Chapter 2
Personal Hardiness as the Basis for Resilience

Abstract Together, the hardiness attitudes and strategies facilitate resilience under stress. The hardy attitudes are the 3Cs of commitment, control, and challenge. No matter how bad things get, challenge helps you realize that life is naturally stressful, commitment helps you stay involved with what is going on around you, and control helps you try to turn it to your advantage. This courage helps you engage in the hardy strategies of problem-solving coping, socially-supportive interactions, and beneficial self-care. Our 12-year longitudinal study at Illinois Bell Telephone showed that the higher were managers in personality hardiness; the better was their performance, and health after the disruptive deregulation of the telephone industry they experienced. These findings led to the Hardiness Model.

Keywords Hardy attitudes • Hardy strategies • Resilience • Enhanced performance • Enhanced health • Problem-solving coping • Socially-supportive interactions • Beneficial self-care • Illinois Bell Telephone study • Stress • Strain • Hardiness model

Early in my career, I was studying the personality characteristics that increase the likelihood of creativity in one's performance. What I was finding is that the more people are interested in novelty and increases in stimulation, the greater the likelihood that they will show creativity (originality) in their performance (Maddi 1969). At one point, a student on my research team brought me an article she had found in Family Circle Magazine, which emphasized the importance of avoiding stressful circumstances, as they can kill you. The article emphasized that the major way of avoiding stress was to keep stability, and avoid changes. I was shocked at this conclusion, as it implied that, from what my research was showing, creative people are trying to commit suicide.

In mulling over this contradiction between what I, and others were finding, I began to think that there are probably individual differences in people's reactions to stressful circumstances that are worth studying. Perhaps people who are more intrigued by ongoing changes are more likely than others to turn the resulting stresses to advantage by what they learn. And, as they grow from what they learn, the stresses are resolved, and therefore less likely to undermine performance and health.

Hardiness as the Pathway to Resilience

Before long, the conceptualization of personality hardiness began to emerge (Kobasa 1979; Maddi and Kobasa 1984). Basically, hardiness was considered the specifics of what existentialists call existential courage (Maddi 2004). In particular, hardiness emerged as a pattern of attitudes and strategies that together facilitate turning stressful circumstances from potential disasters into growth opportunities.

In particular, there are the three Cs of hardiness attitudes (Maddi 1994, 2002). If you are strong in the C of *challenge*, you accept that life is by its nature stressful, and see those stressful changes as an opportunity to grow in wisdom and capability by what you learn through trying to turn them to your advantage. In this, you think that you can learn from failures as well as successes. You do not think you are entitled to easy comfort and security. Instead, you feel that fulfillment can only be gained by having turned the stresses into growth opportunities. Another C of hardy attitudes is *commitment*, which involves the belief that no matter how bad things get, it is important to stay involved with whatever is happening, rather than sink into detachment and alienation. And the third C of hardiness is *control,* which leads you to believe that no matter how bad things get, you need to keep trying to turn the stresses from potential disasters into growth opportunities. It seems like a waste of time to let yourself sink into powerlessness and passivity.

To truly express existential courage, a person must possess all 3Cs of commitment, control, and challenge. American psychology is currently preoccupied with the importance of the control attitude, and I have encountered the opinion from others that it is this attitude that fully defines hardiness. But, imagine people high in control though simultaneously low in commitment and challenge. Such people would want to determine outcomes but would not want to waste time and effort learning from experience or feeling involved with people, and events. In that, these people would be riddled with impatience, irritability, isolation, and bitter suffering whenever control efforts fail. What we see in this is something close to the Type A behavior pattern (e.g., Friedman and Rosenman 1974), with all its physical, mental, and social vulnerabilities. Such people would be egotistical, and vulnerable to seeing themselves as better than the others, and having nothing more to learn. There is surprisingly little to call hardiness in this orientation.

Now, imagine people high in commitment, but simultaneously low in control and challenge. Such people would be completely enmeshed with, and defined by the people, things, and events around them, never thinking to have an influence through, or to reflect on their experience of their interactions. They would have little or no individuality, and their sense of meaning would be completely given by the social interactions and institutions in which they would lose themselves. Such people would be extremely vulnerable whenever any changes were imposed on them. There is certainly little to call hardiness here.

Finally, imagine people who, though high in challenge, are simultaneously low in control and commitment. Such people would be preoccupied with novelty,

caring little for the others, things, and events around them and not imagining they could have a real influence on anything. They might appear to be learning constantly, but this would be trivial in comparison with their investment in the thrill of novelty per se. They would resemble adventurers (Maddi 1970) and could be expected to engage in games of chance and risky activities for the excitement that they bring. Once again, there is little of hardiness in this.

I could continue by showing you how any two of the 3Cs, without the third, is still shy of hardiness. However, I hope this is not necessary and that the point is clear that it is the combination of strength in all 3Cs that constitutes hardiness. People who are simultaneously strong in all of the 3Cs tend to (1) see life as a continually changing phenomenon that provokes them to learn and change (challenge), (2) think that through this developmental process, they can work on the changes in a fashion that turns them into fulfilling experiences (control), and (3) share this effort and learning in a supportive way with the significant others and institutions in their lives (commitment).

Thus, conceptually, all three Cs of hardy attitudes need to be strong, in order to provide the existential courage and motivation to do the hard work of turning stresses to advantage. That hard work involves hardy coping, hardy social interaction, and hardy self-care (Khoshaba and Maddi 2004; Maddi 2002). Coping that is hardy involves clear identification of stressful circumstances, analysis of what can be done to resolve them by turning them to growth advantage, and carrying out the steps that result from this identification and analysis. The opposite of hardy, problem-solving coping is denial and avoidance, by trying not to notice stressful circumstances, and distracting oneself through excessive activities, such as overspending, gambling, and substance addiction. Hardy social interaction involves giving and getting social support from the significant others in one's life. The opposite of hardy social interaction is feeling victimized and acting on this to punish the supposed victimizers, and overprotect one's supposed allies. Hardy self-care involves protecting one's bodily functioning by engaging in relaxation procedures, eating in a balanced and moderate way, and keeping a moderate level of physical activity. The opposite of hardy self-care involves no effort to moderate bodily arousal, indulgence in eating overly sweet and fatty foods, and becoming a "couch potato."

Hardiness has been put forward as the pathway to resilience under stress (Bonanno 2004; Maddi 2005). Resilience is often considered the phenomenon of maintaining your performance and health, despite the occurrence of stressful circumstances. I emphasize that resilience should also be considered to involve not only this survival, but thriving as well, in the sense that stressful circumstances can also enhance performance and health, through what you learn and then use. Thus, I expect that the combination of strong hardiness attitudes and strategies will result in the best possible living in our turbulent times.

Also, we believe that hardiness can be learned. It is best, needless to say, if that learning takes place early in your life, through the nature of your interactions with your parents and other mentors (Khoshaba and Maddi 1999; Maddi 2002). But, hardiness can be learned at any time in life through our hardiness training program

(Khoshaba and Maddi 2004; Maddi 1987, 2002). What is especially important in learning hardiness is that the parent or mentor support you in practicing problem-solving coping, supportive social interaction, and beneficial self-care, and also show you how to use the experiential feedback resulting from these hardy strategies to enhance the hardy attitudes. Thus, when you function on your own, you will have not only the knowledge of how to do problem solving, socially-supportive interactions, and beneficial self-care, but also the courage and motivation to carry out this needed hard work.

The Longitudinal Study of Stress at Illinois Bell Telephone

As indicated earlier, the magazine article my student brought me in 1974, which emphasized avoiding stress because it can kill you, did not make sense to me, especially as my ongoing research was showing how it is specifically people who are oriented toward change who are likely to be creative. This contradiction led me to feel provoked to consider the importance of studying whether there are individual differences in whether stressful circumstances undermine or enhance performance and health, and if so, whether the individual differences concern hardiness.

So, I convinced my research team that we needed to do research on such individual differences in a sample of people undergoing substantial stresses. At the time, I was a psychology consultant for Illinois Bell Telephone (IBT), which was headquartered in Chicago. Then, the telephone industry was a federally-regulated monopoly, as our government believed that reliable, inexpensive telephone service was in the national interest. In this, IBT was a subsidiary of the parent company, American Telephone and Telegraph (AT&T), and none of these companies needed to be competitive, or worry about their bottom lines.

At the time, the Executive Vice President of IBT was Carl Horn, with whom I had become friendly through my consulting work for his company. We had both talked about how the monopoly status of AT&T and its subsidiaries probably would be drawing to a close in the near future, as our federal government was beginning to believe that more business competition was necessary in order to hasten the development of the telecommunications industry, and insure that the United States would be at the center of that development. Although "the writing was on the wall," neither he nor I could predict how many months or years might pass before the deregulation would occur. But, there was no uncertainty that the deregulation would be a colossally stressful disruption for the company and its employees.

I shared with Carl Horn the importance of my team doing research on the different sorts of performance and health reactions people might have when they experience stressful circumstances. In this, I emphasized the excessive nature of the Family Circle article on the importance of avoiding stresses, and asked whether he would permit us to study IBT employees before, during, and after the impending federal deregulation of the telephone monopoly. He not only agreed

to endorse this study, but also offered to pay some of its expenses. In addition, I had financial grant support from the National Institute of Health. So, we rushed to develop and carry out our natural experiment at IBT.

By 1975, we were ready to begin data collection. Carl Horn sent a request to the supervisors, managers, and decision-makers at IBT, introducing our data collection procedures, encouraging them to volunteer to participate in the study, and promised them anonymity. But, he did not elaborate what the study was about. The resulting sample was 259 employees, who we tested comprehensively and regularly over the years of the study. Administered were many existing questionnaires, covering personality characteristics, social interaction patterns, and signs of stress, strain, motivation, and beliefs. In this regard, we included each year the set of test items we had composed to cover the 3Cs of hardiness. Over the years, subsamples were also interviewed, covering many of the same areas, and also emphasizing early developmental experiences.

In addition to these psychological data, we also had available to us the performance data, such as job evaluations, promotions, and demotions that was ordinarily compiled by IBT. We also had available our participant's medical information, as it was IBT's procedure to give each of its supervisors, managers, and decision-makers a free yearly physical examination on their birthday, and free treatment if, and when, they became ill.

We continued to collect the yearly data mentioned above, as we waited for the anticipated federal deregulation of the telephone industry. That deregulation happened in 1981 (6 years into our research program), and is still regarded as one of the major business upheavals in history. A sign of this at IBT was that it went from roughly 26,000 employees in 1981, to just over 14,000 in 1982. Nearly 50 % of the employees were terminated in the downsizing required in order for the company to become more economically competitive in the new market conditions. And, the work roles of those employees who remained were continually reorganized, in the attempt to get the company to be successfully competitive. There were also many subjective signs of this upheaval. For example, early in 1983, we asked a manager in our sample what the deregulation was like for him. He indicated that he had 10 different supervisors in 12 months. He said, "*they* were in and out the door, and didn't know what they were doing. And, *I* don't know what I am doing either."

We continued to collect performance and health data for 6 years after the deregulation upheaval, in this study that has come to be regarded as a classical natural experiment (Maddi and Kobasa 1984). What we found is that, following the deregulation, two-thirds of the employees in our sample fell apart, showing various breakdown symptoms. Physically, there were heart attacks, strokes, kidney failures, cancers, and suicides. Psychologically, there was depression, anxiety, excessive spending, divorces, and dependency on alcohol, drugs, and other addictive experiences. But, the other third of the sample were resilient by not only surviving, but also thriving. If they stayed at IBT, they tended to rise to the top of the heap in the reorganization. If they left IBT, they either used their experience to start their own companies in the new competitive industry, or joined other startup companies and rose to the top of the heap there. If anything, they showed

more excitement, enthusiasm, motivation, and fulfillment than they had before the upheaval. They showed many signs that the upheaval and reorganization necessities led them to grow and develop. These findings clearly supported my position that there are individual differences in the reaction of people to stressful circumstances. Whereas some people are undermined, others are enhanced in their performance and health.

Another major consideration in this research was to see whether there were psychological factors existing before the deregulation that could have influenced the difference between the two-thirds of the sample that were undermined by the upheaval, and the one-third that survived and thrived. Needless to say, the major emphasis of this study was the attitudes and strategies that I came to call hardiness.

Concerning the hardy attitudes, we composed various questionnaire items for commitment, control, or challenge. Examples are, for commitment: "Most days life is interesting and exciting for me", for control: "People's misfortunes result from the mistakes they make", and for challenge: "I easily start in on unexpected new tasks". Considering the relevant data for the 15 composed items for each of the attitudes of commitment, control, and challenge showed adequate reliability both in terms of internal consistency and stability. Further, each of the 3Cs showed moderate positive correlations with the other two, as was expected, in order to consider them together as the attitudes of hardiness. Although measurement of hardy attitudes has improved greatly in the years since the IBT study, that study made a good start.

At the attitudinal level, we also included a measure of Type A personality, an approach that was emphasized at the time (Friedman and Rosenman 1974). People high in Type A personality are driven, impatient, and competitive, unsatisfied with themselves, and experience great time pressure.

At the hardy strategy level, we included two measures from a well-known coping test (Folkman and Lazarus 1980). One measure involved items showing an attempt to resolve work stresses by working on transforming them. Examples of the items included: "I knew what had to be done, so I doubled my efforts and tried harder to make things work" and "I came up with a couple of different solutions to the problem." The other coping measure, which seemed the opposite of hardiness, involved engaging in denial and avoidance coping of work stresses. Examples of the items included: "Tried to forget the whole thing," and "Daydreamed or imagined a better place than the one I was in."

Also included concerning hardy strategies was a measure of interacting with others in a socially-supportive way (Moos et al. 1974). Sample items include, for family interactions: "We say anything we want to around home," and "There is plenty of time and attention for everyone in our family." For work interactions, sample items are: "Superiors really stand up for their people," and "People take a personal interest in each other." In measuring hardy health practices, interview data was used concerning dieting, smoking, alcohol intake, drug use, relaxation, and physical exercise.

Throughout the study, we also included measures of both stress and strain symptoms (Maddi and Kobasa 1984). The stress measure included such items as "Recently, I've had a career or job change", and "Recently, I have experienced an illness in a family member or friend." The strain measure included such items as "Often, I have general aches and pains", and "I've been having troubling dreams lately."

Finally, a measure of constitutional strengths and weaknesses was included, with the kind of interview data often used by physicians. The participants were asked to report on the number of major illnesses presumed to have some hereditary basis that their natural parents suffered. In this, we assumed that parents who had few of these illnesses had passed on stronger physical constitutions to their children (who, of course, constituted our sample).

As to results, we found, as expected, that the hardy attitudes were positively related to the hardy strategy of problem-solving coping, and negatively related to avoidance coping. Further, the hardy attitudes were positively related to the hardy strategy of socially-supportive interactions, and unrelated to Type A social behavior. The hardy attitudes were also positively related to the hardy strategy of beneficial self-care. These findings emerged in the data before the upheaval, and continued on after the upheaval. Indeed, the pattern of hardy attitudes and strategies was predominant in the managers who survived and thrived after the deregulation, whereas the opposite pattern characterized those who fell apart.

As to effects on bodily reactions to stressful circumstances, we found that prior to the deregulation, the intensity of stress and strain reactions of managers was lower in those with hardy attitudes and strategies, than in those low in hardiness (Kobasa et al. 1981, 1982a, b). This pattern continued after the deregulation, even though the amount of stress and strain understandably increased in most managers. In one study (Kobasa et al. 1986), hardy attitudes, social support, and physical exercise were compared in their health effectiveness after the deregulation. Among managers who were all above the sample median in stresses, the total hardy attitudes was roughly twice as effective in decreasing risk of illness than were social support and physical exercise. Of particular interest was the synergistic beneficial effect of these three stress-buffering variables: Managers with two stress buffers did somewhat better than those with only one, but those with all three buffers did remarkably better than those with only two. We also found no relationship between hardiness measures and constitutional strength, either before or after the deregulation.

Hardiness Helps Turn Stresses into Growth Opportunities

All in all, the pattern of results in the IBT study supported the conceptualization of hardiness as a pattern of attitudes and skills that facilitates or even enhances performance and health under great stress. The results also showed that hardy managers expected stress, and saw it as an opportunity to do what they could to transform it and thereby grow in fulfillment. A particularly noteworthy example in a manager whose questionnaire results showed high hardiness both before and
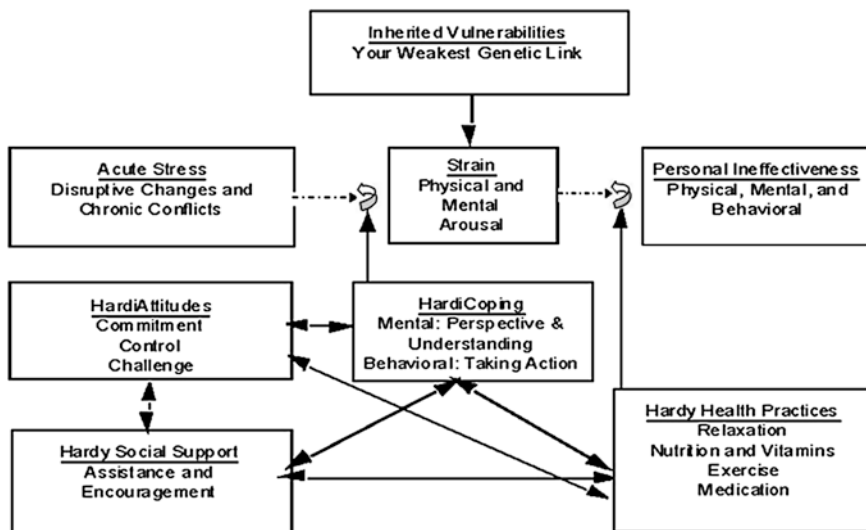
Fig. 2.1 The Hardiness Model for performance and Health Enhancement, © Copyright 1986–2004

after the upheaval involved his answer to the question (asked of him before the upheaval), "What is it like to be a manager in this company?" He responded, "To be an accepted manager in this company you have to have a bell-shaped head." When asked what that meant, he pointed to a several-volume work on his bookshelf that was published by the parent company, AT&T. Then he said,

"When a problem arises, you do not think it through on your own. Instead, you go to the index of these books by Ma Bell, and you are directed to the part of the books you need to read, which reading tells you exactly what to do. That is what I mean by needing to have a bell-shaped head."

Interestingly enough, this manager was among those who felt much more energetic after the upheaval, immersed himself in using his talent to figure out what needed to be done in the chaotic environment, experienced few signs of performance and health breakdowns, and rose to the top of his reorganizing company.

Figure 2.1 diagrams the general pattern of results of the IBT project, and is quite consistent with the additional research findings in subsequent studies over the next 25 years. The bad news depicted in this Hardiness Model is the sinister line near the top. The first box considers the total of your stressful circumstances, which circumstances may be either acute or chronic. Acute stresses involve disruptive changes, such as unexpected automobile accidents, or job losses. Chronic stresses involve a continuing mismatch between what you want and what you get. For example, you may see yourself as a loving person, but are unable to find someone on whom to lavish that. Or, as in the IBT manager exampled above, you may see yourself as a capable and resilient person, but have to just fit in to be considered doing your job well.

The model also shows that stressful events that are not resolved have the effect of increasing bodily strain, or arousal. This arousal is what Cannon (1929) called the "fight or flight" response. Before there was civilization, whenever humans would encounter the stress of other animals bigger and stronger than them, what was evolutionarily important was the mobilization of energy that facilitated either fighting back or running away. Arousal hormones and glucose would be pumped into the blood stream, so that the mind and muscles would have the energy needed to make quick decisions and carry them out. Now that we live in more civilized times, the stresses we encounter tend not to involve bigger and stronger animals. Nonetheless, the effect of our current stressful circumstances is the same on the bodily arousal. But, even with this bodily arousal, we are unlikely to fight or run away. If we do not resolve the stresses by problem-solving, the arousal persists as what we now call strain.

Further, the hardiness model shows that when strain becomes too high and too prolonged, bodily and psychological resources are depleted, and breakdowns occur. This has been shown in Selye's (1976) award-winning research. These breakdowns can be physical, such as the so-called "wear and tear" diseases of the circulatory and digestive systems. Breakdowns can also be psychosocial and emotional, such as failing to meet deadlines, disregarding significant others, and depression and anxiety disorders. The last piece of bad news depicted in the hardiness model is the box at the top of the figure, which proposes that, when strain-related breakdowns occur, they may do so along the lines of our constitutional weaknesses.

The good news involves the four boxes at the bottom of the model, which together conceptualize how stress and strain can be kept within manageable limits, so that the likelihood of breakdowns is minimized and, indeed, performance and health may even be enhanced. The box at the left summarizes the hardy attitudes of interrelated commitment, control, and challenge. Together, these attitudes constitute the existential courage and motivation needed to do the hard work of transforming the stressful circumstances from potentials for breakdowns into growth opportunities instead. These courageous attitudes stimulate hardy (problem-solving) coping, rather than regressive (denial and avoidance) coping. The hardy attitudes also stimulate socially-supportive (rather than competitive) interactions with significant others.

The combination of hardy attitudes, hardy coping, and hardy social interactions facilitates turning stressful circumstances to developmental advantage. In this, one has the courage and strategies that permit (1) clear evaluation of the stressful circumstances, (2) a consequently emerging sense of what can be done to learn from them and increase in capability thereby, and (3) persistence in carrying out what has been learned. As shown in the diagram, this process will reduce the stressful circumstances, and in that way, decrease strain, and the likelihood of breakdowns.

The hardiness model also shows that hardy attitudes can facilitate the strategy of beneficial (rather than undermining) self-care. This helpful self-care involves keeping bodily arousal at an optimal level, so that there is enough energy to carry out the hard work of hardy coping and socially-supportive interactions, but not so much energy that the careful, ongoing work involved in this coping and social

interaction is impossible. When your arousal level is getting too high, beneficial self-care involves relaxation exercises, nutrition that moderates sweet and fatty foods, and physical exercise that helps in using up the excess energy. As the diagram shows, hardy attitudes helps with hardy self-care, and this decreases bodily arousal level. But, beneficial self-care, by itself, does little to reduce the stressfulness of the circumstances provoking excessive bodily arousal. Only hardy coping and social interactions can decrease the stressfulness of the circumstances, through turning them to advantage by what is learned.

But, it should not be concluded from what I have been saying that the best outcome is to avoid any stress and strain, and thereby feel comfortable. After all, as I have said before, life is by its nature stressful. So, it is not possible to avoid stress all together, and still be living well. The aim of hardiness attitudes and strategies is to recognize stresses, learn from them, and thereby move one's living toward wisdom and fulfillment. And, this is an ongoing process, not one that once achieved, indicates that nothing further is required. Indeed, if it were possible to resolve present and future stresses completely, one's resulting life would not be comfortable and stable. You would get so bored that soon you would begin engaging in excessive attempts to find stimulation, such as over spending, gambling, abusing alcohol and other stimulating substances, sexual promiscuity, and even aggressiveness and law-breaking. After all, the cortex of the human brain evolved in a fashion that facilitates learning and growing. This remarkable cortex therefore requires stimulation in order to keep functioning. The psychological research on the effects of stimulus deprivation shows this. When research participants were deprived of stimulation for a long time, they actually began hallucinating (such as seeing one's head separated from one's body and floating around the room), and often quit participating in the study, even though that meant not getting the substantial money payments promised (cf., Fiske 1961). It certainly seems as if our human brains need constant stimulation, even if that stimulation is stressful, as that then provokes transforming the stress into new learning and wisdom. It seems clear that it is not the best answer to deny and avoid stressful circumstances, just because paying attention to, and learning from them, can be a consuming process.

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