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ABSTRACT

Research has shown that optimistic and pessimistic outcome expectancy evaluations are associated with adaptive and maladaptive levels of psychological functioning, physical wellness, and health recovery issues. The research of M. F. Scheier, C. S. Carver, M. E. P. Seligman, and C. R. Snyder supports the hypothesis that elevated optimism or optimistic cognitive sets will correlate with motivation, action, perseverance, and enhanced probabilities of goal acquisition, as well as behavioral engagement, lowered depressive symptomology, and improved and sustained health, whereas lower outcome expectancies will correlate with disengagement, demotivation, lowered performance, passivity, elevated depression, and diminished health recovery rates. The research reviewed not only has important implications for adaptive psychological functioning: it also extends empirical support for the mind-body connection. (Author)

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A COMPARISON OF POSITIVE OUTCOME EXPECTANCIES: A REVIEW OF THE THEORIES OF M.F. SCHEIER, C.S. CARVER, M.E.P. SELIGMAN, AND C.R. SNYDER

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Introduction

Research theorists have argued that a number of factors need to be present to achieve desired outcomes in life. These desired outcomes are cognitively represented in the form of performance goals which are either optimistically perceived as attainable or pessimistically perceived as unattainable. Although each theorist tends to emphasize a different area of importance, the research seems to elucidate several common elements of optimistic and pessimistic goal expectancy assessment.

Specifically, research indicates that either explicitly or implicitly there is an assumption of a causal agent or a self-evaluative mechanism (a self structure). There are a plan, set of methods, mechanisms (strategies), and coping devices that will be utilized in the pursuit of goal interests. There is a defined, desired outcome which is represented by goals (i.e., what one wants to have happen). Additionally, there is an appraisal process regarding the probability that a goal will be met or not met. This

appraisal process is called an optimistic or positive outcome expectancy and a pessimistic or negative outcome expectancy. Cumulatively, all these factors, along with optimistic appraisals for goal acquisition, will facilitate the necessary motivation to pursue the desired goal. By contrast, pessimistic appraisals for goal acquisition will produce de-motivation and disengagement from goal pursuits. These factors have been articulated in the research of M.F. Scheier, C.S. Carver, M.E.P. Seligman, and C.R. Snyder.

This paper will examine some of the research efforts of each one of these researchers. This is not intended to be an exhaustive critique or review but rather a examination of some of the specific research relevant to the issues of positive outcome expectancies and their relevance for performance motivation and goal attainment from the perspective of each one of the researchers. It is important to note that the researchers come from divergent theoretical backgrounds, and yet their research indicates, at a minimum, a complementarity of research outcomes to direct overlap between theoretic constructs supported by their research.

The psychological, health maintenance, and health recovery implications of these elements are numerous. Optimistic and pessimistic outcome expectancies have been associated with levels of depression, maintenance of physical health, physical and psychological recovery from

illness, effective coping with stress, occupational burnout, and maintenance of sobriety following alcohol treatment, to name a few.

Although in some cases the direct clinical significance is not the subject of the research effort, the potential indirect implications of deficits in these areas are readily apparent. Individuals come to therapy with either stated or implied goals of living. It is important to therapeutic outcome for the therapist to understand the specific factors that must be implemented in order for the client to be able to reach his or her desired goals of living. These researchers have addressed issues of the effects of positive outcome expectancy and its interactions with motivation, performance, and coping responses toward goal acquisition. Additional research that examines the direct impact of these factors on clinical dimensions is warranted to establish the generalizability of these research findings to the larger clinical situation.

The body of research reviewed in this paper tends to support the hypothesis that human actions are largely determined by the individual's beliefs about the probable outcome of those actions. This is a process through which human agency is exercised; particularly, the mechanisms of behavioral self-regulation and motivation. Goals that are perceived as attainable are pursued in a variety of ways and

without loss of motivation, even if acquisition is frustrated. Goals that are viewed as unattainable are released and abandoned. This idea is shared by Scheier and Carver, Seligman, and Snyder.

This writer will examine each researcher independently and focus on the specific theorist's area of emphasis as it relates to the broader issues of achievement of desired outcomes in living. Relevant commentary will be made between areas of comparison and areas of clear contrast in theoretical models as they relate to the general positive outcome expectancies. Again, research was selected that addressed the dimensions under study.

Scheier and Carver

Scheier and Carver's work on optimism is derived from early research on self-regulation of behavior (Carver & Scheier, 1981, 1982, 1983; Scheier & Carver, 1982). The researchers maintain a number of theoretical assumptions in their model. The first assumption is that goal directed behavior is guided by closed-loop feedback systems (Scheier & Carver 1985). These systems guide behavioral choices and thus operate as regulators of behavior. These systems are most likely to be employed when attention is directed toward some set of goal standards and expectancy appraisals are determined (Scheier & Carver, 1985). Finally, when attention

is directed toward the self and the desired goal standards, with sufficiently high appraisals, there will be a behavioral response pattern implemented to minimize any perceived discrepancy between present levels of behavior and the prescribed goals or standards of performance (Scheier & Carver, 1985). "In this model, people are seen as remaining engaged in efforts to overcome adversity to reach goals as long as their expectancies of eventual success are sufficiently favorable" (Scheier, Carver, & Bridges, 1994, p. 1063).

This internal assessment process will produce what is generally termed an outcome expectancy evaluation in which varying probability of discrepancy reduction is calculated by the individual (Scheier & Carver, 1985). The subjective evaluation of whether a person can implement the necessary behavior to reduce discrepancies between the self and goals yields varying states of outcome expectancy toward the goal. The effect of this process is to either establish positive outcome expectancies if discrepancy reduction is deemed highly likely (expected favorable outcomes), or negative outcome expectancies if discrepancy reduction is deemed unlikely (expected unfavorable outcomes). Expectancies which are considered favorable will result in sustained or renewed effort. If expectancies are unfavorable, effort will be reduced or even discontinued entirely (Scheier & Carver,

1985). Simply stated, optimists believe that good things will happen and events will go their way; thus they ascribe a positive outcome expectancy toward goals. Pessimists believe that bad things will happen and events will not go their way; thus, they ascribe a negative outcome expectancy toward goals (Scheier & Carver, 1987).

Dispositional Optimism

Scheier, Carver, and their colleagues have conducted numerous research studies on the role of expectancies and their impact on various outcomes. The researchers hold that human action is largely determined by the individual's belief regarding the outcome of those actions; positive generalized expectations is defined as dispositional optimism (Scheier & Carver, 1985).

Scheier and Carver's theory differs from other expectancy based theories in that they focus their research efforts primarily on the assessment of generalized outcome expectancies. These expectancies can have their locus of orientation either internally or externally. In other words, an individual can consider positive outcome expectancy to be based on personal ability or on a perception that providence, luck, or aid from interested individuals is a viable criterion for positive outcome evaluations (Scheier & Carver, 1987). They also contend that these measures of optimism are dispositional and, therefore, generalized by

the individual to multiple situations or circumstances (Scheier & Carver, 1985, 1987).

Measurement of Optimism

In an effort to measure these levels of generalized outcome expectancies, Scheier and Carver constructed their own optimism scale to quantify the construct, assess levels of dispositional optimism, and measure the level of expectation for good and bad outcomes to aid in further research (Scheier & Carver 1987; Scheier et al., 1994). The scale is an eight-item measure of dispositional optimism and is called the Life Orientation Test (LOT; Scheier & Carver, 1985, 1987).

The psychometric properties of the LOT were established by administering it to various samples of undergraduate students. The LOT was determined to possess satisfactory internal consistency, test-retest reliability, and adequate discriminant validity (Scheier & Carver, 1985). The researchers updated the LOT in 1994 (Scheier et al., 1994). The revised LOT (LOT-R) is a shortened form of the LOT, and, again, internal consistency and test-retest reliabilities remained high. The researchers believed that the shorter scale would be more advantageous in terms of administration and scoring procedures (Scheier et al., 1994).

Prediction of sustained effort. Scheier and Carver have conducted numerous studies examining dispositional optimism,

self consciousness, and goal-directed behavior (Carver & Scheier, 1981, 1982, 1983; Scheier & Carver, 1982). Based on this earlier body of research, a study was conducted using the LOT as a measure of the dispositional optimism construct. This study examined the effects of dispositional optimism and its usefulness in the prediction of either sustained effort or discontinued effort by an individual's self-regulatory structure in the face of impediments to the acquisition of desired goals. It was predicted that those individuals deemed to have optimistic orientations would be able to self-manage or cope in the face of increasing levels of difficulty of goal attainment. It was predicted that individuals who score high on optimism would report being less bothered by physical symptoms over the course of the study period than subjects who were less optimistic.

The subjects were 79 undergraduate men and 62 undergraduate women enrolled in introductory psychology courses. The subjects completed a set of questionnaires 4 weeks before the end of the semester. The packet of questionnaires included the LOT, the private self-consciousness subscale of the Self Consciousness Scale, and a 39-item physical symptom checklist. The same set of questionnaires was administered to the subjects on the final day of classes immediately prior to final exams.

The results of this study indicated that the LOT correlated significantly with the physical symptom check list at both Time 1 and Time 2 ($p < .01$, $p < .001$, respectively). The correlation between the LOT at Time 1 and symptom reporting at Time 2 was also significant ($p < .001$; Scheier & Carver, 1985). Although optimism was a significant predictor of symptom reporting in this study, the researchers noted that symptom reporting can be influenced by other factors which may include cognitive, cultural, and psychological determinants. Therefore, the interpretation of symptom reporting as a measure of dispositional optimism must be viewed with caution (Scheier & Carver, 1985).

Additional studies using the LOT explored the effects of optimism on health. The following studies demonstrate how optimism is associated with prediction of depression symptomology, physical health recovery outcomes, and sustained pursuit of alcohol recovery.

Prediction of depression. A study by Carver and Gaines (1987) looked at the effects of optimism and, for contrast, its opposite dimension, pessimism, on conditions of postpartum depression. It was predicted that higher levels of dispositional optimism would be associated with lower incidences of dysphoria and depression following childbirth, whereas lower levels of dispositional optimism (pessimism) would be associated with increased levels of dysphoria and

depressive symptoms. The study also sought to expand the theoretical viability of the dispositional optimism construct beyond the symptom-reporting measures used in Scheier and Carver (1985; Carver & Gaines, 1987).

The subjects were 75 women who were recruited from three hospitals in the Dade County, Florida, area. Measures among the sample groups were taken 2 weeks prior to delivery and 3 weeks postpartum. The Beck Depression Inventory (BDI) was used as the depression measure and the LOT was used for the optimism and pessimism construct measures. The researchers predicted that there would be an inverse relationship between optimism and depression. Additionally, the researchers predicted that optimism would serve as a deterrent to the development of depressive symptoms postpartum (Carver & Gaines, 1987).

As predicted, there was an inverse correlation between dispositional optimism and depression measures during pregnancy ($r[73] = -.41$, $p < .001$) and postpartum ($r[73] = -.43$, $p < .001$). The second research question regarding resistance to depression was addressed by correlating LOT scores with postpartum BDI scores of women whose initial BDI scores were 5 or below ($n = 44$). Again, after controlling statistically for earlier levels of depression in which BDI scores were elevated (6 and above), the results were in the

hypothesized direction ($r[41] = -.52$, $p < .001$) and accounted for 27% of the variance (Carver & Gaines, 1987).

The researchers pointed out that these findings do not indicate that dispositional optimism is the only, or even the most prominent, element in postpartum depression. Rather, the data suggest that dispositional optimism and pessimism are factors that relate to vulnerability to depressive symptoms in postpartum women (Carver & Gaines, 1987).

Prediction of health recovery time. Another study conducted in 1989 by Scheier et al. demonstrated how dispositional optimism has important implications for how people deal with high levels of distress and health recovery issues. Specifically, this study examined subjects who had undergone coronary artery bypass surgery (CABS). The 51 participants in this study were subjects who were having this surgery performed for the first time. All of the participants were men with the average age of 48.5 years and were otherwise relatively healthy.

All subjects were administered the LOT the day before surgery. Approximately 6 to 8 days postsurgery, each participant was interviewed and then interviewed again 6 months later. A number of specific expectancies were assessed. Using a 4-point Likert scale, ratings were made to determine, for example, subjects' expectations regarding

such issues as expected length of time to return to work, estimated return to exercise, and levels of pain, sadness, or relief that they anticipated encountering during the treatment (Scheier et al., 1989).

The results of this study indicated that optimists, as measured by the LOT, were more satisfied with the level of medical care received ($p < .003$), the emotional support received from their families and friends ($p < .09$), and, in general, were happier with their quality of life at the 6-month follow up than were pessimists ($p < .0001$; Scheier et al., 1989). These data were independent of major medical factors which were measured separately.

This study was important because, not only did it predict enhanced levels of subjective personal well-being across various domains, it also established a significant medical-biological correlation with optimism and biological recovery. According to this research, three factors are associated with myocardial infarction (MI): the development of new Q-waves on the electrocardiograms, the release of aspartate amino transferase (AST), and the release of creativine phosphokinase (CPK), which are an enzymes indicative of muscle damage. In this study, optimists were less likely to have developed new Q-waves on their EKGs ($p < .01$) and less likely to show the release of AST ($p < .05$.) CPK changes were in the predicted direction but were not

significant. Therefore, optimists were less likely to show physiological evidence of MI during surgery than were pessimists (Scheier et al., 1989).

Because of the high number of relationships being evaluated in this study, the researchers noted the potential for Type I inferential errors. Although this possibility exists, the data appear to suggest overall consistency in the uniform theoretical direction of the findings. This assessment by the researchers was confirmed in a 5-year follow-up study in which the hypothesis contained in the Scheier et al. (1989) study was supported by the finding that optimists were still experiencing significantly better health outcomes relative to the pessimistic group (Scheier & Carver, 1992).

These studies support the hypothesis that dispositional optimism, with its core element of positive outcome expectancies, is a predictor of successful adaptation to goal-directed behavioral outcomes. The following research demonstrates that optimists, in the face of goal frustration, focus on problem-focused strategic coping styles and persist in goal pursuit. By contrast, individuals with pessimistic orientations focus on negative affective responses to goal frustration and eventually disengage from the goal-directed pursuit.

Prediction of successful treatment for alcoholism.

Strack, Carver, and Blaney (1987) predicted that optimistic expectancies would predict successful completion of an aftercare program following treatment for alcoholism. They cited earlier research that established the transitional period after treatment and before reentry into society is an obstacle-filled and frustrating period with relapse rates ranging from 50% to 90%. This study expanded the measure of dependent variables from the earlier, more subjective intrapsychic appraisals (Scheier & Carver, 1985; Carver & Gaines, 1987) to more objective measurement of dependent variables in terms of an observable behavioral outcome. This was measured by the completion of a 90-day after-care program for alcoholism (Strack et al.).

The study was conducted on 54 men diagnosed with alcohol dependency who had recently completed a 30-day inpatient alcohol program. The age range of the sample group was 21 to 63 years with a median age of 42 years. These individuals were voluntarily admitted to an aftercare program under the following conditions: They were willing to be hospitalized for 90 days; they did not have a secondary psychiatric disorder; they would comply with the rules of the unit; and they were not using other drugs (Strack et al., 1987).

The subjects were administered the LOT, the Hassles Scale, and the Uplift Scale upon entering the aftercare program. The Hassles and Uplifts scales are measures that attempt to account for unexpected negative and positive events which would influence outcomes. These scales were administered again after a 2-week interval. The LOT scale was administered a second time after a 4-week interval along with the Hassles and Uplifts scales (Strack et al., 1987).

The study yielded the following results. Eighteen of the subjects successfully completed the program, whereas 36 of the subjects did not complete the program. Optimism data yielded a clear bimodal distribution of scores which were divided at the median of 26.37 into optimist and pessimist groups. The association between optimism and treatment outcome was significant (r [51] = .29, $p < .05$). The researchers noted that uplift factors might tend to suppress correlation between optimism and outcome. They measured partial correlations between optimism and outcome and controlled for uplifts, and the results were significant (r [51] = .39, $p < .004$). Finally, when correlations between optimism and outcome were examined, controlling for both uplifts and hassles, the results were significant (r [51] = .42, $p < .004$; Strack et al., 1987).

Strack et al. (1987) noted that optimism was a significant predictor of successful adherence to the alcohol

aftercare program, whereas pessimism was predictive of failure to complete the program. The researchers also found the uplift factor, which was correlated with increased failure to complete the program, to be a function of the celebratory elements of alcohol consumption and not just the need to avoid problems, which is a more commonly assumed motivation for excessive drinking. The researchers concluded that optimists cope with stress or blockage to goal acquisition by minimizing affect related to frustration or stress generated from unrealized goals and maximizing focused attention on strategic resolution to difficulties of goal acquisition. Optimists do not seek to avoid the problem. A secondary benefit of this study was that some of the methods of optimistic coping styles and pessimistic coping styles were explicated. Optimists clearly engage and remain engaged in the face of stress associated with goal pursuits. Pessimists tend to mentally and physically disengage, avoid, and give up on goal pursuit in the face of stress or frustration (Strack et al., 1987).

Coping Strategies of Optimists

Generally speaking, optimists tend to have better adaptation to stressful encounters relative to goal acquisition. How does this successful adaptation occur? It is believed that the difference is in the coping strategies of optimists and pessimists. Adaptation to stressful

encounters is achieved through the various coping mechanisms that they employ in pursuit of goals. This was examined in two studies in which the mechanisms of coping where illuminated.

Scheier, Weintraub, & Carver (1986) sought to understand the various mechanisms of coping or strategies employed by optimists and pessimists in the process of dealing with stressful stimuli encountered in the pursuit of goals. The researchers' hypothesis was that optimists would employ a much different response sequence than would pessimists.

The subjects (N = 291) were college students, 181 males and 110 females. The study was conducted in small groups ranging in size from 1 to 20 subjects (M = 10.4). Participants were given a packet containing the LOT and The Ways of Coping Checklist. The Ways of Coping Checklist is a self-report measure of a broad range of various coping strategies. The subjects were asked to describe the most stressful event that they had encountered in the last 2 months. Additionally, they were asked to describe how controllable or uncontrollable they thought the event had been. The subjects then rated the events on the Ways of Coping Checklist and delineated the ways they attempted to cope with the stressful episode. The Ways of Coping Checklist lists 73 possible strategies and asks respondents

to assess the degree to which they used each one of these (Scheier et al., 1986).

The responses to the Ways of Coping Checklist were then submitted to a principle-factors factor analysis in which seven major factors emerged. Individual factor scores were generated for each subject in the study on each of the seven principle factors. These scores were then correlated with the subjects' LOT scores which was the measure of optimism in the study (Scheier et al., 1986).

The results revealed that optimism was positively correlated with the use of problem-focused coping ($p < .01$) and positive reinterpretation ($p < .001$). Denial-Distancing, identified as a coping mechanism, was inversely associated with optimism ($p < .05$). Optimism was positively correlated with acceptance and resignation ($p < .001$) in situations that were assessed as uncontrollable (Scheier et al., 1986).

As was expected, optimism was positively correlated with problem-focused coping. One limitation of the study was that subjects were provided with a list of possible coping responses rather than being asked to describe in their own words the coping responses they would make. Given a circumscribed list, subjects may overstate the degree to which a given response was actually used. The researchers conducted a second study to address this limitation. These subjects were asked to describe coping responses in their

own words rather than being given a list from which to choose. This study supported the finding of the previous study (Scheier et al., 1986).

Scheier et al. (1986) and Strack et al. (1987) conducted significant studies because the researchers began to outline a number of strategies that are employed by optimists in coping with stress. Specifically, optimists are able to cope with stress, not simply by invoking optimistic dispositions or cognitions, but by employing two different coping strategy systems. First, optimists tend to engage in the de-emphasis of negative affect associated with the stressor. Additionally, they engage in problem-focused active strategies in order to deal with the negative events or stressful circumstances.

Under circumstances in which goal acquisition is obstructed in an absolute sense, the optimists engage in a cognitive reframing activity or in acceptance of the obstructed goal without implications of defensive denial or avoidance of the loss associated with blockage. Pessimists, on the other hand, tend to deny the reality of the problematic stressor. However, once they recognize the existence of the stressor, they focus on the negative emotional components and eventually withdraw activity toward the now frustrated goal (Scheier et al., 1986; Strack et al., 1987).

Whereas the study by Scheier et al. (1986) measured coping styles from a situational perspective, Carver, Scheier, and Weintraub (1989) extended the measurement of coping tendencies to include dispositional coping styles. The purpose of this study was to examine the relationship between general coping styles and situation-specific coping styles.

A total of 117 undergraduate students (45 men and 72 women) participated in the study. At the beginning of the academic semester, subjects were administered the COPE, which is an instrument that measures dispositional levels of coping. Three weeks later they were administered a situation-specific version of the COPE. Using a 4-point Likert scale, subjects were asked to indicate how much they had relied on particular coping strategies in dealing with a specific problem. For example, response choices were "I didn't do this at all" and "I did this a lot" (Carver et al., 1989).

The results indicated that the patterns of dispositional and situational reporting were similar. Optimists tend to rely on strategies of active coping, planning, and acceptance of adverse events ($p < .01$). Pessimists tend to disengage, using tactics such as denial, substance abuse, and mental and behavioral disengagements ($p < .01$). The researchers concluded that optimists use active

or engaged coping styles and that pessimists have disengaged or avoidant coping styles. They also concluded that optimists demonstrate a proclivity for accepting the reality of problems or stressors, whereas pessimists tend to use strategies that diminish awareness or increase avoidance of the problems or stressors that they face (Carver et al., 1989).

The researchers pointed out that, because there were insufficient controls regarding type or kinds of problems that were being responded to, another study in which all subjects respond to the same stressful situation or problem situations may lead to stronger correlations between dispositional coping style and situational strategies employed (Carver et al., 1989).

Martin E. P. Seligman

A theory which posits similar constructs to those of Scheier and Carver is Seligman's theory of learned helplessness. His research on learned helplessness spans 3 decades and began in the animal research laboratory (Overmier & Seligman, 1967; Seligman & Maier, 1967). The animals were electrically shocked, and they would move to a nonshock location in their environment to avoid the negative stimulus. When all locations were electrified and no nonshock condition was available, the animals could not move

to a negative stimulus condition. Eventually the animals would no longer jump to avoid pain and would not seek a nonshock condition. This condition was termed learned helplessness (Overmier & Seligman, 1967; Seligman & Maier, 1967).

Attributional Style, Learned Helplessness, and Depression

This early research led to the application of learned helplessness theory to human conditions. It was determined that various causal attributional explanations or styles were invoked to deal with out-of-control situations and were associated with lack of control, helplessness, and depression in human beings (Abramson, Seligman, & Teasdale, 1978). These researchers contended that three explanatory styles are associated with depressed individuals. Specifically, bad outcomes are attributed to internal, stable, and global explanations (Abramson et al., 1978).

The theorists stated that when individuals experience uncontrollable negative events, a search for an explanation is undertaken. Their premise was that the answer to that search tends to load on specific dimensions of explanatory style. If the cause is something about the individual, it is has an internal casual account. If the cause is relevant to some situation or circumstance, it is considered to be an external accounting. If it is something that occurs throughout time, it is considered to be a stable condition.

If the cause is not throughout time but more occasional, then it is considered to be unstable in the accounting. If it tends to influence a number of subsequent outcomes, it is said to be global in consequence. If the cause is circumscribed to present outcome, it is considered to be specific in consequence (Abramson et al., 1978).

Abramson et al. (1978) contended that attributional style does not necessarily produce depression but predisposes one to conditions of depressive symptomology. The researchers demonstrated that, cumulatively, these causal explanations for uncontrollable, negative events which are identified with internal, stable, and global attributions are associated with a depressive explanatory style. The condition of helplessness is connected with this cognitive processing style. Also associated with depressive individuals and the associated depressive explanatory style is the contention that good outcomes are attributed to external, unstable, and specific explanations. Individuals who are depressed invoke both of these attributional or explanatory styles to account for good and bad circumstances in their lives.

Seligman, Abramson, Semmel, and von Baeyer (1979) sought to examine the hypothesis that depressed individuals will differ significantly on all three of the elements of attribution. This study sought to empirically support a

depressive attributional style hypothesis. The study was conducted with 143 undergraduate students in an introductory psychology course. They were given a packet in the 2nd week of the semester containing the attributional style scale, the Beck Depression Inventory (BDI, short form), and the Multiple Affect Adjective Check List (MAACL). The subjects completed the three inventories during class.

The attributional style scale is a scale which consists of 12 hypothetical situations. These 12 situations are subdivided into 6 with good outcomes and affiliation orientations and 6 with negative outcomes and achievement orientations. The students were asked to use their imaginations to recreate the 12 situations, assign the major cause of the situation, answer three questions about the cause and one question about the situation. The BDI was used to measure enduring depression in the group, and the MAACL was used to measure the more brief and transient depressive mood states of the subjects.

As hypothesized by the researchers, depressed students reported internal, stable, and global attributions. Additionally, the depressed students also reported external and unstable attributions for good outcomes (Seligman et al., 1979). The composite attributional scores and BDI sores for negative outcomes were positively correlated (r = .48, $p < .00001$). The composite score for attributional

scores and MAACL depression were also correlated (r = .24, p < .01). Additionally, composite scores for attributional scores and BDI scores were negatively correlated (r = -.22, p < .01) for good outcome on the internality attribution as were stability attributions and BDI scores for good outcome (r = -.28, p <.002). Globality attributions and BDI scores were not significantly correlated for good outcome. Attributional scores and MAACL scores were not significantly correlated for good outcome.

The researchers pointed out that generalizability to individuals with a more severely clinically depressed diagnosis is limited. The sample seemed to be comprised of more mildly depressed individuals. The authors also noted that this study does not establish whether attributional style in conjunction with bad outcome causes depression or whether depression promotes attributions toward internal, stable, and global causes to bad outcomes in living (Seligman et al., 1979).

Explanatory Style

Peterson et al. (1982) developed the Attributional Style Questionnaire (ASQ) in order to measure explanations and explanatory styles. This instrument enables measurement of explanatory style in terms of explanations about good and bad events. Additionally, it provides for assessment of casual dimensions of internal versus external, stable versus

unstable, and global versus specific values. The inventory describes 12 hypothetical events. These events are subdivided into 6 good outcome events and 6 bad outcome events. The subjects write a description of the significant cause for the event outcome. The subjects then rate these causes along a 7-point scale which delineates the internal, stable, and global dimensions of the subjects' explanatory style (Peterson et al., 1982). This instrument had its earlier inception in the Seligman et al. (1979) study.

The ASQ purports to measure spontaneous casual explanations that individuals make in good and bad events. This hypothesis was tested on 66 college students who wrote essays on their two worst experiences over the last year. The subjects were then administered the ASQ. Four judges then examined the essays and the ASQ results to determine levels of unprompted causal judgments within the descriptions, consistency between measures of internal, stable, and global attributions, and level of convergence with ASQ scores. Subjects also completed the short form of the BDI as a measure of depressive conditions (Peterson & Seligman, 1984).

The results of this study supported the hypothesis that causal explanations are spontaneously offered without the explicit prompting that was found in the earlier Peterson et al. (1982) study and in the study by Seligman et al. (1979).

Additional research will need to be conducted on more severely depressed clinical populations.

Research tends to support the hypothesis that explanatory or attributional style is associated with depression symptomology and helplessness behavioral patterns. However, Seligman points out that it is not the explanation that is most salient in the process. It is the outcome expectancy that is a result of the explanation or attribution measure that is most closely associated with subsequent psychological and behavioral response patterns (Peterson & Seligman, 1984). The expectations that individuals hold because of their explanatory style will produce learned helplessness responses. "Usually, causal explanations for an event and expectations about the consequences of an event have the same properties" (Peterson & Seligman, 1984, p. 350). The judgments that individuals make about their experiences are a key to their subsequent behavior (Peterson & Seligman, 1984).

Explanatory style and sales success. Seligman and Schulman (1986) extended the associations and predictions of pessimistic and optimistic explanatory style to field studies with life insurance agents. As determined in earlier research, the authors contended that individuals who explain the cause of failure to internal, stable, and global factors will have much lower persistence and coping capacity, as

well as diminished positive outcome expectancy evaluations (Seligman & Schulman, 1986). Individuals with a pessimistic explanatory style

> will therefore blame themselves and expect failure to recur over a longer period of time and in more situations. Consequently, they will suffer more self-esteem deficits, and response initiation deficits will be more sustained in time and across situations than for individual with opposite explanatory style. (Seligman & Schulman, 1986, p. 832)

Seligman and Schulman (1986) hypothesized that pessimistic explanatory style, asserting internal, stable, and global causes to explain failure would produce reduced sales attempts, lower sales persistence, lowered sales production, and increased levels of quitting. By contrast, optimistic explanatory style would be associated with increased sales attempts, increased sales persistence, elevated levels of sales production, and lower levels of quitting in the sales force.

The study was conducted by distributing 1,100 ASQ questionnaires to the Pennsylvania region sales force of the Metropolitan Life Insurance Company. The local sales managers distributed the questionnaires to the sales agents. Concurrently, company management also wrote letters to the sales agents assuring them that their status with the

company would not be affected by their participation in the study. The questionnaires were accompanied by preaddressed and postpaid return envelopes that were returned to the researchers and not the company directly. Of the 1,100 distributed, 169 questionnaires were completed and returned. Accurate and updated company production records for 94 agents were available at the time of the study.

The researchers noted that only 94 returned questionnaires out of 1,100 might not have captured a representative sampling of the group; thus, the measure of systematic production differences between respondents and nonrespondents would be significantly different. Seligman and Schulman (1986) reported that mean quarterly production differences for the sample group were higher, but this difference was not significantly higher than the mean quarterly production for the region overall.

Sales agents took the ASQ, which is a valid and reliable measure of explanatory style (Seligman & Schulman, 1986). The second independent measure was the Aptitude Index Battery (AIB), which was later known as the Career Profile. This questionnaire measures the sales agents' personal assessments of their "job relevant skills and abilities, career expectations, motivating goals, concerns about career, satisfaction with present job, and potential clients" (Seligman & Schulman, 1986, p. 833). This

instrument matches AIB scores with AIB scores of successful insurance agents, with high confluence of scores determining whether the agent is hired or not. All AIB measures were given prior to the hiring of the agents.

The dependent measures were derived using three different composite scores of the ASQ, AIB, and evaluation of productivity levels based on company dollar payouts. The first dependent measure was the composite negative attributional style (CoNeg). This is a measure of composite scores for the 6 negative events of the ASQ. These scores represent the sum across internal, stable, and global dimensions. The second dependent measure was the composite positive attributional style (CoPos). This is a measure of composite scores for the 6 positive events of the ASQ. These scores are the sum across internal, stable, and global dimensions. The third dependent measure was the composite positive minus the composite negative (CPCN). This is a measure of the difference between CoPos and CoNeg. Previous research has demonstrated CoNeg and CPCN to be valid and reliable predictors of depressive deficits (Seligman & Schulman, 1986; Peterson & Seligman, 1984). Productivity measures were determined by evaluation of the agents' level of income based on quarterly commissions paid during the first 8 quarters of the agents' employment with the company.

The results of the study were significant. For the first 2 years of production, CoNeg scores correlated with productivity as predicted with the 1st year (r = -.19, p < .07) and the 2nd year (r = - .39, p < .01). Additionally, using the median cut-off, agents in the top half of CoNeg sold 37% more insurance than those in the bottom half (t = 2.19, p < .02). CPCN also discriminated levels of production at the top quartile and decile levels of production. Top quartile agents were 36% more productive than bottom quartile agents (t = 1.72, p < .05). Top decile agents were 67% more productive than bottom decile agents (t = 1.77, p < .05; Seligman & Schulman, 1986).

CoPos and AIB scores did not correlate significantly with production. Because of earlier research conducted on this construct, CoPos was not expected by the authors to be highly predictive (Peterson & Seligman, 1984). The researchers accounted for the lack of statistical significance of the AIB scores by noting that AIB scores are used as determinants of initial hiring procedures. As such, AIB would not be expected to be significant in the present study because low AIB scorers would be excluded from the initial sample due to the fact that low AIB scorers would not have been hired (Seligman & Schulman, 1986). This study is important because it extends support for the hypothesis

that certain psychological and behavioral response patterns can be predicted by explanatory style.

Explanatory style and health. Seligman and his associates have attempted to offer some initial empirical support for the relationship between explanatory style and health maintenance, health loss, and depression. Overall, the following studies tend to support an association between expectancies mediated by attributional style and physical health. Peterson, Seligman, and Vaillant (1988) examined the long term effects of explanatory style on physical health. The researchers' hypothesis was that

> men who explain bad events pessimistically, with stable, global, and internal causes, will show worse health outcomes later in life than men who explain bad events with unstable, specific and external causes. Furthermore, this relation should hold above and beyond their initial health status. (Peterson et al., 1988, p. 24)

An extensive study was conducted on graduates of Harvard University classes between the years of 1942 and 1945. Peterson et al. (1988) selected their sample from an earlier study which was called The Study of Adult Development. The Study of Adult Development contained individuals (N = 268) who were determined to be academically successful, physically and psychologically healthy, and had

been nominated by the deans of the institution. During their undergraduate studies, each subject was selected on the basis of physical exams, personality and intelligence tests, and academic excellence (Peterson et al., 1988). For the next 35 years, post-graduates continued to fill out annual questionnaires regarding health, employment, family, and other pertinent life-activity measures. Also, physical examinations by the subjects' physicians were accumulated for the following 35 years (Peterson et al, 1988). Of the initial 268, 10 withdrew while in college, and 2 more withdrew after graduation. Peterson et al. (1988) selected 99 men from this sample based on the first letter of the individual's last name.

The assessment of explanatory style was achieved by using the Content Analysis of Verbatim Explanations (CAVE) to evaluate verbatim responses to open-ended questions regarding subjects' negative wartime experiences during World War II. This instrument allows multiple raters to determine causal explanations from written material along dimensions of stability, globality, and internality. This instrument has previously been shown to have adequate validity and reliability (Peterson & Seligman, 1984).

The assessment of physical health was taken from annual physical exams by the subjects' physicians. This data was then ranked by a research internist along five dimensions:

normal or good health, multiple minor complaints, irreversible chronic illness without disability, irreversible chronic illness with disability, and deceased. Scores were available for each subject from age 25 to age 60 (Peterson et al., 1988).

Additionally, a psychiatrist conducted an evaluation of participants and rated them on a 3-point college soundness scale (Peterson et al., 1988). This evaluation was an attempt to determine the probability of the development of emotional difficulties in the future (Peterson et al., 1988). The researchers used this measure as a control for initial levels of emotional well-being in the study (Peterson et al., 1988).

The results of the study showed that pessimistic explanatory style is associated with physical illness later in life. Even after controlling for initial levels of college soundness and health status at age 25, the findings were consistent. The results did not achieve statistical significance until age 40, although scores tended to be in the hypothetical direction. At age 40, the results were significant and continued in the predicted direction throughout the age range from 40 to 60 years of age. The researchers found that explanatory style at age 40 and at age 45 correlated with illness ($\underline{r}$ = .19, $\underline{p}$ < .06 and $\underline{r}$ = .42, $\underline{p}$ < .001, respectively). These relationships between

negative explanatory style and illness remained significant throughout the remainder of the subjects' lives although scores were slightly less robust after age 45.

The researchers attempted to account for the distribution of scores by stating that the psychological variables are more evident later in life due to their influence or impact upon earlier choices in the areas of "life style, self-care, and social support" (Peterson et al., 1988, p. 26). It is their belief that it takes a period of time for the negative psychological effects of pessimistic explanatory style to become evident in the physical structure of the individual.

The researchers pointed out that generalizability is limited due to the initial sampling limitations (Peterson et al., 1988). The study was conducted on a sample population that was all male, high achieving, physically well, and psychologically sound. Applicability to other populations remains untested. Also, the exact mechanisms of pessimistic explanatory style and predispositions toward declining health measures remains unknown (Peterson et al., 1988). Future research with different populations with specific focus on how the effects of, or the mechanisms through which, explanatory styles influence health are needed (Peterson et al., 1988).

Explanatory style and immune system functioning. Kamen-Siegel, Rodin, Seligman, and Dwyer (1991) conducted a study on explanatory style and cell-mediated immunity in elderly men and women to begin a exploration of the possible mechanisms through which explanatory style exerts its influence on health. The researchers postulated that pessimistic explanatory style could influence health through suppression of cell-mediated immune functioning in older adults. The researchers believed that the elderly population sample would evidence variations in measures of immunocompetence deficiencies more robustly than younger populations (Kamen-Siegel et al., 1991). This conclusion would be consistent with the earlier finding of Peterson et al. (1988) in which the strongest correlations between pessimistic explanatory style and health decline were after ages 40 to 45 (Peterson et al., 1988).

The subjects in this study were taken from a larger ongoing study (N = 264) of health and nutrition by Judith Rodin (Kamen-Siegel et al., 1991). The sample was comprised of elderly individuals between the ages of 62 and 82 who were on waiting lists for senior housing vacancies in southern Connecticut (Kamen-Siegel et al., 1991). The subjects were contacted through the mail and invited to participate in the study. Eighty of the 264 subjects

responded to the mailer and agreed to have blood taken for the purpose of the study.

No blood was drawn on any of the participants who were taking any medications that could influence immune or endocrine systems, who had any medical conditions that could be associated with dysfunction of immune systems, or who had experienced any kind of significant life stressor in the past 2-year period (Kamen-Siegel et al., 1991). Eighteen women and 8 men remained after the exclusions outlined above. Complete explanatory style and T-lymphocyte data were then obtained from this group.

The explanatory style data were obtained from a review of a 90-minute interview that was conducted just prior to the blood extraction procedures. Using the Content Analysis of Verbatim Explanations (CAVE), which is a valid and reliable measure of determining explanatory style (Kamen-Siegel et al., 1991; Peterson et al., 1988), the researchers were able to ascertain which individuals used pessimistic styles of explaining negative events and which individuals used optimistic styles of explaining negative events (Kamen-Siegel et al., 1991). Higher ratings on the CAVE represent greater degrees of pessimistic explanatory style. A composite score for negative events (CN) is formulated which represents the sum of individual explanations across all the dimensions of explanatory style. This overall score reflects

either a pessimistic or optimistic explanatory style (Kamen-Siegel et al., 1991).

Immune measures were obtained by examining the T-helper/T-suppressor cell ratio (T4/T8) and by determining the response of T-lymphocytes to mitogen challenge (Kamen-Siegel et al., 1991). Measurement of T-cell mediated immunity as evidenced in the function of T-cell mediated changes due to the aging process has been previously documented in the research of Felten, Bellinger, Collier, Colemen, and Felten (1987; as cited in Kamen-Seigel et al., 1991) and Siskind (1981; as cited in Kamen-Seigel et al., 1991).

The results of the study supported the researchers' hypothesis that pessimistic explanatory style is associated with lowered immunocompetence in older adults. There was a significant correlation between pessimistic explanatory style and lower ratios of T4/T8 ($r = -.52$, $p < .01$) with lower ratios being associated with immunodeficiency. There was also a significant correlation between pessimistic explanatory style and response of T-lymphocytes to mitogen challenge ($r = -.48$, $p < .01$) with lower response to mitogen challenge being associated with immunodeficiency (Kamen-Seigel et al., 1991). By contrast, those with optimistic explanatory style did not evidence lower cell mediated immunity in the study. These findings held constant even

when the researchers controlled for the subjects' level of current health, levels of depression, duration of time lag between the interview and blood draw, age, fluctuations in weight, sleep, and level of alcohol intake (Kamen-Seigel et al., 1991).

The researchers correctly noted that these findings are correlational in nature and do not address issues of causation. They also noted that the study was prospective in that it used measures of explanatory style to predict later immune function measures. They noted that generalizability to younger populations is limited due to the elderly sample. Younger populations and immune function relative to explanatory style need to be explored. Additionally, these effects also might not be relevant to individuals who are diagnosed with immune function disorders because the present study was limited to those without any immune system related disease. Additionally, they noted that future research might explore the precise mechanisms by which the immune system is affected by explanatory styles (Kamen-Siegel et al., 1991). This study has only indicated that some association exists between explanatory style and immune system functioning which is not dependent on the controls in the study. The specific psychological and physiological interaction remains unknown.

Learned helplessness responses can be predicted from identifying idiosyncratic explanatory styles to negative circumstances or events. Internal, stable, and global explanations for negative circumstances forecasts negative expectancies that nothing can be done to control future outcomes given the present realities. Individual expectations about the future become pessimistic (Kamen-Siegel et al., 1991). Peterson and Seligman (1984) noted that it is the expectation that is most closely associated with symptom responses. "We chose not to focus on the expectation itself, even though it is more proximate to the symptoms, because we do not believe that a valid means of measuring expectations yet exists" (Peterson & Seligman, 1984, p. 350).

Kamen-Siegel et al. (1991) stated that a pessimistic explanatory style tends to be a self-perpetuating condition over time; expectancy of negative outcomes tends to make negative outcomes more likely, and negative expectancies about future events increase uncontrollability assessments of the future events thereby limiting active coping response in the present.

A significant connection between the work of Seligman and the work of Scheier and Carver is apparent. Each of these theorists' research asserts significant correlations among the variables of pessimism, de-motivation, coping, and

future goal outcomes as well as correlations among the variables of optimism, motivation, coping, and future goal outcomes. The distinction between Scheier and Carver and Seligman is one of expectancy proximity in that Seligman believes the outcome expectancy measure to be one which is first mediated by the attribution style that individuals employ regarding events. Attributional style is associated with both depressive tendencies as well as physical health and physical health dysfunction. Scheier and Carver (1992), in comparing their research efforts to those of Seligman, concluded: "In sum, there is now ample evidence that attributional style is related in important ways to psychological and physical well-being. By implication, this research serves to underscore the role played by dispositional optimism as well" (p. 222). Attributional style and dispositional optimism both support the proposition that individual expectations about future outcomes is an important element in healthy psychological and physiological functioning.

C. R. Snyder

C. R. Snyder's hope theory is another model that supports the hypothesis that outcome expectancy is a central element in the determination of motivation, coping activity, and goal pursuits. Snyder and his colleagues have developed

a theory of hope based upon expectations of goal attainments. Hope theory defines these goal-directed expectations as a "positive motivational state that is based on an interactively derived sense of successful (a) agency (goal-directed energy), and (b) pathways (planning to meet goals)" (Snyder, Irving, & Anderson 1991, p. 287). Snyder's addition to the earlier work of Scheier and Carver and Seligman is that, "In order for goal directed movement to occur, within this model of hope it is reasoned that both the sense of agency and the sense of pathways must become operative" (Snyder, 1994b, p. 536-537). He believed that the addition of the cognitive component of the pathway dimension is additive to the work of previous theorists (Snyder, 1995).

Hope theory places heavy emphasis on the importance and necessity of goals for motivation and coping, but also explicates the means by which these goals are reached. Goal acquisition, according to Snyder, must entail both determination (agency) and an ability to generate a plan (pathways) to meet the goal. Goals, agency, and pathways are interlocked, and each is essential to an enduring hopeful or optimistic dispositional cognitive set (Snyder, Irving, et al., 1991).

Central to hope theory is the reciprocal relationship between the optimistic self-belief that one can achieve

goals and the outcome expectancy that strategies are available for achieving those goals. The self-belief of positive expectancy outcome and positive outcome expectancies are, collectively, the coping strategies which can be measured to determine one's cognitive set as it relates to hope (Snyder, Harris, et al. 1991).

Hope Scale Development

The Hope Scale was developed to measure individual differences in the degrees of hope (Snyder, 1989; Snyder, Harris, et al., 1991; Babyak, Snyder, & Yoshinobu, 1993). The Hope Scale is a 12-item instrument that was developed as a dispositional measure of hope. It measures one's sense of successful determination toward the attainment of goals and cognitive appraisals of perceived ability to generate and meet goals (Snyder, Harris, et al., 1991). As such, the Hope Scale is a broad measure of outcome expectancies relative to goal standards.

Snyder, Harris, et al. (1991) reviewed research studies in which the following correlations between the Hope Scale and measures of psychological functioning were determined. The Hope Scale was correlated with the Generalized Expectancy for Success Scale (GESS) to validate generalized positive goal expectancy criterion measures. Two separate studies indicated that the Hope Scale correlated .55 and .54 ($ps < .005$) with GESS scales. The Hope Scale was correlated

with the Life Orientation Test (LOT) to measure its relationship to optimism criterion. In two separate studies, the Hope Scale correlated .60 and .50 (ps < .005) with the LOT. The Hope Scale also correlated with the Burger-Cooper Life Experiences Survey, which measures perceptions of control (r = .54, p < .005). The Hope Scale correlated negatively with the Problem Solving Inventory (PSI), which measures perceived problem-solving capacities, with higher perceived problem solving ability reflected in lower scores (r = -.62, p < .005). The Hope Scale also correlated with the Rosenberg Self Esteem Scale, which measures self-esteem (r =.58, p < .005; Snyder, Harris, et al.).

The Hope Scale correlated positively (r = .55, p < .001) with the positive items of the Positive and Negative Affect Schedule (PANAS) and correlated negatively (r = .18, p < .01) with the negative items of the PANAS, which is a scale that measures positive and negative affectivity constructs. The Hope Scale correlated negatively with the Taylor Manifest Anxiety Scale (TMAS) and the State-Trait Anxiety Inventory (STAI; r = -.47, p < .001 and r = -.58, p < .001, respectively), both of which measure anxiety. The Hope Scale correlated negatively with the depression scale of the Minnesota Multiphasic Personality Inventory (MMPI), which is a measure of depression (r = -.60, p < .001). The

Hope Scale correlated negatively with the social introversion scale of the MMPI, which is a social introversion measure (r = -.59, p < .001; Snyder, Harris, et al., 1991).

Snyder (1994b) summarized these finding in the following manner by noting that elevated scores on the Hope Scale are highly correlated with elevated individual levels of: "(1) generalized positive goal expectancies; (2) optimism; (3) perceptions of control in their lives; (4) perceived problem solving capacities; (5) self esteem; and (6) positive affectivity. Conversely, persons scoring higher on the Hope Scale have diminished (1) anxiety; (2) negative affectivity; (3) depression; and (4) social introversion" (p. 537).

Uses of the Hope Scale

The assessment of the components of hope, both agency and pathways, is fundamental to understanding the prevailing level of outcome expectancies of the individual. Scoring low on either or both of these subscales will impact negatively on outcome expectancies regarding successful pursuit of goals and will be associated with diminished or vitiated motivation as well as diminished coping capacity (Snyder et al., 1991).

There may also be variance between the two components of hope theory. Conditions may exist in which there would be

elevations on one scale but not on the other scale. For example, the Hope Scale could be useful in determining that one had the ability to devise plans to meet goals (pathways) but lacked sufficient agency motivations to sustain the effort toward these goals. Interventions could be formulated to address specific motivational weaknesses and help expand skills in the deficient scale (Snyder, 1994).

Individuals who lack both the ability to engage in strategic thinking about workable ways to reach goals and the mental energy to carry out their strategies would be considered prototypic low-hope persons in this model (Snyder et al. 1991). Restoration of optimistic goal expectancy outcomes will entail methods to elevate both self-efficacy and outcome efficacy appraisals toward sought after goals (Snyder, 1994b).

Snyder et al. (1991) hypothesized that levels of hope are associated with a number of and physical health measures. Snyder and his colleagues applied hope theory to a number of populations and achieved consistent results in the hypothesized directions.

Spinal cord injuries. Elliott, Witty, Herrick, and Hoffman (1991) conducted a study in which hope theory was applied to individuals with severe spinal cord injuries. This study was conducted to examine the relationship between agency and pathways (hope components) and the psychological

adjustment of individuals with traumatically acquired physical disabilities (Elliott et al., 1991).

Subjects in this study included 57 men and women with severe spinal cord injuries. The Hope Scale and the time since injury were the two predictor variables. The Inventory to Diagnose Depression (IDD) and the Sickness Impact Profile (SIP) were used as criterion variables. The IDD is a self-report measure designed to measure depressive behavior. The psychosocial subscale of the SID was used in this study. Subjects were told the purpose of the study was to examine adjustment after suffering a spinal cord injury (Elliott et al., 1991). As expected, the score on the Hope Scale was significantly related to the criterion variables. Higher levels of hope were associated with lower depression (r = -.32, $p < .01$) and psychosocial impairment (r = -.44, $p <$ .01; Elliott et al., 1991).

Occupational burnout. Sherwin et al. (1992) examined the relation of hope to occupational burnout. Subjects in this study were comprised of 81 nurses working in the chronic-care rehabilitation units of six hospitals. The number of years as a nurse on the rehabilitation unit and scores on the Hope Scale were the predictor variables. The Maslach Burnout Inventory (MBI) served as the criterion measure. The MBI contains three factors: emotional

exhaustion, depersonalization, and personal accomplishment (Sherwin et al., 1992).

The results of this study showed that hope was negatively correlated with emotional exhaustion ($r = -.41$, $p < .01$) and depersonalization ($r = -.28$, $p < .05$). Hope was also shown to have a positive correlation with personal accomplishment ($r = .38$, $p < .01$). The researchers noted that small sample size and the potential confounding of results when dealing with nurses working in various sites are limitations of this study. However, the study points to the benefits of hope as it relates to occupational burnout and its importance for anyone in a helping professions (Sherwin et al., 1992).

These research findings were consistent with the earlier research of Scheier, Carver, and Seligman. Positive outcome expectancy conditions are associated with enhanced or improved psychological and physical health outcomes.

Comparison and Contrast of Theories

Optimism theory, learned helplessness theory, and hope theory have areas of both comparison and contrast. It has been the effort of the author thus far to delineate some of the particular areas of research of each one of the theorists so that clearer analysis of their fundamental constructs could be examined.

The central unifying feature of these three theories is the hypothesis that individual expectations of potential outcomes or consequences of behavior influence goal directed activity or behavior (Snyder et al., 1991; Scheier & Carver, 1987; Peterson & Seligman, 1984). Snyder's (1994) hope theory shares common features with both Scheier and Carver's optimism theory and Seligman's learned helplessness theory. Namely, hope theory is heavily laden with constructs of high and low outcome expectancy conditions as determinants of goal directed activity (Snyder, 1994).

Scheier and Carver's optimism theory and Seligman's learned helplessness theory. Scheier and Carver's model arose out of a theoretical background of a behavioral self-regulation conceptualization of human motivation and action. They contended that behavior is likely to be undertaken if outcome acquisition assessments are sufficiently promising to indicate success. Seligman's model arose out of the learned helplessness construct of animal research. It places heavy emphasis on behavioral regulations to motivation and action based on optimistic or pessimistic outcome expectancy assessments. Seligman cited attributional styles as the mediators of these optimistic and pessimistic expectancy assessment patterns (Seligman et al., 1979).

Scheier and Carver (1987) compared their work with Seligman's model of learned helplessness found in Abramson

et al. (1978). They observed that outcome expectancies (Scheier & Carver, 1987) and expectancies of control (Abramson et al., 1978) are highly compatible constructs. Both of these models contend that behavior is undertaken if sufficiently promising expectancy appraisals are made regarding the probable outcome of the behavior. The Seligman conceptualization is that these expectancies of control are manifest in the attributions that an individual makes regarding potential activity assessments. The three attributional assessments are: locus (internal vs. external), stability (stable vs. variable), and generality (specific vs. global; Scheier & Carver, 1987).

Scheier and Carver (1987) noted that a common area of overlap between the two models is due to the fact that their model accounts for possibilities of providence or luck and outside social assistance. Peterson and Seligman (1984) also provided a theoretical context for external-cause variables in their distinction between locus attributions being construed as either internal or external (Scheier & Carver, 1987).

Scheier and Carver (1987) pointed out that, in Abramson et al.'s (1978) model, the attributions which affect expectancies, in turn, affect behavior. "That is, attributions in this theory are not held to influence behavior directly, but only through their impact on

expectancies" (Scheier & Carver, 1987, p. 203). Expectancy measures are the salient features of both Scheier and Carver's and Seligman's models. Peterson and Seligman (1984) confirmed this connection by noting: "Because there is usually similarity between causal explanation and expectation of consequences, knowing an individual's explanation and explanatory style will usually predict helplessness deficits" (p. 350). Seligman's emphasis on explanatory style, as opposed to the more proximal expectancy of outcome variable, was a function of Peterson and Seligman's (1984) belief that no valid and direct measure of expectancies existed at the time of the theory formulation.

Scheier and Carver (1987) pointed out that Seligman's focus on attributions as determinants of expectancies is a matter of emphasis, not of substantive difference. The theory has tended to focus on the measurement of problematic attributions leading to negative or pessimistic expectancy outcomes. Seligman's theory also contains within its structure the converse position, that alternative learned helplessness attributional variables can support positive or optimistic expectancy outcomes (Scheier & Carver, 1987).

Peterson and Seligman (1984) outlined the symptoms that accompany the helplessness position.

> These symptoms are passivity; cognitive deficits; emotional deficits including sadness, anxiety, and hostility; a lowering of aggression; a lowering of appetitive drives; a set of neurochemical deficits; and an increase in susceptibility to disease. In addition, the symptom of self-esteem loss is sometimes one of the symptoms of helplessness. These symptoms, taken together, look very much like the syndrome of depression. (Peterson & Seligman, 1984, p. 349)

If the learned helplessness model is predicated on negative or pessimistic expectancy outcome assessments then all of the related symptoms above may be positively affected by favorable or optimistic expectancy outcome assessments as well (Scheier & Carver, 1987). This assessment is supported in Seligman's (1991) book, Learned Optimism.

Snyder (1995) has accurately noted that Seligman's focus of research has shifted in recent years to study optimistic explanatory styles as evidenced in the Seligman (1991) and Peterson and Bossio (1991) publications. Snyder's (1995) conclusions tend to support the earlier conclusions of Scheier and Carver (1987). Optimistic explanatory style might be a significant factor in understanding and predicting sustained effort, motivation, positive performance variables, and outcome expectancies toward goal acquisition (Scheier & Carver, 1987).

Scheier and Carver (1992) pointed out that the distinction between their research and Seligman's research is a matter of emphasis as opposed to a matter of content. Correlations between the LOT and ASQ tend to be low.

> Though the reason for this is not entirely clear, it may stem from the difference in emphasis between the approaches-the fact that the attributional measures focus on people's judgments about how events are caused, whereas the LOT focuses directly on expectations for the future. (Scheier & Carver, 1992, p. 221)

Peterson and Seligman's (1984) ASQ does not assess expectancy measures directly; rather, it measures attributions which are associated with expectancy considerations.

Snyder's hope theory and Scheier and Carver's optimism theory. Snyder, Irving, et al. (1991) noted that hope heory and optimism theory both value the construct of "generalized expectancies in predicting goal directed behavior" (p. 289). They made the point that hope theory explicates both the agency and pathway components which are necessary in order to obtain positive expectations toward goals. Optimism theory (Scheier & Carver, 1985) tends to emphasize the more generalized condition that goal acquisition will occur without specific explication of multiple strategies to

obtain that goal (Snyder, Irving, et al.). This point is well taken, but Scheier and Carver's model does not purport to measure pathway measures as such. Snyder, Irving, et al. recognized this fact by noting that Scheier et al. (1986) and Carver et al. (1989) do account for pathway componentry in their measures of outcome expectancies, but they do not hold them to be preeminent. This again supports the premise that the difference between the two models is more a matter of emphasis rather than content.

Although they did not place emphasis on pathway componentry, Scheier et al. (1986) and Carver et al. (1989) explicated significantly different coping mechanisms for pessimists and optimists. These mechanisms of coping are implicit in their research but have not been the direct focus of their research efforts. These measures were assumed to be intrinsic to the overall positive dispositional outcome expectancy construct. The distinction between these two models would be that Snyder, Irving, et al. (1991) clearly espoused explication of both "an efficacy expectancy" (p. 289), which is optimistic self-belief based on past experience of goal achievement, and "an outcome expectancy" (p.289), which is optimistic belief based on appraisals of personal ability to select multiple paths and implement them toward goal acquisition. Scheier and Carver tended to focus on the generalized or dispositional

optimistic outcome expectancy domain to predict motivation and coping strategies toward goal directed behavior. The pathway variables are implicitly contained in coping mechanism measures (Snyder, Irving et al., 1991; Scheier et al., 1986; Carver et al., 1989).

Snyder's hope theory and Seligman's learned helplessness theory. Snyder's model also bears similarity to Seligman's model of learned helplessness. Both of these models evaluate expectancy measures; however, Seligman has focused on the attributions that an individual makes regarding good and bad events. The self-attributions that are made, depending on the evaluation of historical events, tend to be mediating elements in goal directed pursuits. Snyder has noted that Seligman (1991) and Peterson and Bossio (1991) have explicated the optimistic attributional style as one in which "the optimist thinks about bad events in a way that externalizes and circumscribes these events" (Snyder, 1995, p. 356). The negative event is localized outside the self and limited to infrequent and situation specific conditions. Snyder (1995) concluded that, "hope theory differs from the Seligman and colleagues perspective in that hope is conceptualized as a cognitive process involving how people link themselves to positive goals, whereas optimism is basically an excuse-like strategy

whereby people distance themselves from negative outcomes" (p. 356).

This distinction between Snyder's and Seligman's models becomes less pronounced if one evaluates the outcome expectancy component of Seligman's model as being more closely linked to subsequent behavioral responses than to attributions (Peterson & Seligman, 1984). Snyder's assessments of Seligman fail to acknowledge the fact that Seligman's behavioral response sequence is founded on the expectancy assessments that emerge from the attributional labeling systems and not the attributions themselves. From this perspective, the distinctions between Snyder and Seligman are more in the arena of theoretical emphasis than substantive differences. It is the outcome expectancy, whether positive or negative, that will potentiate the subsequent behavioral response patterns.

Summary and Conclusions

In the theories of Scheier and Carver, Seligman, and Snyder, positive outcome expectancies are central to motivation to action toward desired goals. These theorists seem to diverge in their understanding of the way that these expectancies are implicated in the pursuit of goals. Scheier and Carver have accounted for elements of religious faith, social networks, and luck to account for some of the

optimistic expectancy evaluations of future outcomes toward goal acquisitions. They have extended the bounds beyond individualistic parameters to account for external facts that could aid in elevated optimism. However, they have not discounted the role of pathway efficacy assessments, strategies, or coping in the process. Scheier and Carver simply have not explicated the pathway componentry as thoroughly as does Snyder. These elements are implicitly contained in their dispositional expectancy outcome measure.

Seligman has evaluated pessimism in light of negative events and of negatively evaluated expectancies and determined that it is associated with attributional styles of internal, stable, and global attributions. Seligman asserted that the outcome expectancy elements determine behavioral response patterns toward goals and not the attributions that individuals make regarding events. Attributions that individuals make regarding negative and positive events are associated with elevated or lowered outcome expectancies which influence behavior responses. Attributional styles that account for negative events in a internal, stable, and global fashion are associated with conditions of helplessness and depression. Attributional styles that account for negative events in an external, unstable, and specific manner are associated with an absence of helplessness and depression. These attributions lead to

expectancies which lead to motivation, performance, coping and goal-acquisition behaviors.

Snyder, too, has addressed outcome expectancy measures. Snyder claimed that optimistic agency outcomes and optimistic pathway outcomes are the central features of overall optimistic outcome expectancies toward goals. Diminished agency or pathways will lower expectancy measures regarding goal acquisition and motivation will diminish or be extinguished. Snyder accounted for motivation in the agency componentry and coping and performance variables in the pathway measures. These two constructs interact and lead to goal acquisition.

The research of Scheier and Carver, Seligman, and Snyder seems to support the hypothesis that elevated optimism or optimistic cognitive sets will correlate highly with motivation, action, perseverance, and enhanced probability of goal acquisition as well as behavioral engagement, lowered depressive symptomology, improved health recovery, and sustained health. However, lower outcome expectancies will correlate with disengagement, de-motivation, lowered performance, passivity, elevated depression, and lowered health.

Each theorist emphasized the elements of optimistic or pessimistic expectancy beliefs determining motivation, performance, and coping activities implemented toward goal

acquisitions. Optimism is the belief or expectation that one can obtain the desired goals of living. Elevated optimism is associated with sustained effort toward goals and activity. Pessimism is the expectation or belief that goal acquisition is unlikely, either because of historical experience or deficient skill or coping mechanisms. Pessimism is associated with withdrawal from goal pursuits and passivity. Optimistic and pessimistic outcome expectancy evaluations are associated with adaptive and maladaptive levels of psychological functioning, physical wellness, and health recovery consequences.

Future research might focus on the exact nature of both the biological and functional elements that enhance or limit optimistic cognitive sets. The structure of the self and the menu of intrapsychic choices that predispose or potentiate the optimistic or pessimistic set could be explored more thoroughly. Finally, each of the theorists is continuing to do research that examines the implications of dispositional optimism, learned optimism, and hope theory on health maintenance and recovery issues. The psychological implications for optimistic outcome expectancies and the benefits for psychological well-being, health maintenance, and health recovery are enormous. This research cumulatively will continue to support the mind-body connection and offer

more support for the primacy of an optimistic expectancy outcome perspective for adaptive and healthy living.

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