findings.

Results

Study Variables at Baseline

Table 2 presents the means and standard deviations among all study variables at baseline (hope, hassles, uplifts, and depression), excluding demographic and descriptive variables. Scores

for symptoms of hope as measured by the Goals Scale ranged from 27 to 64 with a mean score of 50.0 (SD=7.8). Scores for hassles on the Negatives Events (Hassles) Scale ranged from 9 to 141 with a mean score of 54.1 (SD=28.5), while scores for uplifts on the Positive Events (Uplifts) Scale ranged from 33 to 192 with a mean score of 104.8 (SD=36.7). Finally, scores for depressive symptoms on the CES-D ranged from 0 to 45 with a mean score of 15.7 (SD=10.0). In the current sample of students, 77 (41.1%) scored equal or higher than the CES-D cutoff score, indicating the presence of clinically significant distress. Though the prevalence of significant distress appears high compared to the general population, it is consistent with findings from other local investigations that have drawn samples from the same population.

Table 3 presents the correlation coefficients among all study variables at baseline. Correlational analyses indicated that hope scores were significantly correlated with all other measures. Hope scores were positively correlated with uplifts ($r = .40, p < .001$), and negatively correlated with both hassles ($r = -.24, p < .01$), and depressive symptoms ($r = -.54, p < .001$), ($r = -.54, p < .004$). Depressive symptoms were negatively correlated with uplifts ($r = -.38, p < .001$) and positively correlated with hassles ($r = .44, p < .001$). Hassles and uplifts were not related.

Quality of Life Descriptive Variables at Baseline

Table 4 presents the means and standard deviations among quality of life descriptive variables at baseline. The mean score for the single-item “impact of uplifts” question was 3.6 (SD= 0.9), suggesting that, on average, participants endorsed that their well-being in the past 30 days had been impacted by uplifts “moderately” to “quite a bit.” The mean score for the single-item “impact of hassles” question was 2.9 (SD= 1.0), suggesting that, typically, participants

endorsed that their well-being in the past 30 days had been impacted by hassles slightly less than “moderately.”

The remaining three quality of life descriptive variables were measured by number of days per month. Participants endorsed feeling that in the past 30 days, their physical health was not good approximately five or six days ($M= 5.4$, $SD= 5.7$). They endorsed that their mental health (including stress, depression, and problems with emotions) was not good approximately nine days ($M= 9.2$, $SD= 7.7$). Participants endorsed that their physical or mental health kept them from engaging in their usual activities (e.g. self-care, work, or recreation) nearly five days ($M= 4.8$, $SD= 5.2$) out of the past thirty.

Table 5 presents the correlation coefficients among all Quality of Life Descriptive Variables at baseline. Correlational analyses indicated that the endorsed amount of impact due to uplifts and the endorsed amount of impact due to hassles was positively correlated ($r = .16$, $p<.04$). The endorsed amount of impact due to uplifts was negatively correlated with number of days that were not good due to mental health ($r = -.17$, $p<.04$). The endorsed amount of impact due to hassles was positively correlated with the number of days that were not good due to mental health ($r = .27$, $p<.004$) and due to physical health ($r = .22$, $p<.004$). Correlational analyses also indicated that the number of days that were not good due to mental health was positively correlated with the number of days that were not good due to physical health ($r = .36$, $p<.004$). Finally, being prevented from engaging in activities due to mental or physical health issues was positively correlated with the number of days that were not good due to mental health ($r = .44$, $p<.004$) and the number of days that were not good due to physical health ($r = .30$, $p<.004$).

Hypothesis Testing

A generalized estimating equation (GEE) was used to test the four primary and exploratory study hypotheses simultaneously. Table 6 presents the GEE analysis of all main effect and interaction predictors of depression.

Main Effects.

The first main hypothesis stated that there would be main effects observed for trait hope, uplifts, and hassles as predictors of depressive experiences over time. The hypothesis was partially confirmed by this analysis. There was a significant main effect of trait hope ($\chi^2 = 9.18$, $p < .01$), suggesting that trait hope had a protective effect against depressive symptoms independent of hassles or uplifts. In post hoc follow-ups, the trait hope variable was separated into high hope and low hope groups based on the variable's highest and lowest quartiles, respectively. Independent sample t -tests were performed to assess for significant differences between high and low hope groups at each time point. High-hope individuals experienced significantly fewer depressive symptoms than low-hope individuals at each time point [time 1: $t(72) = -8.50$, $p < .01$; time 2: $t(57) = -4.7$, $p < .001$; and time 3: $t(50) = -2.83$, $p < .01$]. See Table 7.

Paired sample t -tests were also employed to assess for significant differences in high hope across time points, and low hope across time points. High hope individuals endorsed significantly more depressive symptoms across time (Table 8). While there were no significant differences for high-hope individuals from time 1 to time 2, or from time 2 to time 3, significant differences of mean depression scores for high hope individuals were observed from time 1 ($M=8.54$, $SD=5.13$) to time 3 [$M=12.77$, $SD=11.629$; $t(25) = -2.41$, $p < .05$]. This significant

difference demonstrates that in high hope individuals, hope's protective effect on depressive symptoms lessens over time, resulting in an increase in depressive symptoms. Low-hope individuals endorsed no statistically different changes in depressive symptoms across time (also Table 8). See Figure 2 for a graph of the main effect of hope on depressive symptoms at each level of hope and across time.

Next, there was a significant main effect for uplifts ($\chi^2 = 3.96, p < 0.05$), indicating that uplifts impacted depressive experiences independent of hope or hassles. In post hoc follow-ups, as with the hope variable, the uplifts variable was separated into high uplifts and low uplifts groups based on the variable's highest and lowest quartiles, respectively. Independent sample *t*-tests were performed to assess for significant differences between high and low uplifts groups at each time point. High-uplifts individuals experienced significantly fewer depressive symptoms than low-uplifts individuals at each time point [time 1: $t(66) = -4.04, p < .001$; time 2: $t(45) = -3.82, p < .001$; and time 3: $t(47) = -2.15, p < .05$]. See Table 9. Paired sample *t*-tests were then performed to assess for significant differences in high uplifts across time points, and low uplifts across time points. Neither high uplifts nor low uplifts individuals endorsed significant differences in depressive symptoms across time (Table 10). See Figure 3 for a line graph of the main effect of uplifts on depressive symptoms at each level of uplifts and across time. Finally, no main effect was observed for hassles as a predictor of depressive experiences over time. This suggested that those who experienced significantly more hassles than those who did not experienced no significant differences in depressive experiences across time, independent of trait hope or uplifts.

Two-Way Interactions.

Our second and third hypotheses examined two-way interactions. Our second primary hypothesis stated that there would be an interaction effect for trait hope and hassles on depressive experiences over time, in that trait hope would have a moderating effect on the relationship between hassles and depressive experiences. Specifically, the effect of hassles on depressive experiences was expected to be conditional upon the level of hope, where those who were lowest on depressive experiences would be highest on hope and lowest on hassles and those who were highest on depressive experiences would be lowest on hope and highest on hassles. As demonstrated by the non-significant hope \times hassles interaction term, the hypothesis was not confirmed by this analysis, suggesting that trait hope does not have a protective effect on the impact of hassles on depressive symptoms across time.

The third hypothesis, which was exploratory, stated that there would be an interaction effect for trait hope and uplifts on depressive experiences over time, such that trait hope would have a moderating effect on the relationship between uplifts and depressive experiences. The hypothesis was supported by the analysis: there was a significant two-way interaction between trait hope and uplifts ($\chi^2 = 3.94, p = .024$). This finding suggests that the effect of uplifts on depressive experiences was conditional upon the level of hope.

In post hoc follow-up analyses, new variables were created to reflect observations that co-occurred within the following previously designated quartiles: (1) high hope/high uplifts, (2) high hope/low uplifts, (3) low hope/high uplifts, and (4) low hope/low uplifts. In independent and paired sample *t*-tests, the high hope/low uplifts and low hope/high uplifts numbers were either too low to generate results or to be meaningfully interpretable and were dropped from further analyses. (It should be noted that, theoretically, we might expect these two categories to

be low.) High hope/ high uplifts (HH/HU) and low hope/low uplifts (LH/LU) were retained for further analyses.

Independent sample *t*-tests were performed to assess for significant differences between HH/HU and LH/LU at each time point. A Bonferroni correction was applied to the interaction term post-hoc calculations to account for the additional three cross sectional *t*-test analyses at each time point, yielding a required significant alpha of .017. High-hope/high uplifts individuals experienced significantly fewer depressive symptoms than low hope/low uplifts individuals at each time point [time 1: $t(33) = -5.15, p < .001$; time 2 $t(17) = -4.6, p < .001$; and time 3 $t(25) = -4.49, p < .001$]. See Table 11. Paired sample *t*-tests were also employed to assess for significant differences in HH/HU across time points, and LH/LU across time points. A Bonferroni correction was applied to the interaction term post-hoc calculations to account for the additional six *t*-test analyses across time, yielding a required significant alpha of .008. There were no significant differences in HH/HU individuals across time. Additionally, LH/LU individuals endorsed no statistically different changes in depressive symptoms across time (see Table 12). See Figure 4 for a graph of the interaction effect of hope and uplifts on depressive symptoms at each level of hope and across time.

Three-Way Interaction.

Finally, our fourth hypothesis, also exploratory, stated that there would be an interaction effect for trait hope, hassles, and uplifts on depressive experiences over time such that the interactive effects of uplifts and hassles would vary across different levels of hope. Specifically, depressive experiences were expected to be lowest for high-hope people with high uplifts ratings and low hassles ratings, and highest for low-hope people with low uplifts ratings and high

hassles ratings. This hypothesis was not confirmed by the analyses, suggesting that there is no complex simultaneous interaction between hope, hassles, and uplifts on depression over time.

Discussion

The current study examined hope and its moderating effects on depression over time. More specifically, using GEE, the present analyses tested whether the depressogenic effect of hassles over time would be mitigated by participants' hopefulness. In addition, the analyses examined whether mood-lifting effects of uplifts were moderated by hope. To these ends, hope, hassles, uplifts, and depressive symptoms were assessed at baseline in a sample of undergraduate students. Hassles, uplifts, and depressive symptoms, were assessed at two follow up periods, each at one-month intervals after baseline. The primary hypothesis of this study was that main effects for trait hope, uplifts, and hassles would be observed. Specifically, (1) trait hope would have a protective effect against depressive symptoms across time, (2) uplifts would protect against depressive symptoms across time, and (3) hassles would increase depressive symptoms over time. These variables were then expected to interact such that trait hope would moderate the relationship between hassles and depressive experiences. Specifically, high hope persons who experienced significant hassles were expected to demonstrate lower depression over time than low hope persons with similar exposure to hassles. Interactions were also tested for trait hope and uplifts, and trait hope, hassles, and uplifts.

Study Variables at Baseline

In an examination of study variables at baseline, hope was positively correlated with uplifts, and negatively correlated with both hassles and depressive symptoms. Depressive symptoms were negatively correlated with uplifts and positively correlated with hassles. Hassles

and uplifts were not related. Aside from the hope-uplifts relationship, which has not been reported in the literature, these relationships are consistent with previous literature. Prior studies have already demonstrated that those high on hope are less likely to experience negative daily events or depressive symptoms than their low-hope counterparts (Visser et al., 2012). Those high on uplifts experience fewer depressive symptoms than those low on uplifts (Ravindran et al., 2002; Vargas & Arnett, 2010), while those high on hassles experience more depressive symptoms than those low on hassles (Ravindran et al., 2002). Finally, because hassles and uplifts are two parts of the same conceptual model created to assess different life experiences, a negative relationship between the two is unsurprising (Maybery, Jones-Ellis, Neale, & Arentz, 2006).

The hope-uplifts relationship reflects a new contribution to both the hope and the uplifts literature. That the two, hope and uplifts, would be related, makes theoretical sense according to hope theory, as uplifts are positive daily experiences in which a person engages, often in a goal-directed fashion. Because hope involves engaging in agency and pathways thinking in an iterative and additive fashion, each is enhanced in the goal pursuit process (Snyder, 2000b; Snyder et al., 1991; Snyder, Lehman et al., 2006). The more engaged an individual is in uplifting goal-directed events, the more likely that individual may be to experience more events that are positive. This is similar to Bandura's (1977; 1982) self-efficacy model, which emphasizes goal-directed cognitions (i.e. hope) and the situational context (i.e. uplifts) surrounding the development and continuance of perceived self-efficacy. As this iterative and additive process continues, it is likely that positive emotions elicited from these endeavors may expand beyond the original experience, or broaden and build, enhancing an individual's personal, physical,

social, and intellectual resources, while becoming more durable than other emotional states, and more salient for use in future circumstances (Fredrickson, 1998).

Quality of Life Variables at Baseline

In an examination of quality of life variables at baseline, the endorsed number of days of impact in the course of one month due to uplifts was positively related to the endorsed number of days of impact due to hassles. According to the World Health Organization Quality of Life Group (1998), the quality of life questions assess an individual's subjective appraisals of negative and positive facets of life. This theoretically dovetails with subjective endorsements of hassles and uplifts, respectively. Because life experiences are typically composed of hassles and uplifts (rather than just one or the other), the positive relationship between the two reflects the multifaceted nature of life experiences, including positive and negative experiences (i.e. uplifts and hassles).

In addition, impact due to uplifts was negatively related to the endorsed number of days that were not good due to mental health, while impact due to hassles was positively correlated with the endorsed number of days that were not good due to mental health or physical health. These two outcomes support previous research that uplifts may have a protective effect on well-being or mental health outcomes, while hassles are related to mental health and physical health outcomes (DeLongis et al., 1982; Folkman et al., 1986; Havermans et al., 2007; Havermans et al., 2010; Kanner et al., 1981; Kinney et al., 1995; Ravindran et al., 2002; Williams et al., 1995).

Main Effects of Trait Hope, Hassles, and Uplifts on Depressive Symptoms

The first hypothesis was partially supported. Those who experienced significantly greater hassles were not more or less likely to endorse depressive experiences than those who endorsed

experiencing fewer hassles across time. While the main effect for hassles on depressive symptoms was not supported, there was a significant main effect of trait hope on depressive experiences, demonstrating that those high on hope endorsed fewer depressive experiences than low hope individuals across time. This result substantiates previous cross-sectional research that hope has a protective effect against depression or dysphoria (e.g., Campbell & Kwon, 2001; Chang & DeSimone, 2001; Cheavens, Feldman, Gum et al., 2006; Geiger & Kwon, 2010; Lloyd & Hastings, 2009; Kwon, 2000; Kwon, 2002; Reff et al., 2005).

This finding expands upon cross-sectional research to demonstrate hope's protective effects on depression over time. The protective role of hope has been examined longitudinally in many domains, including overall life satisfaction (Valle et al., 2006), perceived parenting styles and esteem (Heaven & Ciarrochi, 2008), defensive style and dysphoria (Reff et al., 2005), treatment intervention outcomes and engagement (McNeal et al., 2006; Tennen et al., 2009; Venning et al., 2009; Wilbur & Parente, 2008), and academic success (Snyder, Shorey et al., 2002; Curry et al., 1997; Savage & Smith, 2007; Chang, 1998). As expected, hope facilitated positive outcomes over time in these diverse domains of life.

Prior to the current work, the protective role of hope on depressive symptoms, longitudinally, has been examined in just a couple of studies. Shorey, Roberts, and Huprich (2012) examined the impact of domain-specific hope and depressive personality on depressive symptoms over 2-week and 5-week intervals. Their work observed causal reciprocal influences between depressive personality, depressive symptoms, and two of six domains of hope (social, academic) at the 2-week interval, and one of the six domains (family) at the 5-week interval. In each case, higher levels of domain-specific hope conferred lower degrees of depression. Arnau,

Rosen, Finch, Rhudy, and Fortunato (2007) examined a two-factor model of state hope (i.e., agency and pathways) across three time points, with one-month intervals. They determined that agency played a greater role in depressive symptoms across time, while the pathways component was not related to depressive symptoms across time (Arnau et al., 2007). Like findings reported by Shorey and colleagues (2012), high agency was associated with lower depression longitudinally. Though these findings are instructive, neither of these studies explored trait hope, which is assumed to be stable over time, as a predictor of depressive symptoms over time.

In the current study, while low hope individuals were consistently more depressed than high hope individuals across time, hope's protective effect on depressive symptoms in high hope individuals appeared to dissipate slightly over time. The results demonstrated some level of stability between high hope and low hope individuals' endorsement of levels of depressive symptoms, but also suggest that those high in hope are not immune to experiencing variability in levels of depressive experiences over time. This finding does not contradict hope theory or the concept of trait hope, as dispositional facets of an individual are assumed to be stable over time, but not static.

While these findings are statistically significant, the clinical significance of these results is also of importance. To estimate clinically relevant findings, we contrasted change across mean depression scores in the current study with the standard error of estimate on the CES-D. To generate a conservative estimate of the standard estimate of error, a test-retest reliability of .59 across an eight week interval of the CES-D (Radloff, 1977), which reflected the entire eight-week length of the current study, was used. A standard deviation of all depression scores within

the current data set of 9.08 was also obtained. A final standard error of measurement ($SEM = SD \times \sqrt{1-r}$) of 5.81 was achieved.

In a review of the independent samples *t*-test on hope (Table 7), the statistically significant differences between high hope and low hope mean depression scores across times 1, 2, and 3 were 14.79, 12.42, and 9.06, respectively. These scores are all higher than the calculated CES-D standard error of estimate, suggesting that there are clinically significant differences between the high hope and low hope groups experience and endorsement of depressive symptomatology.

This clinically significant difference in high and low hope groups implicates a need for exploring potential clinical interventions with hope-based elements that can reduce symptoms of depression. In fact, longitudinal studies of interventions with hope-based elements suggest decreased symptoms of depression or dysphoria over time (Cheavens, Feldman, Gum et al., 2006; Irving et al., 2004).

The statistically significant difference between high hope at time 1 and high hope at time 3 was examined, and yielded a mean depression score across time of 4.93. This score is less than the calculated CES-D standard error of estimate, suggesting that we would not expect to see a significantly different clinical presentation across time in high hope individuals who demonstrate statistically significant increases in depressive symptoms across time comparable to what was obtained in the current study. This further supports the notion that trait hope is relatively stable over time. While there were observed statistically significant differences across time, trait hope is not static, and some change may occur, but not enough to bear clinical significance. Nonetheless, while this statistically significant shift in hope observed over time may not be

clinically significant, it is worth noting that the relationship between the two may still be influenced by the aforementioned clinical interventions.

The hypothesis regarding a main effect for uplifts on depressive symptoms was also supported. Those who experienced significantly more uplifts experienced fewer depressive symptoms over time than those who experienced fewer uplifts across time. Neither group experienced statistically significant changes in depression scores over time. This significant effect for uplifts on depressive symptoms supports previous research studies demonstrating an inverse relationship between uplifts and depressive symptoms or dysphoria (Kinney et al., 1995; Ravindran et al., 2002; Vargas & Arnett, 2010). This finding also expands on existing research, as no prior studies have examined a longitudinal relationship between uplifts and depressive symptoms.

Again, in a review of the independent samples *t*-test on uplifts (Table 9), the statistically significant differences between high uplifts and low uplifts mean depression scores across times 1, 2, and 3 were 8.66, 9.76, and 6.74, respectively. And again, these scores are all higher than the calculated CES-D standard error of estimate, suggesting that there are clinically significant differences between the high uplifts and low uplifts group experience and endorsement of depressive symptomatology. As uplifts are generally actionable events, the clinical implication of this finding suggests the utilization of an intervention that is behaviorally activating in helping reduce symptoms of depression. This will be discussed further in the Two-Way Interactions section, below.

The significant main effect for uplifts is perhaps most interesting when considered in concert with the non-significant main effect for hassles on depressive symptoms over time. The

non-significant hassles finding fails to support previous cross-sectional literature that higher hassles are related to a greater likelihood of depressive symptoms (Havermans et al., 2007; Havermans et al., 2010; Ravindran et al., 2002; Williams et al., 1995). It appears that the effects of hassles on depression found in cross-sectional studies do not hold over time when concurrently examined with uplifts in a complex, longitudinal, linear regression model.

Maybery et al. (2006) suggested hassles and uplifts are different constructs, and that examining hassles and uplifts concurrently more accurately reflects the daily experiences of an individual. As such, understanding the relationships between uplifts, hassles, and depressive symptoms may be maximized when examining both uplifts and hassles simultaneously, though relatively few studies have attempted to do so. For example, Ravindran et al. (2002) found that individuals with depression perceived more hassles and fewer uplifts as compared to individuals without depression. Kinney et al. (1995) observed a strong inverse relationship between hassles and well-being, while uplifts demonstrated a protective effect on well-being. Most relevant to the current study, however, is a study that examined hassles, uplifts, and depression in patients with multiple sclerosis. Vargas and Arnett (2010) observed a significant interaction between uplifts and social support in predicting depression, while no interaction effect was observed with hassles. The present study's finding of a significant main effect of uplifts on depressive symptoms over time, and a non-significant main effect of hassles on depressive symptoms over time, is similar to the Vargas and Arnett (2010) cross-sectional study, but also moves beyond this research to demonstrate a longitudinal relationship between uplifts and depressive symptoms.

Additionally, a concurrent main effect for uplifts on depressive symptoms and non-significant main effect for hassles on depressive symptoms supports Maybery et al.'s (2006)

speculation that hassles and uplifts are theoretically different, and demonstrates that their impact on depressive symptoms are not only quantitatively different, but may also fall on different qualitative dimensions. The research implication of this finding lends support for examining hassles and uplifts concurrently, rather than either variable independently, in order to capture the simultaneous contributions of both variables to depressive symptomatology.

Two-Way Interactions of Hope and Hassles, and Hope and Uplifts on Depressive Symptoms

Hypothesis two stated that an interaction effect would exist for trait hope and hassles over time on depressive symptoms. Specifically, trait hope was expected to have a moderating effect on the impact of hassles such that the effect of hassles on depressive experiences would be conditional upon the level of hope. This hypothesis was not supported. Despite trait hope and hassles both being associated with endorsement of depressive symptoms cross-sectionally at baseline, results failed to suggest the possibility that trait aspects of an individual's hopefulness interact with hassle-specific environmental stressors to significantly affect mood.

Hypothesis three, which was exploratory, stated that an interaction effect would exist for trait hope and uplifts over time on depressive symptoms. Specifically, trait hope was expected to moderate the effect of uplifts such that the effect of uplifts on depressive experiences would be conditional upon the level of hope. This hypothesis was supported. Results suggest the possibility that depression is lower for people with higher hope and higher uplifts ratings across time, as compared to those that have lower hope and lower uplifts.

That the two significant main effects of hope and uplifts on depressive symptoms would be observed concurrently is expected. Considerable research has demonstrated that hope protects

against symptoms of depression or dysphoria (e.g., Campbell & Kwon, 2001; Davidson & Wingate, 2011; Geiger & Kwon, 2010; Kwon, 2000; Kwon, 2002; Lloyd & Hastings, 2009; Mednick et al., 2007; Reff et al., 2005). Similarly, perceived uplifts have also been shown to protect against depressive symptoms (Kinney et al., 1995; Ravindran et al., 2002; Vargas & Arnett, 2010). As formerly mentioned, there are theoretical hope and uplift underpinnings that suggest the potential for hope's and uplift's protective effects on depressive symptoms to occur.

That hope and uplifts would demonstrate an interactive effect, however, is another new and interesting contribution to the literature, and suggests the possibility that one's hopefulness moderates the impact of perceived uplifts on depressive experiences across time. In a review of the independent samples *t*-test on uplifts (Table 11), the statistically significant differences between the high hope/ high uplifts and low hope/ low uplifts mean depression scores across times 1, 2, and 3 were 17.19, 17.74, and 14.66 respectively. These scores are all higher than the calculated CES-D standard error of estimate, suggesting that there are clinically significant differences between the high hope/ high uplifts and low hope/ low uplifts group experience and endorsement of depressive symptomatology.

As previously alluded, the clinical implication of this finding lends support to the already vast literature on the effectiveness of behavioral activation as a treatment for depression (see Mazzucchelli, Kane, and Rees (2009) for a meta-analysis and review). In particular, behavioral activation via hope and uplifts can be conceptualized via the transactional process and the reciprocal interaction model (Beck, Rush et al., 1979; Lazarus et al., 1985). According to Lazarus et al.'s (1985) transactional process, the person-environment relationship in the

experience of uplifts (or goal pursuits) is likely to be bidirectional, mutually reciprocal, and involve a personal appraisal where the acquisition of many uplifts over time may protect an individual from psychological decline (DeLongis et al., 1982).

The concept of Lazarus et al.'s (1985) transactional process is analogous to Beck, Rush, and colleagues' (1979) reciprocal interaction model, where a person experiencing depressive symptoms may withdraw from significant others, and in turn, those significant others may react with undesirable thoughts, feelings, and behaviors. The person experiencing depressive symptoms has his or her own negative self-beliefs, which are activated or aggravated, and they then become further isolated (Beck, Rush et al., 1979). Continued activation with uplifts, however, interferes with this reciprocal interaction loop from occurring, and may provide behavioral opportunities that serve to challenge distorted and depressogenic schemas and cognitive errors. Consequently, positive events may provide some protection against depressive experiences. Whereas inactivated, depressed patients will be less likely to experience uplifts due to self-isolation, negative self-beliefs, etc., an individual with higher hope and higher uplifts may be more behaviorally activated than an individual with high hope and low uplifts or an individual with low hope.

Three-Way Interaction of Hope, Hassles, and Uplifts on Depressive Symptoms

Hypothesis four, the final exploratory analysis, stated that a three-way interaction effect would exist for trait hope, hassles, and uplifts over time on depressive symptoms. Specifically, depressive symptoms were expected to be lowest for individuals who rated hope as high, uplifts as high, and hassles as low, and highest for people who rated hope as low, uplifts as low, and hassles as high. This hypothesis was not supported. The significant two-way interaction between

hope and uplifts becomes non-significant when a third term (hassles) is included. Though a priori power analyses were conducted, it is possible that the present study had insufficient power to detect a three-way interaction effect.

Contributions and Implications

The main contributions of the study are threefold. First, this study supports and expands upon previous literature on the protective effects of hope and uplifts on depressive symptoms. Significant main effect findings substantiate previous research that high hope, as compared to low hope, has a protective effect against depression, or dysphoria. However, the protective effect of high hope against depression appears to diminish slightly over time, though that does not appear to yield clinically significant results in the current study. The significant main effect of uplifts on depressive symptoms across time expands on existing cross-sectional research by demonstrating longitudinally that those who experience many uplifts are protected against depressive symptoms, as compared to those who experience fewer uplifts. The observed two-way interaction between hope and uplifts on depressive symptoms provides a new contribution to the literature and suggests that one's hopefulness moderates the impact of perceived uplifts on depressive experiences longitudinally.

Second, this study increases our understanding of the relationship between hope on depressive symptoms, in light of intermittent or chronic hassles and uplifts that are experienced by individuals over time. Specifically, the non-significant main effect of hassles on depression did not support previous research when applied longitudinally and concurrently with uplifts. Hope and uplifts demonstrate significant interactive effects on depressive symptoms, while hassles do not appear to play a pivotal role in the endorsement of depressive symptoms across

time. This lends support for examining hassles and uplifts concurrently in future research, in order to capture the broader conceptual relationship between these hassles and uplifts, and depressive symptomatology.

Third, this study demonstrated interactivity between individual factors (trait hope) and temporal environmental factors (uplifts) in relation to symptoms of depression, which contributes to the understanding and treating depression. Because uplifts can be goal-directed positive daily experiences that a person engages in in an iterative and additive fashion, some level of behavioral activation occurs in high hope, high uplift individuals that plays a protective role against symptoms of depression. This interactivity suggests that both the individual and his/her environment need to be evaluated when attempting to understand the onset, continuance, remission, and protection against symptoms of depression. Clinically, the implementation of a behavioral activation intervention with uplift elements warrants further review.

Limitations

The study should be considered with the following limitations in mind. This study's self-report, interval design limits the ability to ascertain the accuracy of participants' recall of events of the prior month at each time point. As with any self-report study, self-reporting bias or participant errors or difficulties in recall may occur, which may affect the accuracy of reporting. In particular, those who are more depressed may experience greater recall of hassles and less recall of uplifting experiences, which may impact accuracy due to a depressogenic recall bias. However, one's perception of prior experiences may be more important than the factual circumstances surrounding prior events in the contributions to one's current mood state. Though it is not anticipated that this depressogenic recall bias invalidated the results of the current study,

accounting for this effect in future research would be beneficial. Future data collection could include assessing participant's daily hassles and uplifts and depressive experiences at more frequent time points to help offset errors in recall.

In regards to participant characteristics, one caveat is that the study utilized a self-selected college-aged student sample, restricted on a variety of demographics. Because participants were not randomly sampled from the larger population they likely do not reflect the populations at large, and results from this study may not generalize to a general population. However, this study was intended to encapsulate the experiences of the college-age student population. As such, the sample was a good representation of the desired population of current interest. Future replication studies are an appropriate venue for addressing issues of randomization and generalizability.

This study implemented quasi-experimental procedures intended to capture ecologically valid or "real-life" conditions, as reflected by capturing the natural fluctuations in daily hassles and uplifts across time, trait hope, and depression scores, without controls, experimental manipulations, or clinical interventions. The ecologically valid strength of this study, however, cannot be observed without concurrently acknowledging inevitable concessions in other forms of validity. Extraneous correlating events and self-selection (as previously mentioned) should still be noted as possible threats to internal validity, and generalizability issues and student volunteer status of participants should be noted as possible threats to external validity (Parker, 1993). Additional threats to internal validity such as multiple instances of testing, attrition, and group differences may also have occurred. Threats to validity can occur in any study and can be addressed by controlling for factors via research design or statistical analyses. In the current

study, threats to internal validity were assessed and/or controlled for via group differences testing and generalized estimating equation analyses.

Future Studies

Multiple topics of exploration appear promising. First, as with any single study, replication studies are needed to verify the stability of the significant results in the present study. If replication is achieved, expanding the examination of the relationships between hope, hassles, uplifts, and depressive symptoms across different demographic variables (e.g., age, clinical/nonclinical populations, ethnicity, and socioeconomic status) to facilitate understanding of the generalizability of these results would be warranted. This study measured hope and daily experiences (hassles and uplifts) that students experienced in their natural environment. While this design facilitated ecological validity, an inability to stringently control for confounds and other threats to validity suggests replication studies utilizing a more controlled design as an appropriate next step.

Second, there were statistically and clinically significant differences between high hope and low hope groups, high uplift and low uplift groups, and high hope/high uplift and low hope/low uplift groups across time. It would be interesting to implement a hope-based, and/or uplift-based, behavioral activation intervention with nonintervention controls to reassess the main effect and interaction effect outcomes across time and determine what impact relevant clinical research interventions may have on group differences across time.

Finally, though this study examined hope theory and general levels of dispositional hope, Snyder, Feldman, and colleagues (2002) have purported interactive and reciprocal relationships between different types of hope (e.g., trait, state, domain-specific, goal-specific). A replication of

this study with the inclusion of one or more other types of hope may provide additional information about the relationship between a relatively stable hope, with potentially intermittent or chronic hassles and uplifts, and their potential impact upon symptoms of depression or dysphoria. On a somewhat related vein, Campbell and Kwon (2001) have demonstrated a unique relationship between domain-specific hope and depressive symptoms. Interestingly, nearly all measures in the hassles and uplifts literature either categorically or intuitively fit Symptom's (1999) domain-specific hope scale (as cited in Lopez et al., 2000). A concurrent examination of domain-specific hope and domain-assigned hassles and uplifts on depressive symptoms may yield interesting information regarding which types of hassles and which types of uplifts have the strongest or weakest relationships with domain-specific hope and depressive symptoms.

Summary

The role of trait hope, hassles, and uplifts over time on depressive symptoms is multifaceted. Participants who endorsed high hope reported fewer depressive symptoms than those who endorsed low hope. Those who endorsed high uplifts reported fewer depressive symptoms than those who endorsed low uplifts. Those who endorsed low or high hassles did not differ significantly on their reporting of depressive symptoms. An interaction effect existed for trait hope and uplifts over time on depressive symptoms. Specifically, trait hope moderated the effect of uplifts such that the effect of uplifts on depressive experiences was conditional upon the level of hope.

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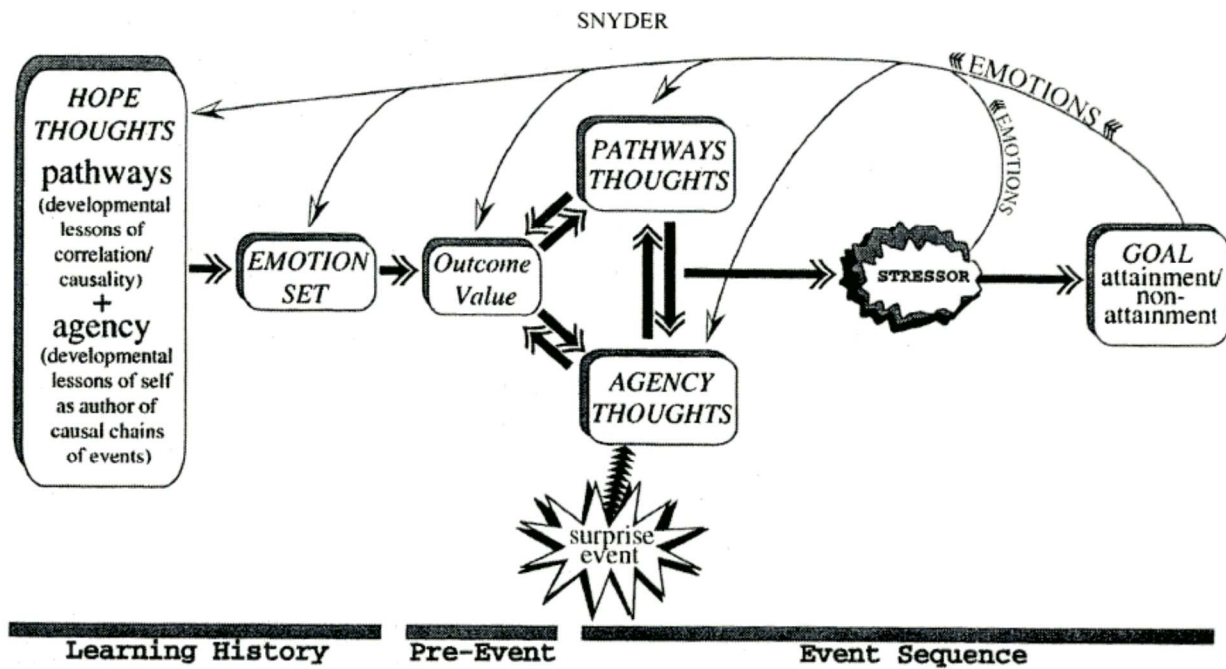
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Figure 1: The Elaborated Model of Hope Theory



Note. Diagram of feedforward and feedback processes of goal-directed agency and pathways thoughts, including the role of the emotion set in learning history. Reprinted with permission from “Hope Theory: Rainbows in the Mind” by C. R. Snyder, 2002, *Psychological Inquiry*, 13(4), p. 254. Copyright 2002 by the Educational Publishing Foundation.

Figure 2: Main Effect of Hope on Depressive Symptoms across Time

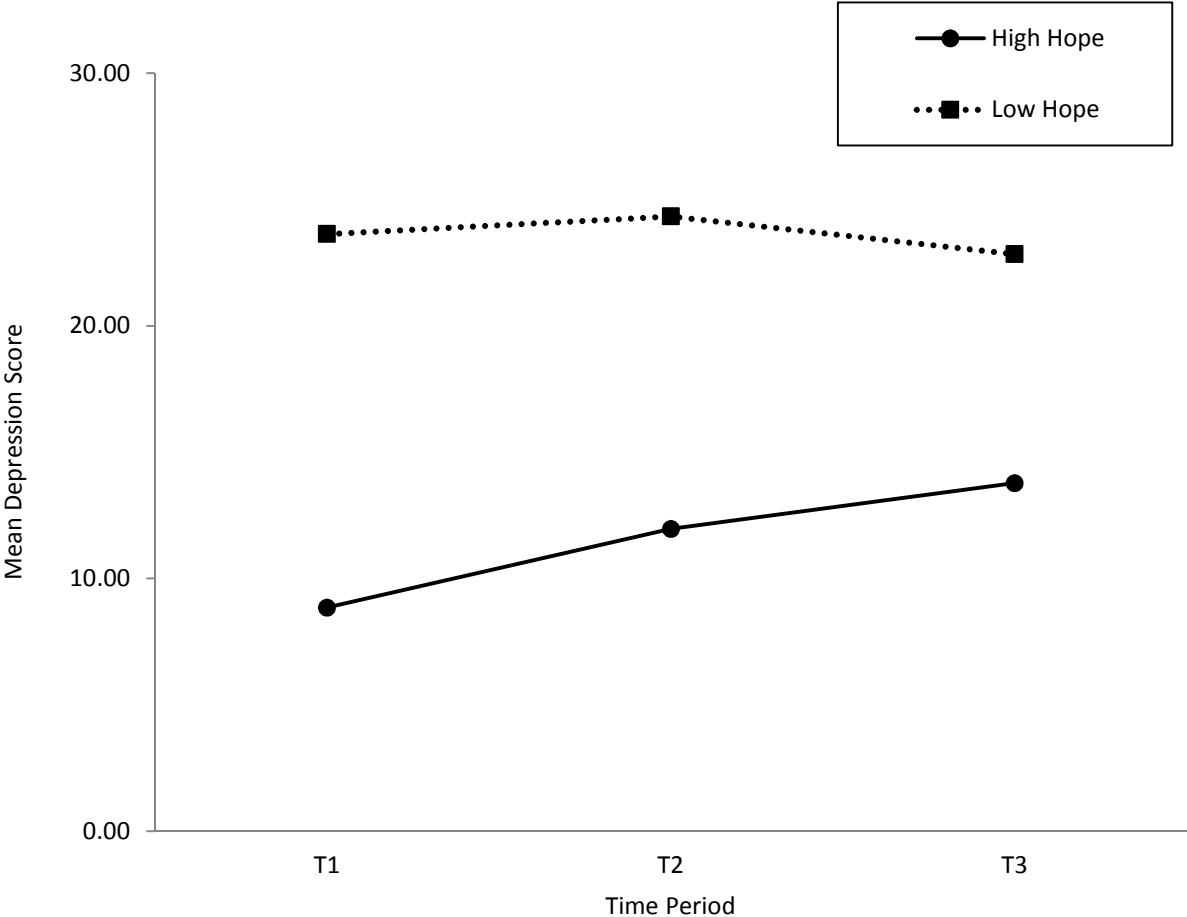


Figure 3: Main Effect of Uplifts on Depressive Symptoms across Time

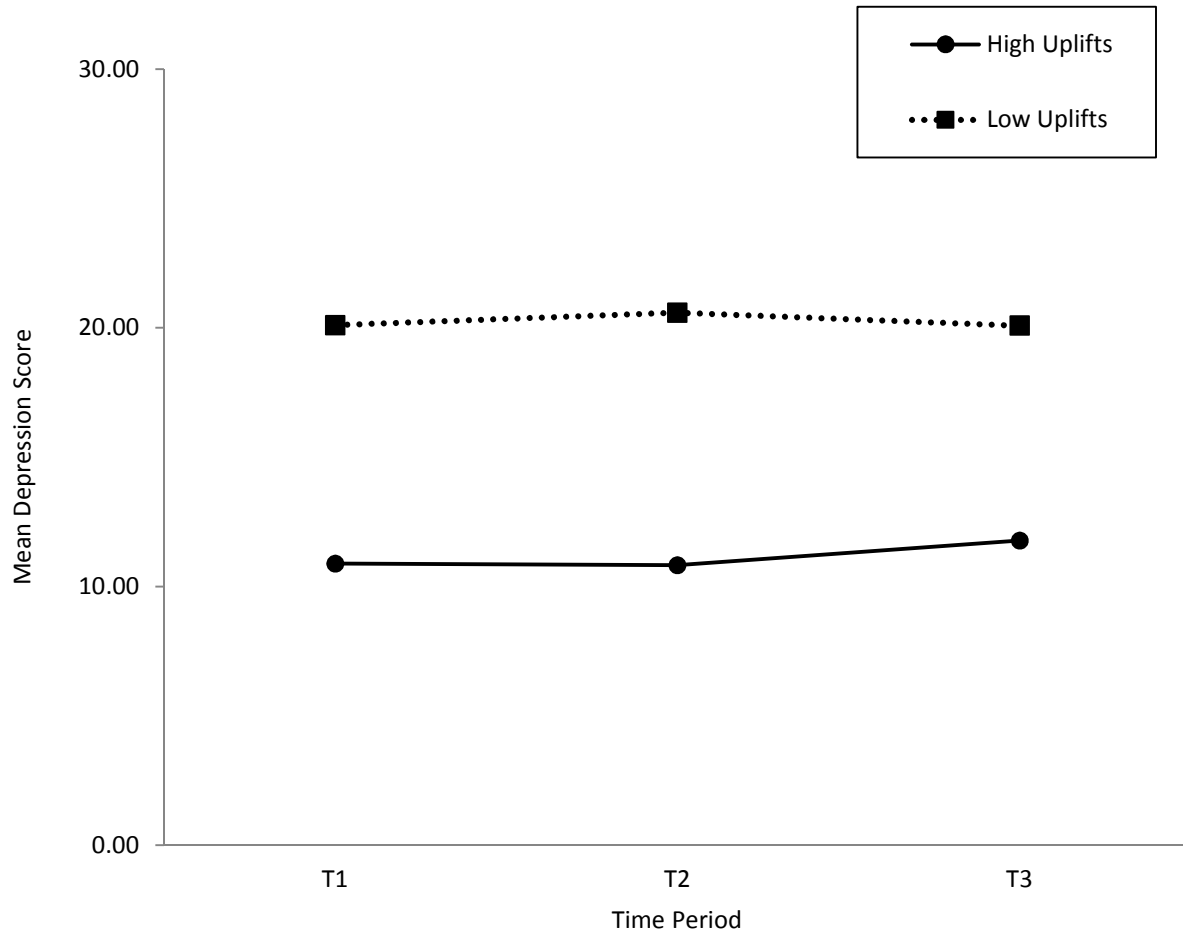


Figure 4: Interaction between Hope and Uplifts on Depressive Symptoms across Time

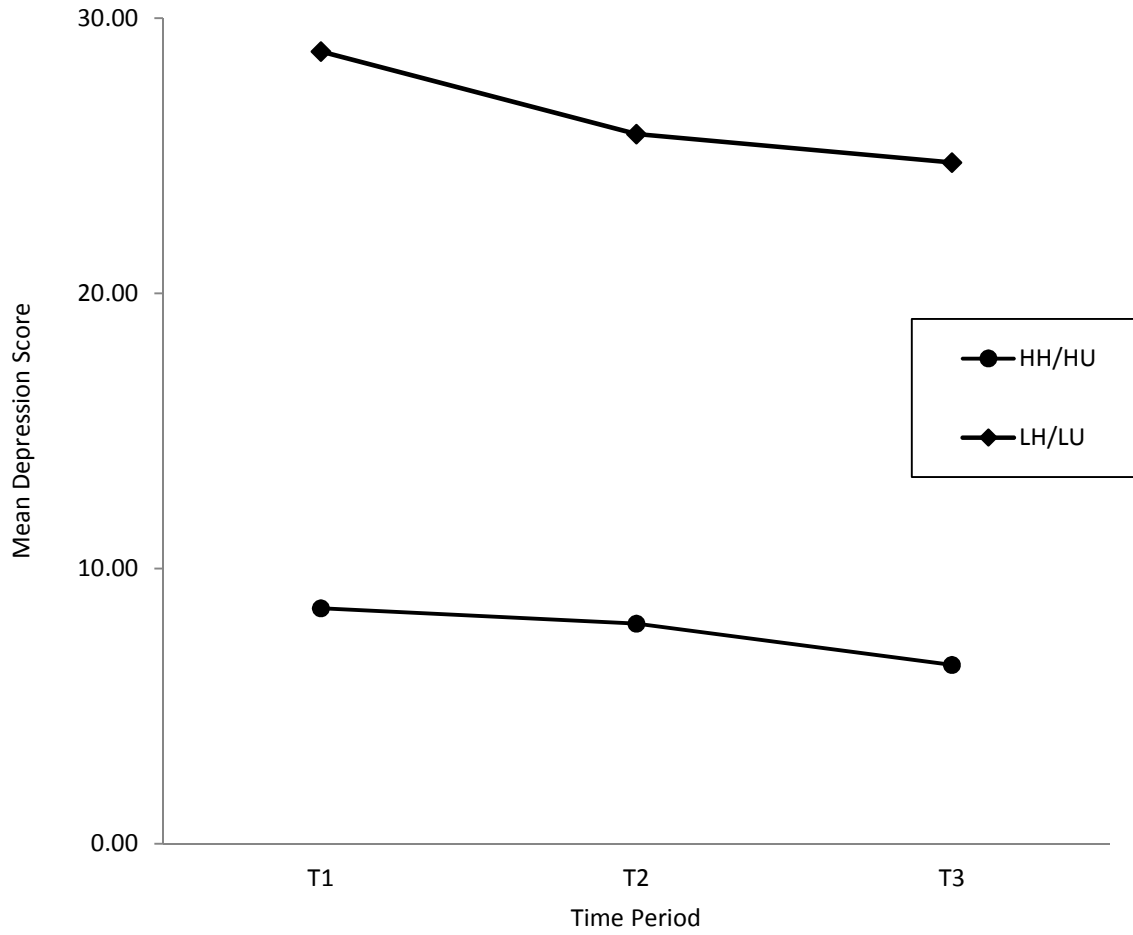


Table 1*Demographic Characteristics of Participants (N = 186)*

Characteristic	<i>n</i>	%
Age		
18-24	165	88.7
25-34	15	8.1
35-44	3	1.6
45-54	3	1.6
Gender		
Male	39	21.0
Female	146	78.5
Prefer Not to Answer/ Missing	1	0.5
Ethnicity		
Hispanic/ Latino	2	1.1
Not Hispanic/ Not Latino	177	95.2
Prefer Not to Answer/ Missing	7	3.7
Race		
Asian/ Pacific Islander/ Native Hawaiian	13	7.0
Caucasian/ White	163	87.6
Native American/ American Indian/ Alaska Native	7	3.8
Prefer Not to Answer/ Missing	3	1.6
Current relationship status		

TRAIT HOPE AS A MODERATOR OF HASSLES AND UPLIFTS		115
Never married	123	66.1
Married/ Partnered	12	6.5
Romantic Relationship	44	23.7
Divorced	2	1.1
Separated	3	1.6
Prefer Not to Answer/ Missing	2	1.0
Current level of school		
First year	99	53.2
Second year	48	25.8
Third year	19	10.2
Fourth year	13	7.0
Fifth year or greater	6	3.2
Graduate level	1	0.5
Continuing education	1	0.5
Current student enrollment status		
Part-time	7	3.8
Full-time	176	94.6
Prefer Not to Answer/ Missing	3	1.6
Primary employment status		
Employed or self-employed, full-time	5	2.7
Employed or self-employed, part-time	85	45.7
Not employed, but looking for work	38	20.4

TRAIT HOPE AS A MODERATOR OF HASSLES AND UPLIFTS		116
Not employed, and not looking for work	54	29.0
Homemaker	2	1.1
Prefer Not to Answer/ Missing	2	1.0

Table 2

Means and Standard Deviations of Study Measures at Baseline, Excluding Demographic Variables

Measure	M	SD
Goals Scale (Hope)	50.02	7.83
Negative Events (Hassles)	54.05	28.48
Positive Events (Uplifts)	104.75	36.69
CES-D (Depressive Symptoms)	15.74	10.02

Table 3

Intercorrelations among Study Measures at Baseline, Excluding Demographic Variables

Measure	1	2	3	4
1. Goals Scale (Hope)	---			
2. Positive Events (Uplifts)	0.40***	---		
3. Negative Events (Hassles)	-0.24**	-0.01	---	
4. CES-D (Depressive Symptoms)	-0.54***	-0.38***	0.44***	---

Note. * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 4*Means and Standard Deviations of Quality of Life Descriptive Variables at Baseline*

Items	M	SD
Uplift Impact	3.56	0.87
Hassle Impact	2.89	1.00
Physical Health Not Good	5.44	5.71
Mental Health Not Good	9.23	7.65
Prevented from Usual Activities	4.78	5.15

Note. Mean scores reflect number of days affected by item over the past thirty days.

Table 5

Intercorrelations among of Quality of Life Descriptive Variables at Baseline

Measure	1	2	3	4	5
1. Uplift Impact	---				
2. Hassle Impact	.16*	---			
3. Physical Health Not Good	-.08	.22**	---		
4. Mental Health Not Good	-.17*	.27***	.36***	---	
5. Prevented from Usual Activities	-.12	.11	.30**	.44***	---

Note. * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 6

Generalized Estimating Equation Models of Depressive Symptoms across Time

Parameter	χ^2	Est.(B)	SE	Sig
Intercept β_1	11.98	63.45	18.34	***
Time Period β_2	0.32	0.81	0.45	<i>ns</i>
Hope1 β_3	9.18	-1.02	0.34	**
Hassles β_4	0.73	-0.25	0.29	<i>ns</i>
Uplifts β_5	3.96	-0.37	0.18	*
Hassles x Uplifts β_8	1.77	0.00	0.00	<i>ns</i>
Hope1 x Hassles β_6	3.05	0.10	0.01	<i>ns</i>
Hope1 x Uplifts β_7	3.94	0.01	0.00	*
Hope1 x Hassles x Uplifts β_9	3.38	0.00	0.00	<i>ns</i>

Note. * $p < .05$; ** $p < .01$; *** $p < .001$. Not Significant (*ns*), Hope at Time 1 (Hope1), GEE

Parameter Estimates (Est. B), Standard Errors (SE), and Two-Tailed p -Value Significance (Sig).

Table 7

Post Hoc Independent Samples T-Tests for Differences in Depression between High Hope and Low Hope Participants at each Time Point

Variables	Low Hope		High Hope		<i>t</i>	df	Sig.
	M	SD	M	SD			
Time 1	23.64	9.73	8.85	5.83	-8.50	72	***
Time 2	24.38	10.54	11.96	9.51	-4.71	57	***
Time 3	22.84	10.38	13.78	12.55	-2.83	50	**

Note. * $p < .05$; ** $p < .01$; *** $p < .001$. Not Significant (*ns*), M=Mean. SD=Standard Deviation. Sig=Two-Tailed Significance.

Table 8

Post Hoc Paired Samples T-Tests for Changes in Depression across Time for Participants with High and Low Hope

Group	Duration	M	SD	SEM	95% CI of the		<i>t</i>	df	Sig.
					Lower	Upper			
High Hope	T1 to T2	-2.89	8.08	1.59	-6.15	0.38	-1.82	25	<i>ns</i>
	T1 to T3	-4.23	8.96	1.76	-7.85	-0.61	-2.41	25	*
	T2 to T3	-0.36	5.31	1.13	-2.72	1.99	-0.32	21	<i>ns</i>
Low Hope	T1 to T2	-1.18	8.69	1.64	-4.55	2.19	-0.72	27	<i>ns</i>
	T1 to T3	-0.23	11.39	2.43	-5.28	4.82	-0.09	21	<i>ns</i>
	T2 to T3	2.90	8.67	1.94	-1.16	6.96	1.50	19	<i>ns</i>

Note. * $p < .05$; ** $p < .01$; *** $p < .001$. Not Significant (*ns*), M=Mean. SD=Standard Deviation. SEM=Standard Error of the Mean. df=Degrees of Freedom. Sig=Two-Tailed Significance.

Table 9

Post Hoc Independent Samples T-Tests for Differences in Depression between High Uplifts and Low Uplifts Participants at each Time Point

Variables	Low Uplifts		High Uplifts		<i>t</i>	df	Sig.
	M	SD	M	SD			
Time 1	19.90	11.41	11.24	7.15	-4.04	66	***
Time 2	20.59	11.90	10.83	6.91	-3.82	45	***
Time 3	20.43	11.95	13.69	9.99	-2.15	47	*

Note. * $p < .05$; ** $p < .01$; *** $p < .001$. M=Mean. SD=Standard Deviation. df=Degrees of Freedom. Sig=Two-Tailed Significance.

Table 10

Post Hoc Paired Samples T-Tests for Changes in Depression across Time for Participants with High and Low Uplifts

Group	Duration	M	SD	SEM	95% CI of the		<i>t</i>	df	Sig.
					Lower	Upper			
High Uplifts	T1 to T2	3.31	9.50	1.86	-0.53	7.14	1.78	25	<i>ns</i>
	T1 to T3	.93	7.82	2.02	-3.40	5.27	.46	14	<i>ns</i>
	T2 to T3	.78	9.51	1.98	-3.33	4.90	.40	22	<i>ns</i>
Low Uplifts	T1 to T2	-0.39	5.71	1.12	-2.69	1.92	-.34	25	<i>ns</i>
	T1 to T3	1.17	7.38	2.13	-3.53	5.86	.55	11	<i>ns</i>
	T2 to T3	.79	9.73	2.23	-3.90	5.48	.35	18	<i>ns</i>

Note. * $p < .05$; ** $p < .01$; *** $p < .001$. Not Significant (*ns*), M=Mean. SD=Standard Deviation. SEM=Standard Error of the Mean. df=Degrees of Freedom. Sig=Two-Tailed Significance.

Table 11

Post Hoc Independent Samples T-Tests for Differences in Depression between High Hope/ High Uplifts and Low Hope/ Low Uplifts Participants at each Time Point

Variables	HH/HU		LH/LU		<i>t</i>	df	Sig.
	M	SD	M	SD			
Time 1	11.00	9.60	28.19	10.10	-5.15	33	***
Time 2	9.18	7.23	26.92	11.90	-4.60	17	***
Time 3	9.24	6.42	23.90	10.66	-4.49	25	***

Note. * $p < .03$; ** $p < .01$; *** $p < .001$. HH/HU=High Hope/ High Uplifts. LH/LU=Low Hope/ Low Uplifts. M=Mean. SD=Standard Deviation. df=Degrees of Freedom. Sig=Two-Tailed Significance.

Table 12

Post Hoc Paired Samples T-Tests for Depression across Time for Participants High and Low Levels of Hope and Uplifts

Group	Duration	M	SD	SEM	95% CI of the		<i>t</i>	df	Sig.
					Lower	Upper			
HH/HU	T1 to T2	2.35	8.46	2.05	-2.00	6.70	1.15	16	<i>ns</i>
	T1 to T3	1.41	6.29	1.52	-1.82	4.64	0.93	16	<i>ns</i>
	T2 to T3	-0.06	5.23	1.31	-2.85	2.73	-0.05	16	<i>ns</i>
LH/LU	T1 to T2	-0.64	9.66	2.91	-7.12	5.85	-0.22	10	<i>ns</i>
	T1 to T3	2.44	9.85	3.28	-5.13	10.02	0.74	8	<i>ns</i>
	T2 to T3	0.88	5.44	1.92	-3.67	5.42	0.46	7	<i>ns</i>

Note. * $p < .03$; ** $p < .01$; *** $p < .001$. Not Significant (*ns*), HH/HU=High Hope/ High Uplifts. LH/LU=Low Hope/ Low Uplifts. M=Mean. SD=Standard Deviation. SEM=Standard Error of the Mean. df=Degrees of Freedom. Sig=Two-Tailed Significance.

Appendix A

Demographic Questions

1. Age
2. Gender: ([Male; Female; Transgender])
3. Ethnicity: ([Hispanic/ Latino; Not Hispanic/ Not Latino])
4. Race: ([African American/ Black; Asian/ Pacific Islander/ Native Hawaiian; Caucasian/ White; Native American/ American Indian/ Alaska Native])
5. Current relationship status: ([Never married; Married/ Partnered; Widowed; Divorced; Separated])
6. Highest degree of school completed: ([High school diploma or equivalent; Associate degree; Bachelor's degree; Other])
7. Current level of school: ([First year; Second year; Third year; Fourth year; Fifth year or greater; Graduate level; Continuing education])
8. Current student enrollment status: ([Part-time; Full-time])
9. Primary employment status: ([Employed or self-employed, full-time; Employed or self-employed, part-time; Not employed, but looking for work; Not employed, and not looking for work; Homemaker; Retired; Military; Unable to work; Prefer not to say])

Appendix B

Center for Epidemiologic Studies Depression Scale (CES-D), NIMH

Below is a list of the ways you might have felt or behaved. Please tell me how often you have felt this way in the past week.	Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)
1. I was bothered by things that usually don't bother me.	0	1	2	3
2. I did not feel like eating; my appetite was poor.	0	1	2	3
3. I felt that I could not shake off the blues even with the help from my family or friends.	0	1	2	3
4. I felt I was just as good as other people.	0	1	2	3
5. I had trouble keeping my mind on what I was doing.	0	1	2	3
6. I felt depressed.	0	1	2	3
7. I felt that everything I did was an effort.	0	1	2	3
8. I felt hopeful about the future.	0	1	2	3
9. I thought my life had been a	0	1	2	3

failure.

10. I felt fearful.	0	1	2	3
11. My sleep was restless.	0	1	2	3
12. I was happy.	0	1	2	3
13. I talked less than usual.	0	1	2	3
14. I felt lonely.	0	1	2	3
15. People were unfriendly.	0	1	2	3
16. I enjoyed life.	0	1	2	3
17. I had crying spells.	0	1	2	3
18. I felt sad.	0	1	2	3
19. I felt that people dislike me.	0	1	2	3
20. I could not get "going."	0	1	2	3

Appendix C

Goals Scale

Directions: Read each item carefully. Using the scale provided, please select the number that best describes YOU and circle that number next to the item.

	Definitely false	Mostly false	Somewhat false	Slightly false	Slightly true	Somewhat true	Mostly true	Definitely true
1. I can think of many ways to get out of a jam.	1	2	3	4	5	6	7	8
2. I energetically pursue my goals.	1	2	3	4	5	6	7	8
3. I feel tired most of the time.	1	2	3	4	5	6	7	8
4. There are lots of ways around any problem.	1	2	3	4	5	6	7	8
5. I am easily downed in an argument.	1	2	3	4	5	6	7	8
6. I can think of many ways to get the things in life that are most important to me.	1	2	3	4	5	6	7	8
7. I worry about my health.	1	2	3	4	5	6	7	8
8. Even when others get discouraged, I know I can find a way to solve the problem.	1	2	3	4	5	6	7	8

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9. My past experiences have prepared me well for my future. 1 2 3 4 5 6 7 8

10. I've been pretty successful in life. 1 2 3 4 5 6 7 8

11. I usually find myself worrying about something. 1 2 3 4 5 6 7 8

12. I meet the goals that I set for myself. 1 2 3 4 5 6 7 8

Appendix D

Positive Event Scale- Undergraduate Students

The positive event scale asks you to think about the positive (uplifting) events that you have *experienced in the last month*. Positive daily events are the small day to day happenings that lead people to feel uplifted. From such events people can feel inspired, alert, attentive or active. Positive events can also lead to feeling emotions such as interest, excitement, strength, pride, determination and enthusiasm.

Below is a list of items that can be positive events. For each item, consider first, if the event occurred *during the last month* and second how **uplifted** (i.e. the amount of positive uplifting emotion) it made you feel. Circle **0** if it did not occur, **1** if the event occurred but you did not experience any uplift, **2** if it occurred and was a little uplifting, **3** if it occurred and was somewhat uplifting, **4** if it occurred and was a lot of an uplift, and circle **5** if the event occurred and was extremely uplifting.

Please remember that it is important that you:

* circle one number for *each item even if there was no uplift*.

* consider each item only with *the last month in mind*.

How <u>uplifted</u> did you feel by this positive event?	0= Did not occur
	1= Event occurred but was no uplift
	2= Event occurred and a little uplifting
	3= Event occurred and somewhat uplifting
	4= Event occurred and a lot uplifting
<i>In the last month:</i>	5= Event occurred and extremely uplifting

Your Friends

1. Support received from friend/s	0	1	2	3	4	5
2. Support given to friend/s	0	1	2	3	4	5
3. Positive feedback from your friend/s	0	1	2	3	4	5
4. Positive communication with friend/s	0	1	2	3	4	5

Work

5. The nature of your job/work (only if employed)	0	1	2	3	4	5
6. Your job security	0	1	2	3	4	5
7. Use of your skills in your work	0	1	2	3	4	5
8. The ideas you have at work	0	1	2	3	4	5

Teachers/Lecturers

9. Support received from teacher/s, lecturer/s	0	1	2	3	4	5
10. Support given to teacher/s, lecturer/s	0	1	2	3	4	5
11. Positive communication with teacher/s, lecturer/s	0	1	2	3	4	5
12. Positive feedback from teacher/s, lecturer/s	0	1	2	3	4	5
13. Doing enjoyable things with teacher/s, lecturer/s	0	1	2	3	4	5

Social Events

14. Going to a party	0	1	2	3	4	5
15. Going out for drinks (e.g., friends place)	0	1	2	3	4	5
16. Going to the pub	0	1	2	3	4	5
17. Recent social events	0	1	2	3	4	5

Your Course

18. Nature of your course/study	0	1	2	3	4	5
19. Your study load	0	1	2	3	4	5
20. Study/course deadlines	0	1	2	3	4	5
21. University (college) life	0	1	2	3	4	5

Relationship with Spouse/Partner (boy/girlfriend)

22. Intimate times with someone	0	1	2	3	4	5
23. Doing enjoyable things with your spouse/partner (boy/girlfriend)	0	1	2	3	4	5
24. Positive feedback from spouse/partner (girl/boyfriend)	0	1	2	3	4	5
25. Positive communication with spouse/partner (girl/boyfriend)	0	1	2	3	4	5
26. Support given to spouse/partner (girl/boyfriend)	0	1	2	3	4	5
27. Support received from spouse/partner (girl/boyfriend)	0	1	2	3	4	5

Parents or Parents-in-law

28. Positive feedback from your parents or parents-in-law	0	1	2	3	4	5
29. Positive communication with your parents/parents-in-law	0	1	2	3	4	5
30. Good times with your parents/parents-in-law	0	1	2	3	4	5
31. Support given to your parents/parents-in-law	0	1	2	3	4	5
32. Support received from your parents/parents-in-law	0	1	2	3	4	5

Other Students

33. Support received from other student/s	0	1	2	3	4	5
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34. Support given to other student/s	0	1	2	3	4	5
35. Positive communication with other student/s	0	1	2	3	4	5
36. Positive feedback from other student/s	0	1	2	3	4	5
<i>Interactions at Work</i>						
37. Support given to your supervisor/employer	0	1	2	3	4	5
38. Support received from other workers	0	1	2	3	4	5
39. Support given to other workers	0	1	2	3	4	5
40. Positive feedback from other workers	0	1	2	3	4	5
41. Doing enjoyable things with other workers	0	1	2	3	4	5

Thinking about the different uplifts that you endorsed above, how much have these events impacted your well-being in the past 30 days?

1 = not at all

2 = slightly

3 = moderately

4 = quite a bit

5 = extremely

Appendix E

Negative Event Scale- Undergraduate Students

You are asked to think about the negative events (hassles) that you have *experienced in the last month*. Negative daily events are the small day to day happenings that lead people to feel hassled. From such events people can feel distressed, upset, guilty or scared. Negative events can also lead to people feeling hostile, irritable, nervous, afraid, ashamed or frustrated.

Below is a list of items that can be negative events. For each item, consider first, if the event occurred *during the last month* and then *how hassled* you felt. Circle 0 if it did not occur, 1 if the event occurred but you did not experience any hassle, 2 if it occurred and was a little of a hassle, 3 if it occurred and was somewhat of a hassle, 4 if it occurred and was a lot of a hassle, and circle 5 if the event occurred and was an extreme hassle.

Please remember that it is important that you:

* circle a number for *each item even if there was no hassle*

* consider each item with *only the last month in mind*.

How much of a hassle was this negative event?	0= Did not occur
	1= Event occurred but did not experience any hassle
	2= Event occurred and was a little of a hassle
	3= Event occurred and was somewhat of a hassle
	4= Event occurred and a lot of a hassle
<i>In the last month:</i>	5= Event occurred and was an extreme hassle

Problems with Friends

- | | | | | | | |
|---|---|---|---|---|---|---|
| 1. Negative feedback from your friend/s | 0 | 1 | 2 | 3 | 4 | 5 |
| 2. Negative communication with friend/s | 0 | 1 | 2 | 3 | 4 | 5 |
| 3. Conflict with a friend/s | 0 | 1 | 2 | 3 | 4 | 5 |
| 4. Disagreement (including arguments) with a friend/s | 0 | 1 | 2 | 3 | 4 | 5 |

Problems with your Spouse/Partner (boy/girlfriend)

- | | | | | | | |
|---|---|---|---|---|---|---|
| 5. Negative communication with your spouse/partner
(boy/girlfriend) | 0 | 1 | 2 | 3 | 4 | 5 |
| 6. Conflict with spouse/partner (boy/girlfriend) | 0 | 1 | 2 | 3 | 4 | 5 |
| 7. Disagreement (including arguments) with spouse/partner
(boy/girlfriend) | 0 | 1 | 2 | 3 | 4 | 5 |
| 8. Rejection by your spouse/partner (boy/girlfriend) | 0 | 1 | 2 | 3 | 4 | 5 |
| 9. Your spouse/partner (boy/girlfriend) let you down | 0 | 1 | 2 | 3 | 4 | 5 |

Work

- | | | | | | | |
|---|---|---|---|---|---|---|
| 10. The nature of your job/work (if employed) | 0 | 1 | 2 | 3 | 4 | 5 |
| 11. Your work load | 0 | 1 | 2 | 3 | 4 | 5 |
| 12. Meeting deadlines or goals on the job | 0 | 1 | 2 | 3 | 4 | 5 |
| 13. Use of your skills at work | 0 | 1 | 2 | 3 | 4 | 5 |

Money

- | | | | | | | |
|--|---|---|---|---|---|---|
| 14. Not enough money for necessities (e.g., food, clothing,
housing, health care, taxes, insurance, etc.) | 0 | 1 | 2 | 3 | 4 | 5 |
| 15. Not enough money for education | 0 | 1 | 2 | 3 | 4 | 5 |
| 16. Not enough money for emergencies | 0 | 1 | 2 | 3 | 4 | 5 |

17. Not enough money for extras (e.g., entertainment, recreation, vacations, etc.). 0 1 2 3 4 5

Problems with Children

18. Negative communication with your child(ren) 0 1 2 3 4 5

19. Conflict with your child(ren) 0 1 2 3 4 5

20. Disagreement (including arguments) with your child(ren) 0 1 2 3 4 5

Course

21. Your study load 0 1 2 3 4 5

22. Study/course deadlines 0 1 2 3 4 5

23. Time pressures 0 1 2 3 4 5

24. Problems getting assignments/essays finished 0 1 2 3 4 5

Problems with Teachers/Lecturers

25. Negative communication with teacher/s, lecturer/s 0 1 2 3 4 5

26. Negative feedback from teacher/s, lecturer/s 0 1 2 3 4 5

27. Conflict with teacher/s, lecturer/s 0 1 2 3 4 5

28. Disagreement (including arguments) with your teacher/s, lecturer/s 0 1 2 3 4 5

lecturer/s

Problems with Parents or Parents-in-law

29. Negative communication with your parents or parents-in-law 0 1 2 3 4 5

law

30. Conflict with your parents or parents-in-law 0 1 2 3 4 5

31. Disagreement (including arguments) with parents or 0 1 2 3 4 5

parents-in-law

32. Negative feedback from your parents or parents-in-law 0 1 2 3 4 5

Problems with Other Students

33. Negative communication with other student/s 0 1 2 3 4 5

34. Conflict with other student/s 0 1 2 3 4 5

35. Disagreement (including arguments) with other student/s 0 1 2 3 4 5

36. Doing things with other student/s 0 1 2 3 4 5

Problems with Relative/s

37. Conflict with other relative 0 1 2 3 4 5

38. Disagreement (including arguments) with other relative 0 1 2 3 4 5

39. Negative feedback from other relative 0 1 2 3 4 5

40. Doing things with other relative 0 1 2 3 4 5

Health Problems

41. Your health 0 1 2 3 4 5

42. Your physical abilities 0 1 2 3 4 5

43. Your medical care 0 1 2 3 4 5

44. Getting sick (e.g., flu, colds) 0 1 2 3 4 5

Problems with your Work Supervisor/Employer

45. Negative feedback from your supervisor/employer 0 1 2 3 4 5

46. Negative communication with your supervisor/employer 0 1 2 3 4 5

47. Conflict with your supervisor/employer 0 1 2 3 4 5

48. Disagreement (including arguments) with your 0 1 2 3 4 5

supervisor/employer

Hassles Getting a Job

49. Finding a job (e.g., interviews, placements)	0	1	2	3	4	5
50. Finding Work	0	1	2	3	4	5
51. Problems with finding a job	0	1	2	3	4	5
52. Employment problems (e.g., finding, losing a job)	0	1	2	3	4	5

Academic Limitations

53. Not getting the marks (results) you expected	0	1	2	3	4	5
54. Your academic ability not as good as you thought	0	1	2	3	4	5
55. Not understanding some subjects	0	1	2	3	4	5

Course Interest

56. Course not relevant to your future career	0	1	2	3	4	5
57. Your course is boring	0	1	2	3	4	5

Thinking about the different hassles that you endorsed above, how much have these events impacted your well-being in the past 30 days?

1 = not at all

2 = slightly

3 = moderately

4 = quite a bit

5 = extremely

Appendix F**CDC HRQOL–4 Healthy Days Measure**

1. Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good? For example, if you have not felt good, physically, for 4 of the last 30 days, select “4.”

Number of Days (0-30) ____

Don't know/ Not sure____

Did not answer____

2. Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good? For example, if you have not felt good, mentally, for 4 of the last 30 days, select “4.”

Number of Days (0-30) ____

Don't know/ Not sure____

Did not answer____

If both answers above = "None," skip next question.

3. During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?

Number of Days (0-30) ____

Don't know/ Not sure____

Did not answer____