Hope: a factor influencing crisis resolution

Hope is a concept often relegated to the realm of the "soft" sciences; yet, the survival value of hope has been documented in both animals and humans. This article develops an operational definition of hope by synthesizing definitions from other disciplines, contrasts hope with hopelessness, and presents a model of hope that represents a reconceptualization of the concepts as applied to health and the crises of stress and transition. The model is presented for critical review, and methods of empirical testing are proposed.

Rose F. McGee, RN, PhD
Associate Professor of Nursing
School of Nursing
Emory University
Atlanta, Georgia

HOPE IS A fragile blanket covering the various emotions experienced by the person encountering illness. Hope is but one element in an array of affective responses to crises that make life bearable and meaningful in times of stress or transition. The presence of hope fortifies the physiological and psychological defenses, and its absence has been correlated with an early demise.¹⁻³

It is useful to apply propositions on the concept of hope gleaned from the literature to the development of a model of expected responses to developmental or situational crises among persons with varying degrees of hope and hopelessness. By expanding the existing body of knowledge on hope and applying this knowledge to patient care, health care providers can become a more powerful force against unrealistic hopefulness and unjustified hopelessness among patients, families, and professionals. The ultimate goal is to enable health care professionals to move toward the goal of identification of an

optimal or motivational level of hope, which fortifies physiological and psychological coping mechanisms.

STUDY OF HOPE

Primarily, the study of hope has been relegated to the theologian, the philosopher, or the writer. Much of what is known about the concept may be termed truisms from familiar writings such as "hope springs eternal in the human breast," the reference of Dickens to the "spring of hope and the winter of despair," or the futuristic view of hope in the play "Annie," when the children at the orphanage sang "The sun will come out tomorrow."

However, other disciplines also offer insight into the meaning of hope. Sociologists describe the power of hope as expressed in social acts, such as the "We shall overcome" theme of the civil rights movement. Scientists have analyzed the anthropological reports of the phenomenon of "voodoo death" to ascertain the physiological correlates of the dying process that is evoked in an apparently healthy person who is the victim of a ritualistic practice of bone pointing.7 In the applied sciences, professionals have documented strong relationships between hope and survival in concentration camps, warfare, and illness.

Nursing literature reflects the concern of the profession with the concept of hope. Hope is identified as a healer and as a force that guards against death. From the perspective of nursing as an applied science, the literature outlines role obligations of the nurse in terms of instilling, maintaining, and restoring hope. 10-12 Nursing roles are further delineated to include fostering hope among cancer patients,¹³ coronary patients,¹⁴ the chronically ill,¹⁵ and the dying.¹⁶

DEFINITIONS OF HOPE

Definitions of hope gleaned from the literature indicate that hope is futuristic, is motivating, involves expectancy, and is action oriented. Weiss defined hope as "confident yearning." Implicit in this definition are the desire for some absent good and the capacity to look forward to some event with expectations.

Peretz identified similar components in defining hope as the "capacity to anticipate that even though one feels uncomfortable now, one may feel better in the future."18(p8) The element of present discomfort is implied by Peretz, but the coupling of discomfort with a better future is the important linkage. This future orientation is further borne out in the definition by Stotland, "an expectation greater than zero of achieving a goal."19(p2) Hope by this definition is delineated in terms of probabilities. Furthermore, these probabilities are a product of the perception of the individual; therefore, hope may be rational or irrational and based on accurate or inaccurate calculations. The contention that hope is a product of the perception of the individual indicates that the use of the same set of facts to calculate probabilities predictably will result in varying degrees of hopefulness or hopelessness among different persons encountering similar circumstances.

Lynch defined hope as "a sense of the possible: "(20p32) This definition classifies hope as an action-oriented concept, imply-

36

ing that hope is an aspect of motivation of the human organism. Action dissipates powerlessness and fosters control of personal destiny.

Combining these definitions, the concept of hope can be defined operationally in the following way. First, a stimulus for action exists, which may be a problem, an unmet need, or a goal. Humans have the capacity to respond to the stimulus in a rational manner. The responses to the stimulus may include feelings, thoughts, expectancies, or actions regarding a state of being that is desired and needed but not presently experienced.

The response chosen is not a random occurrence but is based on the perceived importance of the goal, perceived solutions to the problem, and calculated probabilities for successful action. Probability calculation is influenced by both situational variables and the tendency of the individual to be basically optimistic or pessimistic regarding personal control of outcomes. Actual probabilities may vary from the perceived, but hope is a subjective response and, thereby, is determined by the probabilities calculated by a person in a specific situation at a particular point in time.

CALCULATED PROBABILITIES: BASIS OF HOPE

Calculated probabilities are the product of four aspects of personal being: cognitive, social, psychological, and physiological factors. Cognitions regarding the future are determined by the input of factual data from the environment and sensory information from the internal and external environment. Humans cope with

multiple stimuli in the environment by selectively attending to aspects of that environment; therefore, each person operates on a unique factual base.

Environmental input is processed and categorized into concepts. According to Piaget,21 through the process of social interaction and cognitive development, individuals learn to link concepts into cognitive structures called schemas. These schemas reflect a personal view of the world of events, objects, and relationships and thereby guide human response patterns.21 For example, the schema "I can overcome" would provide guidance toward a more confident, assertive course of action than would the schema "I am overcome." Intelligence, logic, and experience are important determinants of the success of the person in using a given knowledge base to construct accurate schemas and appropriate response patterns. Socialization further determines the acquisition of schemas. Stotland19 postulated that the individual who attributes past successes to personal action will develop cognitions in which the self is perceived as confident, hopeful, and of great worth.

Social aspects of probabilities are calculated from perceived cues of others. Cultural variables color the perception of such cues. To the Australian aborigine, bone pointing is perceived as a 100% probability of death. A particular culture is propagated through the socialization of the offspring to perceive cues similarly and to respond in a manner that is culturally prescribed; therefore, socialization agents positively reinforce behavior, which results in patterns of responses reflective of that culture. Murphy²² contended that persons reared in a very nurturant, rewarding envi-

ronment will demonstrate greater optimism in calculating probabilities and will thereby emerge with a greater degree of hopefulness than individuals socialized to a more harsh, unpredictable world.²²

Finally, the interpersonal communications and relationships with others serve as cues that determine expectancies regarding self and others. The social aspects of hope indicate that probabilities are calculated, not only from the information received, but also from inferences drawn from interacting with others and from perceived availability of resources within the environment.

The psychological aspects of probability calculations include personality and coping mechanisms. Weissman²³ proposed that the higher the self-esteem of the individual, the more in control the person feels; therefore, optimism tends to dominate. Likewise, Rotter24 has demonstrated that a person who is internally controlled can be predicted to feel less at the mercy of fate and exhibit greater hopefulness. Stotland19 concluded from extensive studies of hope that if coping mechanisms have been successful in the past, belief in success in the present situation is fostered, but if coping mechanisms have been unsuccessful, such as in schizophrenia, probability for success will be calculated as nil or very low.

Hope also has a maturational component. Childhood is described as "full of hope." Life begins with hope, but as children achieve greater mobility and begin to seek personal goals, the sense of the possible and the impossible emerges. Through tuition and self-discovery, children learn to discern the power and limitations of themselves and others. With maturation, hope

becomes more reality based and is differentiated from wishing, which may be fantasy based. Lynch²⁰ reported that fluctuations between hope and despair tend to be less extreme with maturation. Mature adults are attuned more to personal competencies and can acknowledge areas of hope and hopelessness more realistically.

Finally, physiological aspects of the person influence the expectancies of success or failure. Although the basic capacities necessary for hope, such as intelligence, are assumed, there is a concurrent need for energy available to invest in the process of hoping. Hope is a motivating, energizing force in itself, but without an initial energy investment, action to achieve the object of hope is impossible. The person who has a severe physical or emotional illness or who is experiencing a critical transition or developmental crisis has a compromised energy source available to invest in expectations for the future.

The cognitive, psychological, social, and physiological aspects of hope can be assumed to consist of internal and external dimensions. Empirical data reported by Langner and Michel25 indicated that the internal component is affected negatively in childhood among persons who were economically deprived; had poor physical health; were from broken homes or homes in which parents quarreled extensively; perceived the behavior of their parents negatively; or had parents who were not mentally healthy. During adult life, inner resources were found to be limited among persons with poor health, poor interpersonal relationship skills, and worries concerning occupational or socioeconomic status.

Overall, the greater the number of stres-

A mutuality exists between hope and help, and the perceived helpfulness of significant others or a higher being constitutes a vital dimension of hope.

sors encountered at any one time, the fewer resources a person has to deal with a given crisis. The external dimensions of hope include the relevant environment, significant others, and transcendental beliefs. A nurturant environment and competent, supportive others lead to hopefulness. A mutuality exists between hope and help, and the perceived helpfulness of significant others or a higher being constitutes a vital dimension of hope. A sense of external helpfulness enhances the internal dimension of hope; therefore, the two dimension are interactive but distinct components of the concept.

PROPOSITIONS REGARDING HOPEFULNESS

Stotland¹⁹ proposed that the degree of hopefulness is proportional to the perceived probability of achieving a goal and the perceived importance of that goal. The perception that there is a low probability of achieving a highly important goal leads to a low level of hopefulness.

Furthermore, the higher the expectation of achievement, the greater will be the action to achieve the goal¹⁹; the nearer the goal, the greater will be the action component.²⁷ High probability of achievement and high relevance lead to positive responses, such as joy or pleasure. Conversely, low probability of achievement

and great importance of the goal lead to negative affect, such as anxiety or frustration.¹⁹

The relevance of the concept of hope is clarified through defining the concept of hopelessness and contrasting the two states. Lazarus²⁸ defined hopelessness as "inaction in the face of threat," which places the hopeless in a passive, inactive state. Hopelessness was defined by Lynch as "a sense of the impossible"; "what a man must do, he cannot do; when he does, it leads to a checkmate." The hopeless calculate probabilities and determine a lack of internal and external resources. Stotland¹⁹ noted that negative expectations about the future predominate in the cognitive schemas of the hopeless.

Lynch²⁰ identified five areas of hopelessness as aspects of humanity to be acknowledged: death, personal imperfections, imperfect emotional control, inability to trust all people, and personal areas of incompetence. Acceptance of these areas of hopelessness safeguards hope and maintains a futuristic view. Intermingling hope with known areas of hopelessness, such as the avoidance of death, leads to frustration

Stotland¹⁹ contrasted the two concepts by noting that with hope, a person acts, achieves, moves, and plans futuristically and assertively. Without hope, the person is dull, listless, moribund, present oriented, and hostile. Hope implies freedom, adaptability, control, and imagination, whereas hopelessness connotes entrapment, helplessness, and impossibility. Hope is uniquely human and a vital dimension that helps solve human problems. Observations will lead the professional to imply a state of hopefulness among persons who are

active, problem solvers, comfortable, interdependently related to others, confident, motivated, and futuristic. In contrast, hopelessness is assumed among those who are apathetic, anguished, withdrawn, vulnerable, unmotivated, and present oriented or past oriented. Erikson⁵⁹ described the hopeless as those who look back on life as a missed opportunity.

Fromm³⁶ cited four other responses that may be used to identify the hopeless:

- 1. resignation to personal fate;
- 2. loss of the ability to dream;
- withdrawal from others to avoid the hurt of unfulfilled hopes; and
- destructive behavior such as passive suicide.

MODEL OF HOPE-HOPELESSNESS

Theorists place hope on a continuum with despair as the polar opposite, but the author contends that hopefulness and hopelessness are the polar opposites and that hope and despair are overlapping concepts. Despair is derived from the Latin word desperare, meaning away from hope; thus, in this model, despair is used to connote a loss of hope; and hopelessness represents the extreme state of despair in which all hope is lost.

The origin of hope is disputed. Erikson described hope as "the earliest and most indispensable virtue inherent in the state of being alive." Marcel³¹ indicated that hope arises at the time of trial or when there is temptation to despair; Schmale³² posited that hope may be genetic, and Vaillot¹² stated that hope begins when personal resources are exhausted. The author of this article proposes the concep-

tualization of hope as having both a state and trait component, thereby incorporating the origins cited. As a trait variable, there is an individual predisposition toward a hopeful or pessimistic approach to life; but state variables, such as the perceived probability of goal achievement, perceived internal and external resources or support, or importance of the goal, influence the level of hopefulness exhibited at a given time.

Unrealistic hopefulness

Typical responses to the occurrence and management of illness can be categorized using this model of hope, depicted in Fig 1. Persons who experience unrealistically high levels of hope may be immobilized in the face of crises. For example, if an individual holds a personal schema of invulnerability based on pure faith in divine healing, the person does not perceive a need for medical intervention and is rendered inactive by hope. Thus, the totally hopeful may present for treatment only on the insistence of significant others, and even then they may exercise a capacity

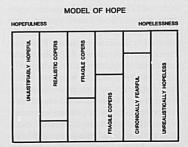


Fig 1. Model of hope.

for explicit hope by failing to follow the advice of health care professionals. The logic of the totally hopeful is not reality based, and probabilities are calculated as 100%; therefore, caregivers tend to become exasperated with decisions made by those individuals. The logic to delay or refuse treatment eludes the care provider and frequently creates conflict.

40

Reality is one antidote for total hopefulness. When a crisis situation persists, personal vulnerability becomes obvious. Counseling regarding areas of hopelessness inherent in the human state²⁰ may further serve to foster realistic probability calculation. Once the person becomes more reality oriented, information is a powerful force against unrealistic hopefulness. The professional has the responsibility to remain nonjudgmental, to be supportive, to be informed about the illness and the individual, and to time patient and family teaching skillfully.

Unjustified hopelessness

Similar behavioral responses are noted at the opposite pole of hopefulness. Persons with no hope give up when facing a crisis. Such individuals accept a negative outcome as inevitable and thereby perceive no reason to subject themselves to the vicissitudes of a medical regimen. They are immobilized by perceived helplessness and unjustified hopelessness. Among this group are the individuals who have developed a schema that associates illness with death, as well as persons who have no faith in modern medicine or personal resources. A situational or developmental crisis results in a sense of entrapment and helplessness that renders the individual inactive in response to the perceived threat to personal integrity. The probability of success in the struggle to cope is calculated to be 0%. Denial is a coping mechanism that makes such an overwhelming situation bearable, but derial coupled with a low expectancy for relief through reliance on internal and external resources makes personal adoption of a medical regimen meaningless; therefore, the group is characterized by denial and passive nonacceptance.

Since the hopeless are quiet and resigned, caregivers may misinterpret their passive behavior to be that of a model patient. Such patients are not demanding and may be allowed to retreat without attracting the attention of the professional. The challenge to the care provider is to identify and evaluate areas of hopelessness. Validation of bona fide hopelessness and identification of hopeful aspects of health care help the patient to move realistically toward hopefulness.

Fragile coping

The middle range of responders represents persons who have a narrow margin of hope or despair. This group has cognitions of uncertainty. Hope induces an "assumed certainty"33 that the dreaded outcome will not happen, but despair is a constant threat. Such persons experience alternate waxing or waning of hope with physical or situational changes and, thus, can be classified as "fragile copers." Probabilities are recalculated frequently and the individual expends tremendous amounts of energy in a constant search for new cues. This ambiguity of responses is confusing to caregivers because the patient vacillates between a hopeful and a hopeless response pattern.

The professional may be so encumbered

with the patient's need to hope that communication of unrealistic hopefulness becomes a temptation. External supports and helpfulness can turn the tide for such individuals, establishing an optimal level of hopefulness. The nurse may offer such support directly or serve as a patient advocate in identifying the need for support by the family, physicians, clergy, or other health care providers.

Chronic fear

Between the fragile copers and the totally hopeless is another group that has a modicum of hope but a predominance of despair. This group is characterized as the "chronically fearful." The slightest change in symptoms or treatment for these individuals may result in an alarm reaction. Drawing on crisis and stress theories, it can be postulated that the chronically fearful group is comprised of persons who have experienced many failures in life or individuals experiencing cumulative stressors, which surpass or severely tax present coping skills. Also included in this group are astute persons who assess a very tenuous situation accurately and respond with fear. Some health states are indeed fragile and coping is like a roller coaster.

Professional staff and families find the care of these patients burdensome. The constant reassurance needed may require a higher level of energy and patience than the caregiver has to offer. The resultant behavior patterns of professionals include avoidance, labeling, or becoming oversolicitous. These professional behaviors elicit withdrawal, defensiveness, or dependence, respectively, in patients and significant others.

This group of patients needs explicit

explanations. For example, a change in routine, such as an increased time interval between treatments, may be perceived by a patient as, "the staff has given up on me." The chronically fearful person needs maximal independence in care and decision making within a supportive environment. Such opportunities allow testing of self and should foster internal hopefulness by means of demonstrated successes. The major danger to avoid among the chronically fearful is a lapse into total hopelessness.

Realistic coping

Finally, the "realistic copers" are between the totally hopeful and the fragile copers. This group demonstrates acceptance of areas of actual hopelessness in life, but hope predominates in perceived probabilities regarding crisis situations. Such persons demonstrate confidence in internal resources to solve problems and generally have a positive outlook toward life in general. They experience hope as a motivational force. Hope outweighs despair in realistic dimensions, and probabilities can be calculated for personal areas of both hopefulness and hopelessness. Energy in these individuals can be diverted toward coping with the crises; yet, given the hopelessness of an uncontrollable illness, acceptance of death also is possible.

Caregivers learn from this group. Hope is communicated to others, and both the patient and caregivers emerge at a higher level of living. Because of the strength-manifested in these individuals, professionals should guard against allowing the relationship to be unidirectional, with the care provider as the primary recipient of support.

Testing of the model

42

The model proposed here is based on the assumption that most persons have a predominant hope pattern, which places them in a given category. However, changes in perceived internal or external resources can move the individual in crisis in either direction. The medical ideology of cure fosters unrealistic hopefulness; therefore, the possibility must be considered that, at the onset of crisis, most persons fall primarily in the extreme categories. Either individuals operate on the schema of "illness implies death" and gravitate toward hopelessness or they perceive medical science as infallible and move toward unrealistic hopefulness. Assuming that the initial response is not so extreme that the person refuses treatment, it can be postulated that once therapy is initiated, the factual and experimental bases for calculating probabilities will move the individual toward a predominant category of hopefulness or hopelessness.

Health care professionals occupy a unique position in society because they are involved in the hope of others. The more clear the conceptualization, the more definitive will be the application to care. This model is presented as a stimulus to the theoretician and practitioner for critical review and empirical testing.

Empirical testing is limited by the availability of measurement tools. Conceptually, internal locus of control may be considered a possible measure of the trait variable of hopefulness, thereby making the Norwicki and Duke³⁴ Locus of Control Scale a potential measure of the relatively stable component of individual hopefulness. The Beck et al³⁵ Hopelessness Scale may pro-

vide a measure of the state variable. If the level of hope is a composite of trait and state variables and the Locus of Control Scale and the Hopelessness Scale are measures of these variables, respectively, then it can be hypothesized that when there is control for life stressors (eg, Holmes and Rahe Life Events Scale³⁶ or McCorkle and Young Symptom Distress Scale³⁷), subjects who score higher on internal locus of control will exhibit lower scores on the hopelessness scale, which provides an empirical test of some of the theoretical constructs basic to the model.

If the researcher accepts the proposition that hope has affective, cognitive, and behavioral components and believes that nurses are capable of assessing these states, a more direct test of the model would consist of testing the relationship between patient hopefulness scores and hopefulness scores assigned by the primary nurse. According to the model, the nurse rating would consist of a ranking of subjects from the totally hopeful to the realistic copers, including the fragile copers, the chronically fearful, and the hopeless. Ranking would be achieved by giving the nurse a description of the affect, behaviors, and cognitions that characterize each category and asking the nurse to classify patients accordingly. Correlations between hopefulness scores and nurse rankings on hopefulness would provide one test of the proposition that health behaviors are related to patient hopefulness.

The relationship between acceptance of health care and hopefulness among selected populations presents another area for study. The model proposes a parabolic relationship, with extreme states of hopefulness or hopelessness being associated

with low acceptance of health care. The Hopelessness Scale may be inadequate for this purpose because the scale does not provide a measure of extreme hopefulness.

Nursing is accountable for managing the response to actual or potential health problems, and hope is one potential response that can fortify psychological and physiological defenses against illness. The goal of nursing is to help patients to avoid unrealistic hopefulness and unjustified hopelessness. In an effort to quantify hope further and to study the effects of hope and hopelessness on crisis resolution, a model

of hope was proposed and methods of

testing were discussed. The presentation of the model and methods of testing are Nursing is accountable for managing the response to actual or potential health problems, and hope is one potential response that can fortify psychological and physiological defenses against illness.

intended to capture the interest and to provoke the creativity of the theoretician and the researcher who find the concept of hope relevant to health promotion. The critic may be quick to say that the concept described is powerlessness and that focusing on hope obfuscates the concept. The critic may be right, but until both concepts have been explored thoroughly theoretically and empirically, the issue cannot be resolved.

REFERENCES

- Engel GL, Schmale AH: Psychoanalytic theory of somatic disorders: Conversion, specificity, and the disease onset situation. J Am Psychoanal Assoc 1967;15(2):344.
- Schmale AH: Relationship of separation and depression to disease. Psychosom Med 1958;20:259-271.
- Thurlow HS: General susceptibility to illness: A selective view. Can Med Assoc J 1967;97:1397.
- 4. Pope A: Essay on Man. London, Macmillan, 1796.
- Dickens C: A Tale of Two Cities. London, Chapman & Hall. 1859.
- & Hall, 1839.

 6. Meehan T: Annie. New York, Edwin H Morris & Co,
- Cannon WB: Voodoo death. Psychosom Med 1957:19(3):182-190.
- 1957:19(3):182-190.

 8. Laney ML: Hope as a healer. Nurs Outlook 1969;45-
- Dubree M, Vogelpohl R: When hope dies—So might the patient. Am J Nurs 1980;80:1046-2049.
- Adams CL, Proulx JR: The role of the nurse in the maintenance and restoration of hope, in Schoenberg B, Gerber I, Weiner A, et al (eds): Bereavement: Iss Psychosocial Aspets. New York, Columbia Univ Press, 1975, pp 256-264.

- Limandri BJ, Boyle DW: Instilling hope. Am J Nurs 1978;78:79-80.
- Vaillot SM: Living and dying: Part I. Hope, the restoration of being. Am J Nurs 1970;70(2):268-272.
- Buehler JA: What contributes to hope in the cancer patient? Am J Nurs 1975;75(8):1353-1356.
- Patient? Am J Nurs 1975;75(8):1353-1356.
 Sobel DE: Personalization on the coronary care unit. Am J Nurs 1969;69(7):1439-1442.
- Miller JF: Coping with Chronic Illness: Overcoming Powerlessness. Philadelphia, FA Davis Co, 1982.
- Taylor PB, Gideon MD: Holding out hope to your dying patient: Paradoxical but possible. Nurs '82 1982;12(2):42-45.
- Weiss G: Radical hope. Catholic World 1971;214:77– 80.
- Peretz D: Development, object-relationships, and loss, in Schoenberg B, Carr AC, Peretz D, et al (eds): Loss and Grief: Psychological Management in Medical Practice. New York, Columbia Univ Press, 1970, 3-19.
- Stotland E: The Psychology of Hope. San Francisco, Jossey-Bass, 1969.
- Lynch WF: Images of Hope. Baltimore, Notre Dame Press, 1974.

- Piaget J: The Moral Judgment of the Child. New York, Harcourt Brace, 1932.
- 22. Murphy L: The Widening World of Childhood: Paths Toward Mastery. New York, Basic Books, 1962.
- Weissman AD: On Dying and Denying. New York, Behavioral Publications, 1973.
- Rotter JB: Clinical Psychology. Englewood Cliffs, NJ, Prentice-Hall, 1964.
- Langner TS, Michel ST: Life Stress and Mental Health. New York, Collier-Macmillan, 1963.
- American Nurses Association: Nursing: A Social Policy Statement. Kansas City, Mo, ANA, 1980, p. 7.
- Lewin K: Field Theory in Social Science. New York, Harper, 1951.
- Lazarus RS: Psychological stress and coping in adaptation and illness. Int J Psychiatry Med 1974;5(4):321– 333.
- Erikson EH: Insight and Responsibility. New York, WW Norton, 1964.

- Fromm E: The Revolution of Hope. New York, Harper & Row, 1968.
- Marcel G: Homo Viator (Craufurd E, trans). New York, Harper & Row, 1962.
- Schmale AH: A genetic view of effects: With special references to the genesis of helplessness and hopelessness. The Psychoanalytic Study of the Child. New York, International Univ Press, 1964.
- Korner IN: Hope as a method of coping. J Consult Clin Psychol 1970;32(2):134-139.
- Norwicki S, Duke MI: A locus of control scale for non-college as well as college adults. J Pers Assess 1974;38(2):136–137.
- Beck AT, Weissman A, Lester D, et al: The measurement of pessimism: The hopelessness scale. J Consuls Clin Psychol 1974;42(6):861-865.
- Holmes T, Rahe R: The Social Readjustment Rating Scale. I Psychosom Res 1967;11:213.
- McCorkle R, Young K: Development of a symptom distress scale. Canter Nurs 1978;1:373-378.