ABSTRACT

This paper explains how the hardiness approach has had an
impact on psychology and related fields. It states that in this process, the
development of the hardiness approach to enhancing performance and health has
been facilitated by continual cross-fertilization between theorizing,
research, and practice. It first emerged from individual differences research
on stress reactions as the attitudes of commitment, control, and challenge.
Since then, the impetus of combing research and practice has led to the
supplementation of hardy attitudes with hardy skills concerning coping,
social interaction, relaxation, nutrition, and physical exercise. Also, the
role of and mechanisms whereby hardy attitudes and skills enhance performance
and health are better understood. This more comprehensive picture also
involves the expansion of the hardiness approach from the individual to the
organization level. As we approach the next century, hardiness will be even
more useful. (Contains 4 figures and 40 references.) (JDM)

ABSTRACT

Twenty Years of Hardiness Research and Practice[1]

Salvatore R. Maddi[2]

Over the past twenty years, the hardiness approach has had considerable impact on psychology and related fields. In this process, the development of the hardiness approach to enhancing performance and health has been facilitated by continual cross fertilization between theorizing, research, and practice. In the late 1970s and early 1980s, hardiness emerged from individual differences research on stress reactions as the attitudes of commitment, control, and challenge. Since then, the impetus of combining research and practice has led to the supplementation of the hardy attitudes with hardy skills concerning coping, social interaction, relaxation, nutrition, and physical exercise. Also, the role of, and mechanisms whereby, hardy attitudes and skills enhance performance and health is better understood. This more comprehensive picture has also involved the expansion of the hardiness approach from the individual to the organizational level. As we approach the mounting turbulence of the 21st century, hardiness will be all the more useful.

Key Words: Hardiness, Hardy Attitudes, Hardy Skills, Performance, Health

Second Draft

Twenty Years of Hardiness Research and Practice[1]

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According to our last internet search, there are close to 700 citations for

hardiness around the world. Also, our hardiness test has been translated into 10

Asian and European languages, to say nothing of the numerous countries that use it

in English. Enthusiasm for and use of hardiness assessment and training is

mushrooming of late in companies, schools, police and military agencies, and by

individuals. To understand these multiple signs of attraction, we need to discern

the current person—situation interaction (Endler & Magnusson, 1976) that renders

hardiness so relevant.

The Problem: Turbulent Times Reacted to in Debilitating Ways

The rising rate of change these days truly amounts to turbulence, or what has

even been called chaos (Peters, 1988). Megatrends (Naisbitt, 1982) beyond anyone's

control abound. There is the breathtakingly fast transition we are making from an

industrial to an information society, with everyone scurrying to keep up with the

continual, dramatic advances in computer and internet technology, and the changes

they introduce into everyday life. There is the world-wide increase in competition

and redistribution of wealth that has been taking place as U.S. post World War II

supremacy has waned. There is the collapse of the Soviet Union and the U.S.

Defense Industry along with it. There is the shock waves produced by the very

justifiable, inexorable pressure toward equal opportunity for minorities and women.

Trying desperately to adapt to the pressures of change, companies are continually restructuring, sometimes decentralizing and other times merging, sometimes decreasing and other times increasing management levels, sometimes downsizing and other times upsizing.

The trickle-down effect of these and other megatrends has been a powerful disruption of the relatively stable living patterns we had over many years come to regard as natural. In all this, our individual existences have been greatly stressed, as shown in increasing levels of physical and mental illnesses, decreased job performance and morale, increased substance abuse and violence, and the deterioration of family life.

Even worse, for many of us, the disruptions mentioned have begun to disconfirm traditional values in a process approaching spiritual bankruptcy. In vain, we try to believe that good work is rewarded, all the while company restructuring to try to reach urgent bottom line directives has completely eroded job security. In vain, we try to believe in romantic love and marriage, all the while the divorce rate has exceeded 50%, abuse is rampant, and increasing numbers of people live alone in bitterness and self-pity. In vain, we try to believe in equality, all the while the gap in quality of life and safety between centrists and minorities is widening. In vain, we try to believe in civility, all the while violence and trickery is everywhere. In vain, we try to believe in the heroism of our leaders, all the while they are bogged down in corruption and petty bickering. Perhaps the most painful expression of this trend toward spiritual bankruptcy is our wish to believe in the unshakeable purity and innocence of our children, all the while they are sinking into

alcohol and drug abuse, homicide and suicide, irresponsibility and school failure, obesity and sexual promiscuity. Nor can we believe, however much we may wish to, that the problems of our youth are due solely to poverty and disadvantage. The many instances of trouble in paradise show that youth failures have been cutting across socioeconomic, ethnic, racial, religious, and even gender lines.

In searching for answers to our mounting, stressful problems, we have expressed longing for our earlier, traditional ways in a manner that shows disregard for the changes taking place around us. We have pointed the finger at corporate greed, the insufficiency of family functioning, the incompatibility of the values of immigrants and Americans, the sinister and discriminatory intent of police and governmental agencies, the passing of moral and religious values, violence on TV and in computer games, the availability of firearms and bomb construction materials, the laxity of school training and discipline, the poor example set by our leaders, and the general stress of modern life. Some of us argue bitterly about which of these factors is the explanation, whereas others turn a deaf ear, hiding behind some good sign--such as a presently strong economy--all the while that our social situation worsens. As the turbulently changing situation continues to undermine our traditional values and beliefs, we will sink further into spiritual bankruptcy unless we develop newer, more relevant meaning systems.

The Solution: Finding New Meaning Through Hardiness

If anything, the rate of change will accelerate in the years to come. Consequently, we desperately need to be able to turn change to advantage through developing new, more relevant meaning systems, and by acting accordingly. The

solution to spiritual bankruptcy and destructive behaviors will come when we not only accept change as normal, but see the developmental value in it, and employ our imagination and energy to discern and pursue the future directions it provides. Existential psychology, and the hardiness model it spawned, are a key to this solution. I hope you will see, in my following remarks, that this position is more relevant to the problem of turning change to advantage than is anything in those other two major psychological approaches, behaviorism and psychoanalysis.

According to existential psychology, meaning is not given, but rather created through the decisions people make and implement (Frankl, 1960; Kierkegaard, 1954; Maddi, 1970; May, 1958). Virtually everything we do, or fail to do in life constitutes a decision, whether we recognize this or not. Needless to say, some decisions are big and others are little. As specific decisions accumulate, more pervasive meaning systems and general directions emerge. Once established, meaning systems and directions can only be changed by sharpened awareness and a concerted effort.

Whatever their specific content, decisions by their nature require that we choose either the future, i.e. the path that is relatively unfamiliar, or the past, i.e., the path that is relatively familiar (Frankl, 1960; Kierkegaard, 1954; Maddi, 1970; May, 1858). A simple example is being confronted with the decision to take a different job in another industry that may require new learning, or remaining in our present job that is certainly adequate, if by now routine. According to existential psychology, consistently choosing the future leads to continued personal development and fulfillment, and is therefore the most desirable stance. But, what

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often deters people from future-oriented decisions is that they arouse ontological anxiety, because we cannot predict in advance what the outcome will be. After all, taking that new job may severely shake our foundation of security, perhaps even leading to failure. Resting on our laurels by staying in the present job may seem wisest. To be sure, turning down the new job will bring a bit of ontological guilt over missed opportunity, but this may well seem like less of a problem for us than the anxiety of uncertainty.

What is needed for us to be provoked regularly toward the developmentally more valuable choices for the future is existential courage. For the theologian, Kierkegaard (1954), this courage was the faith that in choosing the future one was drawing oneself closer to God, who is, after all, the prototypical future-chooser. Although also a theologian, Tillich (1952) more recently defined existential courage secularly as self-confidence and life acceptance.

It is my view (Maddi, 1988, 1998) that the combined hardy attitudes of commitment, control, and challenge constitute the best available operationalization of existential courage. The hardy attitudes structure how you think about your interaction with the world around you, and provide motivation to do difficult things. If you are strong in the attitude of commitment, you want to be involved with the people, things, and events around you. Being detached, isolated, alienated seems like a waste of time. If you are strong in the attitude of control, you believe that if you struggle and try, you thereby have the greatest likelihood of influencing the outcomes going on around you. Sinking into passivity and powerlessness seems pointless to you. If you are strong in the attitude of challenge, you think that your

life will be most fulfilled if you continue to learn and grow in wisdom from your experiences, whether they be positive or negative. To you, feeling entitled to easy comfort and security seems naïve, and being threatened by complexity and change seems weak. When they occur together, the 3Cs of hardy attitudes facilitate awareness that you formulate the meaning for yourself by the decisions you make, and that choosing the future regularly despite the anxiety of uncertainty leads to the most vibrant life. Through enhancing hardy attitudes, people will have the courage to accept change, search out and find new meaning systems, and behave accordingly by turning potential adversity into opportunity.

Looking at Recent History Through the Eyes of Hardiness Theory

World War II was a tremendous learning experience for the generation of Americans who came of age through it. Hardy attitudes were most likely bolstered in those who survived the urgent, sink-or-swim emergency constituted by that war. As Nietsche (1968) put it, "Whatever doesn't kill me makes me stronger." When the war ended, the survivors of that generation used their hardy attitudes as motivation and direction for building a better life. Through their efforts, the United States solidified its status as the most powerful nation on earth. We could do no wrong and had no peers, not even the Soviet Union. We dominated the United Nations. The economy was sound, more and more people went to college and had jobs, married couples had more children than before, and people felt that they knew what life was all about. Our companies prospered, had no parallels elsewhere, and grew larger and more bureaucratic.

America settled down to a long period of political and economic stability. Most people in the next generation, the baby-boomers, rested on their laurels, not feeling they had to struggle to find new meanings when what they had already was so good. There was not much emphasis on building hardy attitudes for the needed courage to find new meaning through future-oriented decisions. Life was so good that there was a subtle shift toward reveling in the status quo, which in existential terms amounts to choosing the past. Soon, people were thinking of life's meaning as given in traditional or religious values, rather than as constantly in process of development through decision-making.

As this trend away from hardy attitudes continued, we became more vulnerable as a nation. Indeed, some of the megatrends responsible for today's turbulence in our country were accelerated by American complacency after we had reached the top of the heap. For example, American auto makers no longer used to outside competition convinced the public that cars needed to be replaced every two to three years, lest one fall behind the styles or be saddled with breakdowns. It was not long, however, before the American auto makers were blindsided by the Japanese, who learned from the Germans how to produce cars that are durable in workmanship and styling, and arranged to sell them at very competitive prices in the U.S. Other megatrends, however, would have happened despite American complacency. An example here is the collapse of the Soviet Union and the U.S. defense industry along with it.

Nonetheless, as the number of megatrends increased, many Americans were unprepared for the resulting turbulence, not having sufficient hardiness to engage in

the sort of future-oriented decision making that could transform potentially disruptive changes into opportunities instead. The unfortunate legacy of this insufficient hardiness can be seen in accelerating rates of behavioral breakdowns (such as violence rather than constructive problem solving), mental breakdowns (such as spiritual bankruptcy), and physical breakdowns (such as mushrooming heart disease, cancer, and obesity rates).

As the turbulence in our lives accelerates even further, we may reach a point analogous to that of World War II that will be so dire as to force those of us who survive to develop the hardy attitudes that will facilitate building a viable future. Fortunately, we need not rely solely on this sink-or-swim condition, as we now have what appears to be an effective hardiness training program that can be applied to broad segments of the population.

Why it is Important to Have All Three Cs of Hardy Attitudes

Thus far in this presentation, I have emphasized the conceptualization and historical relevance of hardiness. Soon, I will make the transition into hardiness research and practice. Before that, however, it is important to emphasize that unless people possess all 3Cs of commitment, control, and challenge, they are not really hardy.

American psychology is preoccupied with the importance of the control attitude, and I have encountered the opinion from colleagues that it is this attitude that fully defines hardiness. Imagine people high in control, but 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, things, and events. In that these people would be riddled with impatience, irritability, isolation, and bitter suffering whenever control efforts fail, we see something close to the Type A behavior pattern, with all of its physical, mental, and social vulnerabilites. Such people would also be egotistical, seeing themselves as better than the others, and having nothing more to learn. Perhaps this is what rendered the advantaged members of the baby-boomer generation so vulnerable, as in the American auto maker example given before. 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 the people, things, and events around them, never thinking to have an influence through, or even 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 institutions in which they would lose themselves. Such people would be extremely vulnerable to spiritual bankruptcy and behavioral breakdowns, whenever any but the most trivial changes were imposed on them. There is certainly little to call hardiness in this orientation.

Finally, imagine people who, though high in challenge, were 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 an influence on anything. They might appear to be learning constantly, but this would be trivial by comparison with their investment in the thrill of novelty per se. They 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 here.

I could continue, by showing you how any two of the 3Cs, without the third, is still shy of hardiness. Hopefully, however, this is not necessary, and the point is clear that it is the combination of all 3Cs that constitutes hardiness.

Individual Differences Research on Hardy Attitudes

It is time now to determine whether the accumulated research on hardiness justifies considering it a key to solving the problems of our turbulent times. Over the last 20 years, there has been so much hardiness research around the world that summarizing all of it here is not feasible. Fortunately, there have been some fairly recent papers reviewing this body of work (e.g., Funk, 1992; Maddi, 1990; Ouellette, 1993; Orr & Westman, 1990). What I will concentrate on here is research done by me and my students and colleagues aimed at determining the validity of the hardiness model and addressing issues that have arisen.

The Illinois Bell longitudinal study and the hardiness model

Hardiness research began in our 12-year, longitudinal study of managers at Illinois Bell Telephone (IBT) before, during, and after the cataclysmic stresses brought on by the federal deregulation of AT&T, and mandated divestiture of its companies. This research program gave birth to and began the testing of the hardiness model of the vulnerability and resistance factors influencing the likelihood that mounting stressful circumstances will lead to behavioral, mental, and/or

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Figure I goes about here

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physical breakdowns (Maddi, 1994). Figure 1 shows the most recent version of the

hardiness model, in which the bad news is that as acute and chronic stresses mount,

organismic strain may become so intense and prolonged as to deplete bodily

resources, thereby increasing the risk of breakdowns in the form of physical

illnesses, mental disorders, and/or behavioral failures. Further, the breakdowns are

most likely to occur along the lines of inherited vulnerabilities. The good news in

Figure 1 is that there is a breakdown-prevention system in which hardy attitudes

motivate people to react to stresses with effective coping, social support interactions,

and lifestyle patterns.

Health, performance, and conduct studies

Several studies at IBT demonstrated that hardiness moderates the stress-

illness relationship. In her dissertation, which I supervised, Kobasa (1979) found

through a retrospective design that among managers all of whom were high in

stresses, those who showed the hardy attitudes experienced fewer mental and

physical illness symptoms. Subsequent IBT studies done with my research team

(Kobasa, Maddi & Courington, 1981; Kobasa, Maddi & Kahn, 1982; Kobasa,

Maddi & Puccetti, 1982) used prospective designs to show that hardy attitudes,

along with social support and physical exercise, do indeed provide causative

protection against stress-related illnesses, despite that inherited vulnerabilities

increase the likelihood of such illnesses.

Separate from IBT, similar results have been reported for people working in other occupations, such as bus drivers (Bartone, 1989), lawyers (Kobasa, 1982), and nurses (Keane, Ducette & Adler, 1985). Another of my former students, Paul Bartone (1999), has been studying military personnel in various stressful circumstances, such as peace-keeping and combat missions. Using various dependent variables and prospective designs, he finds considerable evidence that the lower hardy attitudes are, the greater is the likelihood that the life-threatening stresses, and the culture shock of military engagement abroad will lead to such mental breakdowns as depression and post traumatic stress disorder. Similar results have been found in the context of non-life threatening culture shock for employees on work missions abroad (Atella, 1989, another of my former students), and for immigants to the U.S. (Kuo & Tsai, 1987).

The studies mentioned thus far tended to use self-report measures not only of hardiness but also of stress-related illness symptoms. This led to the criticism that perhaps all the results show is the pervasive effect of negative affectivity, or neuroticism (Funk & Houston, 1987; Hull, Van Treuren & Virnelli, 1987). That the findings cannot be explained away like this is indicated in a study by me and my wife, Deborah Khoshaba (Maddi & Khoshaba, 1994), in which hardy attitudes and an accepted measure of negative affectivity were entered into regression analyses as independent variables attempting to predict the clinical scales of the MMPI as dependent variables. With the effects of negative affectivity controlled, hardiness was still a pervasive negative predictor of MMPI clinical scale scores. Further undermining the criticism is a study which utilized an objective measure of strain

(Maddi, 1999), showing hardiness to be higher among employees whose blood pressure was in the normal range than it was among those with high blood pressure.

Another approach to evaluating the criticism involving neuroticism, or negative affectivity involved my current research team (Maddi, Bleecker, Persico, Lu, and Harvey, 1999) in determining the pattern of relationship between hardiness and the five factor model, as measured by the NEO-FFI. If, as it says in the NEO manual (Costa & McCrae, 1992), hardiness is nothing more than a negative indicator of neuroticism, then it should show a relationship only to this factor. Our results are, however, that hardiness is not only negatively related to neuroticism, but also positively related to all of the other four factors. Further, the five factors combined explain less than 50% of the variance of hardiness, indicating that the latter is measuring characteristics beyond the scope of the NEO, despite that the five factors have been touted as comprehensive.

The negative affectivity criticism is even further undermined by the studies to be discussed now which included objective measures of performance and conduct. As to performance, a former undergraduate honors student of mine, Michael Hess and I (Maddi and Hess, 1992) measured hardiness levels of high school, male, varsity basketball players in the summer, and obtained on them the objective statistics accumulated by their coaches throughout the ensuing season. Hardiness predicted six out of seven indices of performance in the expected direction, showing that even among players good enough to be on the varsity, hardiness predicts performance excellence. The only index not predicted was free throw percentage, which, of course, summarizes what happens in the only period of relative calm in an

otherwise tumultuous game. Another performance study done by an undergraduate honors student of mine (Dreher, 1997) shows that, in a small sample of high risk students in an alternative school, hardiness was positively related to objectively-measured grade point average. Although the relevant studies are not numerous enough for a finished conclusion, it appears that, as expected, hardiness protects against not only health but performance breakdown as well.

As to conduct, I, along with yet another former student, Pathik Wadhwa and a colleague, Richard Haier (Maddi, Wadhwa & Haier, 1996), studied the relationship of hardiness to alcohol and drug use in high school graduates about to register in college. Whereas a family risk factor index was positively correlated with self-report of the number of drugs and alcohol tried, hardiness was negative correlated with self-report of the frequency with which the alcohol and drugs were used. As expected, drug use objectively measured through urine screens correlated negatively with hardiness. Needless to say, more studies of the role of hardiness in conduct would be extremely useful.

Construct validity studies

There are also by now an accumulation of studies that are best considered relevant to construct validation, as they test other implications of the hardiness model than those directly involving physical, mental, or behavioral breakdown. But, before going on to them, I should point out that the measure of hardy attitudes currently in use, the Personal Views Survey, 2nd edition (PVS II) regularly provides commitment, control, and challenge scores that are sufficiently intercorrelated to warrant their being considered part of the overall entity, hardiness. This conclusion

could not so easily be reached with earlier versions of the PVS which, especially when used with college students, sometimes yielded challenge scores that were uncorrelated to commitment and/or control. Fortunately, this earlier problem is over, and there are even shorter versions of the test now available.

In order to further validate that the PVS is indeed tapping the theoretical dimensions of hardiness, I did a study (Maddi, 1999) in which working adults wearing pagers completed a short questionnaire (concerning what they were doing, with whom, and how they felt about it) every time they were paged at random 10 times during each of three consecutive days. They had completed the PVS a month or two before the pager involvement. Workers high in hardiness reported that their activities were more enjoyable, more interesting, more important, and less imposed, and showed more openness to experience and feelings of support from others, than did workers low in hardiness. There is much in these findings that supports the contention that the PVS measures the hardy attitudes of commitment, control, and challenge.

Further evidence that, as expected, hardiness is associated with openness to experience and imaginativeness is contained in data my current research team and I are working on now. In one sample, hardiness is negatively related to repressive style as measured by the combination of manifest anxiety and social desirability that has become accepted. In another sample, there are indications that hardiness is positively related to imaginativeness as measured by the unusual uses test, a well known index of creative behavior.

Also, there are now several studies testing the contention that hardiness leads to effective, or transformational coping, and protects against self-limiting, or regressive coping. In an analysis of variance design, a study of mine (Maddi, 1999) considered the effects of stressful event context, hardiness, and the interaction of the two on transformational and regressive coping. Although event context had a main effect, such that work stressors more regularly elicited transformational coping than did personal life stressors, hardiness had an interaction effect that accelerated this tendency. As to regressive coping, stressful event context was not a factor, but hardiness generally decreased the likelihood of this self-limiting reaction.

Another coping investigation that I did with another former student, Mindy Hightower (Maddi & Hightower, 1999), involved three related studies which compared the relative influence of hardiness and optimism on transformational and regressive coping. This was done by entering hardiness and optimism in multiple regression analyses so as to determine the influence that each variable, purified of the effects of the other, had on coping style. Using undergraduate students with a wide range of everyday stressors as participants, the first two studies differed in the tests used to assess transformational and regressive coping styles. The results, however, were the same: By comparison with optimism, hardiness was a more powerful influence on coping in general, and especially on the avoidance of regressive coping. Using the same analysis approach, the third study focused on women who had breast lumps and were arriving at a specialty clinic for diagnosis of whether or not the lumps were cancerous. Under this life-threatening stressor, optimism finally energized as many coping efforts as did hardiness, but it was still

true that only hardiness was a negative predictor of regressive coping efforts. Taken together, these three studies show that hardiness operates as expected with regard to coping, and that, by comparison, optimism may be laced with naïve complacency.

Hardiness development and training

From the beginning, we did not believe that hardiness is a wholely or even largely genetic phenomenon, instead conceptualizing how it might be learned. Clearly, in order to understand how to train hardiness, it is useful to consider how it is learned naturally. Building on our conceptualization, my wife, Deborah Khoshaba, and I (Khoshaba & Maddi, 1999a) did a study in which managers differing in hardiness levels were interviewed blind about their early developmental history. What emerged is that, by comparison with the others, the managers highest in hardiness remembered not only a disruptive, stressful early family life, but also that they were selected by their parents to make it nonetheless, accepted that role, and worked hard to justify being the family's hope.

This theme of turning adversity to advantage is basic to hardiness training. Soon after the cataclysmic deregulation and divestiture, IBT asked us if we could use the research findings we had accumulated to help the company weather the storm. What emerged was the early version of hardiness training. The approach involved 15 weekly sessions in which small groups of managers were taught and encouraged to cope with their major stressors by the use of four hardy skills techniques, and to use the feedback from their efforts to deepen their hardy attitudes (Maddi, 1987; Maddi, Kahn & Maddi, 1998). These IBT managers were sorely stressed, and the trainers not only helped them to believe they could solve the

problems for their own and the company's good, but also taught them the techniques which could actually turn disruptions into opportunities. We tried to make this training program much like the factors that in the early history study just mentioned (Khoshaba & Maddi, 1999a) led to the development of hardiness, by forming an analogy between the disrupted family and the disrupted company, and between the parents who encouraged and assisted their offspring and the trainers who did the same for their trainees.

As to the specifics of the approach, trainees try to turn a stressor into an opportunity by starting with Situational Reconstruction, an imaginative task designed to suggest alternative ways to think about the stressor that may provoke a broadened perspective and a deepened understanding. Success positions them to go on to the Action Plan technique, in which they formulate and carry out a decisive plan, and use the ensuing feedback to deepen their hardy attitudes. But, if their efforts with Situational Reconstruction are unsuccessful, they go on to Focusing (Gendlin,   ), a way of checking whether insufficiently recognized emotional reactions are interfering with their imagination. If emotionally-based insights due to this technique free up their imagination, then they are ready to go on to the Action Plan technique in hopes of resolving the stressor, and deepening their hardy attitudes. But, if they remain stuck despite efforts with Situational Reconstruction and Focusing, then the stressor is a given, or something they cannot fix. At that point, they need to protect their hardiness by avoiding bitterness and self-pity through the Compensatory Self-Improvement technique. In this they work on a related stressor that can be resolved, so as not to be undermined by the given.

In a waiting-list control study of mine (Maddi, 1987), done on managers, this early version of hardiness training increased not only hardiness levels, but also job satisfaction and social support, while simultaneously decreasing both self-report and objective indices of strain. For more precise control purposes, a subsequent study that I did with a former student, Stephen Kahn, and my daughter, Karen Maddi (Maddi, Kahn & Maddi, 1998), compared hardiness to two other forms of stress-management training, with similar results. Building on this early start, hardiness training now includes other components besides coping (Maddi, 1994; Khoshaba & Maddi, 1999b, 1999c). Research going on now with high risk college students is showing that this expanded hardiness training not only increases hardiness levels, but improves school retention and grade point average as well.

Hardiness Services and Practice

Soon after we began doing hardiness training for IBT, we incoporated the Hardiness Institute in 1984. Since those days, we have been concerned with providing needed services whereby individuals and organizations can not only survive but thrive on turbulence. Our services have evolved considerably, and now include assessment, lectures, workshops, training, and consulting.

We have always felt that our services and products are broadly relevant to lots of people and contexts, wherever there is stress and functioning is difficult. We are not surprised that a steady market for our services has been individuals who want help in improving their work or private lives. In addition, many large companies, such as ARCO, Baxter HealthCare Corporation, Illinois Bell Telephone (of course), Interactive Media Corporation, UNOCAL, and Western Digital have

used our services as the stressfulness of their functioning has increased, whether for reasons of reorganization, market pressures, or product and services changes. Smaller companies, such as Silicon Systems and Haskell & White, also use our services, especially as they grow rapidly, but are still too small to justify extensive inhouse human resources functions. We have also worked with hospitals, such as California Pacific Medical Centers and Capistrano by the Sea Hospital, specialty health clinics, such as Preventive Health Care Medical Center and Scripps Center for Executive Health, and many individual physicians, to provide stress management and personal development services for their patients. Recently, we have instituted hardiness assessment and training courses to help high-risk students remain in school and improve their performance in community colleges, such as Utah Valley State College; four year colleges, such as University of California at Irvine; and high schools, such as the Santa Ana Unified School District. We have done similar work with the U.S. Navy, and are currently negotiating with the U.S. Army and various police academies.

Hardiness assessment

The cornerstone of our assessment approach is now the HardiSurvey III. Having evolved far beyond our original attempts to measure hardiness, this 118 item questionnaire yields scores on the vulnerability factors of stress, strain, and regressive coping, and the resistance factors of hardy attitudes, hardy (or transformational) coping, and hardy (or activistic) social support at work and in private life. A person's scores on all these factors are transformed into percentiles through comparison to the norms in our extensive data base, and a wellness ratio is

developed that pinpoints the overall likelihood of adequate functioning or wellness breakdown. The HardiSurvey III can be supplemented with the HardiSurvey IV, which adds information about the resistance factors of hardy relaxation and hardy physical activity. Reliability and validity data we are accumulating augurs well for these two tests. Further, we are currently working on a simple measure of hardy nutrition that will be added into the mix.

With the help of my wife, Debbie Khoshaba, and yet another former student, Eric Klein, the HardiSurveys III and IV are now available on the internet. Once a client contracts with the Hardiness Institute for a certain number of usages, they are set up with a user name and password so that the tests can be administered right on a person's computer. An extensive, individualized report concerning the person's strengths and weaknesses, complete with recommendations, is printed in color on his or her computer right after the test has been taken, or later if desirable. Figure 2 is a hint of the results a test-taker receives.

Figure 2 goes here

The combination of the HardiSurvey's uniquely high quality and ready accessibility on the internet is creating quite a stir. It has already made it easier for us to capture potential clients.

Hardiness training

Now called HardiTraining, our training program has also evolved considerably since the early days at IBT. Our aim is to train both hardy skills and

hardy attitudes. Aimed at turning adversity into opportunity, the hardy skills are in the areas of coping, social support, relaxation, nutrition, and physical actitivity. These skills are what we call the "fingers of the hand." In the training, feedback obtained from exercise of the hardy skills is used to build the hardy attitudes, which we call the "palm of the hand." In other words, there is a synergistic articulation between hardy attitudes and hardy skills (Maddi, 1994), as depicted in Figure 3.

Figure 3 goes here

Central to the HardiTraining program are our workbooks (Khoshaba & Maddi, 1999b, 1999c). The prime mover in their development was Debbie Khoshaba, who is also Director of Program Development and Training for the Hardiness Institute. Covering all components of the hardy skills and attitudes, these workbooks contain narrative, examples, and exercises. Trainees go through the workbooks until they encounter the checkpoints which are placed at regular intervals. These checkpoints are the occasion of interaction between the trainee and a trainer. Often, this is handled by the trainer meeting with a small group of trainees. But, when the trainee needs or wishes it, the interactions can be one-on-one, handled either face-to-face, or by telephone or e mail.

The HardiTraining program is designed to be flexible. Any combination, or all of the hardy skills may be included, as long as there remains emphasis on the feedback from efforts that builds hardy attitudes. We are often guided as to the composition of the program by the results of the pre-training HardiSurveys.

Whenever possible, we also administer the HardiSurvey post-training, in order to provide some evaluation of the effects of the program.

Organizational applications

Recently, Debbie Khoshaba, Art Pammenter and I have expanded the hardiness approach into organizational consulting (Maddi, Khoshaba & Pammenter, 1999). Our turbulent times are not only best met by hardy individuals, but by hardy organizations as well. After all, resiliency and effectiveness is what organizations need too. As shown in Figure 4, HardiOrganizations have a characteristic culture, climate, structure, and workforce.

Figure 4 goes about here

The values forming the culture of HardiOrganizations are isomorphic with the hardy attitudes at the individual level. Specifically, the attitudes of commitment, control, and challenge framing individual hardiness correspond to the hardy values of cooperation, credibility, and creativity at the organizational level. What I mean by this is that when hardy people interact in a group, their attitude of commitment translates into valuing cooperation with each other, their attitude of control translates into valuing the credibility that signifies taking responsibility for actions, and their attitude of challenge translates into valuing creativity as the search for innovative problem solutions.

At the level of climate, the people functioning in a HardiOrganization will not just pay lip service to its values, but rather exemplify them in their day-to-day,

moment-to-moment interactions with each other. This will form a healthy learning environment in which people will work together in solving problems through a coping process that involves searching for perspective and understanding, and using what is learned thereby to take decisive actions. In interacting with each other, they will both want for themselves and extend to others assistance and encouragement, thereby really functioning as a team. And when a HardiOrganization member exhibits the various behaviors mentioned here, the others will applaud that and use it as a model for their own advancement.

The structure of a HardiOrganization will facilitate the values and climate already identified. In most instances, a matrix management approach will be employed in which teams devoted to change-oriented projects will have a significant decision-making role in the organization's directions and emphases.

As to personnel makeup, the HardiOrganization will, over time, include an increasingly high proportion of HardiIndividuals. This is ensured because the usual functions of promotions, hiring and firing, gain sharing, member benefits, and job training will reflect the ongoing culture, climate, and structure of the HardiOrganization. Despite the continually changing work environment, HardiIndividuals will not wish to leave employment at HardiOrganizations that understand and value them. But, if they are forced to leave by company reorganization, these HardiIndividuals will not go away mad, instead continuing their proactive, innovative ways in other jobs.

In our consulting practice, we are attempting to help organizations progressively approach the hardiness ideal. As to assessment, we combine strategic

interviews, on-site observations of ongoing activity, and HardiWorkplace and HardiSurvey questionnaires. Based on these sources of information, a report is developed evaluating the organization's culture, climate, structure, and workforce. The implementation plan relies on existing resources of hardiness within the organization, and every effort is made, through workshops, executive coaching procedures, and other means of communication, to consolidate support for the needed changes. As the changes take place, member individuals are assessed for and trained in dispositional hardiness so that the workforce will more fully embrace ongoing organizational changes. Although implementing the entire program I have outlined is the most effective way, organizations cannot always be convinced to do it all. Whatever steps are taken, however, will have benefit.

Implementation and marketing of our program

Let me say a little about how our program gets implemented. At the present time, the Hardiness Institute is still a small consulting firm, headquartered in Newport Beach, CA, and possessing a few licensees in other locations. The bulk of our business is local, and we do the assessment, training, and consulting ourselves. When individuals who live far away want our help, we currently rely on internet assessment and workbook training, supplemented by telephone, e mail, or face-to-face checkpoint discussions. When organizations at a distance become our clients, we currently rely on internet assessment, training their qualified personnel to carry out training with their members, and occasional visits by us for consulting and supervisorial purposes.

We are poised now to expand. One step we are taking along these lines is to train mental health and nursing professionals so that they can practice hardiness as licensees of the Hardiness Institute. In this regard, it is important to keep in mind that the hardiness approach is not only valuable in the consulting process, but also can qualify as effective short-term psychotherapy. Licensees remain an integral part of the Hardiness Institute, and there is much sharing of activities.

In the early days, the Hardiness Institute relied for marketing on word of mouth procedures, presentations at potential client meetings, and on media coverage. Fortunately, we have enjoyed (1) a steady stream of media articles and radio and TV exposure that has been fueled by the relevance of and provocative research on hardiness, (2) an existing client base sufficiently satisfied with our services to spread the word, and (3) considerable interest in having us make presentations as stress mounts in our times. Now, as part of our expansion plan, we are supplementing these approaches with agreements with other professionals and organizations to market our approach along with their own. This development is likely to increase demand for our approach in the school, business, government, and specialty clinic markets.

Conclusion

In my remarks, I have tried to give you a comprehensive picture of hardiness theory, research, and practice, and have now used up all of my time. In closing, let me encourage you to recognize the power of existential psychology, as demonstrated by its derivative, hardiness. Whereas behaviorism is rather limited to reinforcing people for desired behaviors, hardiness helps them to develop the skills and attitudes

leading to innovative and adaptive behaviors that may not even have been

contemplated by those doing the reinforcing. Whereas psychoanalysis is

preoccupied with interpreting adult interactions and performance as expressing the

inevitabilities of past parent-child relationships, hardiness encourages the continual

development of new forms of meaning and action. For these reasons, hardiness is

basic training for turning the turbulent changes that will characterize the 21st

Century into opportunities rather than disasters.

References

Atella, M. (1989). Crossing boundaries: Effectiveness and health among western managers living in China. Unpublished Ph.D. dissertation, University of Chicago.

Bartone, P. T. (1989). Predictors of stress related illness in city bus drivers. Journal of Occupational Medicine, 31, 657-663.

Bartone, P. T. (1999). Hardiness protects against war-related stress in army reserve forces. Consulting Psychology Journal, 51, 72-82.

Costa, P.T. Jr. & McCrae, R.R. (1992). Revised NEO Personality Inventory (NEO-PI) and NEO Five-Factor Inventory (NEO-FFI) professional manual. Odessa, FL: Psychological Assessment Resources.

Endler, N.S. & Magnusson, D. (1976). Toward an interactional psychology of personality. Psychological Bulletin, 83, 956-974.

Frankl, V. (1992). The doctor and the soul. New York, NY: Knopf.

Funk, S.C. (1992). Hardiness: A review of theory and research. Health Psychology, 11, 335-345.

Funk, S.C. & Houston, B.K. (1987). A critical analysis of the hardiness scale's validity and utility. Journal of Personality and Social Psychology, 53, 572-578.

Gendlin, E. (1978). Focusing (2nd Ed.). New York, NY: Bantam.

Hull, J.G., Van Treuren, R.R. & Virnelli, S. (1987). Hardiness and health: A critique and alternative approach. Journal of Personality and Social

Psychology, 53, 518-530.

Keane, A., Ducette, J. & Adler, D. (1985). Stress in ICU and non-ICU nurses.

Nursing Research, 34, 231-236.

Khoshaba, D.M. & Maddi, S.R. (1999a). Early experiences in hardiness

development. Consulting Psychology Journal, 51, 106-116.

Khoshaba, D.M. & Maddi, S.R. (1999b). HardiTraining (Vol. 1, 2nd Ed.). Newport

Beach, CA: Hardiness Institute.

Khoshaba, D.M. & Maddi, S.R. (1999c). HardiTraining (Vol. 2, 2nd Ed.). Newport

Beach, CA: Hardiness Institute.

Kierkegaard, S. (1954). The sickness unto death. New York, NY: Doubleday.

Kobasa, S.C. (1979). Stressful life events, personality and health: An inquiry into

hardiness. Journal of Personality and Social Psychology, 37, 1-11.

Kobasa, S.C. (1982). Commitment and coping in stress resistance among lawyers.

Journal of Personality and Social Psychology, 42, 707-717.

Kobasa, S.C., Maddi, S.R. & Courington, S. (1981). Personality and constitution as

mediators of the stress-illness relationship. Journal of Health and Social

Behavior, 22, 368-378.

Kobasa, S.C., Maddi, S.R. & Kahn, S. (1982). Hardiness and health: A prospective

study. Journal of Personality and Social Psychology, 42, 884-890.

Kobasa, S.C., Maddi, S.R. & Puccetti, M. (1982). Personality and exercise as

buffers in the stress-illness relationship. Journal of Behavioral Medicine, 4,

391-404.

Kuo, W.H. & Tsai, Y. (1986). Social networking, hardiness, and immigrant's

   mental health. Journal of Health and Social Behavior, 27, 133-149.

Maddi, S.R. (1970). The search for meaning. In M. Page (Ed.), Nebraska

   symposium on motivation. Lincoln, Nebraska: University of Nebraska Press

Maddi, S.R. (1987). Hardiness training at Illinois Bell Telephone. In J.P. Opatz

   (Ed.), Health promotion evaluation. Stevens Point, WI: National Wellness

   Institute.

Maddi, S.R. (1988). On the problem of accepting facticity and pursuing possibility.

   In Messer, S.B., Sass, L.A. & Woolfolk, R.L. (Eds.), Hermeneutics and

   psychological theory: Interpretive perspectives on personality,

   psychotherapy and psychopathology. New Brunswik, NJ: Rutgers

   University Press.

Maddi, S.R. (1990). Issues and interventions in stress mastery. In H.S. Friedman

   (Ed.), Personality and disease. New York: Wiley.

Maddi, S.R. (1994). The Hardiness Enhancing Lifestyle Program (HELP) for

   improving physical, mental, and social wellness. In C. Hopper (Ed.),

   Wellness lecture series. Oakland, CA: University of California/HealthNet.

Maddi, S.R. (1998). Hardiness in health and effectiveness. In H.S. Friedman (Ed.),

   Encyclopedia of mental health. San Diego, CA: Academic Press.

Maddi, S.R. (1999). The personality construct of hardiness: I. Effects of

   Experiencing, Coping, and Strain. Consulting Psychology Journal, 51, 83-94.

Maddi, S.R. & Hess, M. (1992). Hardiness and success in basketball. International

Journal of Sports Psychology, 23, 360-368.

Maddi, S.R. & Khoshaba, D.M. (1994). Hardiness and mental health. Journal of Personality Assessment, 63, 265-274.

Maddi, S.R. & Hightower, M. (1999). Hardiness and optimism as expressed in coping patterns. Consulting Psychology Journal, 51, 95-105.

Maddi, S.R., Kahn, S. & Maddi, K.L. (1998). The effectiveness of hardiness training. Consulting Psychology Journal, 50, 78-86.

Maddi, S.R., Khoshaba, D.M. & Pammenter, A. (1999). The hardy organization: Success by turning change to advantage. Consulting Psychology Journal, 51, 117-124.

Maddi, S.R., Wadhwa, P. & Haier, R.J. (1996). Relationship of hardiness to alcohol and drug use in adolescents. American Journal of Drug and Alcohol Abuse, 22, 247-257.

Maddi, S.R., Bleecker, F., Persico, M., Lu, J. & Harvey, R. (1999). The pervasive relationship between hardiness and the five factor model. Unpublished manuscript, University of California, Irvine.

May, R. (1958). Contributions of existential psychotherapy. In R. May, E. Angel & H.F. Ellenberger (Eds.), Existence: A new dimension in psychiatry. New York, NY: Basic Books.

Naisbitt, J. (1982). Megatrends: Ten new directions transforming our lives. New York, NY: Warner.

Ouellette, S.C. (1993). Inquiries into hardiness. In L. Goldberger & S. Bresnitz

(Eds.), <u>Handbook of stress: Theoretical and clinical aspects</u> (2nd Ed.). New York, NY: Free Press, 77-100.

Orr, E. & Westman, M. (1990). Hardiness as a stress moderator: A review. In M. Rosenbaum (Ed.), <u>Learned resourcefulness: On coping skills, self-control, and adaptive behavior.</u> New York, NY: Springer-Verlag, 64-94.

Tillich, P. (1952). <u>The courage to be.</u> New Haven, CT: Yale University Press.

Footnotes

1 This is the award address delivered at the American Psychological Association convention in Boston, 1999, associated with my having won the RHR International Award in 1998.

2 My gratitude and appreciation for their help in preparing this address goes to my wife and colleague, Deborah M. Khoshaba, and my research team, notably Richard Harvey, Michelle Persico, John Lu, Anrea Moon, Jane Dandy, Carol Straub, Agdas Emami, and Bronwin St. John.

Figure 1. The Hardiness Model

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Figure 2. Sample Individual Summary of HardiSurvey III Scores

Figure 3. The Attitudes and Skills Involved in the HardiTraining Program

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Figure 4. The Characteristics of HardiOrganizations

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WELLNESS BREAKDOWN
Behavioral: Ineffective
Mental: Burnout
Physical: Illnesses

HEALTH PRACTICES
Relaxation
Nutrition
Exercise
Health Supplements

INHERITED VULNERABILITIES
Weakest Links

STRAIN
Mental: Tense
Physical: Mobilized

HARDY COPING
Mental: Perspective & Understanding
Action: Decisive

STRESSFUL CIRCUMSTANCES
Acute: Disruptive Changes
Chronic: Conflicts

HARDY ATTITUDES
Commitment
Control
Challenge

HARDY SOCIAL SUPPORT
Assistance & Encouragement

40

HardiSurveyIII™

Score Summary

Percentile   10   20   30   40   50   60   70   80   90   100

Stress Vulnerability Factors

Stress 80

Strain 90

Regressive Coping 70

Stress Resistance Resources

Hardy Attitudes 45

Hardy Coping   40

Hardy Social Support 57

Hardy Work Support 38
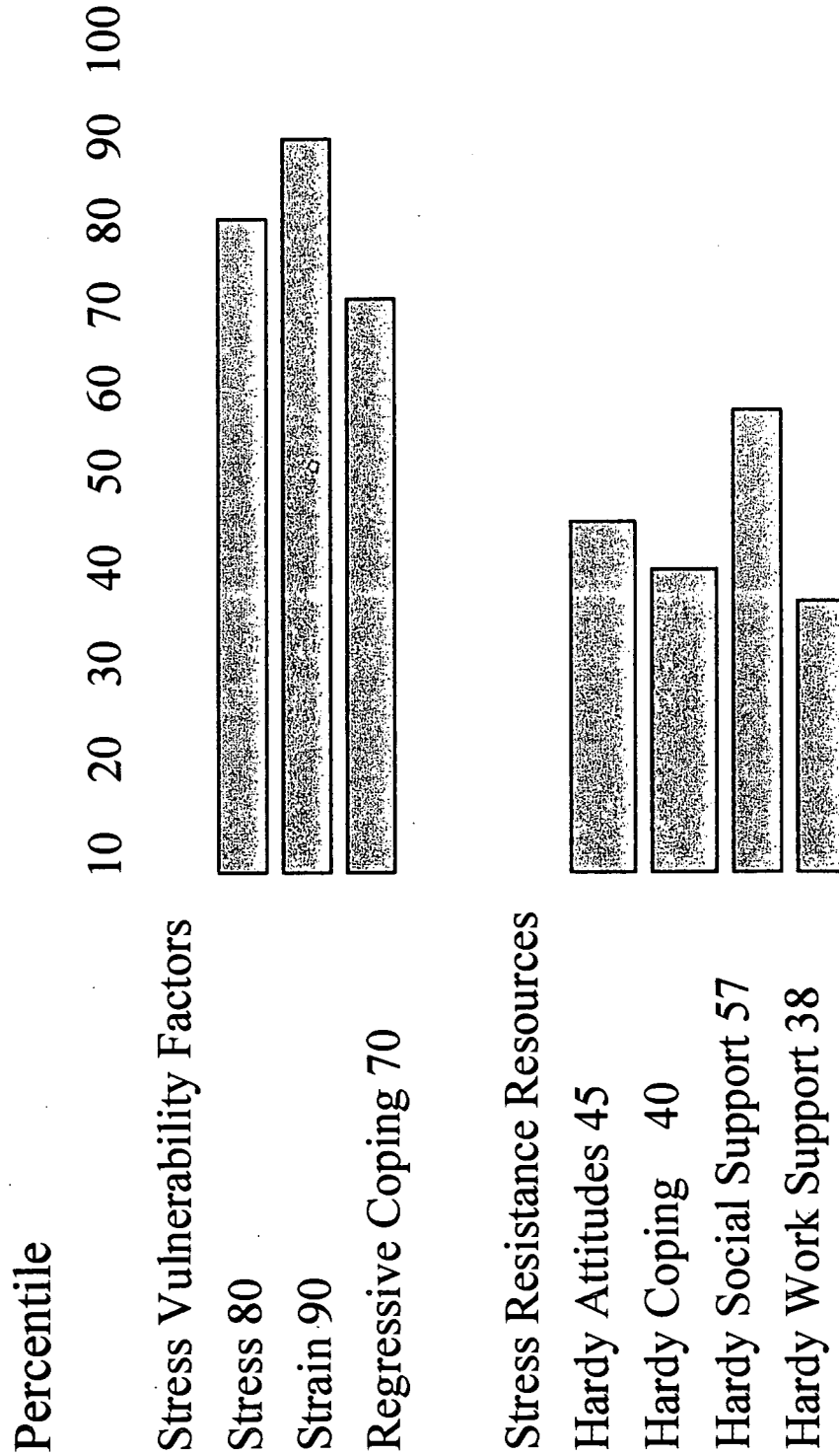
The HardiTraining System

Social Support

Nutrition

Coping

Hardy Attitudes

Relaxation

Exercise
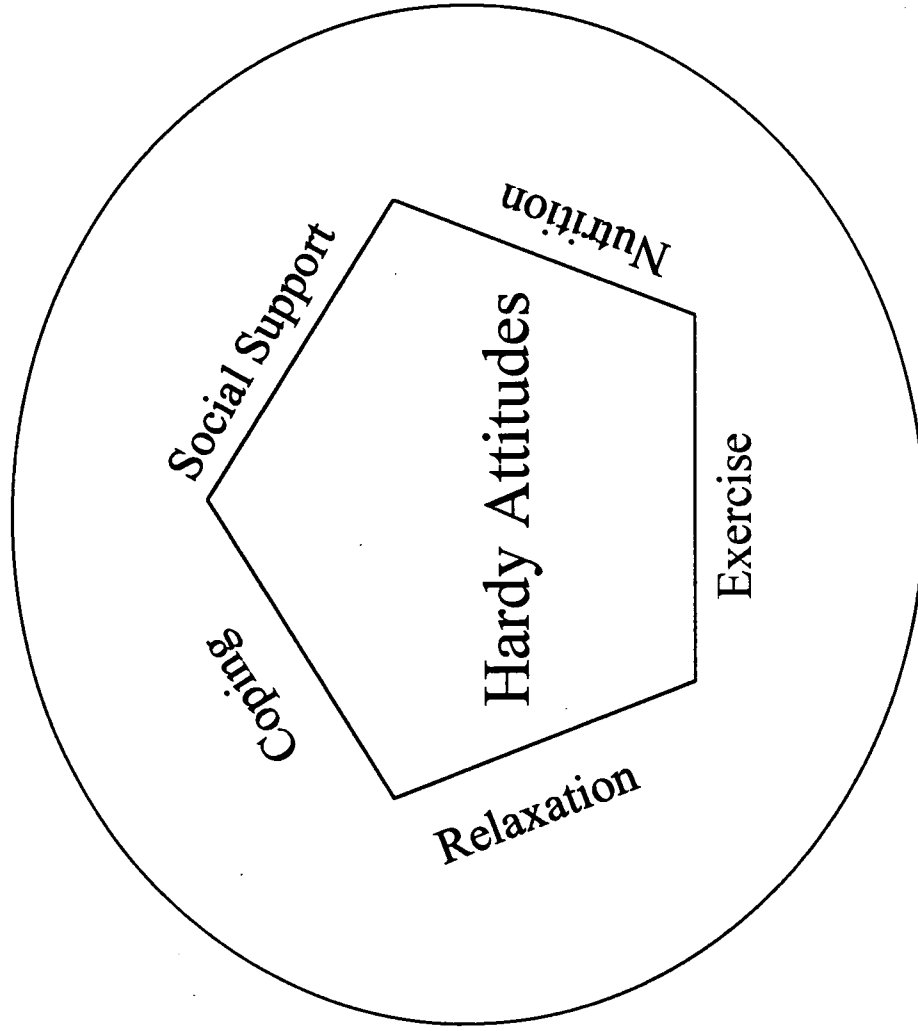
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4

The Hardy Organization....Involves Partnership

Climate
Workplace interactions that support the organization's culture

Employees
Personal Effectiveness Resources that support personal and company goals

Culture
Values and Goals of the Organization that concern products, services & workforce
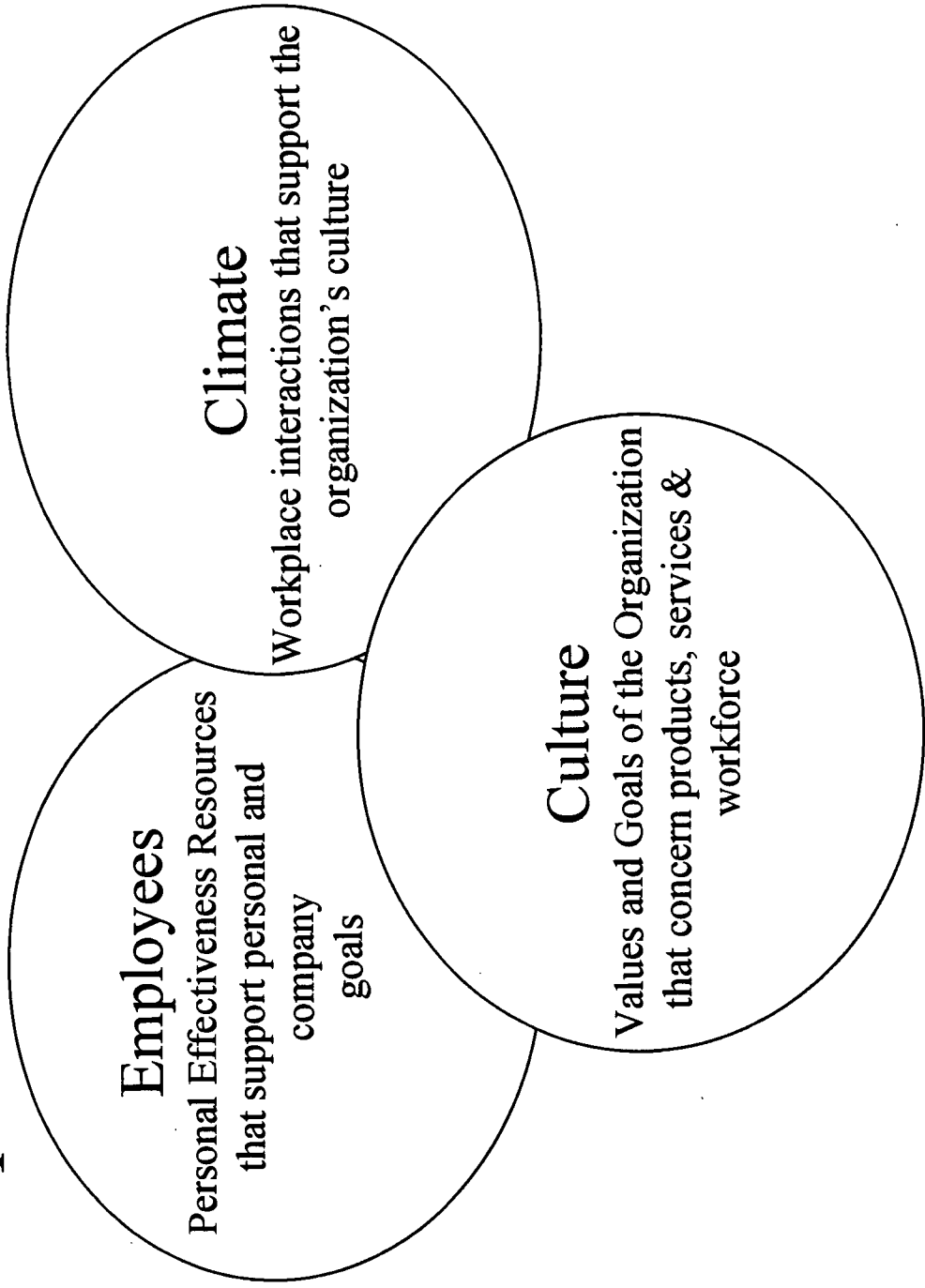
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