MEASUREMENT OF HOPE AS EXHIBITED BY A GENERAL ADULT POPULATION AFTER A STRESSFUL EVENT

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To the Provost of the Graduate School:

I am submitting herewith a dissertation written by Mary L. Nowotny entitled "Measurement of Hope as Exhibited by a General Adult Population After a Stressful Event". I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in nursing.

Anne Gudmundsen, Major Professor

We have read this dissertation
and recommend its acceptance:

Accepted

Leslie M. Thompson
Provost of the Graduate School

DEDICATION

In loving memory

of my dad,

who never gave up hope.

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I wish to express my appreciation to Dr. Anne Gudmundsen, my chairman, for her support and guidance throughout this study and to my committee members Dr. Marian Anema, Dr. Glen Jennings, Dr. Margaret McElroy, and Dr. Virginia Smith for serving on my committee.

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ABSTRACT

Measurement of Hope as Exhibited by a General Adult Population After a Stressful Event

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The purpose of this study was to develop a reliable and valid instrument to measure hope as exhibited by a general adult population after a stressful event. A measurement of hope is needed that would apply to any population and to individuals that are facing a variety of stressful events. The following research questions were investigated: What is the reliability and validity of an instrument measuring hope as exhibited in a general adult population after a stressful event? What are the dimensional components of the hope experience as selected by a general adult population after a stressful event?

A review of the literature provided a conceptual framework for this study and the development of the Nowotny Hope Scale. Six dimensions of hope were identified and became the subscales for the instrument. Content validity was established in the pilot study.

A purposive sampling procedure was used in this methodological study. The sample consisted of 306 adults, both well individuals and individuals with cancer, between

the ages of 20 and 85 who had experienced a stressful event.

Reliability analysis, using Cronbach's coefficient alpha; construct validity analysis, using principal components analysis; and concurrent validity, using the Beck Hopelessness Scale were conducted on the data. The final instrument, a 29 item scale, had a Cronbach coefficient alpha of .897. Concurrent validity was established at ($r=-.471$, $p<.001$). The principal components analysis yielded six factors for the new scale.

This study is a beginning for the conceptualization of hope with these six dimensions. More studies are needed to support these dimensions. This study has added to the body of knowledge about hope and the development of a theory of hope. The development of a hope scale has shown that hope is a measurable quantity and that varying levels of hope are present in well individuals and in cancer patients. The instrument developed in this study provides directions for further research.

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CHAPTER I

INTRODUCTION

The concept of hope is used quite freely in the English language by all age groups and cultures. People talk about high hopes, hope for the best, false hope, last hope. We hope for success, a promotion, a new car, or a cure for illness. Hope is frequently used synonymously with terms like desire, wish, or a promise. Are these all examples of hope? What is hope? Can hope be measured?

Hope has been studied within a number of disciplines including theology, psychology, philosophy, psychiatry, and nursing. Hope is an essential part in motivating man to take action, to move, to achieve. A man without hope has no goals or wishes (Stotland, 1969). Hope has a strong influence on health promotion and helps increase ones overall ability to cope with stress (Obayuwana & Carter, 1982). The importance of hope in the physical and emotional well-being of man and animals has been demonstrated in conjunction with studies of animal behavior, hospitalized patients, terminally ill persons, cancer patients, and concentration-camp survivors (Adams & Proulx, 1975). Many survivors of concentration-camps in World War II were able to find meaning in their lives

by maintaining hope. The sudden loss of hope and courage frequently resulted in death (Frankl, 1984).

Cancer is one of the most significant health problems in the world today. It is estimated that about 73 million Americans now living will eventually have cancer. Estimates also indicate that 930,000 people will be diagnosed as having cancer in 1986 (American Cancer Society, 1986). However, cancer survival rates have increased in recent years and are expected to continue to increase. In the 1940's the five year survival rate was one in four, and in the 1960's the rate was one in three. Today, about 375,000 Americans, or four out of ten patients who get cancer this year will be alive in five years (American Cancer Society, 1986). With this increase in survival, health care professionals need to address assessments and interventions that will help to improve the quality of life of these patients.

Hope has been identified as an important factor in the quality of life of cancer patients. Pierce (1981) identified loss of hope, a narrowing of expectations, and goals for life as factors influencing quality of life. Individuals with cancer fight their cancer with hope - hope of a cure, hope of a chance to live longer. In a study of 200 cancer patients, hope was present in each patient to some degree (Kubler-Ross, 1969). The

importance of hope as a factor in the recovery of illness has been gaining increased attention from health professionals (Korner, 1970; Lange, 1978; Raleigh, 1980).

During a person's lifetime, one's hope is always changing. As new situations or stressful events are encountered, goals and expectations change. The degree of hope can also change with time or as a situation changes. If one sees options available, the degree of hope one has will increase (Veninga, 1985).

Although hope has been studied in a variety of disciplines including nursing, the review of the literature indicates most studies have been written on the qualitative aspect of hope rather than the quantitative aspect. These qualitative studies have included definitions of hope (Lynch, 1974; Obayuwana et al, 1982), characteristics of hope (Travelbee, 1974), factors that contribute to hope (Buehler, 1975; Obayuwana et al, 1982), elements of hope (Stanley, 1978), and dimensions of hope (Dufault, 1981).

Nursing observations indicate that hope influences the restoration and maintenance of wellness. However, it has been difficult to adequately substantiate this assumption because there have been few tools developed that adequately measure the objective assessment of hope in individuals.

Purpose of Study

What is needed is an instrument to operationalize the concept of hope and to provide a means of measuring the degree of hope an individual exhibits after a stressful event. Therefore, the purpose of this study was to develop a reliable and valid instrument to measure hope as exhibited by a general adult population after a stressful event.

Problem Statement

The problem of this study was: what are the dimensional components of the hope experience as selected by a general adult population after a stressful event?

Significance

Hope is present in all aspects of life and in all ages. Consequently, a measurement of hope is needed that would apply to any population and to individuals that are facing a variety of stressful events. This study has important implications for nursing care of cancer patients who encompass individuals in all stages of illness and in all ages.

This study has significance to nursing in that it will contribute to a scientifically based practice. The nursing profession is lacking in objective assessment tools. More tools with established validity and reliability are needed to increase the accuracy of nursing

assessment and nursing diagnoses (Mallick, 1981). A valid instrument that objectively measures hope would assist the profession in this area.

This study is also significant because the findings will add to the body of knowledge about hope. Hope is mentioned in most nursing texts that deal with chronic illness, cancer, dying, the elderly, and in some that discuss interpersonal aspects of nursing. However, only in recent years has nursing begun to study the phenomenon of hope. The qualitative research that has been done has made hope a quantitative attribute that can be measured objectively. Hope is a key to living. Consequently, hope has implications in the treatment of cancer patients.

Conceptual Framework

A review of the literature provided a framework for this study of the phenomenon of hope. Critical attributes, antecedents, and outcome of hope have been derived from writings and studies in psychology, psychiatry, theology, and nursing. Lazarus' theory on stress, appraisal, and coping was used to provide the framework for appraisal and control of a stressful event (Lazarus & Folkman, 1984).

Based upon the literature the following critical attributes were identified for the concept of hope:

1. Hope is future oriented. This has been supported

by Dufault, (1981); Lynch, (1974); Raleigh, (1980); Stanley, (1978); and Travelbee, (1971). The individual imagines what is not yet seen whether it is a way out of difficulty or a wider perspective for life. A desire for a change in the present status is indicated.

2. Hope includes active involvement by the individual. (Buehler, 1975; Dufault, 1981; Fromm, 1968; Stanley, 1978). This involvement could be just setting a goal, caring, praying, planning, or mobilizing the energy to initiate a plan. The individual does not, however, just sit and wait for the event to occur.

3. Hope comes from within a person and is related to trust (Fromm, 1968; Lynch, 1974). Trust is developed within oneself. It is an inner readiness that is available for one to use when needed. Hope is closely connected with feelings and awareness.

4. That which is hoped for is possible (Lynch, 1974; Travelbee, 1971). This is the criteria that makes hope discernable from a desire or a wish. A wish can be defined as a "desire that is not vital to a person's existence and has a low level of possibility" (Webster, 1976). If the wish comes true the individual is surprised.

5. Hope relates to or involves others or a higher being (Dufault, 1981; Lynch, 1974; Stanley, 1978;

Travelbee, 1971; Vaillot, 1970). In Stanley's study (1978) 90 percent of the sample expressed explicitly or implicitly that interpersonal relatedness was involved. This included such things as thoughts, feelings, and actions which involved others. Travelbee (1971) related hope to the expectation of help from others especially when one's inner resources are insufficient. Vaillot (1970) stated that hope does not begin until one's inner resources are depleted, and one is seeking help from another. Again Lynch (1974) spoke of hope as "occurring with or imagining with" (p. 24). "People develop hope in each other, hope that they will receive help from each other" (p. 24).

6. The outcome of hope is of importance to the individual. Stanley (1978) speaks of the expectation as being a "significant future outcome" (p. 157). An outcome is one that has meaning and relevance to the individual. When the outcome of hope does not have importance to the individual, the tendency is to become passive and to refrain from active involvement.

The antecedents for the concept of hope include a stressful stimulus such as a loss, life threatening situation, hardship, major decision, future planning, or a challenge. The individual also has to have sufficient control over the environment to provide a potential for

resolution and to maintain hope (McGee & Clark, 1985).

Formation of a new goal, a new strategy, or a feeling of safety or comfort, is the result or outcome of hope. This entire experience could be termed the "hope experience".

In his theory Lazarus states that when an individual is faced with a potentially threatening situation, the person cognitively appraises the situation as to its significance for the person's well-being (Lazarus, 1966). The cognitive appraisals as well as the self-regulatory processes, or control, are the primary mediators of the individual's reactions to stressful events, and consequently, determine the outcome (Lazarus, 1977). An individual's beliefs about control are major factors in determining how a stressful event is perceived. Control is defined as the extent to which an individual can change the outcome of an event. A belief in one's ability to control an event influences how that event is appraised (Lazarus & Folkman, 1984).

The synthesis of these two approaches is depicted in Figure 1, the conceptual mapping of the dimensional components of hope. Figure 2 represents the conceptual synthesis within the schematic framework of systems theory.

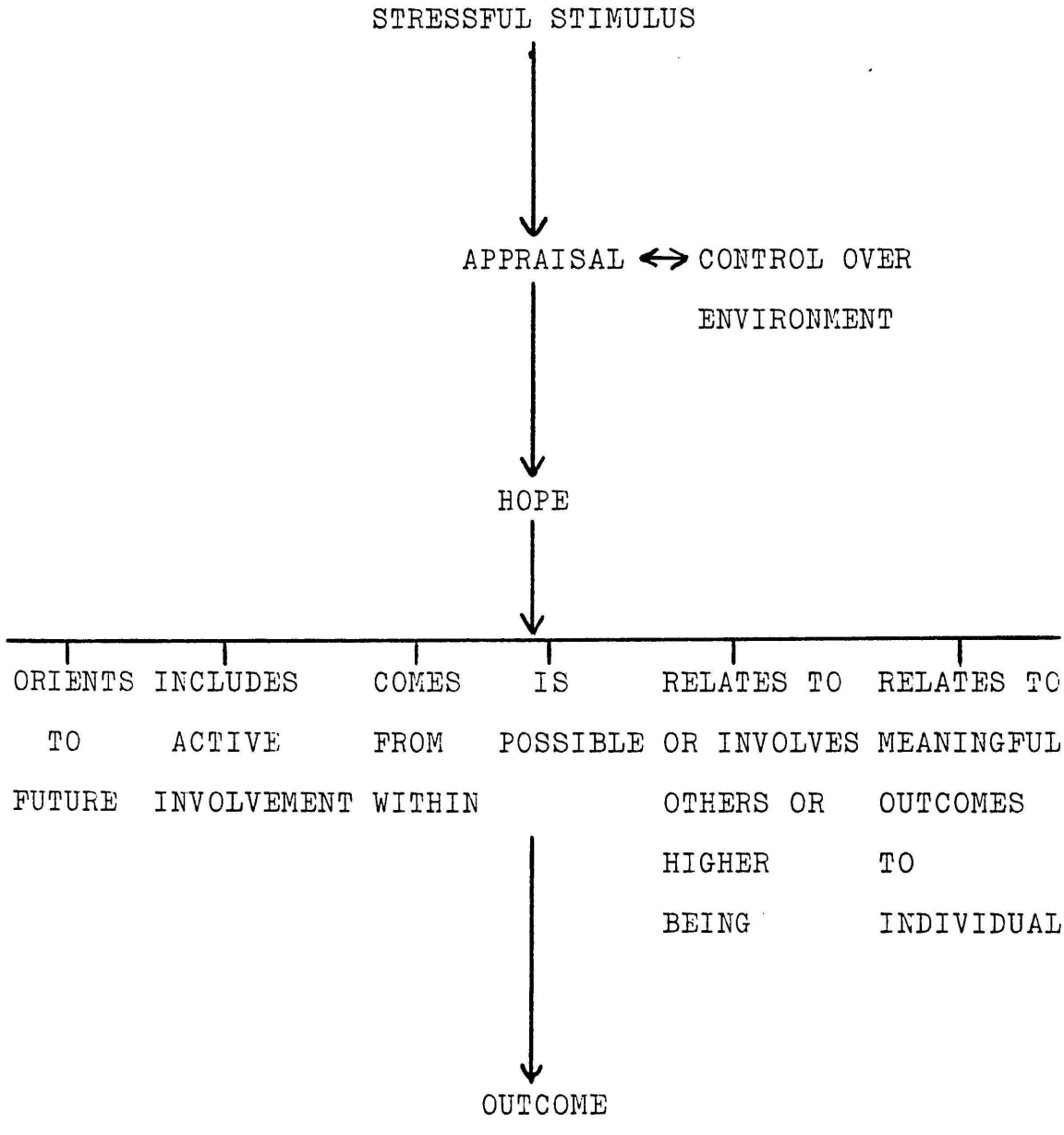

Figure 1. Mapping of dimensional components of hope.

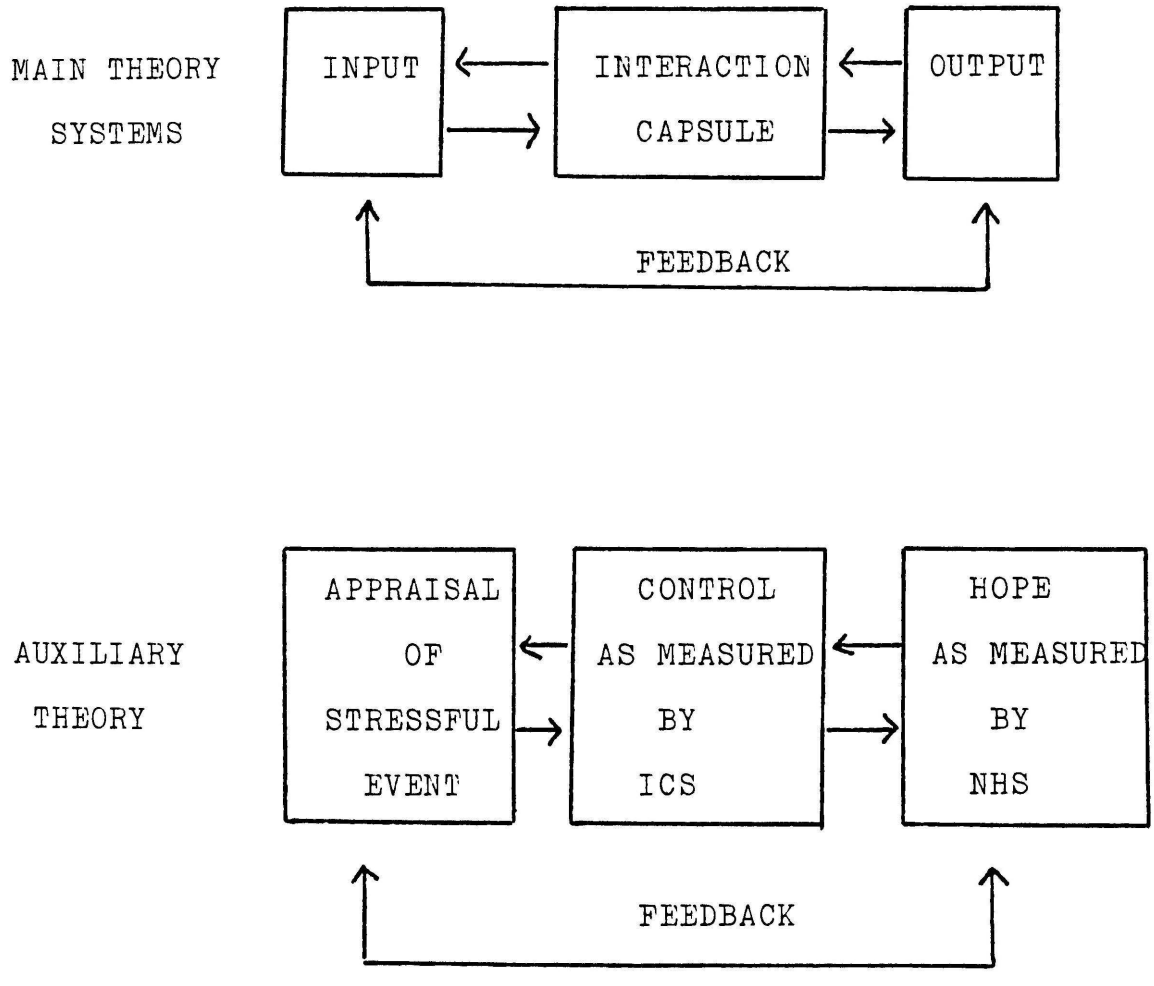

Figure 2. Hope theory within a schematic framework of systems theory.

Gibbs (1972) has introduced a framework for theory construction. Using Gibbs's paradigm, a model of the relationships between the constructs and concepts is depicted in Figure 3. The referentials for Gibbs's paradigm are defined as follows:

1. ICI is an acronym for individual control index which is the amount of control the individual can exert to change an event. This will be measured by a score on the ICI Scale.

2. FO is an acronym for future orientation. The individual imagines what is not yet seen whether it is a way out of difficulty or a wider perspective for life. A desire for a change in his or her present status is indicated.

3. AI is an acronym for active involvement. Hope includes active involvement by the individual. This involvement could be just setting a goal, caring, praying, planning, or mobilizing the energy to initiate a plan. The individual does not, however, just sit and wait for the event to occur.

4. CW is an acronym for comes from within. Hope comes from within a person and is related to trust. Trust is developed within oneself. It is an inner readiness that is available for one to use when needed. It is closely connected with feelings and awareness.

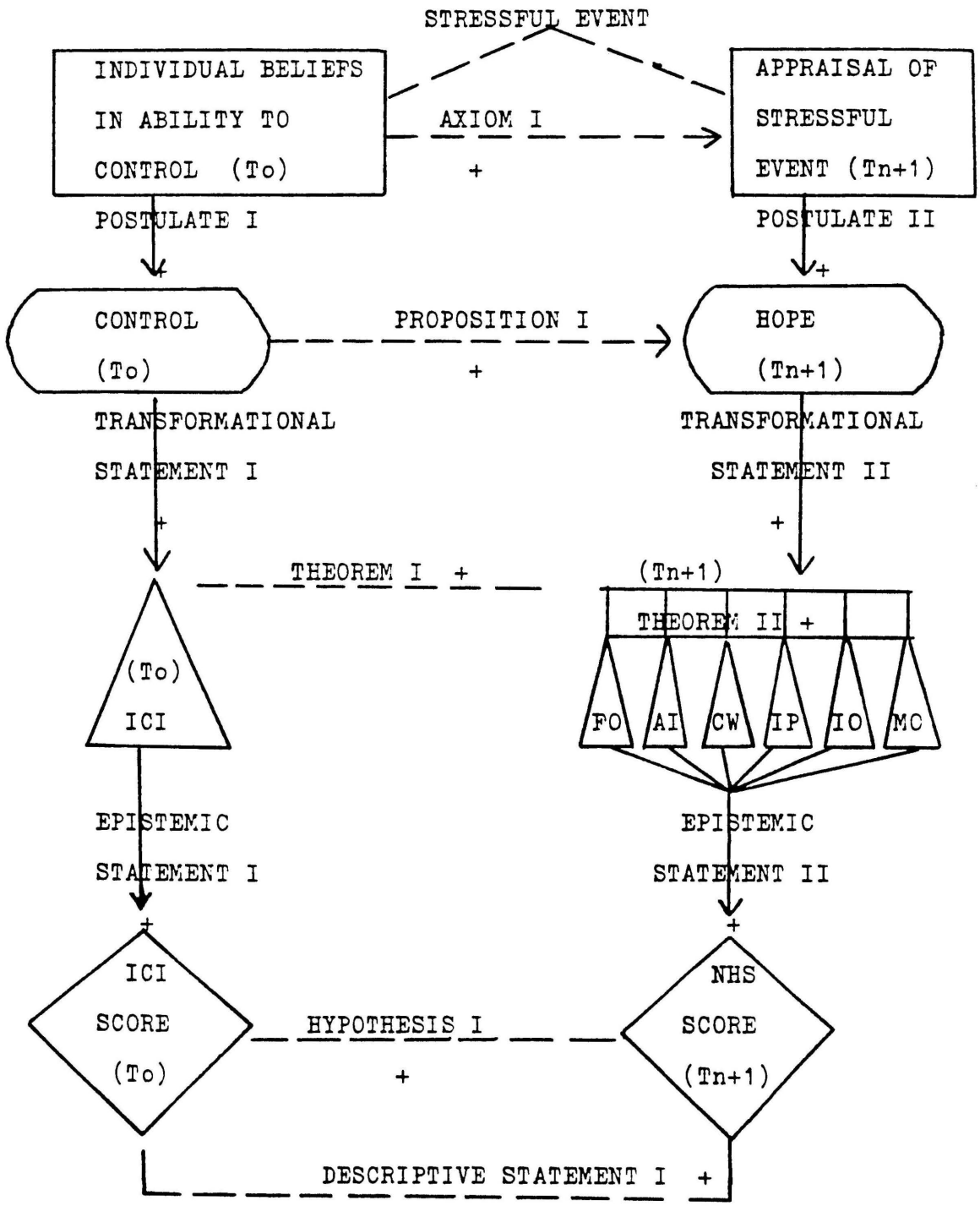

Figure 3. Theory of hope using Gibbs's paradigm

5. IP is an acronym for is possible. That which is hoped for is possible or is realistic as perceived by the person.

6. IO is an acronym for involves others or a higher being. Hope includes involvement with others or a higher being through thoughts, feelings, and actions.

7. MO is an acronym for relates to meaningful outcomes to the individual. The outcome of hope is one that is of importance and has relevance to the individual. When the outcome of hope does not have importance to the individual, the tendency is to become passive and to refrain from active involvement. Referentials 2 to 7 will be measured by the Nowotny Hope Scale.

The unit term in this model is the individual. Individual is defined as any adult, well or ill, who responds to a stressful event. Time units are To and T_{n+1}. To is the point in time of the stressful event when the individual's beliefs in ability to control and the level of control of the event are present. T_{n+1} represents the time that the appraisal of an event occurs and the response of degree of hope occurs.

Intrinsic statements related to the model are:

1. Axiom I. Among adult individuals, the greater the individual's belief in his ability to control at T_o, the

more positive the appraisal of the event at T_{n+1}.

2. Postulate I. Among adult individuals, the greater the individual's beliefs in ability to control at T_o, the greater the control the individual exhibits at T_o.

3. Postulate II. Among adult individuals, the more positive an event is appraised at T_{n+1}, the greater the hope at T_{n+1}.

4. Transformational Statement I. Among adult individuals, the greater the degree of control at T_o, the greater the individual's control index at T_o.

5. Transformational Statement II. Among adult individuals, the higher hope at T_{n+1}, the higher the FO, AI, CW, IP, IO, and MO at T_{n+1}.

6. Proposition I. Among adult individuals, the greater the individual's control over an event at T_o, the greater the hope at T_{n+1}.

7. Theorem I. Among adult individuals, the greater the ICI at T_o, the greater the FO, AI, CW, IP, IO, and MO at T_{n+1}.

8. Theorem II. Among adult individuals, the greater the FO+AI+CW+IP+IO+MO at T_{n+1}, the greater the hope at T_{n+1}.

9. Epistemic Statement I. The greater the individual's control index at T_o, the greater the scores on the ICI Scale at T_o.

10. Epistemic Statement II. The greater the FO, AI, CW, IP, IO, and MO at T_{n+1}, the greater the scores on the NHS at T_{n+1}.

11. Hypothesis I. The greater the score on the ICI at T_o, the greater the score on the NHS at T_{n+1}.

12. Descriptive Statement I. The ICI score will correlate positively with the NHS score.

Assumptions

For the purposes of this investigation, the following assumptions were made:

1. Hope is an abstract phenomenon that does exist.

2. Hope is a phenomenon that can be measured quantitatively.

3. Hope is a phenomenon that is present in wellness and in illness.

4. Hope is a phenomenon that can change with time and events.

Research Questions

The following research questions were investigated: What is the reliability and validity of an instrument measuring hope as exhibited in a general adult population after a stressful event? What are the dimensional components of the hope experience as selected by a general adult population after a stressful event?

Definition of Terms

Subjects--male or female individuals, well or ill, between the ages of 20 and 85 who have responded to a stressful event.

Hope--a six dimensional, dynamic attribute of the person which orients to the future, includes active involvement by the individual, comes from within, is possible, relates to or involves others or a higher being, and relates to meaningful outcomes to the individual. Hope is activated when one is confronted with a stressful stimulus and the individual feels he has some control over the environment.

Stressful event--an experience such as a loss, life threatening situation, hardship, major decision, future planning, or a challenge.

Limitations

The following were limitations of the study:

1. The subjects may have responded to the questionnaire in what they felt was a socially acceptable response that may not have reflected their true feelings.

2. The questions may have evoked anxiety in the subjects which may have influenced their response to the items.

3. The study was limited to subjects in only one metropolitan area of the United States.

Summary

In summary, the need for a valid and reliable instrument to operationalize the concept of hope and to provide a means of measuring the degree of hope an individual exhibits after a stressful event was emphasized. The link between hope and living with cancer as well as in maintaining wellness was discussed. The dimensions of hope and the conceptual framework for the study were presented. The significance of this study is the contribution it makes to the body of nursing knowledge about hope and to the development of a theory of hope.

CHAPTER II

LITERATURE REVIEW

The review of the literature includes a discussion on the definition of hope in various disciplines, characteristics of hope, factors that contribute to hope, dimensions of hope, a summary of recent nursing studies on hope, and a synopsis of hope scales.

Related Disciplines

Lynch (1974), a Jesuit priest whom psychiatrists have credited with providing a major contribution to the psychology of hope, has defined hope as "the fundamental knowledge and feeling that there is a way out of difficulty, that things can work out, that we as human persons can somehow handle and manage internal and external reality,...that, above all, there are ways out of illness" (p. 32). He goes on to say, "Hope is truly on the inside of us, but hope is an interior sense that there is help on the outside of us" (p. 40), and "Hope cannot be achieved alone. It must in some way or other be an act of a community, whether the community be a church or a nation or just two people struggling together to produce liberation in each other" (p. 24) In hope there is a future. If there is a future to which one can look

forward to, one can endure all things in hope.

Stotland (1969) developed a psychology of hope which was then tested in the laboratory. Hope was defined as an expectation about attaining some desired goal in the future and a necessary condition for action. A strong relationship between hope and motivation is emphasized in his writings. Hopefulness is presented as "a construct used to tie together antecedent and consequent events, a mediating process" (p.3). He viewed hopefulness as an ingredient in adaptive action and positive effect and hopelessness as involved with maladaptive behavior and negative effect. His conclusions emphasized that hope is a necessary ingredient for achievement and for goal attainment.

Fromm (1968) defined hope as "a state of being...an inner readiness" (p. 11). He stressed the close relationship that exists between hope and faith in his belief that hope exists only if founded in faith. He also emphasized that each individual should maintain personal hope. Fromm cautioned against hoping for the impossible. In his opinion despair is the result of hoping for the impossible.

In studies since 1981 by a group of medical investigators that have developed a Hope Index Scale, hope was defined as "the state of mind which results from the

positive outcome of ego strength, perceived human family support, religion, education, and economic assets" (Obayuwana et al, 1982, p. 761). Their work has concentrated on the psychosocial aspects of hope and is based on the assumption that much of man's illness can be eliminated by facilitating and enhancing hope in individuals. The presence of hope in an individual can increase one's ability to cope with stress by decreasing fears and anxieties (Obayuwana & Carter, 1982).

Korner (1970) stated, "hope is an activator of the motivational system" (p. 136) and is a defense against despair. Hopelessness occurs when an individual accepts the feared and threatening outcome as inevitable. Hope is a key to healthy coping.

Menninger (1959) identified hope as a basic ingredient of everyday life. He described hope as "another aspect of life instinct, the creative instinct, which wars against dissolution and destructiveness" (p.483). Menninger stressed that each physician has a responsibility to inspire the right amount of hope in his patients. He explained that "a deficiency of hope is despair, which leads to decay, and an excess of hope is presumption and leads to disaster" (p.483).

Nursing

Travelbee (1971) defined hope as "a mental state

characterized by the desire to gain an end or accomplish a goal combined with some degree of expectation that what is desired or sought is attainable" (p. 72). Hope is a key factor in enabling individuals to cope with illness. Anticipation of the future can be a source of hope. Travelbee identified the following characteristics of hope: (a) strongly related to dependence on others, (b) future oriented, (c) related to choice, (d) related to wishing, (e) related to trust and perseverance, and (f) related to courage.

Buehler (1975) studied factors that contribute to hope in cancer patients by interviewing staff and 24 cancer patients receiving radiation therapy. She found that the most common emotional response was hope. The staff's insistence that the cancer patients be actively involved in their own care and the belief that they were receiving the best possible treatment at a leading medical center were identified by patients as factors that foster hope.

Roberts (1978) stated "hope gives the individual a sense of security in the knowledge that there are solutions to life's various problems" (p.174). Hope is depicted as being goal oriented. Roberts voiced that "the nurse should maintain an attitude of hopefulness with each patient and family, no matter what the clinical situation

may be" (p. 193).

Lange (1978) described a hope continuum with the hope syndrome at one extreme and the despair syndrome at the opposite end. Personality, perception of the situation, influence of other individuals, and external factors are components which influence placement along this continuum. Lange discerned that nursing actions influence an individual's placement on the hope continuum.

Stanley (1978), in a descriptive study of 100 junior and senior college students, defined hope as "a confident expectation that a future good, although accompanied by fear and doubt, is realistically possible through active endeavor, supportive interpersonal relationships, and a religious faith" (p.50). This definition was derived from the study and was based upon what the subjects of the study called a "feeling of hope". A study of these descriptions yielded seven common elements. These were (a) an expectation or a significant future outcome, (b) a feeling of confidence in the outcome, (c) a quality of transcendence, (d) an interpersonal relatedness, (e) a comfortable feeling, (f) an uncomfortable feeling, and (g) an action to affect outcomes. The study findings indicated that 50 percent of the descriptive experiences occurred in situations in which nurses are usually involved.

Raleigh (1980) investigated hope as manifested in physically ill adults. Forty-five people with non-life threatening chronic illness and 45 people with a life threatening form of cancer were interviewed. This study attempted to identify variables which aid physically ill persons in maintaining hope. The relationship between internal locus of control regarding health and level of hopefulness in two groups of ill persons was studied. The study results indicated that the hypothesis was not supported and that there were no significant relationships between level of hope and the variables indicated. Raleigh questioned whether the construct "hope" was measured by the instrument called a "Time Opinion Survey" which was developed by the researcher. This study supported the need for a descriptive study on hope in the ill client.

Dufault (1981) did an exploratory study to investigate the phenomena of hope and the hoping process. Using participant observation, a sample of 22 females and 13 males between the ages of 65 and 89 were used. Factors related to hope which have a potential for guiding nursing interventions with ill, elderly clients were identified. Hope was defined as "a multidimensional, dynamic life force characterized by a confident yet uncertain anticipation of realistically possible and personally

significant desirable future good having implications for action and for interpersonal relatedness" (p. 477). This study identified six dimensions of hope and also hope objects, hope sources, and hope threats. All subjects spoke of the behavior of significant others as a source of hope. Nursing strategies related to hope were also identified. As a result of this study the investigator recommended that the concept of "hope therapy" be developed for nursing practice.

Dufault and Martocchio (1985), have continued work on identifying the spheres of hope as generalized hope and particularized hope and deriving nursing interventions that are specific to the six dimensions of hope Dufault has identified. The six dimensions of hope are affective, cognitive, behavioral, affiliative, temporal, and contextual. In a recent article by Miller (1985) hope-inspiring strategies were discussed.

Stoner (1983) investigated the relationship between selected personal and situational variables and hope in cancer patients and developed an instrument to measure hope. Structured interviews were used and questionnaires were administered to fifty-eight adult caucasion individuals who were aware of their cancer diagnosis. The subjects were from 18 to 84 years of age. Although 13 of the 17 hypotheses were not supported, the results of this

study did show a positive relationship between hope and social support, femaleness, and religiosity and an inverse relationship between hope and socioeconomic status. Stoner questioned whether the Stoner Hope Scale that was limited to assessment of importance and probability of attainment of goals was an adequate measure of the phenomenon of hope.

In another study by Stoner and Keamfer (1985) with a group of 55 cancer patients it was found that the cancer patients who did not remember receiving any information about their life expectancy had higher levels of hope than did those who recalled being given information about their life expectancy. This study also found that there was no significant difference in the level of hope and the phase of illness. This finding supports the writings of Kubler-Ross (1974) that terminally ill individuals can remain hopeful when facing death.

Within a health, stress and coping model Farran (1985) explored the dimensions of hope in a community-based older population and related dimensions of hope to known variables. A group of 126 older adults from two senior citizen housing centers was used as the sample. Using the Hopefulness Scale I, an adaptation of the Beck Hopelessness Scale, and a modified form of the Stoner Hope Scale to measure hope, a positive relationship

between hope and social support, personal control, religious beliefs and mental and physical health was reported. The investigator recommended further research is needed in the study of hope.

Hope Scales

One of the instruments to measure hope that has been developed in another health discipline is the Hope Index Scale which was developed by a group of medical investigators as an individualized clinical evaluation or as a psychological research tool. This is a 60 item "yes-no" questionnaire that has been tested in a large group of normal adults, psychiatric populations, clinically depressed individuals, and suicide attempters (Obayuwana et al, 1982). Reliability with Kuder-Richardson 20 was reported at alpha = .61; $p<.01$. Concurrent validity with the Beck Hopelessness Scale using Pearson product moment correlation was $r=-.88$; $p<.001$. However, a perusal of the Hope Index Scale indicates it has more relevance from a psychological perspective than from nursing.

Erickson, Post, and Paige (1975) developed a Hope Scale which was a self-report instrument based on Stotland's (1969) theoretical constructs of hope. The scale was designed to measure the perceived importance and perceived probability of attaining desirable goals. This

study supported the following hypotheses generated from Stotland's theory: "(a) that psychopathology is associated with lower estimates of perceived probability of goal attainment; (b) that the lower the perceived probability of goal attainment and the higher the importance of the goal, the more the individual will experience anxiety; and (c) that effective treatment serves to increase the perceived probability of goal attainment" (p. 324). Each subject was asked to rate 20 goals as to importance (Mean Importance-I) and to the probability of reaching each goal (Mean Probability-P). Test-retest reliability reported on an N of 35 patients was .793 for I and .787 for P at the $p<.001$ level. A major limitation of this instrument is related to the goals. The measurement of hope is only related to goal importance and the probability of goal attainment. Also, college students were used as the norming group for the instrument and the goals are appropriate for that age group. Consequently, the Hope Scale has decreased applicability to other ages.

Another Hope Scale was developed by Gottschalk (1974). This scale uses content analysis of verbal behavior from a five minute speech sample. This instrument has the limitation of requiring considerable time and money to evaluate the speech samples.

Most studies in nursing using hope scales have had a small sample of under 100 participants and have used a specific population. These specific populations have included the elderly (Dufault, 1981; Mays, 1982), cancer patients (Nelsen-Marten, 1981; Stoner, 1983), and physically ill adults (Raleigh, 1980). No investigator has used a large heterogeneous sample.

Summary

In summary, it has only been recently that nurses have undertaken research studies on hope in order to provide a research based rationale for nursing assessment and interventions to influence the level of hope. A frequently reported limitation of these studies was the absence of a valid and reliable measure of hope.

CHAPTER III

METHODOLOGY

A methodological design was used for this study. This design is appropriate for studies in instrument development and evaluation (Polit and Hungler, 1978). Development of a reliable and valid instrument to measure hope as exhibited by a general adult population after a stressful event was the purpose of this study. A purposive sampling procedure was used in this study. This type of sampling is advantageous when the sample is used to test new instruments with a divergent sample (Polit and Hungler, 1978).

Population and Sample

The setting for this study was a southwestern metropolitan area of the United States with a population of 3.2 million people. The target population was adults, well or ill, between the ages of 20 and 85 who had experienced a stressful event. Of this population a sample of 306 subjects was used to represent as many diverse groups as possible. Since hope is present in all individuals, a heterogeneous sample of well individuals, individuals with cancer, and individuals with other illnesses was needed to test the instrument before

declaring it valid for nurses to use.

Specific criteria for the selection of well individuals and individuals with other illnesses included: (a) adults, 20-85 years of age; (b) able to understand, read and write English; (c) physically and mentally able to participate by answering the questionnaire; and (d) representation of a variety of age groups. In an effort to obtain subjects representing different age groups, two church groups, an older adult Travel Club, an older adult social group, three business organizations, and two classes in two different universities were used.

The criteria for the selection of subjects with cancer included: (a) outpatient adults, 20-85 years of age; (b) able to understand, read, and write English; (c) physically and mentally able to participate by answering the questionnaire; and (d) diagnosed as having some form of cancer. A major cancer center radiation department and outpatient clinic provided access to a sizable population of outpatients representing various types of cancer and stages of illness. Subjects were also obtained from a physician's office, a home health care agency, an outpatient cancer support group, and volunteers from cancer groups.

Protection of Human Subjects

The components of this study fell within the no risk category for protection of human subjects. Agency approval was obtained prior to administering the instrument. Written consent was obtained from the subjects and verbal consent from physicians in those cases where subjects were obtained through the physician.

Instruments

The instruments used in this study were the Nowotny Hope Scale and the Beck Hopelessness Scale. The Nowotny Hope Scale, (NHS), hereafter referred to as the NHS was developed in the pilot study. The results of the pilot study are presented in Appendix A.

The Beck Hopelessness Scale, BHS, is a 20 item true-false scale developed by Beck, Weissman, Lester, and Trexler (1974). The items are from a test of attitudes about the future and from pessimistic statements made by psychiatric patients who were identified by clinicians as being hopeless.

The BHS was pretested using a random sample of depressed and nondepressed patients. Several clinicians also appraised the scale for face validity and comprehensibility of the items. Internal consistency was determined by administering the scale to 294 hospitalized patients who had made recent suicide attempts and a

reliability coefficient (KR-20) of .93 was reported. Item to total correlation coefficients ranged from .39 to .76 which were all significant at $p<.01$.

Concurrent validity for the BHS was obtained by comparing scores on the scale with clinical ratings of hopelessness and with other tests designed to measure negative attitudes about the future. The correlations of the BHS with the clinical ratings of hopelessness in a general medical practice group ($n=23$) was .74 ($p<.001$). In a sample of attempted suicide patients ($n=62$) the correlation was .62 ($p<.001$). There was a positive correlation of .60 ($p<.001$) when the BHS was compared with the Stuart Future Test. Construct validity was obtained by using the measure to test various hypotheses on hopelessness. These hypotheses were confirmed in each case.

Data Collection

A proposal of the planned study was reviewed by a major medical center institutional review board for human protection. The agency approved the proposal and granted the investigator permission to ask subjects in the cancer center to complete the questionnaire. Verbal approval was also obtained from organizations, churches, clubs, and the physician's office.

The subjects were approached individually or as a

group, told the purpose of the study, and asked to complete the questionnaire about people's reactions to a stressful event. Subjects were told the questionnaire would take approximately 15-20 minutes to complete and were assured of confidentiality. Reassurance was given that subjects could discontinue participation at any time. If time permitted, the subjects completed the questionnaire at that time. If time was limited, participants were asked to return the questionnaire in an enclosed preaddressed stamped envelope.

Subjects at the cancer center were identified by nurses and permission to approach the patient was obtained from the physicians. The participants were asked to sign a consent form to participate in the study. Each participant was given a copy of the form. A copy of the consent form is in Appendix E.

The questionnaire consisted of the 47 item Nowotny Hope Scale, the 20 item Beck Hopelessness Scale, and demographic data. Age, sex, marital status, religion, education, living arrangements, occupation, health status, and medical conditions for which currently receiving treatment were included in the demographics.

Treatment of Data

Reliability and validity are essential components of any measuring method and are necessary to produce cogent

data and to draw defensible conclusions. Reliability and validity are measured in degrees rather than by all or none characteristics (Kerlinger, 1973; Waltz, Strickland, & Lenz, 1984).

Reliability is the dependability, stability, consistency, predictability, and accuracy of a measuring instrument. The less variation an instrument produces in repeated measurements of an attribute, the higher the reliability (Kerlinger, 1973). Nunnally (1970) states a good estimate of the reliability coefficient serves two major purposes "it leads to many statistical equations for estimating effects of measurement error...and it provides a useful index of the extent to which results of an instrument can be trusted in applied work or basic research in psychology" (p. 131). There is no definite rule as to how high a reliability coefficient should be for a test, however, one questions a coefficient less than .80 and one strives to attain over .90.

Internal consistency reliability is most frequently used to determine the consistency of performance of one group of subjects on a single measure (Waltz et al, 1984). This measure of reliability is particularly appropriate for instruments which measure states, since by definition states are transitory (Knapp, 1985). Reliability measures which are repeated after a period of

time would not be appropriate.

Internal consistency is frequently determined by Cronbach's coefficient alpha. Alpha measures the extent to which a score on any one item is an indicator of the score on any other item of the instrument. Coefficient alpha gives a single value for a given set of data (Waltz et al, 1984). A high alpha usually indicates that an instrument is measuring only one attribute.

Validity is the degree to which an instrument measures what it is intended to measure. Reliability is a necessary but not sufficient requirement for validity (Waltz et al, 1984). There are different kinds of validity. Content validity is the degree to which the items in an instrument represent the universe of content (Kerlinger, 1973). Content validity was established for the NHS in the pilot study by a panel of experts.

Criterion-related validity is the degree to which scores on an instrument are correlated with some external criterion. If the criterion measure is obtained at the same time as the measurement under study, concurrent validity is assessed. If the criterion measure is obtained at some time in the future, predictive validity is assessed. For both concurrent and predictive validity, the correlation between the instrument and the criterion measure is used as the criterion-related validity

coefficient (Kerlinger, 1973).

Construct validity is the degree to which an instrument measures the construct being investigated. Factor analysis is one of the most powerful methods of determining construct validity. Factor analysis is a method of reducing a large number of measures to a smaller number of factors by discovering which ones cluster or go together. Kerlinger (1973) states:

> constructs could be defined in two ways: by operational definitions and by constitutive definitions. Constitutive definitions are definitions that define constructs with other constructs. Essentially this is what factor analysis does. It may be called a constitutive meaning method, since it enables the researcher to study the constitutive meanings of constructs...and thus their construct validity (p. 686).

When a group of variables has, for some reason, a great deal in common a factor may be said to exist. The technique of correlations is used to discover these related variables (Child, 1978). Factor analysis provides a means for determining internal structures and cross structures for sets of variables (Nunnally, 1970).

In factor analysis a correlation matrix among variables is computed and a new set of variables is found on the basis of the interrelationships. Principal components analysis assists in determining the minimum number of factors needed to account for the maximum amount of the variance represented in the original set of

variables (Hair, Anderson, Tatham, Grabowsky, 1979). These principal components are transformations of original variables into a new set of composite correlated (oblique) or uncorrelated (orthogonal) variables. Orthogonal rotation is also called varimax. The resulting factors are the best linear combination of variables (Child, 1978).

Principal components analysis with factor rotation was employed for construct validation of the NHS. The output of the computer program for unrotated factor analysis provides the components (factors) in the order of importance in descending order. Factor I accounts for more variance of the data than any other linear combination; Factor II accounts for residual variance after Factor I has been extracted. Factor I is more important than Factor II, Factor II is more important than Factor III, and so on. Significant loading on every variable necessarily occurs with the first factor which then tends to be a general factor (Hair et al, 1979).

The computer program also elicits eigenvalues which are a value equal to the sum squared weights of that factor. Factors with eigenvalues of 1.00 or more are used to form a new factor structure. Factor loadings express the correlation between the item and the factor. The loadings give a determination of the extent an item

measures a factor or loads on the factor. Communalities are the sums of squares of the factor loadings or the sum of all common factor variance of a test (Child, 1978). The communalities are also computed by the computer.

Clustering of variables become more obvious after rotation of a factor matrix. The rotation of factors redistributes the variance from earlier factors to later factors, and consequently, produces a simplified factor structure in theoretically more meaningful factor patterns (Hair et al, 1979). Orthogonal rotation by the varimax method was employed for all factors with eigenvalues of 1.00 or more. This method simplified the factor matrix by maximizing the variance in each column.

The demographic data obtained was frequency analyzed to describe the sample. The Nowotny Hope Scale had reliability analysis conducted on the data using Cronbach's coefficient alpha. Item-to-total correlations were also done. Validity analysis included Pearson product moment correlation coefficient with the Beck Hopelessness Scale, and principal components analysis with factor rotation. Reliability analysis with item-to-total correlations was also conducted on the Beck Hopelessness Scale. Frequency analysis was done on the NHS to determine the measurement of hope in this study.

Summary

Development of an instrument to measure hope as exhibited by a general adult population after a stressful event was explained in this chapter. A pilot study supported the content and construct validity and reliability of the instrument, the NHS. Methodology for testing reliability and validity of the instrument on a target population was explained.

CHAPTER IV

ANALYSIS OF DATA

A methodological study was conducted to determine reliability and validity of an instrument to measure hope as exhibited in a general adult population after a stressful event. Presentation of descriptive characteristics of the sample is followed by an analysis of the reliability and validity of the NHS, a discussion of the measurement of hope, and a summary of findings.

Description of Sample

The target population was drawn from a southwestern metropolitan area of the United States with a population of 3.2 million people. Three hundred six adults, well and ill, between the ages of 20 and 85 who had experienced a stressful event participated in the study. There were 156 well individuals or individuals being treated for other illnesses and 150 subjects with a diagnosis of cancer. Demographic data on age, sex, marital status, religion, education, living arrangements, occupation, health status, and medical conditions for which currently receiving treatment were obtained. Each subject was asked to complete the questionnaire which consisted of the 47 item Nowotny Hope Scale, the 20 item Beck Hopelessness Scale,

and the demographic data. Tables 1 to 12 summarize the demographic data.

Table 1 represents the age distribution of the 306 subjects. The ages ranged from 20 to 85. For each age interval, the absolute frequency, percentage, and cumulative percentage are included. The frequency distribution of age indicates that 54.9% of the sample was between 20 and 50 years of age and 45.1% between the ages of 51 and 85.

Table 1

Age Distribution of Sample

Age Interval	Absolute Frequency	Percentage	Cumulative Percentage
20-30	50	16.4	16.4
31-40	54	17.8	34.2
41-50	63	20.7	54.9
51-60	58	19.1	74.0
61-70	36	11.8	85.8
71-80	40	13.2	99.0
80-85	3	1.0	100.0
Missing	2		

Table 2 represents the sex distribution of the sample. There was a higher percentage of female participants than male participants. Twenty-one percent of the participants were male and 79% were female.

Table 3 depicts the ethnic distribution of the sample. The majority of the sample (92.5%) was Caucasian. Black Americans, Mexican Americans, and other constituted the remaining 7.5%.

Table 4 presents the marital status of the participants. The majority of the subjects (63.5%), reported being married. Fifteen percent were single, 12.2% were divorced, 8.2% were widowed, and 1.0% were separated.

Table 2

Sex Distribution of Sample

Sex	Absolute Frequency	Percentage	Cumulative Percentage
Male	64	21	21
Female	241	79	100
Missing	1		

Table 3

Ethnic Distribution of Sample

Ethnic Group	Absolute Frequency	Percentage	Cumulative Percentage
Caucasian	282	92.5	92.5
Black-American	11	3.6	96.1
Mexican-American	5	1.6	97.7
Other	7	2.3	100.0
Missing	1		

Table 4

Distribution of Marital Status of Sample

Status	Absolute Frequency	Percentage	Cumulative Percentage
Single	46	15.1	15.1
Married	193	63.5	78.6
Widowed	25	8.2	86.8
Divorced	37	12.2	99.0
Separated	3	1.0	100.0
Missing	2		

Religious preference identified by the majority of the sample was Protestant (78%). There was representation for each of the groups identified. A summary of the religious preferences is shown in Table 5.

The educational level ranged from 4.6% not completing high school to 16.7% having some graduate education. Thirty-six percent reported having some college education. Table 6 summarizes the educational level for the sample.

Table 5

Distribution of Religious Preferences

Religion	Absolute Frequency	Percentage	Cumulative Percentage
Protestant	237	78.0	78.0
Jewish	9	3.0	81.0
Catholic	29	9.5	90.5
Other	29	9.5	100.0
Missing	2		

Table 6

Educational Level Distribution of Sample

Education	Absolute Frequency	Percentage	Cumulative Percentage
Did not finish high school	14	4.6	4.6
Finished high school	53	17.5	22.1
Some college	110	36.3	58.4
Finished college	75	24.8	83.2
Graduate school	51	16.8	100.0
Missing	3		

Almost 70% of the respondents reported living with a spouse or living with spouse and children. Almost 17% indicated they lived alone. The living arrangements are summarized in Table 7.

Table 7

Living Arrangements of Sample

Living Arrangements	Absolute Frequency	Percentage	Cumulative Percentage
Live with spouse	102	34.8	34.8
Live with spouse and children	94	32.1	66.9
Live with family (parents, sister, etc)	25	8.5	75.4
Live with friend	21	7.2	82.6
Live alone	49	16.7	99.3
Other	2	.7	100.0
Missing	13		

The occupational level of the sample ranged from being in domestic service or custodian to professional. Twenty-six percent reported working in clerical or sales positions and 12.7% were homemakers. Twelve percent of the sample was retired. Table 8 presents the occupational level of the sample.

Table 8

Occupational Level of Sample

Occupation	Absolute Frequency	Percentage	Cumulative Percentage
Volunteer	4	1.4	1.4
Domestic Service/ Custodian	5	1.7	3.1
Skilled Labor/ Craftsman	17	5.8	8.9
Clerical/Sales	76	26.1	35.0
Managerial/ Proprietor	16	5.5	40.5
Semiprofessional	36	12.4	52.9
Professional	41	14.1	67.0
Retired	35	12.0	79.0
Student	24	8.3	87.3
Homemaker	37	12.7	100.0
Missing	15		

One hundred fifty of the respondents indicated they had cancer at some time. Twenty-seven other participants were presently under treatment for another medical

condition. The medical conditions are summarized in Table 9.

Table 9

Medical Conditions of Sample

Medical Condition	Absolute Frequency	Percentage	Cumulative Percentage
Cancer	150	84.7	84.7
High blood pressure	5	2.8	87.6
Cardiac	3	1.7	89.3
Allergies	1	.6	89.8
Arthritis	4	2.3	92.1
Blood dyscrasias	6	3.4	95.5
Respiratory conditions	2	1.1	96.6
Orthopedic conditions	3	1.7	98.3
Infections	1	.6	98.9
Depression	1	.6	99.4
Gastro-intestional conditions	1	.6	100.0

Twenty of the subjects reported being treated for two or more medical conditions. High blood pressure accounted

for 35% of these second medical conditions. Cardiac conditions and arthritis each accounted for 15%.

In summary, the majority of the subjects were between 20 and 50 years of age, female, Caucasian, married, Protestant, finished some college, lived with a spouse or spouse and children, and were in clerical or sales positions. One hundred seventy-seven of the respondents were being treated for some type of medical condition. Twenty of the sample indicated they were being treated for more than one medical condition. Cancer was a medical diagnosis at some time in the life of 150 of the respondents.

Description of the Stressful Event

Each respondent was asked to identify the type of event or situation of which they were thinking when they answered the NHS, how long ago the event occurred, and how long they felt stressed. This information was obtained in order to discover the type of events individuals found the most stressful. One hundred thirty respondents (43%) reported health was their stressful event and 45 (14.9%) reported the event was job related. One hundred fifty-six respondents (55.5%) indicated the event occurred within the last year. Fifty percent of the respondents reported they felt stressed from one day to six months and 27.3% reported they still felt stressed. Tables 10, 11, and 12

summarize the data on the stressful event.

Table 10

Description of Stressful Event

Stressful Event	Absolute Frequency	Percentage	Cumulative Percentage
Emotional	28	9.3	9.3
Health	130	43.0	52.3
Financial	19	6.3	58.6
Marital	23	7.6	66.2
Educational	10	3.3	69.5
Family	35	11.6	81.1
Job-related	45	14.9	96.0
Other	12	4.0	100.0
Missing	4		

Table 11

Length of Time Since Stressful Event Occurred

Time	Absolute Frequency	Percentage	Cumulative Percentage
Within last week	9	3.2	3.2
Within 1 month	30	10.7	13.9
1-3 months	43	15.3	29.2
3-6 months	30	10.7	39.9
6 months-1 year	44	15.7	55.5
1-3 years	64	22.8	78.3
3-6 years	30	9.8	89.0
7-10 years	13	4.6	93.6
Over 10 years	18	6.4	100.0
Missing data	25		

Table 12

Length of Time Felt Stressed

Time	Absolute Frequency	Percentage	Cumulative Percentage
0-1 day	13	4.9	4.9
1-7 days	26	9.7	14.6
1-2 weeks	19	7.1	21.7
2-4 weeks	22	8.2	29.9
1-3 months	29	10.9	40.8
3-6 months	25	9.4	50.2
7-12 months	24	9.0	59.2
1-3 years	23	8.6	67.8
Over 3 years	13	4.9	72.7
Still continues	73	27.3	100.0
Missing data	39		

Findings

This section includes findings from the reliability analysis conducted on the Nowotny Hope Scale and the BHS and validity analysis of the NHS. The measurement of hope for this sample of 306 subjects is also presented, and scores on the NHS and BHS are discussed. There are

discussion and table presentations of the findings.

Nowotny Hope Scale-47 Items

Reliability

To measure the extent to which items within the NHS were internally consistent, Cronbach's coefficient alpha was used. The coefficient alpha for the instrument was .903 which is a high reliability. This indicated stability, accuracy, and precision of the instrument for this study (Kerlinger, 1973). Table 13 presents the reliability analysis with the mean, correlation, and alpha if the item was deleted. As indicated in the table, eleven items had correlations under .3 and two of these items, H31 and H36, had negative correlations. However, deletion of any one of these items only increased the alpha to .907 and .908 respectively. Table 14 presents the findings of the reliability analysis indicating the correlation of the item to the six subscales, identified in the conceptual framework and supported by the literature, and the item-to-total correlations. Many of the items had lower correlations on the subscales than on the total scale which suggests the items are correlated with the construct, but the relationship with the subscales indicates overlap with other subscales or the subscales are measuring more than one factor. The subscale correlations were also less than .80 which

indicates the subscales are combinations of factors.

Table 13

Reliability Analysis of the 47 Item NHS

(n=306)

Item Number	Scale Mean If Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
H1	143.40	.499	.899
H2	143.41	.530	.899
H3	143.37	.596	.898
H4	143.31	.380	.901
H5	143.62	.486	.900
H6	143.34	.508	.900
H7	143.76	.153	.904
H8	143.52	.432	.900
H9	143.62	.642	.898
H10	143.75	.476	.900
H11	143.40	.325	.902
H12	144.16	.290	.903
H13	143.71	.301	.902
H14	143.51	.499	.900

(table continues)

Item Number	Scale Mean If Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
H15	143.44	.437	.900
H16	143.25	.387	.901
H17	144.15	.345	.902
H18	143.66	.456	.900
H19	143.62	.299	.902
H20	143.42	.501	.899
H21	143.82	.272	.902
H22	143.46	.292	.902
H23	143.44	.339	.902
H24	143.50	.571	.899
H25	144.02	.423	.900
H26	143.43	.213	.903
H27	143.16	.241	.902
H28	143.32	.438	.900
H29	143.68	.244	.903
H30	143.42	.412	.901
H31	144.48	-.107	.907
H32	143.56	.643	.898
H33	143.47	.621	.898

(table continues)

Item Number	Scale Mean If Item Deleted	Corrected Item-Total Correlation	Alpha If Item Deleted
H34	143.35	.518	.900
H35	143.29	.444	.900
H36	144.31	-.221	.908
H37	143.36	.611	.898
H38	143.33	.497	.900
H39	143.78	.463	.900
H40	143.78	.170	.903
H41	143.03	.375	.901
H42	143.31	.526	.900
H43	143.36	.564	.899
H44	143.52	.505	.899
H45	143.39	.407	.901
H46	143.77	.485	.899
H47	143.28	.426	.900

Note. Composite Coefficient alpha = .903

Table 14

Item-To-Total and Item-To-Subscale Correlations of the 47 Item NHS

(n = 306)

Item	Item-To-Subscale	Item-To-Total
Subscale-Future Oriented (alpha=.588)		
H1	.556	.499
H13	.275	.301
H19	.087	.299
H25	.255	.423
H31	-.116	-.107
H37	.560	.611
H44	.508	.505
H47	.381	.426
Subscale-Active Involvement (alpha=.744)		
H2	.417	.530
H8	.400	.432
H14	.460	.499
H26	.222	.213
H32	.631	.643
H38	.521	.497

(table continues)

Item	Item-To-Subscale	Item-To-Total
H45	.438	.407
H46	.461	.485
Subscale-Comes From Within (alpha=.729)		
H6	.489	.508
H9	.573	.642
H15	.302	.437
H27	.226	.241
H33	.607	.621
H39	.426	.463
H43	.500	.564
Subscale-Is Possible (alpha=.508)		
H5	.482	.486
H12	.291	.290
H18	.369	.456
H24	.384	.571
H30	.210	.412
H36	-.148	-.221
H42	.305	.526
Subscale-Relates to Others (alpha=.747)		
H4	.468	.380
H7	.234	.153

(table continues)

Item	Item-To-Subscale	Item-To-Total
H11	.574	.325
H17	.283	.345
H20	.511	.501
H23	.573	.339
H29	.503	.244
H35	.499	.444
H41	.187	.375
	Subscale-Has Meaning (alpha=.611)	
H3	.414	.596
H10	.308	.476
H16	.353	.387
H21	.170	.272
H22	.298	.292
H28	.353	.438
H34	.439	.518
H40	.169	.170

Validity

Principal components factor analysis with orthogonal rotation was used as the measure for construct validity. The factor analysis for the 47 item scale suggests that each of the original six subscales was measuring more than

one factor and that there are more than 6 dimensions to hope. Twelve factors were extracted. Table 15 summarizes the factor extraction for 12 factors and Table 16 depicts the factor loadings and the communalities (h^2) for each of the 47 items. Each of the items was examined to determine loadings over .4. Tabachnick and Fidell (1983) support the use of factor loadings of at least .3 which indicates at least a 9% overlap in the variance between the variable and the factor. Loadings in excess of .71 (50% variance) are considered excellent, .63 (40% variance) are very good, .55 (30% variance) are good, .45 (20% variance) are fair, and .32 (10% variance) are poor. For this study .4 loadings were used. Two items, H31 and H36, had negative loadings and items H34 and H47 had loadings on all factors below .4. These items were evaluated and deemed to be of lesser importance. The decision was made to delete these items. Hair et al (1979) states that the researcher at this point will derive a new factor solution deleting those items which had insignificant loadings. Only one and two items described Factors 10, 11, and 12. Tabachnick and Fidell (1983) indicate that factors that are defined by only one or two variables are potentially unreliable and should be interpreted cautiously or not at all. As a consequence of the factor loadings, items H7, H13, H19, H31, H34, H36,

H40, and H47 were deleted, and reliability and factor analysis tests were conducted on the 39 item NHS.

Table 15

Summary of Factor Extraction for 12 Factors for the 47 Item NHS

Factor	Eigenvalue	Factor Extraction % Variance Explained	Cumulative % of Variance Explained
1	10.767	22.9	22.9
2	3.342	7.1	30.0
3	2.585	5.5	35.5
4	1.905	4.1	39.6
5	1.703	3.6	43.2
6	1.587	3.4	46.6
7	1.514	3.2	49.8
8	1.386	2.9	52.8
9	1.266	2.7	55.4
10	1.154	2.5	57.9
11	1.069	2.3	60.2
12	1.033	2.2	62.4

Table 16

Factor Loadings and Communalities (h^2) of the 47 Item NHS

Item	Factors												(h^2)
	1	2	3	4	5	6	7	8	9	10	11	12	
H1	30	10	55	10	08	-04	-16	36	11	14	06	07	63
H2	66	12	17	02	-04	12	22	07	06	11	11	09	60
H3	63	10	32	09	-01	14	29	-05	07	06	17	-03	67
H4	14	-01	07	75	03	09	02	-01	15	03	09	-01	64
H5	47	01	48	08	-04	01	23	05	-02	01	-05	00	53
H6	61	25	15	15	06	-04	-03	21	-06	-14	-01	-03	56
H7	02	-09	-10	34	16	03	09	08	-15	00	53	07	49
H8	73	01	-15	06	21	14	04	-02	03	07	03	-01	65
H9	74	09	23	09	21	05	05	12	14	-04	-05	03	72
H10	48	-06	28	20	18	02	11	09	-04	09	-27	12	52
H11	06	-04	00	16	03	86	10	10	05	-02	01	03	80
H12	14	-07	34	01	-10	01	57	18	-09	00	-09	-14	55
H13	08	-01	35	-03	27	-09	12	22	10	03	12	-57	63
H14	36	35	05	17	06	03	40	-07	28	-12	-11	07	58
H15	16	12	-05	74	08	17	06	12	01	10	-15	-02	69
H16	11	34	01	-01	25	13	-09	26	42	06	13	-09	51
H17	16	-15	02	42	05	00	46	06	14	26	08	-17	58

(table continues)

Item	Factors												(h^2)
	1	2	3	4	5	6	7	8	9	10	11	12	
H18	16	14	48	10	29	28	07	-15	-09	11	-32	-17	64
H19	11	20	27	12	12	02	-03	-02	00	75	-13	19	78
H20	04	07	35	62	30	15	-03	-03	-03	06	07	04	66
H21	13	-02	-02	01	14	06	66	-05	-02	13	12	05	52
H22	08	12	-03	-05	13	-03	19	67	03	07	16	-07	58
H23	10	02	09	11	06	90	-01	00	00	-04	06	00	86
H24	19	22	50	05	22	15	14	-01	34	05	-03	10	58
H25	24	-12	27	14	08	07	51	30	-20	10	-16	-07	63
H26	-04	47	-05	-10	04	02	29	23	11	-06	-23	36	58
H27	03	76	-06	07	08	-04	-10	01	-01	11	-08	01	64
H28	16	70	16	02	19	-03	-02	10	02	08	-15	-13	65
H29	07	00	02	10	-01	89	02	-02	-03	04	-06	-10	82
H30	13	32	06	14	-03	16	03	52	17	03	-14	09	51
H31	00	03	10	-07	04	02	-25	-07	03	-79	-06	04	73
H32	43	28	11	09	37	02	04	26	41	04	-02	08	68
H33	48	38	11	07	25	-04	23	12	24	06	03	-03	61
H34	27	38	24	-01	18	01	00	33	23	00	20	00	53
H35	03	24	22	66	-05	11	10	01	07	-04	24	00	65
H36	-06	04	-12	-14	-01	05	02	-04	-75	05	09	01	63
H37	20	14	65	26	17	05	18	01	22	-04	00	-08	68

(table continues)

Item	Factors												(h^2)
	1	2	3	4	5	6	7	8	9	10	11	12	
H38	19	23	15	13	48	03	01	01	29	-02	23	09	51
H39	25	14	00	07	43	00	39	07	13	11	00	-20	51
H40	13	00	11	-03	15	-02	-05	08	03	10	15	65	53
H41	12	58	13	15	00	07	-11	21	-06	-03	30	05	55
H42	20	48	35	10	20	-07	13	05	12	-23	24	15	63
H43	28	40	33	07	10	08	28	04	10	-08	18	01	52
H44	12	14	32	20	43	06	-08	45	-05	-21	-07	10	66
H45	12	15	08	01	73	02	-04	03	02	06	16	00	62
H46	10	05	11	12	70	02	32	14	01	-03	-17	06	70
H47	13	31	17	12	27	-03	-12	29	23	-11	30	14	52

Note. Decimal points have been deleted from the table.

NHS-39 Items

Reliability

Table 17 summarizes the reliability analysis with the mean, correlation, and alpha if the item was deleted for the 39 item NHS. The coefficient alpha for the scale was .910. Five items had item-to-total correlations under .3, but there were no negative correlations. Deletion of any of these items only increased the alpha to .911.

Table 17

Reliability Analysis of the 39 Item NHS

Item Number	Scale Mean If Item Deleted	Corrected Item-Total Correlation	Alpha If Item Deleted
H1	120.28	.477	.907
H2	120.29	.544	.907
H3	120.25	.605	.906
H4	120.19	.385	.909
H5	120.50	.491	.907
H6	120.22	.501	.907
*			
H8	120.40	.439	.908
H9	120.50	.651	.905
H10	120.63	.482	.907
H11	120.28	.347	.909
H12	121.04	.307	.910
*			
H14	120.39	.515	.907
H15	120.32	.450	.908
H16	120.13	.373	.909
H17	121.03	.363	.909

(table continues)

Item Number	Scale Mean If Item Deleted	Corrected Item-Total Correlation	Alpha If Item Deleted
H18	120.54	.460	.907
*			
H20	120.30	.492	.907
H21	120.70	.286	.910
H22	120.34	.276	.910
H23	120.32	.348	.909
H24	120.38	.564	.906
H25	120.90	.441	.908
H26	120.31	.217	.910
H27	120.04	.232	.910
H28	120.19	.418	.908
H29	120.56	.268	.911
H30	120.30	.407	.908
*			
H32	120.44	.631	.906
H33	120.35	.614	.906
*			
H35	120.17	.444	.908
*			

(table continues)

Item Number	Scale Mean If Item Deleted	Corrected Item-Total Correlation	Alpha If Item Deleted
H37	120.24	.614	.906
H38	120.21	.480	.907
H39	120.66	.471	.907
*			
H41	119.91	.353	.909
H42	120.19	.503	.907
H43	120.24	.560	.906
H44	120.40	.481	.907
H45	120.27	.381	.908
H46	120.65	.484	.907
*			

Note. Composite Coefficient alpha = .910

* Indicates deleted items

Table 18 summarizes the reliability analysis with the the mean, correlation, and alpha if the item was deleted for the BHS. Items B2, B3, B13, B16, and B20 had correlations under 0.3. In this sample, items B2 and B16 had an almost negligible relationship with the total

scale. Although there were some items with a weak correlation, the Cronbach coefficient alpha for the 20 item BHS was .783.

Table 18

Reliability Analysis for the BHS

(n=306)

Item Number	Scale Mean If Item Deleted	Corrected Item-Total Correlation	Alpha If Item Deleted
B1	2.41	.429	.771
B2	2.45	.068	.785
B3	2.42	.215	.781
B4	2.04	.375	.776
B5	2.14	.314	.781
B6	2.4	.506	.767
B7	2.4	.430	.771
B8	2.16	.325	.779
B9	2.39	.355	.774
B10	2.38	.325	.775
B11	2.43	.433	.773
B12	2.31	.513	.762

(table continues)

Item Number	Scale Mean If Item Deleted	Corrected Item-Total Correlation	Alpha If Item Deleted
B13	2.17	.093	.800
B14	2.34	.529	.761
B15	2.39	.580	.762
B16	2.44	.294	.779
B17	2.40	.353	.774
B18	2.24	.511	.761
B19	2.42	.580	.765
B20	2.44	.187	.782

Note. Composite Coefficient alpha = .783

Validity

Content validity was established in the pilot study by the researcher and expert panelists. In the development of the NHS, the conceptualization of hope was based on an extensive review of the literature. Expert panelists were asked to evaluate the conceptualization, subscales, and the instrument.

The Beck Hopelessness Scale was used to evaluate and support concurrent validity for the NHS. As discussed

earlier, the BHS was designed to measure levels of hopelessness which is on the opposite end of the continuum from hope. This investigator predicted that there should be a negative correlation between the BHS and the NHS. Using the Pearson product moment correlation coefficient, the BHS and the NHS were negatively correlated ($r = -.478$, $p < .001$). This demonstrates a moderate concurrent validity for the NHS.

To obtain construct validity, principal components factor analysis with orthogonal rotation was used. Table 19 summarizes the factor extraction for 10 factors of the 39 item NHS and Table 20 summarizes the factor loadings and the communalities (h^2) for each of the items. All items had factor loadings of .4 or higher on one factor and three items, H5, H17, and H39, had loadings of over .4 on two factors.

Table 19

Summary of Factor Extraction for 10 Factors for the 39 Item NHS

Factor	Eigenvalue	Factor Extraction % Variance Explained	Cumulative % of Variance Explained
1	9.854	25.3	25.3
2	3.02	7.8	33.0
3	2.42	6.2	39.3
4	1.76	4.5	43.8
5	1.54	4.0	47.7
6	1.44	3.7	51.5
7	1.34	3.4	54.9
8	1.18	3.0	57.9
9	1.04	2.7	60.6
10	1.02	2.6	63.2

Table 20

Factor Loadings and Communalities (h^2) for the 39 Item NHS

Item	Factors										(h^2)
	1	2	3	4	5	6	7	8	9	10	
H1	33	12	45	-07	13	-05	11	37	20	-26	62
H2	69	04	05	12	00	05	18	06	23	15	62
H3	63	12	21	13	01	-01	21	-06	30	23	68
H4	15	77	08	08	04	-09	-05	03	04	08	66
H5	45	08	44	00	-06	-05	31	05	11	07	54
H6	58	14	14	-04	06	16	07	20	13	-09	49
*											
H8	72	06	-05	14	18	01	-08	02	-09	16	63
H9	74	07	22	05	23	04	09	13	11	01	72
H10	51	17	23	04	19	08	33	-03	-14	-08	53
H11	06	15	04	86	04	-05	04	11	02	07	80
H12	11	00	19	02	-06	-05	63	06	13	28	57
*											
H14	33	15	28	02	01	28	-01	05	14	45	53
H15	16	72	00	18	07	19	10	08	-10	03	66
H16	12	05	23	08	21	17	-36	51	09	15	59
H17	17	48	-02	00	07	-09	31	04	-07	44	57

(table continues)

Item	Factors										(h^2)
	1	2	3	4	5	6	7	8	9	10	
H18	14	11	58	26	22	21	22	-15	-17	00	64
H20	04	63	26	15	34	-01	08	-04	16	-10	67
H21	09	03	03	06	09	-07	25	05	02	66	53
H22	07	-02	-11	-06	16	06	22	70	10	11	62
H23	09	11	10	90	05	-02	-02	01	08	-01	86
H24	20	07	67	11	17	12	-03	15	11	16	63
H25	24	12	08	08	12	02	73	10	-05	14	68
H26	00	-14	-02	04	05	62	15	18	12	10	50
H27	07	10	00	-05	08	76	-15	03	16	-07	67
H28	17	05	30	-05	14	68	-04	13	08	-01	63
H29	07	10	03	89	-01	02	06	-03	-03	00	82
H30	13	15	17	14	-04	29	03	61	02	00	55
*											
H32	45	10	27	00	36	20	-14	39	06	17	67
H33	48	08	25	-06	23	29	-01	19	13	30	60
*											
H35	02	69	18	09	-02	05	00	09	34	08	66
*											
H37	20	28	66	02	17	02	18	06	22	07	68
H38	22	14	14	02	53	09	-16	08	30	10	52

(table continues)

Item	Factors										(h^2)
	1	2	3	4	5	6	7	8	9	10	
H39 *	22	10	11	-01	41	10	11	13	-01	46	49
H41	15	17	-10	07	11	35	-03	16	63	-18	67
H42	19	07	33	-07	23	20	-04	13	59	08	63
H43	28	07	21	08	17	23	16	02	54	17	58
H44	12	14	20	07	50	09	22	33	19	-31	64
H45	13	03	05	02	76	04	-10	05	12	03	63
H46 *	09	07	14	03	71	14	27	05	-04	18	69

Note. Decimals have been deleted from the table.

* denotes items deleted

Hair et al (1979) discusses that after a factor analysis has been obtained in which all items have a significant loading on a factor, the researcher should try to assign names or meanings to the factor. In naming the factors, the researcher will select a label that best reflects the meaning of all items for that factor with more emphasis being placed upon the items with higher loadings.

In an attempt to name these factors, each item was analyzed in relation to the other items in that factor. Factor 1, which had nine items, was composed of items from four of the original subscales. This factor was named "confidence" because it included active involvement, meaningful outcome, is possible, and comes from within. It connoted an overlapping between these dimensions. Factor 2, which had five items, clearly depicted "relates to others" and was composed of all the original items except those that related to a higher being. Factor analysis separated those related to a person's faith or religion into Factor 4. Factor 4 had three items and was labeled "religious faith". Factor 3 combined items from the future and is possible subscales and was labeled "future is possible". It contained five items. Factor 5 was named "active involvement" and contained five items. Factor 6 contained three items and was named "comes from within". The items in Factor 7 were part of the original future items but were the negative aspect. Factor analysis separated these. This factor was named "uncertainty of future" and had two items. Factor 8 which had three items pertained to "meaningful outcomes". Factor 9 had three items and was labeled "optimistic". Factor 10 had four items and was labeled "motivated and goal oriented".

In the analysis of these ten factors it was decided to delete Factors 7, 8, 9, and 10 since Factor 7 had only two items. Factor 7 was the factor with the two negative statements toward the future. Since Factors 8, 9, and 10 were created on the variance remaining after Factor 7 was extracted, the reliability of these factors would also be questioned.

NHS-29 Items

Reliability

The final NHS retained 29 items with the extraction of 6 factors which became the new subscales. Table 21 summarizes the reliability analysis with the mean, correlation, and the alpha if the item was deleted for the revised scale. The reliability of these 29 items with the item-to-total and item-to-subscale is depicted in Table 22. The coefficient alpha for the scale was .897 and only three items had item-to-total correlations under .3. These three items were not deleted since deletion of any of these items did not increase the alpha substantially.

Validity

The Beck Hopelessness Scale was again used to establish concurrent validity for the revised NHS. Using the Pearson product moment correlation coefficient, the BHS and the NHS were negatively correlated ($r = -.471$, $p < .001$). This demonstrates a moderate concurrent validity

for the NHS. The factor structure with a description of each item, the subscale reliability, and the item factor loading are presented in Table 23.

Table 21

Reliability Analysis of the 29 Item NHS

Item Number	Scale Mean If Item Deleted	Corrected Item-Total Correlation	Alpha If Item Deleted
H1	91.94	.473	.894
H2	91.96	.529	.893
H3	91.91	.602	.891
H4	91.85	.416	.895
H5	92.16	.523	.893
H6	91.88	.497	.894
H8	92.06	.434	.895
H9	92.16	.656	.891
H10	92.29	.496	.894
H11	91.95	.363	.896
H15	91.98	.460	.894
H17	92.69	.338	.897
H18	92.20	.478	.894

(table continues)

Item Number	Scale Mean If item Deleted	Corrected Item-Total Correlation	Alpha If Item Deleted
H20	91.96	.515	.893
H23	91.98	.380	.896
H24	92.04	.561	.893
H26	91.97	.171	.899
H27	91.70	.212	.898
H28	91.86	.396	.895
H29	92.22	.293	.898
H32	92.10	.616	.892
H33	92.01	.586	.892
H35	91.83	.445	.894
H37	91.90	.606	.892
H38	91.87	.478	.894
H39	92.33	.435	.895
H44	92.06	.467	.894
H45	91.93	.381	.896
H46	92.32	.468	.894

Note. Composite Coefficient alpha = .897.

Table 22

Item-To-Total and Item-To-Subscale Correlations of the 29 Item NHS

(n = 306)

Item	Item-To-Subscale	Item-To-Total
	Factor 1 (alpha=.86)	
H2	.637	.529
H3	.657	.602
H5	.517	.523
H6	.553	.497
H8	.522	.434
H9	.756	.656
H10	.500	.496
H32	.577	.616
H33	.604	.586
	Factor 2 (alpha=.755)	
H4	.603	.416
H15	.560	.460
H17	.382	.338
H20	.551	.515
H35	.573	.445

(table continues)

Item	Item-To-Subscale	Item-To-Total
	Factor 3 (alpha=.756)	
H1	.473	.473
H5	.494	.523
H18	.467	.478
H24	.558	.561
H37	.635	.606
	Factor 4 (alpha=.898)	
H11	.771	.363
H23	.829	.380
H29	.798	.293
	Factor 5 (alpha=.722)	
H38	.463	.478
H39	.390	.435
H44	.451	.467
H45	.527	.381
H46	.600	.468
	Factor 6 (alpha=.639)	
H26	.357	.171
H27	.539	.212
H28	.466	.396

Table 23

Factors with Description of Items, Subscale Reliability, and Item Loading of the 29 Item Scale

Item	Description of Item	Factor Loading
	Factor 1 Alpha =.862	
H2	Make best of what happens.	.69
H3	Positive outlook.	.63
H5	Confident about outcome.	.45
H6	Know can make changes.	.58
H8	Can adapt to limitations.	.72
H9	Ready to meet new challenges.	.74
H10	Decisions I make get me what I expect.	.51
H32	Ready to take action.	.45
H33	Have confidence in own ability.	.48
	Factor 2 Alpha =.755	
H4	Family or significant other is available to help.	.77
H15	Feel confident in those who want to help.	.72
H17	Sometimes I feel I am all alone.	.48

(table continues)

Item	Description of Item	Factor Loading
H20	Share important decision-making with family or significant other.	.63
H35	Know can go to family and friends for help.	.69
	Factor 3 Alpha=.756	
H1	In future plan to accomplish many things.	.45
H5	Feel confident about outcome.	.44
H18	See light at end of tunnel.	.58
H24	Know can accomplish this task.	.67
H37	Look forward to future.	.66
	Factor 4 Alpha =.898	
H11	My religious beliefs help me most.	.86
H23	I use prayer to give me strength.	.90
H29	I use scripture to give me strength.	.89
	Factor 5 Alpha=.722	
H38	Like to do things rather than sit and wait.	.53
H39	Lack confidence in my ability.	.41

(table continues)

Item	Description of Item	Factor Loading
H44	Have important goals to achieve in next 10-15 years.	.50
H45	Like to sit and wait for things to happen.	.76
H46	I have difficulty setting goals.	.71
	Factor 6 Alpha =.898	
H26	Like to make own decisions.	.62
H27	Want to maintain control in my life and body.	.76
H28	Expect to be successful in tasks.	.68

Measurement of Hope

The scoring for the 39 items of the NHS and the 20 items of the BHS are presented in Table 24. The scores for the 29 items of the NHS and the 20 items of the BHS are presented in Table 25. The mean, mode, and standard deviation for each scale are included in the table.

Table 24

Scoring for the NHS and the BHS

NHS		BHS	
Hopeful	95-116	No Hopelessness	0-3
Moderately Hopeful	73-94	Mild Hopelessness	4-8
Low Hope	51-72	Moderate Hopelessness	9-14
Hopelessness	29-50	Severe Hopelessness	15-20

Table 25

Respondents Scores

Scale	Number of Subjects	Level of Hope/ Hopelessness	Score Ranges
NHS	32	Hopeful	95-104
	235	Moderately Hopeful	73-94
	38	Low Hope	58-72
	1	Hopelessness	49
	Mean 82.0		
	Mode 75.0	Standard Deviation 9.2	
BHS	237	No Hopelessness	0-3
	52	Mild Hopelessness	4-8
	15	Moderate Hopelessness	9-12
	2	Severe Hopelessness	16
	Mean 2.46		
	Mode 1.00	Standard Deviation 2.71	

The range of scores indicated there were varying levels of hope in the general adult sample in both well and ill individuals. The number of respondents who scored hopeful and moderately hopeful on the NHS was slightly

less than those who scored no hopelessness and mild hopelessness on the BHS. This could be due to the BHS having yes and no answers and the NHS having a scaled response. The levels for the well adult population and the cancer patients are depicted in Table 26.

Table 26

Levels of Hope in Well Individuals and in Cancer Patients

Well Individuals N=156	Levels	Cancer Patients n=150
13	Hopeful	19
123	Moderately Hopeful	112
20	Low Hope	18
	Hopeless	1

Summary

The sample was described in terms of age, sex, ethnic group, marital status, religion, level of education, living arrangements, occupation, and medical conditions for which they were currently being treated. The type of stressful event identified by the respondents was also described.

Based upon the negative correlations on two items and the insignificant factor loadings, eight items were deleted and reliability and factor analysis tests were conducted on the revised 39 item NHS. Although the findings of the test for reliability indicated an acceptable alpha of .910 and the concurrent validity with the BHS was sufficient at ($r=-.478$, $p<.001$) for the 39 item scale, the principal components factor analysis yielded ten factors of which Factor 7 had an insufficient number of items to describe the factor. Consequently, Factors. 7, 8, 9, and 10 were deleted.

The final instrument retained 29 items with six factors. The Cronbach coefficient alpha was .897 and the reliabilities for the revised subscales were increased. The Pearson product moment correlation between the 29 item NHS and the BHS was ($r=-.471$, $p<.001$). The items for each subscale loaded with at least .4 on the factors and only one item had loadings of greater than .4 on two factors.

The range of scores from 49-104 out of a possible range of 29-116 indicated individuals within this sample had differing levels of hope. This corresponded to the range of scores on the BHS from 0-16 out of a possible 0-20.

CHAPTER V

SUMMARY OF THE STUDY

This summary reviews the steps that were taken to address the problem statement and the research questions. These steps included: developing an instrument to measure hope, testing the instrument for reliability and validity, and using the tool to investigate the problem statement. This chapter also includes a discussion of the findings, conclusions, and recommendations for further research.

Summary

The literature was reviewed for relevant information on hope. Based upon this literature review a conceptual framework and operational definition of hope was developed. Hope was defined as a six dimensional, dynamic attribute of the person which orients to the future, includes active involvement by the individual, comes from within, is possible, relates to others or a higher being, and relates to meaningful outcomes to the individual. Hope is activated when one is confronted with a stressful stimulus and the individual feels he has some control over the environment. A stressful event was defined as an experience such as a loss, a life threatening situation, hardship, major decision, future planning, or a challenge.

The Nowotny Hope Scale (NHS) was developed based on the literature review of qualitative studies on hope. Six dimensions of hope were identified and became the subscales of the NHS. The reader is referred to page 9, Figure 1 for the mapping of the dimensional components of hope. The items for the subscales were gathered from the literature, from other nurses, and from the researcher's clinical experience. The items and the subscales were reviewed by a panel of experts on hope to determine the degree of fit between the items and the subscales. There were seven to nine items per subscale for a total of 47 items.

A questionnaire with objective statements, both positive and negative, was developed to be the means of measurement for the NHS. Each subject selected a response to each item using a scaled response of strongly agree, agree, disagree, and strongly disagree. The 47 item NHS, the 20 item Beck Hopelessness Scale (BHS), and demographic questions constituted the questionnaire used in the study. Three hundred six adults, both well and ill, between the ages of 20 and 85 who had experienced a stressful event completed the questionnaire. The subjects were from a target population of adults in a southwestern metropolitan area of the United States with a population of 3.2 million people.

The demographic data was frequency analyzed to describe the sample. Reliability analysis using Cronbach's coefficient alpha was conducted on the data for the NHS and the BHS. Item-to-total correlations and item-to-subscale correlations were also done. Concurrent validity using the Pearson product moment correlation with the BHS was conducted. A principal components analysis with orthogonal rotation was done to obtain construct validity. Frequency analysis was also done on the NHS to determine the measurement of hope in this study.

Discussion of Findings

The demographic data included age, sex, ethnic group, marital status, religion, level of education, living arrangements, occupation, and medical conditions for which they were currently being treated. Frequency analysis of the demographic data from the 306 subjects indicated the following information: the majority of the subjects (a) were between 20 and 50 years of age, (b) were female, (c) were predominantly Caucasian, (d) were married and lived with their spouse or spouse and children, and (e) were Protestant. The largest group had finished some college and worked in clerical or sales positions. Cancer was a medical diagnosis at some time in the life of 150 of the respondents. The frequency table for type of stressful event indicated that health and job-related situations

were the most frequent causes of stress. The majority of the subjects indicated the stressful event occurred within the last year, and the majority felt stressed from one day to six months.

The 47 item NHS was subjected to reliability and validity analysis. The reliability using Cronbach coefficient alpha was .903. The six subscale reliabilities ranged from .508 to .747 indicating there was some overlap in the items. Two items had negative correlations. Principal components analysis also supported that there was overlap in the factors and that there might be more than six dimensions to hope. Twelve factors were initially extracted. Based upon the factor loadings and correlations, eight items were deleted and a new factor solution was derived.

The new scale of 39 items had a Cronbach coefficient alpha of .910. Five items had item to total correlations under .3, but there were no negative correlations. Deletion of any of these items only increased the alpha to .911. Concurrent validity with the BHS was established. Using Pearson product moment correlation, the BHS and the NHS were negatively correlated at ($r=-.478$, $p<.001$). Principal components analysis of the 39 items extracted ten factors. Each item had a loading of greater than .4 on one factor and three items had loadings of over .4 on

two factors. Although Factor 7 only contained two items, the researcher deemed it necessary at this point to assign meanings to each factor to provide a clearer picture before making any further decisions about deleting items. As supported by Hair et al (1979), the factors were labeled with more emphasis placed upon the items with higher loadings.

The following is a labeling of the factors:

1. Factor 1 had nine items and was composed of items from four of the original subscales. This factor was named "confidence" because it included active involvement, meaningful outcome, is possible, and comes from within.

2. Factor 2 included five items and clearly depicted "relates to others". It was composed of all of the original items except those that related to a higher being.

3. Factor 3 contained five items and was labeled "future is possible". This factor combined items from the original "future" and "is possible" subscales.

4. Factor 4 was composed of three items and was labeled "religious faith". These items were part of the original subscale entitled "relates to others or higher being". The factor analysis separated these items from "relates to others" indicating they should be a separate subscale.

5. Factor 5 contained five items and was named "active involvement".

6. Factor 6 was composed of three items and was named "comes from within".

7. Factor 7 contained two items and was named "uncertainty of the future. These two items were part of the original future oriented items but were the negative aspect. Factor analysis separated them.

8. Factor 8 included three items and was labeled "meaningful outcomes".

9. Factor 9 contained three items and was called "optimistic".

10. Factor 10 was composed of four items and was labeled "motivated and goal oriented".

In analyzing these ten factors it was decided to delete Factors 7, 8, 9, and 10 because Factor 7 only had two items. Since Factors 8, 9, and 10 were created on the variance remaining after Factor 7 was extracted, the reliability of these factors would also be questioned. This is supported by Tabachnick and Fidell (1983). With the elimination of these three factors, ten items were deleted.

The final NHS retained 29 items with six factors. The Cronbach coefficient alpha for these 29 items was .897. The coefficient alphas for the subscales were:

Subscale 1 = .862, Subscale 2 = .755, Subscale 3 = .756, Subscale 4 = .898, Subscale 5 = .722, Subscale 6 = .639. Deletion of items from the original 47 item scale and rearrangement of items in the new subscales substantially increased the reliability of the subscales. Subscales 1 and 4 had moderate reliabilities. This indicated that although the NHS had a strong reliability, the subscales were weak and needed further evaluation and research. Possibly the dimension for each subscale was not delineated enough to insure the generation of appropriate items. Using the Pearson product moment correlation coefficient, concurrent validity was established with the BHS at ($r=-.471$, $p<.001$).

The revised six dimensions of hope were still supported by the conceptual framework. "Active involvement" and "comes from within", were two of the original subscales. "Future is possible" combined items from the original "future" subscale and the "is possible" subscale. "Related to others" and "religious faith" were formally one subscale. "Confidence" was a new subscale but was closely related to the original subscale called "meaningful outcomes". The confidence subscale contained items which relate to confidence in the outcome. Confidence in outcome is also supported by Stanley (1978) and Travelbee (1971).

Conclusions and Implications

The description of the sample indicated there was a diverse sampling among ages of the repondents, but the sample was more homogeneous as to sex, ethnic group and marital status and education. The sample was more skewed to females because many of the cancer patients were women who were having radiation treatment for breast cancer or who had a history of breast cancer.

The findings from the reliability and validity analysis conducted on the 47 item NHS indicated the need to delete some items to strengthen the subscales and factor loadings. The reliability analysis indicated that the scale mean and the alpha would not change significantly if some items were deleted. This indicated the reliability of the instrument would be maintained. Several of the items deleted were not appropriate for the older retired adult or the homemaker as they were job related. Consequently, the new scale is more appropriate for a heterogeneous sample.

The final instrument, a 29 item NHS, had a Cronbach coefficient alpha of .897 which is a good reliability. The coefficient alphas for the subscales ranged from .639 to .898. Using the Pearson product moment correlation coefficient, concurrent validity was established with the BHS at ($r=-.471$, $p<.001$). The principal components

analysis extracted six factors for the new 29 item NHS. These factors were renamed and are supported by the literature. The new subscales were derived from these factors. They are:

1. Confidence. Confidence in the outcome of hope is supported by Stanley, (1978) and Travelbee, (1971).

2. Relates to others. This factor is supported by Dufault, (1981); Lynch, (1974); Stanley, (1978); Travelbee, (1971); Vaillot, (1970).

3. Future is possible. This factor is supported by Lynch, (1974) and Travelbee, (1971).

4. Religious faith. Fromm (1968) stressed that hope exists only if founded in faith and Stanley (1978) defined hope as possible through a religious faith.

5. Active involvement. This factor is supported by Buehler, (1975); Dufault, (1981); Fromm, (1968); and Stanley, (1978).

6. Comes from within. Fromm, (1968) and Lynch, (1974) supported this factor.

A new conceptual mapping of hope is depicted in Appendix H. These six new subscales are dimensions of hope as supported by the data from this study. Kerlinger (1973) stated the researcher "must be cautious against attributing reality and uniqueness to factors. It is easy to name a factor but that does not give it reality.

Factor names are simply attempts to epitomize the essence of factors" (p. 688). The original six subscales are the rational subscales and were derived from the literature. In both cases there is subjectivity involved in determining selection of items. Consequently, this study is a beginning for the conceptualization of hope with these dimensions. More studies are needed to support these dimensions and to determine if there are only six dimensions of hope. This study has added to the body of knowledge about hope and the development of a theory of hope.

The development of a hope scale has shown that hope is a measureable quantity and that varying levels of hope are present in well individuals and in cancer patients. This instrument provides direction for future hope research. Appendix I contains the final subscales with the items, and a revised Nowotny Hope Scale is found in Appendix J.

This study and the studies reported in the review of the literature indicate that hope is a multidimensional dynamic attribute of the person. This study's results support the new definition of hope. Hope is a six dimensional dynamic attribute of the person which involves confidence in the outcome, orients to the future and is possible, relates to others, includes religious faith,

comes from within, and includes active involvement. Hope is activated when one is confronted with a stressful stimulus and the individual feels he has some control over the environment. With a valid and reliable instrument to measure hope, nurses will be able to make more accurate assessments, to develop nursing interventions to facilitate hope, and to provide support to individuals in health as well as in illness.

With further development the NHS could be used as part of the assessment phase of the nursing process and the data collected would assist in the planning and implementation of nursing interventions. The questionnaire only takes 10 to 15 minutes for a client to complete and the level of hope indicated by the scores would give direction to the interventions needed to facilitate, revise, or maintain hope.

Recommendations for Further Study

Further testing for reliability and validity are required for the developed 29 item NHS. To provide an equal number of items for each subscale, more items need to be developed for subscales 2 through 6 and subscale one should have the two items with the lowest factor loadings deleted. Construct validity needs further factor analysis to provide support for the identified dimensions of hope. Construct validity could also be evaluated by testing

hypotheses about the construct of hope.

To make the findings more generalizable, more studies are needed with large heterogenous samples in a variety of settings. Research is also needed in patient groups other than with cancer. Patients with other chronic illnesses would provide a comparison with both cancer patients and well individuals and contribute to a greater understanding of hope.

Further study of hope in cancer patients is needed. Hope has been identified as an important factor in the quality of life of cancer patients. As shown in this study as well as in a study by Kubler-Ross (1969), hope is present in most patients to some degree. Consequently, more studies are needed to determine the variables which increase one's level of hope and to determine nursing interventions that would facilitate hope. The element of "control over the environment" which was discussed in the conceptual framework of this study is one factor which has been indicated as affecting levels of hope.

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Appendix A

Pilot Study

Instrument Development

Based upon the literature review of qualitative studies on hope, six dimensions of hope were identified. These dimensions are:

1. Orients to future. Hope is future oriented. The individual imagines what is not yet seen whether it is a way out of difficulty or a wider perspective for life. A desire for a change in the present status is indicated.

2. Includes active involvement. Hope includes active involvement by the individual. This involvement could be just setting a goal, caring, praying, planning, or mobilizing the energy to initiate a plan. The individual does not, however, just sit and wait for the event to occur.

3. Comes from within. Hope comes from within a person and is related to trust. Trust is developed within oneself. It is an inner readiness that is available for one to use when needed. It is closely connected with feelings and awareness.

4. Is possible. That which is hoped for is possible or realistic as perceived by the person.

5. Relates to or involves others or a higher being.

Hope includes involvement with others or a higher being through thoughts, feelings, and actions.

6. Relates to meaningful outcomes to individual. The outcome of hope is of importance to the individual. An outcome is one that has meaning and relevance to the individual. When the outcome of hope does not have importance to the individual, the tendency is to become passive and to refrain from active involvement.

These six dimensions became the subscales of the NHS. The items of the subscales were gathered from the literature, from other nurses, and from the researcher's clinical experience.

For the NHS, a questionnaire with objective statements was selected to be the means of measurement. The subjects selected their response to the statements using a scaled response of strongly agree, agree, disagree, and strongly disagree. A scaled response was selected since hope is a phenomenon that is dynamic and varies. The items for each dimension, or variable, consisted of both positive and negative statements. The NHS began with 57 items.

Reliability.

Cronbach's coefficient alpha was used as the test for reliability to test for internal consistency. The coefficent alpha was .90. If an item was deleted, the

reliability would not decrease to more than .89. There was an item to total correlation of .3 to .7 on all items except 10. Since the inclusion of these items did not significantly change the reliability, they were retained for the final instrument.

Validity.

To obtain content validity, the items of the NHS were sent to six nurses who are considered to be experts on hope. Each expert was asked to determine the degree of fit between the item and the variable. The item-objective congruence technique used was for each expert to assign a value of +1, 0, or -1 for each item depending upon the degree of fit. The experts were also asked to make comments on each of the six variables and on the total scale.

As a result of the comments of the panel, several statements were rewritten for clarity and 10 items were deleted. The instrument for the pilot study consisted of 47 items of which 10 were negative statements.

To obtain concurrent validity for the NHS, the Beck Hopelessness Scale (BHS) was administered at the same time as the NHS. Hopelessness is usually considered to be the opposite of hope. The BHS is a measure of hopelessness. This investigator predicted that there should be a negative correlation between the NHS, if it is a measure

of hope, and the BHS, which is a measure of hopelessness. Using the Pearson product moment correlation coefficient, the BHS and the NHS were negatively correlated ($r=-.334$, $p<.05$).

To obtain construct validity a principal components factor analysis was done. Using the varimax rotation 13 factors were obtained. All items had loadings of >.4 on at least one factor. However, it was difficult to name all 13 factors because there was overlap. Since the sample size for the pilot study was small, it was decided to retain all 47 items for the study.

Sample.

The sample for the pilot study consisted of 42 volunteer adults who ranged in age from 20 to 75. Within these ages there was a sampling of both well individuals and individuals with cancer or other illnesses.

Results.

The scoring of the NHS and the BHS is presented in Table 1. The scores for the 47 items of the NHS and the 20 items of the BHS are presented in Table 2.

Table A-1.

Scoring of the NHS and the BHS in the Pilot Study

NHS		BHS	
Hopeful	145-188	No Hopelessness	0-3
Moderately Hopeful	117-144	Mild Hopelessness	4-8
Low Hope	72-116	Moderate Hopelessness	9-14
Hopelessness	47-71	Severe Hopelessness	15

Table A-2

Summary of Scores of NHS and BHS in Pilot Study

Scale	Number of Subjects	Level of Hope/ Hopelessness	Score Ranges
NHS	11	Moderately hopeful	122-144
	31	Hopeful	145-176
BHS	1	moderate hopelessness	11
	10	mild hopelessness	4-6
	31	no hopelessness	0-3.

Appendix B

TEXAS WOMAN'S UNIVERSITY

COLLEGE OF NURSING

PROSPECTUS FOR DISSERTATION

This prospectus proposed by: Mary Lou Nowotny

and entitled:

MEASUREMENT OF HOPE AS EXHIBITED BY A GENERAL ADULT POPULATION AFTER A STRESSFUL EVENT

Has been read and approved by the members of (his/her) Research Committee.

This research (check one):

__X__ Is exempt from Human Subjects Review Committee review because the components of this study fall within the no risk category for protection of human subjects.

_____ Requires Human Subjects Review Committee review because _____

Research Committee:

Chairman Irene Poulsen

Member Virginia A. Brink

Member Margaret McElroy

Member Marion Overcash

Member Glen Cunningham

Appendix C

TWU Texas Woman's University
P.O. Box 22479, Denton, Texas 76204 (817) 383-2302, Metro 434-1757, Tex-An 834-2133
THE GRADUATE SCHOOL

March 14, 1986

Ms. Mary Lou Nowotny
9014 Woodbluff Court
Dallas, TX 75243

Dear Ms. Nowotny:

I have received and approved the Prospectus for your research project. Best wishes to you in the research and writing of your project.

Sincerely yours,

Leslie M. Thompson

Leslie M. Thompson
Provost

kf

cc Dr. Anne Gudmundsen

Appendix D

BAYLOR HEALTH CARE SYSTEM

3201 Worth Street
P.O. Box 26265
Dallas, Texas 75226
(214) 820-2691

Bruce Bowles, Jr., FACHA
President

February 24, 1986

Mary Lou Nowotny, R.N., M.S.N.
Asst. Professor
Baylor University School
of Nursing
9014 Woodbluff Court
Dallas, Texas 75243

Dear Ms. Nowotny:

The Institutional Review Board for Human Protection at its February 20, 1986 meeting, approved your project, "Measurement of Hope as Exhibited by a General Adult Population After a Stressful Event".

The Committee asked me to remind you that both Baylor University Medical Center and the Department of Health and Human Services regulations require that written consents must be obtained from all human subjects in your studies. Informed consent can only be obtained by the principal investigator or co-investigators listed in your protocol. These consent forms must be kept on file for a period of three years past completion or discontinuation of the study and will no doubt be subject to inspection in the future.

HHS regulations require you to submit annual and terminal progress reports to Baylor's Institutional Review Board and to receive at least annual approval of your activity by this Committee. You are also required to report to this Committee any death or serious reactions resulting from your study. Failure to submit the above reports may result in severe sanctions being placed on the Medical Center.

Furthermore, we have been directed to review any change in your research activity. In other words, should your project change, another review by the Committee is required.

Sincerely,

George J. Race, M.D., Ph.D.
Chairman, Institutional Review
Board for Human Protection

GJR:kf

Appendix E

PARTICIPATION EXPLANATION AND CONSENT FORM

Project Description

You are being asked to participate in a study to increase knowledge and understanding about people's reactions to a stressful event.

If you agree to participate in the study, you will be asked to complete a questionnaire about your reactions to a stressful event. The questionnaire will take approximately 20 minutes to complete. You may feel a little tired after completing the questionnaire.

Your participation in this research study is strictly voluntary. You are free to withdraw from this study at any time without loss of benefits, if any. If you have questions or problems concerning your participation in the study, or any part of the study in general, please contact:

Mary Lou Nowotny	214-343-3234
Investigator	Telephone

There is no cost to you for being in the study. There will be no medical service or compensation provided to you as a result of injury from participation in the research. Complete confidentiality will be maintained. Your name will not be used at any time in the report of the study. Records will be kept regarding your participation in the study and will be made available for review only as required under the guidelines established by the Federal Privacy Act.

CERTIFICATION:

I HAVE READ AND UNDERSTAND THE FOREGOING SUMMARY AND VOLUNTARILY CONSENT TO PARTICIPATE IN THIS STUDY.

Participant	Date

Appendix F

You are invited to participate in a study about people's reactions to a stressful event. The questionnaire will take approximately twenty minutes to complete.

Participation in this study is voluntary. Your completing and returning the questionnaire will be taken as your consent to participate. The information collected will be held confidential. You will not be personally identified in the reporting of the results of the study.

Thank you for completing the questionnaire.

Mary Nowotny, RN, MSN

NHS

Part I

The purpose of this questionnaire is to study your feelings after a stressful event. Please think of a significant event or situation where you felt stressed or pressured because of the necessary changes in your life.

Please place a check mark as to the type of event or situation of which you are thinking (check the one that best fits your event).

_____1. emotional
_____2. health
_____3. financial
_____4. marital
_____5. educational
_____6. family
_____7. job-related
_____8. other (describe)

How long ago did the event occur?

How long did you feel stressed?

Imagine the event occurring right now. Place a check mark under the response that best reflects your feelings. There are no right or wrong answers to the statements.

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. In the future I plan to accomplish many things.				
2. I can take whatever happens and make the best of it.				

	Strongly Agree	Agree	Disagree	Strongly Disagree
3. I have a positive outlook.				
4. My family (or significant other) is always available to help me when I need them.				
5. I feel confident about the outcome of this event/ situation.				
6. I know I can make changes in my life.				
7. In times of crisis I like to face it alone.				
8. I think I can learn (or I have learned) to adapt to whatever limitations I have (or might have).				
9. I am ready to meet each new challenge.				
10. I feel the decisions I make get me what I expect.				

	Strongly Agree	Agree	Disagree	Strongly Disagree
11. My religious beliefs help me most when I feel discouraged.				
12. I feel scared about the outcome of this event/situation.				
13. I don't like to think past today.				
14. I have been able to cope effectively when confronted with challenges.				
15. I feel confident in those who want to help me.				
16. I enjoy being involved in activities that are creative, aesthetic, intellectual, and diversional in nature.				
17. Sometimes I feel I am all alone.				
18. I see a light at the end of the tunnel.				

	Strongly Agree	Agree	Disagree	Strongly Disagree
19. I plan to continue with my present job.				
20. I share important decision making with my family (or significant other).				
21. If I do not accomplish a goal, I feel I am a failure.				
22. Most things I attempt are not important to me.				
23. I use prayer to give me strength.				
24. I know I can accomplish this task.				
25. The future seems uncertain.				
26. I like to make my own decisions.				
27. I want to maintain control over my life and my body.				

	Strongly Agree	Agree	Disagree	Strongly Disagree
28. I expect to be successful in those tasks that concern me most.				
29. I use scripture to give me strength.				
30. I like to strive for goals that are possible.				
31. I plan to change to a better or different job.				
32. When faced with a challenge, I am ready to take action.				
33. I have confidence in my own ability.				
34. I will work harder to accomplish those tasks that concern me most.				
35. I know I can go to my family or friends for help.				

	Strongly Agree	Agree	Disagree	Strongly Disagree
36. I like to try to accomplish that which seems improbable.				
37. I look forward to the future.				
38. I like to do things rather than sit and wait for things to happen.				
39. I lack confidence in my ability.				
40. I continually modify my goals as changes occur.				
41. I want to be treated as an intelligent, worthwhile, and feeling person.				
42. If one plan does not work, I look for an alternative which will work.				
43. I am generally optimistic.				

	Strongly Agree	Agree	Disagree	Strongly Disagree
44. I have important goals I want to achieve within the next 10-15 years.				
45. I like to sit and wait for things to happen.				
46. I have difficulty in setting goals.				
47. I have so many things I still want to accomplish in life.				

Part II

Please read the following statements carefully one by one. If the statement describes your attitude for the past week, including today, check true. If the statement is false for you, check false.

	True	False
1. I look forward to the future with hope and enthusiasm.		
2. I might as well give up because there's nothing I can do about making things better for myself.		
3. When things are going badly, I am helped by knowing they can't stay that way forever.		
4. I can't imagine what my life would be like in 10 years.		
5. I have enough time to accomplish the things I most want to do.		
6. In the future, I expect to succeed in what concerns me most.		
7. My future seems dark to me.		
8. I happen to be particularly lucky and I expect to get more of the good things in life than the average person.		
9. I just don't get the breaks, and there's no reason to believe I will in the future.		

	True	False
10. My past experiences have prepared me well for my future.		
11. All I can see ahead of me is unpleasantness rather than pleasantness.		
12. I don't expect to get what I really want.		
13. When I look ahead to the future, I expect I will be happier than I am now.		
14. Things just won't work out the way I want them to.		
15. I have great faith in the future.		
16. I never get what I want so it's foolish to want anything.		
17. It is very unlikely that I will get any real satisfaction in the future.		
18. The future seems vague and uncertain to me.		
19. I can look forward to more good times than bad times.		
20. There's no use in really trying to get something I want because I probably won't get it.		

Part III

Personal Data Form

Please place a check in the space provided to indicate what pertains to you.

A. Sex

_____1. Male
_____2. Female

B. Age

_____1. 20-30
_____2. 31-40
_____3. 41-50
_____4. 51-60
_____5. 61-70
_____6. 71-80

C. Marital Status

_____1. Single
_____2. Married
_____3. Widowed
_____4. Divorced
_____5. Separated

D. Ethnic Background

_____1. Caucasian/Anglo
_____2. Black-American
_____3. Mexican-American
_____4. Oriental
_____5. Other

E. Religion

_____1. Protestant
_____2. Jewish
_____3. Catholic
_____4. Other

F. Level of Education

_____1. Did not finish high school
_____2. Finished high school
_____3. Some college
_____4. Finished college
_____5. Graduate School

G. Living Arrangements

_____1. Live with spouse
_____2. Live with spouse and children
_____3. Live with family (parents, sister, or brother, etc.)
_____4. Live with friend
_____5. Live alone

H. Occupation when active

_____

I. Health status

Are you currently under treatment for a medical condition?

_____Yes _____No

If yes, please state the medical condition.

_____

Appendix G

CENTER FOR COGNITIVE THERAPY
AARON T. BECK, M. D., DIRECTOR
ROOM 602
133 SOUTH 36TH STREET
PHILADELPHIA, PA. 19104

TELEPHONE: (215) 243-4100

October 31, 1985

Mary L. Nowotny, R.N.,M.S.N.
9014 Woodbluff Court
Dallas, Texas
78130

Re: Permission Grant

Dear Ms. Nowotny:

Thank you for your recent letter. On behalf of Aaron T. Beck, M.D., I am responding to your interest in our scales and research.

For your convenience, I have enclosed a copy/copies of the most recent version(s) of the Hopelessness Scale, as well as relevant scoring information.

You have Dr. Beck's permission for use and reproduction of the above-mentioned scale(s) for your research study. There is no charge for this permission.

In reciprocation, we would like you to send us a complimentary copy of any reports, preprints and publications in which our materials are used. These reports will be stored in our central library to serve as a resource for other researchers or clinicians. Please advise as to whether you agree to this arrangement.

We would also appreciate further information regarding your proposed research project.

If you have any questions, please feel free to contact me during business hours at (215) 898-4100. I will look forward to hearing from you.

Sincerely,

Liane Cohen

Liane Cohen
for Aaron T. Beck, M.D.
University Professor of Psychiatry
Director,
Center for Cognitive Therapy

Appendix H

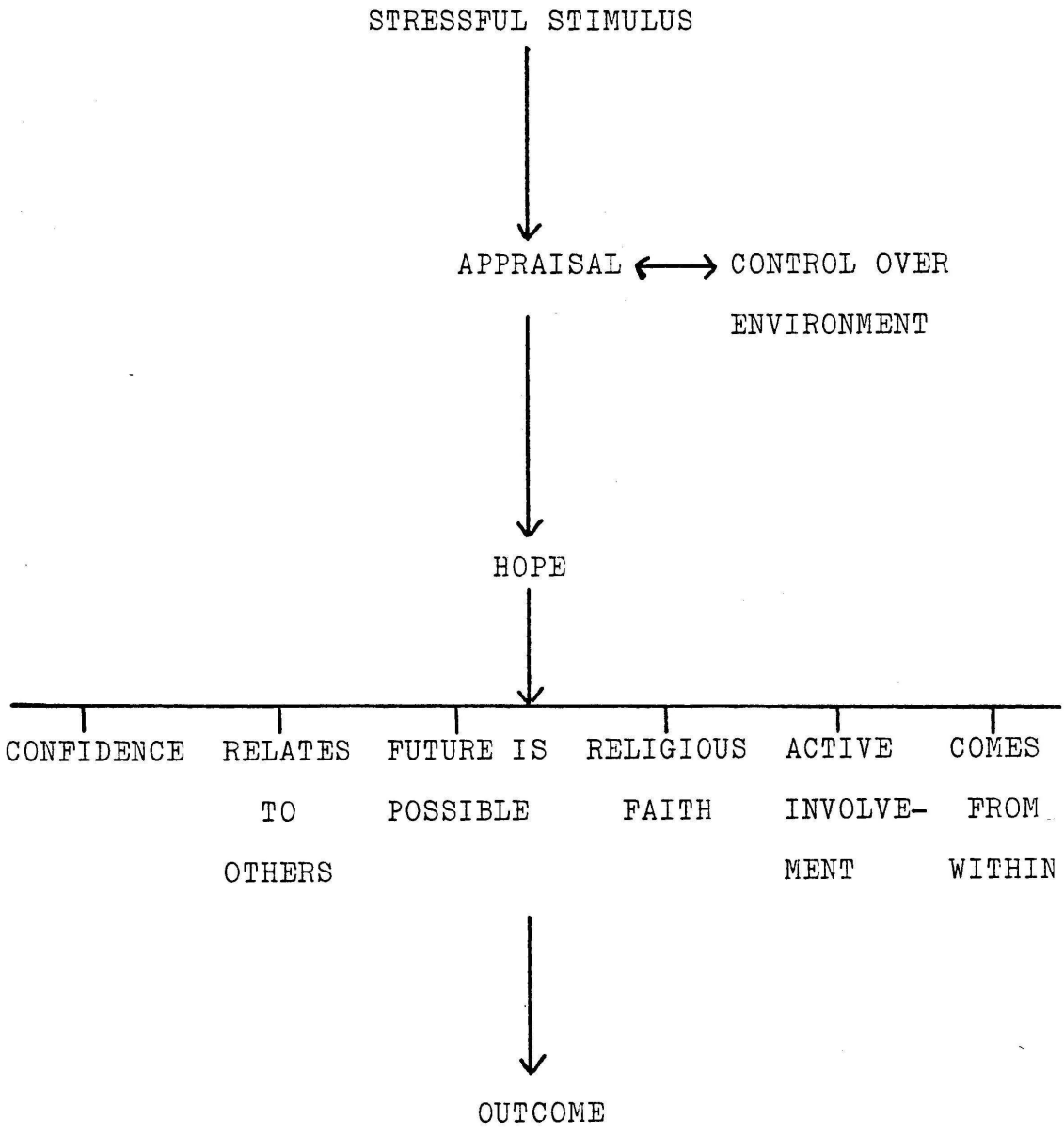

Figure H-1. Revised mapping of dimensional components of hope.

Appendix I

Revised Nowotny Hope Scale

Subscales with Items

Subscale 1 - Confidence

2. I can take whatever happens and make the best of it.
3. I have a positive outlook.
5. I feel confident about the outcome of this event/ situation.
6. I know I can make changes in my life.
7. I think I can learn (or I have learned) to adapt to whatever limitations I have (or might have).
8. I am ready to meet each new challenge.
9. I feel the decisions I make get me what I expect.
21. When faced with a challenge, I am ready to take action.
22. I have confidence in my own ability.

Subscale 2 - Relates to Others

4. My family (or significant other) is always available to help me when I need them.
11. I feel confident in those who want to help me.
12. Sometimes I feel I am all alone.
14. I share important decision making with my family (or significant other).
23. I know I can go to my family or friends for help.

Subscale 3 - Future is Possible

1. In the future I plan to accomplish many things.
5. I feel confident about the outcome of this event/ situation.
13. I see a light at the end of the tunnel.
16. I know I can accomplish this task.
24. I look forward to the future.

Subscale 4 - Religious Faith

10. My religious beliefs help me most when I feel discouraged.
15. I use prayer to give me strength.
20. I use scripture to give me strength.

Subscale 5 - Active Involvement

25. I like to do things rather than sit and wait for things to happen.
26. I lack confidence in my ability.
27. I have important goals I want to achieve within the next 10-15 years.
28. I like to sit and wait for things to happen.
29. I have difficulty in setting goals.

Subscale 6 - Comes from Within

17. I like to make my own decisions.
18. I want to maintain control over my life and my body.

19. I expect to be successful in those tasks that concern me most.

Appendix J

Revised Nowotny Hope Scale

The purpose of this questionnaire is to study your feelings after a stressful event. Please think of a significant event or situation where you felt stressed or pressured because of the necessary changes in your life. Imagine the event occurring right now. Place a check mark under the response that best reflects your feelings. There are no right or wrong answers to the statements.

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. In the future I plan to accomplish many things.				
2. I can take whatever happens and make the best of it.				
3. I have a positive outlook.				
4. My family (or significant other) is always available to help me when I need them.				
5. I feel confident about the outcome of this event/ situation.				
6. I know I can make changes in my life.				

	Strongly Agree	Agree	Disagree	Strongly Disagree
7. I think I can learn (or I have learned) to adapt to whatever limitations I have (or might have).				
8. I am ready to meet each new challenge.				
9. I feel the decisions I make get me what I expect.				
10. My religious beliefs help me most when I feel discouraged.				
11. I feel confident in those who want to help me.				
12. Sometimes I feel I am all alone.				
13. I see a light at the end of the tunnel.				
14. I share important decision making with my family (or significant other).				

	Strongly Agree	Agree	Disagree	Strongly Disagree
15. I use prayer to give me strength.				
16. I know I can accomplish this task.				
17. I like to make my own decisions.				
18. I want to maintain control over my life and my body.				
19. I expect to be successful in those tasks that concern me most.				
20. I use scripture to give me strength.				
21. When faced with a challenge, I am ready to take action.				
22. I have confidence in my own ability.				
23. I know I can go to my family or friends for help.				

	Strongly Agree	Agree	Disagree	Strongly Disagree
24. I look forward to future.				
25. I like to do things rather than sit and wait for things to happen.				
26. I lack confidence in my ability.				
27. I have important goals I want to achieve within the next 10-15 years.				
28. I like to sit and wait for things to happen.				
29. I have difficulty in setting goals.				