AN ANALYSIS OF
THE CONCEPT OF HARDINESS

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Nurses who are concerned with health promotion, disease prevention and restoration of health must be aware of how different individuals vary in their responses to stressors or stressful life situations. The hardiness characteristic (Kobasa, 1979) has been identified as a moderating and mediating variable in the stress-illness response, and as such, it has potential significance for nursing. The concept of hardiness, as a personality characteristic, has generated considerable interest and research in psychology; however, it is a relatively new perspective for nursing that is of particular interest for health promotion and disease prevention (Bigbee, 1985). Although the concept of hardiness has been discussed and examined for over a decade (Kobasa, 1979; Kobasa, Maddi & Courington, 1981; Nowack, 1989), it has not been clearly defined for nursing. If nurses have a better understanding of the concept of hardiness, then patients with hardy or less hardy personalities could be differentially diagnosed. As well, nursing interventions could then be initiated and tested to ascertain whether strategies to promote hardiness would contribute to the reduction of illness from stressful life events.

The basis of any theory depends on the identification and explication of the concepts contained within it. Concept analysis is a strategy that allows for a formal and vigorous examination of the attributes or characteristics of a particular concept. This analysis of the concept of hardiness will follow the specific steps proposed by Wilson (1969, cited in Walker & Avant, 1988).

Literature Review

There has been considerable interest in studies exploring the influence stress has on health status (Garrity, Marx & Somes, 1978; Holmes & Masuda, 1974; Holmes & Rahe, 1967; Johnson & Savason, 1979; Rabkin & Struening, 1978; Rahe & Arthur, 1968). Although research indicates that stressful life events contribute to the development of physical and mental illness, the correlation between stressful life events and illness symptoms, though dependable, is low (Rabkin & Streunung, 1978). Recently, the identi-

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fication of moderating and mediating variables in the stress-illness relationship has been included as an area for empirical study and the list of moderators, or resistance resources (Antonovsky, 1979, 1987) is growing. Kobasa (1979) identified hardiness as a personality factor and this moderating and mediating variable in the stress-illness relationship has been of considerable interest to researchers in the last decade.

The phenomenon of hardiness has been deductively derived from existentialism (Lambert & Lambert, 1987). Kobasa (1979) has adapted the existentialist view of hardiness into a notion of strenuousness of authentic living, of competence, appropriate striving and productive orientation. Kobasa developed a health-related concept to explain the characteristic of people who experience high degrees of stress without falling ill. Kobasa, Maddi and Puccetti (1982) defined hardiness as "a constellation of three crucial personality characteristics - commitment, control and challenge" (p. 392). Together, these elements form a personality style that is an amalgam of cognition, emotion and action, aimed, not only at survival, but at the enrichment of life through development.

Commitment. Commitment is described as a belief system that minimizes the perceived threat of any given stressful life event. The encounter with a stressor is mitigated by a sense of purpose that prevents the person giving in or feeling alienated in times of great strain. Committed persons feel an involvement with others that serves as a resistance resource against the impact of stress. They easily identify with events and persons in their lives, and they are active in confronting crises (Maddi, Hoover, Kobasa & Zola, 1982). This investment of committed energy serves to strengthen the person under stress. Kobasa (1979) suggest that commitment to self is the most crucial in maintaining health. Committed people, with a sense of purpose, remain healthier under pressure than those who are alienated and apathetic (Kobasa, Maddi & Puccetti, 1982).

Control. Kobasa (1979) incorporated control by building on Rotter's (1966) concept of locus of control. Individuals develop a locus of control orientation based on their experiences and learning that is related to reinforcement. People with an internal locus of control believe reinforcements occur primarily as a result of their own efforts or attributes. People with an external locus of control consider that forces outside themselves are dominant. In this sense, internally oriented people have a self-perceived ability that they can have an influence on the outcomes of various stressful life events, and they modify the stressor (by positive appraisal) into a manageable, growth producing challenge. In contrast, externally oriented people feel overwhelmed, helpless and powerless when faced with a stressor. The dimension of control is consistent with existential theory on personal control and individual decision making.
Challenge. The challenge feature is characterized by a positive attitude toward change (Kobasa, Maddi & Kahn, 1982). These people value change and believe that change rather than stability is the norm. Change seekers have explored their environment and know how to access resources to aid them in coping with stress (Kobasa, 1979). In this sense, challenge serves to mediate the illness-producing effects of stressful life events and provides an opportunity for growth by promoting flexibility and openness (Bigbee, 1985). Cognitively, these people are flexible and integrate seemingly incongruent life events and experiences to maintain endurance. They are change seekers and catalysts, in seeking out, enjoying and maturing through stress by utilizing supportive resources within the environment to enable them to cope effectively.

Measurement of hardiness

Hardiness has been measured in a variety of ways and the concept has been adapted to meet the measurement needs of specific populations. The earlier scales measured the negative aspects of hardiness disposition, whereas later scales measured positive aspects.

Composite Hardiness Score. In this early measurement scale, Kobasa, Maddi and Hahn (1982) combined five scales to form a composite score. Commitment was measured by the Alienation from Self and the Alienation from Work Scales (Maddi, Kobasa & Hoover, 1979). Control was measured by the Internal versus External Locus of Control Scale (Rotter, Seeman & Liverant, 1962) and the Powerlessness Scale of the Alienation Test (Maddi, Kobasa & Hoover, 1979), and the challenge disposition was measured using the Security Scale of the California Life Goals Evaluation Schedule (Hahn, 1966).

Abridged Hardiness Scale. The Composite Hardiness Score was later considered too complex and difficult to administer, and Kobasa and Maddi developed two concise abridged scales (cited in Allred & Smith, 1989). The main criticism of the Composite Hardiness Scale and the two Abridged Hardiness Scales are that they measure the negative aspects of the hardiness disposition: they measure alienation versus commitment, powerlessness versus control and security and stability versus challenge (Funk & Houston, 1987; Hull, Van Treuren & Vinelli, 1987; Nowack, 1986).

Cognitive Hardiness Scale. In light of the various criticisms to these scales Nowack (1989) developed a 30-item Cognitive Hardiness Scale which focuses on the positive aspects of the hardiness characteristic. Commitment is measured by involvement (as opposed to alienation); challenge is measured by attitudes that view life changes as challenging (as opposed to threatening); control is measured positively with a sense of control over significant outcomes in life.
Health Related Hardiness Scale. The Health Related Hardiness Scale (HRHS) was developed by Pollack (1984) and was adapted from the original Hardiness Scale (Kobasa, 1979) to measure the hardiness characteristic in the chronically ill. Until that time, hardiness had only been measured with well individuals. The HRHS has since been used to measure adaptation to chronic illness (Pollack, 1985, 1989).

Discussion

Measuring hardiness and its effects with the original Kobosa scales has produced varying results. Topf (1989) concluded that the stress buffering effects of hardiness were not predictive of reduced burnout in Critical Care nurses, whereas Rich and Rich (1987) concluded that hardy staff nurses were more burnout resistant than non-hardy nurses. Similarly, research conducted on hospital staff nurses (McCranie, Lambert & Lambert, 1987) concluded that hardiness had a beneficial main effect in reducing burnout. However, the same research also suggested that hardiness did not appear to prevent high levels of job stress from leading to high levels of burnout. Wolf (1990) suggested that hardiness can be promoted in nurse executives, and she provides suggestions for the development of the hardiness characteristic.

Hardiness has been measured, using the HRHS, with different client populations. Goodwin (1988) investigated the levels of hardiness of hemodialysis clients and found that the hardiness characteristic wanes with time and chronic disease, possibly because of a lack of positive reinforcement. This same author also found that people with chronic illness reported higher psychological distress possibly because their ability to control their illness and treatment was diminished. Pollack (1985) studied the hardiness characteristic using the HRHS with insulin dependent diabetics, clients with essential hypertension and clients with rheumatoid arthritis. The conclusions of this study were mixed: the diabetic group showed significant correlation between hardiness and psychological adaptation, but the hypertensive and rheumatoid arthritic group did not.

The health-promoting potential of hardiness as a protection against disease, in the presence of high degrees of life change and stress, were discussed by Bigbee (1985), who also made suggestions for future research to develop systematic, theory-based application in clinical practice. Lambert and Lambert (1987) suggest that, through identification of those individuals who do not feel in control of events in their lives, who do not feel deeply involved or committed to the activities in their lives and who do not anticipate change as an exciting challenge, the hardiness characteristic has direct relevance for nursing practice. They suggest that hardiness can be learned, and that patients and nurses with a low hardiness characteristic may be given hardiness instruction so that they can learn to cope with stress in their lives.
Defining attributes

In choosing the defining attributes of hardiness, we considered its application in nursing practice. The need for empirical testing of different intervention strategies is apparent because there is little evidence in the literature on specific interventions to promote hardiness. We have determined the defining attributes of hardiness to be the following.

1. A considerable curiosity.
2. A tendency to find experiences interesting and meaningful.
3. A belief in being influential through what is imagined, said or done.
4. An expectation that change is the norm.
5. A belief that change is an important stimulus to development.
6. A robustness and self assertiveness.
7. A capability for endurance (ruggedness).

These various attributes might be useful in coping with stressful life events (Kobasa, Maddi & Puccetti, 1982). The rationale for the choice of these attributes was that optimistic cognitive appraisals are made that might cause changes to be perceived as natural, meaningful and interesting, despite their stressfulness and as such, they are kept in perspective. Also, decisive actions might be taken to understand more about change and to incorporate the value of change in future experiences. In these ways, hardy individuals transform stressful life events into less stressful forms.

Model cases

James is a twenty-four year old who has recently been diagnosed with diabetes mellitus. He is determined to meet the challenge and to find out as much about his illness as he can. James requests books and papers about diabetes from his physician in order to become more familiar with the illness. He also meets with someone who has diabetes to learn more about the experience of living with the illness and, finally, he goes to a diabetic clinic for more information and counselling. James believes that the more information he has about the disease, the more he will be able to adapt to the necessary changes of lifestyle and treatment regimen, and to make informed choices. James understands that foregoing certain foods he has hitherto enjoyed will be difficult, but he is determined to follow the prescribed diet in order to maintain his health.

In this case, James shows commitment by seeking information. He has a sense of purpose and is actively involved in confronting his illness. Control is evident in that James believes he can actively influence his own health by seeking counselling and acquiring information in order to meet the required
dietary and treatment regimes; challenge is evident in his positive attitude toward the diagnosis, his eagerness to learn, his assertive action in participating in seeking out the information he requires and his determination to maintain his health. James demonstrates his intention to endure the necessary dietary changes required of him and he understands that the changes in his lifestyle, diet and treatment must be permanent.

Using the previous case as a basis, borderline and alternative cases can be elaborated.

James (age 24) has recently been diagnosed with diabetes mellitus. He seeks information and counselling from a diabetic clinic; he requests and reads some information about the disease and he talks to a diabetic about the experience of having diabetes. He understands that he will have to make certain changes in his lifestyle and dietary habits, learn to give himself insulin and he is nervous about these major changes in his life. He is not sure he can conform to the new and required treatment regimen.

In this borderline case, which demonstrates some, but not all, of the defining attributes, James demonstrates commitment and control by actively searching for information and counselling on diabetes. However, James does not exhibit an acceptance of challenge: he is nervous about the new treatment and diet required of him and he is not sure he can endure such major lifestyle changes.

Mary is told by her physician that she has Crohn’s Disease and that in the future she will require medication and a special diet. The physician also explains to her that she should change her job to a less stressful one, or quit working altogether to avoid exacerbation of the disease. Mary refuses to be considered an invalid and is determined to continue her life as normal, despite the medication and dietary adjustments.

This related case portrays the concept of resilience, and the critical defining attributes of commitment, challenge and control are present. Mary accepts the change and she is challenged and committed to maintaining her previous lifestyle. In this sense, she feels she has some control. However, the difference between this example and the first case is that Mary is denying that her illness may be exacerbated by stressful situations. Druss and Douglas (1988) consider denial to be one of the main attributes of resilience and they suggest that denial can produce both healthy and unhealthy results. Healthy denial can serve constructive and adaptive functions in response to illness and, in some instances, can even be lifesaving. In Mary’s case, her denial is
unhealthy because she is disavowing the need to reduce stress in her life. Denial is an unconscious mental process labelled "ego strength" (Druss & Douglas, 1988). This unconscious mental process is different from the largely cognitive or behavioural attributes of hardiness.

**Antecedents and consequences**

There is much that still needs to be understood about the antecedents of hardiness. What role does the DNA code play in the development of the personality characteristic? To date, there has been no significant research which links the biophysical composition of an individual with the personality characteristic of hardiness. Locke (1982) suggests that individuals who explain stressful events pessimistically are at an increased risk for poor health because of a lowered immune function. In this sense, stressful life events are seen as a precursor or an antecedent to poor health and hardiness is seen as the moderator or mediator in the stress-illness continuum.

Antonovsky (1979) suggests that a person's sense of coherence is the single most important antecedent to hardiness. Antonovsky states that coherence consists of a "pervasive, enduring though dynamic feeling of confidence that one's internal and external environment are predictable and that there is a high probability that all things will work out as well as can reasonably be expected" (p. 123).

Why are some individuals more hardy than others, and what causes hardiness to occur? Druss and Douglas (1988) suggest two experiences that may account for the fostering of a hardy personality. First, hardy individuals may have had role models who demonstrated the personality characteristics of control, commitment and challenge in the face of stressful life events with positive and healthy outcomes. Secondly, hardiness may be learned, with previous experiences demonstrating the person's ability to face stressful life events with a sense of mastery and control. Kobasa, Maddi and Puccetti (1982) suggest that experiences in childhood, through interactions with parents and significant others, may foster a hardy personality. These authors contend that the major factor in learning a sense of commitment or involvement is for the majority of the child’s experiences to be positive rather than negative. A sense of control can be learned by regular experiences of stretching to accomplish something and succeeding; and challenge can be learned by exposing the child to a wide range of experiences so that the child will expect change (not the status quo) to be the norm.

One consequence of the personality characteristic, hardiness, is the maintenance of health in the face of stressful life events. The mediating and moderating effects of hardiness provide substantial protection against illness (Kobasa, Maddi, Puccetti & Zola, 1985). The mediating effects occur when
troubling life events are interpreted less negatively and are therefore less harmful. The moderating effects provide a buffering effect in the stress-illness relationship. Table 1 provides an overview of the antecedents and consequences of the hardness characteristic, here identified.

### Table 1

**Antecedents and Consequences of the Personality Characteristic Hardiness**

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<tr>
<th>Defining Attribute</th>
<th>Antecedents</th>
<th>Consequences</th>
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| 1. Considerable curiosity           | -Cognitive ability to inquire  
- Fostering and valuing curiosity in a child | - Increased knowledge/understanding  
- Indepth inquiry  
- New knowledge  
- Creative development |
| 2. Tendency to find experiences interesting and meaningful | - Perceiving experience  
- Valuing experience  
- Ability to see pattern recognition  
- Ability to reflect | - Ability to focus  
- Ability to set goals  
- Peacefulness, resolution  
- Sparking of inquiry |
| 3. Belief in being influential through what is imagined, said or done | - A belief that behaviours can have an effect  
- Past experiences which foster the belief that the person can be influential | - Make a difference  
- Tenacity  
- High self confidence  
- Realization of expected outcomes  
- Knowledge of choice  
- Wielding of power  
- Knowledge of personal control |
| 4. Expectation that change is the norm, and an important stimulus to development | - Previous experience of effective change  
- The degree of change (small to profound)  
- Cognitive ability to accept change  
- Social skills to access support and help | - Seeking stimulation  
- Higher tolerance for change  
- Planned change  
- Change seeker  
- Self actualization |
| 5. Robust and self assertive        | - Past self assertive behaviour with perceived success  
- Courage  
- Physical strength | - Personal control  
- Self actualization  
- Tenacity |
| 6. Capable of endurance (ruggedness) | - Physical strength  
- Positive past experience with tenacity  
- Mental strength (courage)  
- Ability to withstand strain | - Goal attainment |
Empirical Referents

Empirical referents are classes of actual phenomena that demonstrate the presence of the concept and its attributes. They are useful in instrument development and they also provide clear, observable phenomena for diagnosing the concept in practice (Walker & Avant, 1988). The five measurement tools in use to measure the hardiness personality characteristic are:

1. The five scales measuring negative indicators of commitment, control and challenge (Kobasa, Maddi & Kahn, 1982).

Other empirical referents are:

1. demonstration of considerable curiosity, as evidenced by: asking questions; reading related literature; seeking advice from experts.
2. demonstration of interest, as evidenced by: paying close attention; considering the experience important.
3. expressing a sense of meaning in the experience as evidenced by: expressing the good, or the advantages which may occur as a result of the experience.
4. demonstrating an ability to influence the experience, as evidenced by: making suggestions about possible courses of action; expressing a different or imagined way of being; behaving in a way to influence others.
5. expressing the notion that change is the norm.
6. expressing the notion that change is an important stimulus to development.

Conclusion

As a personality characteristic, hardiness has been primarily related to its mediating (or buffering) and moderating effects on stressful life events and illness (Kobasa, 1979; Kobasa, Maddi & Courington, 1981; Kobasa, Maddi & Kahn, 1982; Kobasa, Maddi, Puccetti & Zola, 1985; Pollack, 1985). A variety of instruments have been used to measure hardiness, both with nurses and with patients, and the results of these studies have been mixed.

The majority of the research on hardiness has been done on white, male executives. Only recently has the characteristic been tested on females, the disadvantaged, culturally diverse populations and the chronically ill - and the results have been varied.
Hardiness may represent only one aspect of stress resistance (Kobasa, Maddi, Puccetti & Zola, 1985). However, evidence from hardiness research suggests that the characteristic has the potential to moderate or buffer stressful life events that could lead to illness. It is important to understand how hardiness is developed, and how it can be learned, so that nurses will have a better understanding of how to intervene with low-hardiness clients and colleagues before they experience illness-producing stress. Rich and Rich (1987) suggests that hardiness can be taught, and Wolf (1990) provides nurse executives with strategies that may facilitate hardiness and possibly reduce the such effects of work-related stress as burnout and illness.

The concept of hardiness is not yet fully developed or understood and, although more research is needed on the generalizability of this concept for different populations, its potential use for nursing in the areas of health promotion, health maintenance and in disease prevention is important.

REFERENCES


RÉSUMÉ

Une analyse de la notion de résistance

Pourquoi certaines personnes semblent-elles moins vulnérables que d’autres aux stress environnementaux et aux maladies? De nombreuses recherches réalisées en psychologie portent à croire que les individus qui gardent la santé possèdent un trait de caractère particulier, la "résistance", notion relativement nouvelle en sciences infirmières qui pourrait avoir une incidence sur la pratique des sciences infirmières. La théorie des sciences infirmières ne peut progresser qu’à condition de définir les termes qui constituent le fondement de la somme de connaissances propres à cette discipline. L’analyse conceptuelle est une stratégie importante de la formulation des théories; cet article illustre le recours au processus analytique, tel que défini par Walker et Avant, pour clarifier la notion de résistance, de manière à pouvoir en examiner l’incidence potentielle sur la pratique des sciences infirmières.