

CHAPTER 6

Control and Physical Health: Coping, Prevention, and Wellness

IN THIS chapter, we discuss the relationship of control to physical health and well-being. As noted in Chapter 1, this topic has been the focus of considerable research, with studies suggesting both that low perceived control may have negative health consequences and that interventions aimed at enhancing individuals' sense of control can be health enhancing (Peterson & Stunkard, 1989; Rodin, 1986; Shapiro et al., 1996). Further, as noted in Chapter 2, because physical illness often brings about feelings of loss of control, people try to reestablish a sense of control in the face of such illnesses (Postulate 1). Toward this end, they employ appropriate control strategies as well as suboptimal ones (Postulate 2).

This chapter is organized in accordance with the model of mental health outlined in the previous two chapters: suboptimal control and its relationship to negative health outcomes; normal strategies for gaining a sense of control and their positive effects on health and physiological functioning; problematic features of normal control efforts (e.g., attempts to exercise control in the face of uncontrollable circumstances), and their negative impact on physical health; and the potential benefits of optimal control strategies in relation to health and well-being.

SUBOPTIMAL CONTROL: EFFECTS ON PHYSIOLOGICAL FUNCTIONING AND HEALTH

In this section, we explore three topics related to suboptimal control: control and health outcomes, lack of control and physiological function, and lack of control and health behaviors.

CONTROL AND HEALTH OUTCOMES

Researchers have pointed out that there is a strong association between socioeconomic status and health (Adler et al., 1994; Syme, 1991). However, it is not simply the case that those at the bottom end of the Socioeconomic status (SES) spectrum have higher rates of illness but that disease rates increase *progressively* as one moves from the top of the SES hierarchy to the bottom (referred to as the *SES-Health gradient*). Syme (1991) hypothesized control as a higher-order construct that might account for this observed relationship. He suggested that the further down one is on the SES hierarchy, the less he or she experiences a sense of being able to control life circumstances, and it is this lack of control which contributes to poorer health status. Syme also suggested that control or its absence may be what underlies the observed associations between illness and Type A behavior, social support, mobility, and stressful life events.

Studies that have examined the relationship between lack of control and specific illnesses appear to lend support to this hypothesis. Research in general suggests that a control profile characterized by feelings of helplessness and loss of control (Quadrant 4, negative yielding mode) may have negative effects on behavior, mood, and physiology (Bandura, 1977; Folkman, 1984; Lazarus, 1981; Lefcourt, 1973; Seligman, 1975). With cancer patients in particular, lack of control is related to increased anxiety and depression (Derogatis et al., 1983; Friedenbergs et al., 1982; Greer & Silberfarb, 1982; Meyerwitz, 1983). Having a helpless attitude toward the disease is also related to poor prognosis (Antoni & Goodkin, 1988; Di Clemente & Temoshok, 1985; Greer et al., 1979; Jensen, 1987; Pettingale et al., 1985; Schmale & Iker, 1961; Stavraký et al., 1968). In addition, research suggests that responding psychologically to breast cancer with feelings of lack of control is a significant predictor of first recurrence and death from the disease (Greer, Morris, & Pettingale, 1979; Pettingale, Morris, Greer, & Haybittle, 1985). Finally, studies by the Yugoslavian psychologist Ronald Grossarth-Maticek (Eysenck, 1988) suggest an association between a personality type characterized by feelings of hopelessness, helplessness, a tendency to repress negative emotions, and a lack of assertiveness (Quadrant 4, negative yielding mode of control) and cancer.

Engel's research (1968) examined the relationship between what he terms the "giving up, given up" complex and heart disease. Individuals who feel helpless and powerless to influence their environment, who see their adaptive capacities as impaired, are more likely than others to suffer sudden cardiac death when faced with uncontrollable circumstances (e.g., death of a loved one, loss of status/self-esteem). Similarly, depressed patients who

feel hopeless during open heart surgery are much more likely to die than patients who do not feel such hopelessness.

Research on control and heart disease similarly suggests a link between feelings of low perceived control and increased cardiovascular risk and reactivity (Bugental et al., 1993; Karasek, 1982; Schnall, 1990). Along these lines, Wright et al. (1992), in a factor analytic study, identified a psychosocial risk factor for heart disease characterized by poor behavioral control and an external locus of control.

Finally, through the use of viral challenge studies where patients are purposely exposed to various viral agents (such as the common cold), Cohen and colleagues examined the extent to which psychological stress can directly influence health outcomes. Their studies suggest that those patients who report being under stress, a state in which they feel their lives are "somewhat unpredictable, uncontrollable, and overwhelming" are more likely to develop a clinical cold than those under low stress (Cohen et al., 1991).

LACK OF CONTROL AND PHYSIOLOGICAL FUNCTION

At present, the precise mechanisms whereby a lack of control (either perceived or actual) can negatively affect health outcomes is unclear. Research does suggest, however, that psychological control may influence health outcomes directly through its effects on the immune and cardiovascular systems.

For example, research with animals and humans has shown that exposure to both acute and chronic stress tends to suppress immune function. Furthermore, numerous studies (Dantzer, 1989; Laudenslager et al., 1983; Mormede et al., 1988) have demonstrated that when animals are able to exert some measure of control over these stressors, they tend to show significantly less immune suppression. Several studies with humans have similarly shown that greater perceived control/efficacy over stressful situations lessens their immunosuppressive effects (Sieber et al., 1992; Wiedenfeld et al., 1990). Finally, Brosschot et al. (1994) found a significant relationship between external locus of control and lower levels of monocytes and a positive relationship between internal locus of control and this immune measure.

Research also shows strong relationships between clinical depression and depressive moods and lowered immune responsivity (Herbert & Cohen, 1993). Consistent with the learned helplessness model of depression, it is plausible that low perceived control may in part mediate the observed relationship between depression and immune suppression.

LACK OF CONTROL AND HEALTH BEHAVIORS

In its report on the fiscal year 1990 budget for the Department of Health and Human Services, the Senate Appropriations committee stated,

The Institute of Medicine, the Surgeon General, the NIH, and others have reported at length on the relationship between health and behavior . . . These reports continue to document that . . . 7 of the 10 leading causes of death in this nation are in large part behaviorally determined and can be significantly reduced through changes in behavior.

Over the past 100 years, chronic illnesses (such as cancer and heart disease) have come to replace infectious diseases (tuberculosis, polio) as the predominant public health concern in the United States. The recognition that many of these chronic conditions are at least in part caused by lifestyle/behavioral choices has led to psychology's growing involvement in the health care field. Psychological research continues to examine the reasons why people engage in healthy and unhealthy behaviors and the construct of control appears to be an important factor.

Certainly, it can be argued that the failure to engage in health-promoting behaviors (e.g., exercise, improved nutrition), or decrease the practice of unhealthy behaviors (e.g., smoking, use of alcohol and other drugs) represents a form of suboptimal self-control. The difficulty individuals have in exercising behavioral self-control with respect to health behaviors is an issue with enormous public health ramifications. To give but one example, Taylor (1995) pointed out that approximately 350,000 premature deaths from heart disease and 25,000 cancer-related deaths could be prevented annually simply by altering one health behavior: smoking. The inability of individuals to gain positive control over their health-related behaviors and lifestyle choices represents an important aspect of suboptimal control and its relevance to physical health.

Research suggests that there are two primary factors that explain why individuals do not engage in healthy behaviors. First, as Bandura's (1977, 1989a, b) research suggests, people may lack a belief in their own ability to effectively carry out such behavioral changes (e.g., they have low self-efficacy regarding their ability to change dietary, exercise habits). Second, Wallston pointed out that holding the belief that one can perform a certain behavior (e.g., walk 3 miles a day) is not enough to determine whether one actually engages in the behavior. One must also consider factors such as the degree to which patients value health and are motivated to change unhealthy behaviors.

The attempt to make behavioral changes that foster greater physical health and well-being represents our movement from Quadrant 4 (too little control, helplessness) to Quadrant 1 (positive assertive control).

GAINING A SENSE OF CONTROL: THE HEALTH-ENHANCING EFFECTS OF NORMAL CONTROL STRATEGIES

In this section we discuss four topics related to the positive effects of a sense of control on health: control and coping with illness, control as a stress buffer, control and healthy lifestyle, and control and longevity.

CONTROL AND COPING WITH ILLNESS

Illness and its associated components can often result in feelings of loss of control (e.g., loss of physical capacities, hospitalization, inability to work, effects on sexual function). People frequently experience illnesses as happening *to* them and hence being outside of their active control. With a great many diseases and illnesses—from the common cold to cancer—we frequently do not know precisely what has caused them nor how to cure them. And that which is unknown and unpredictable can often give rise to feelings of low perceived control, particularly in situations where there is significant loss of functional ability and the threat of not being able to recover one's health. In the case of serious illnesses (e.g., those requiring hospitalization), patients are often placed in situations such as surgery and anesthesia that can provoke feelings of helplessness, powerlessness, and dependence. Steinberg and Simons (1993) pointed out that it is often difficult for patients to tolerate these feelings of loss of control.

As pointed out by Blumenfield and Thompson (1993), one can view characteristic coping responses to illness (such as denial and information-seeking) as efforts to regain a sense of control in the face of circumstances that may feel (and actually be) uncontrollable. Therefore it is important to help patients become active participants in their own medical care, facilitating their sense of autonomy and personal control whenever possible. This facilitation of control can take many forms, from having patients determine when they receive medications, to deciding on how and what types of anesthesia are administered.

Research shows that providing patients with preparatory information as a way of enhancing their sense of control has positive effects on a number of objective outcome measures, including shorter hospital stays, reduced morbidity, and reduced need for analgesics (Eisendrath, 1987). Helping those with physical illnesses reestablish some sense of control may also be important given the research suggesting that perceptions of control may be a critical psychological mediator between stress and immune function.

An attitude in which a person feels in control and self-efficacious is related to positive psychological adaptation to physical illness. For example,

Lewis (1982) found that in late-stage cancer patients, the experience of personal control over their lives was positively correlated with scores on self-esteem and purpose in life, and negatively correlated with anxiety (cf. Taylor, 1983). Similarly, in a more recent study of psychological adaptation among survivors of cancer, multivariate analyses indicated that personal sense of control was the only psychosocial factor significantly related to adaptation at a 6-month follow-up (Ell, Nishimoto, Morvay, et al., 1989).

Cunningham et al. (1990), in a study of 273 cancer patients, noted that there was a strong positive correlation between the patients' quality of life and the degree of control they felt able to exert over stressful situations arising from having the disease, as well as between self-efficacy and mood. A strong association has also been shown between hope and control (Cassileth, Zupkin, Sutton-Smith, & March, 1980) and positive sense of control and adjustment to the disease.

Watson, Greer, et al.'s (1991) research group showed that a "fighting spirit" (Quadrant 1, positive assertive control mode) is negatively correlated with helplessness in cancer patients. Further, these researchers found significant negative correlations between fighting spirit and psychological morbidity (depression and anxiety), and positive correlations between fatalism and anxious preoccupation and depression. Consistent with these findings, Burgess, Morris, and Pettingale (1988) noted that low psychological morbidity is associated with a positive confronting response and with having a high internal locus of control, and that this attitude is also predictive of lower recurrence and physical morbidity rates.

STRESS AND HEALTH: SENSE OF CONTROL AS A MEDIATOR

As pointed out in the previous section, human and animal studies suggest that the negative effects of stress are greater in conditions of low perceived or actual control. However, research also suggests that when individuals do not have behavioral control of a stressor, they can learn how to mitigate its negative health effects by the way in which they react to and interpret the stressor (e.g., Lazarus, 1981; Lazarus et al., 1984).

Early psychological experiments on stress and control (cf. Glass & Singer, 1973) showed that overall, individuals felt less stress if they could predict when a negative situation was going to happen, if they could administer the negative condition to themselves, and if they knew they had the ability to stop the stressor (Evans et al., 1993). For example, one set of studies examined the effects of control on reducing stress in individuals based on Seligman's yoked experimental model (cf. Seligman, 1975, 1991). Individuals in two different groups were subjected to a stressor, such as loud noise or a mildly aversive electrical shock. One group was able to terminate (i.e., had

control over) the aversive stimulus, and the other group continued to receive it until the first group stopped it. Each group received the same duration and intensity of the negative stimulus, but one had control and one did not. Those who had control perceived the aversive stimulus as less negative and had fewer stress-related side effects than those who could do nothing about the stress but wait until the first group stopped it.

CONTROL AND LONGEVITY

Several studies have shown that increasing individuals' sense of control can have profound health implications. For example, in the often-cited study by Rodin and Langer (1977), nursing home patients given control over such things as the time and nature of their meals and which movies they could watch lived considerably longer than a matched comparison group.

In another study of nursing home residents, Alexander et al. (1989) taught self-control strategies including meditation, mindfulness, and relaxation. Those who learned these strategies lived significantly longer than a comparison group.

Finally, Eysenck and Grossarth-Maticek (Eysenck, 1988) found that therapy aimed at decreasing unhealthy dependence and feeling greater mastery, what they term "autonomy training" (our move from Quadrant 4 to Quadrant 1, positive assertive control) was able to prevent the onset of cancer 13 years later in a significant number of patients. These researchers, also showed an association between aggression and hostility (Quadrant 3, negative assertive, overcontrol) and heart disease, and found that therapy aimed at reducing this type of behavior (using standard behavioral techniques such as relaxation, modeling, and desensitization) was able to prevent heart disease 13 years later in a significant number of these subjects.

CONTROL AND HEALTHY LIFESTYLES

As noted previously, research has shown that those who engage in unhealthy behaviors (smoking, poor diet, lack of exercise) are at higher health risk. Therefore, it is important to teach individuals greater self-control in order to help them alter these behaviors. As we have seen, the first critical element is helping them gain a feeling of self-efficacy regarding their ability to make such changes. Secondly, it is important to help them recognize the value of such changes so that they have the necessary motivation to engage in them.

Research has shown that the ability to exercise self-control over dietary and exercise habits can reduce the risk of developing heart disease, dia-

betes, colon cancer, osteoporosis, and hypertension (Surgeon General's report on physical activity and health, 1996).

PROBLEMS WITH NORMAL CONTROL STRATEGIES: EFFECTS ON PHYSICAL HEALTH

In this section, we examine several health-related problems associated with normal control strategies. We begin by discussing the limits of personal (active) control over health, showing how this can lead to overcontrol with respect to both health outcomes and health behaviors. Finally, we discuss control-related mismatches with relevance to physical health.

THE LIMITS OF PERSONAL CONTROL OVER HEALTH

As noted in Chapters 4 and 5, efforts to realize greater assertive control can become misguided and excessive, attempting to control that which may be uncontrollable (Quadrant 3, overcontrol). Along these lines, health psychologists such as Brownell have pointed out that there are significant limits on our ability to control physical health outcomes as well as specific risk factors such as obesity. As evidence for this, Brownell discussed the concept of a genetic/biologic set point that may ultimately determine our weight (or at least the degree to which it can be altered), irrespective of any behavioral efforts we may make to change it (Brownell, 1991). He argued that the emphasis on personal control over health behaviors (e.g., exercising more, eating less fat) has had a positive impact on reducing the incidence of certain diseases. However, he believes that there are significant risks associated with overestimating the extent to which we have personal control over our own health and bodies.

Another common way having too high a desire for active control (Quadrant 3) over the body can manifest is in terms of being overly preoccupied with physical appearances. Being obsessive about one's weight and holding rigidly to certain notions about what is an acceptable level of physical fitness are but two examples of this type of overcontrol. Dissatisfaction with the body and its appearance are common for many individuals (McGrath, 1992). The multibillion-dollar diet industry and the problem of eating disorders among adolescent girls are evidence of this phenomenon (Shapiro, Blinder et al., 1993).

Many clients bring to therapy these issues of shame and nonacceptance of their bodies, consumed by efforts to change that which they perceive to be wrong, inadequate, and not good enough. It is one thing to say, "I want to be in control of my dietary habits so that I can feel healthier, have more

energy, and feel empowered through making positive choices about how to take care of and treat my body." But it is quite another thing to say, "I *need* to have a smaller rear-end, larger breasts, or bigger biceps before I will feel okay about who I am as a person." When a significant part of one's personal value, worth, and identity is defined in terms of judgments about the physical body, the likelihood increases that active control efforts will become out of balance (Quadrant 3 rather than 1) and potentially damaging.

Along with the importance of placing control within the context of biological realities (e.g., genetic barriers to weight reduction), Brownell pointed out that it is important to consider the degree to which an overemphasis on personal control over health outcomes (through changing unhealthy behaviors) can lead to blaming the victim, creating hypersensitivity to risk (the so-called worried well), and underemphasizing social and environmental factors.

In response to physical illness, individuals may take on an excessive level of personal responsibility. This can lead to unrealistic beliefs in their ability to control or alter the physical body (a form of negative assertive, overcontrol). And as several authors have commented (Spiegel, 1991; Wilber, 1991), these beliefs that one has some type of ultimate self-control over the functioning and health of the body can lead to criticizing and blaming oneself for illnesses (such as cancer) when it may not be appropriate. For example, Spiegel (1991) noted that self-help cancer treatments may have gone overboard in suggesting that individuals can be victorious over cancer through right attitude, right behavior, and accessing the "healer within." Further, Gray and Doan (1990) noted some of the potential dangers of heroic self-healing in which individuals beat cancer through psychological transformation. They expressed concern for patients who may feel shame when they are not keeping up the fight, are giving in, or are unconsciously admitting that cancer has defeated them.

It is important to recognize the potential limits of active control efforts when it comes to influencing the course of our health. As we noted nearly two decades ago (Shapiro & Shapiro, 1979):

We see in all this a peculiarly Western characteristic which involves an overweening desire to be in control—of our jobs, our lives, our diseases, our deaths, our universe. Somewhere in all this push for self-responsibility we see a basic contradiction. No matter how purely we eat and drink, no matter how carefully we guard the air we breathe, no matter how much we become involved with our doctors and they with us, the mortality rate will still be 100%. (Shapiro & Shapiro, p. 211).

OVERCONTROL AND HEALTH OUTCOMES

Issues of overcontrol have been implicated in cardiovascular disease (Friedman et al., 1986; Glass, 1977; Jacob and Chesney, 1984; Shapiro, Friedman, &

Piaget, 1991). Some research has shown that those with too much belief in their own ability to control are at greater risk for heart disease (Seeman, 1991), as are those who exert social control and dominance over others (Brown & Smith, 1992). Along these lines, Houston et al. (1992) found that controlling, socially dominant behavior was independently predictive of coronary heart disease.

The motivational variable of desire for control, including the need for power, has also been examined (Glass, 1977). For example, those with high scores on "power motivation," particularly when stressed or behaviorally inhibited, evidence significantly lower levels of salivary immunoglobulins (an immune marker) as well as higher levels of illness (Jemmott et al., 1983; McClelland et al., 1982).

Similarly, using Burger and Cooper's (1979) Desire for Control Scale, Dembroski et al. (1984) found a significant association between excessive desire for control and the Type A behavior pattern. Glass suggested that too high a need for control is, in fact, what underlies the hypervigilant, overly competitive, aggressive behavior evidenced by this personality type. Two of the identified components of the Type A personality profile—sense of time urgency and easily aroused hostility—may similarly be understood as reactions to being thwarted in one's efforts to gain control by active, assertive means. This in turn leads to continued efforts to exert control, even in situations where it is inappropriate or when circumstances are not within one's control (Quadrant 3, negative assertive/overcontrol). These individuals also tend to be mistrustful of others and the world (so-called cynical hostility) that is reflected in their intense desire to be in control and their corresponding fear of letting go of active control.

Although there is now disagreement over the extent to which the Type A personality pattern is a significant risk factor for heart disease (Matthews & Haynes, 1986; Williams, 1989), there is general agreement that those who hold a cynically hostile attitude toward life are at greater risk not simply for cardiovascular disease but for all causes of morbidity/mortality (Barefoot et al., 1983). As suggested by Glass (1977), and following our second postulate outlined in Chapter 2, the research linking Type A/hostility to various disease states may ultimately point to the health-damaging effects of excessive desire for control and overcontrol.

OVERCONTROL AND HEALTH BEHAVIORS

In this section we provide two brief case studies from our clinical work that highlight the ways in which positive control of health-related behaviors (Quadrant 1) can become negative assertive overcontrol (Quadrant 3).

Susan, a 17-year old adolescent, weighed 82 pounds (and was 5'4" tall) when first seen at the eating disorders clinic for anorexia. She reported that when she was 14 she weighed 132 pounds, was often teased by her peers,

and was not considered very athletic. She had decided to try to gain more control of her life by starting a consistent diet and exercise program. At 13 her parents divorced, her grades fell, and she turned to food for solace:

I felt so confused. At first, I was so proud of myself, as I saw the results of my diet and exercise program. It seemed that weight and exercise was the one thing I could control. Each time I lost a pound, I felt like my life was still in control. I told myself if I can keep in control of my eating, I do not need to be bothered by all the other things in my life that are out of control.

But for Susan, success in gaining control began to take over her life. She started to carefully monitor everything she ate and was terrified of ever regaining any weight at all, fearing that she might once again lose control. Her desire to maintain control, her wanting to be the perfect weight, her systematic and obsessive efforts to monitor her weight, led to her overcontrolling the situation, and nearly to her death.

Another client, Jack, was a real estate executive approaching middle age, who realized that he had put a great deal of attention on his career and family, but had neglected his personal health and was aware of "middle-age spread" around his waist. He had recently felt depressed during a slow period in real estate, but decided that was not his problem because the economy was in a recession: "I felt I could not control the economy, but I had no excuse about not controlling my physical health."

During the recession, with business slow, he had joined an exercise program and had begun to lose weight. He felt himself firmer and healthier than ever before. He kept running, setting new personal best records of speed and endurance. However, he would not heed injuries when they occurred, feeling he had to push through them. He felt a fear of losing control, concerned that if he stopped his running program, he would fall back into his old, flabby self and start to focus on all the other areas of his life that were not in his control.

For both Jack and Susan, desire, belief, and efforts led to success in controlling body weight. But what was initially a positive success continued to such an extent and became so obsessive that positive control led to overcontrol. The very strategies they were using to gain control were in fact causing Jack and Susan to lose control, even though they themselves were not aware of that fact.

CONTROL AND PHYSICAL HEALTH: MISMATCHES

As noted, people frequently experience illness as a loss of control, and gaining control can have positive effects on health. However, giving someone

control when it is not desired can be counterproductive, a form of mismatch between intervention and person.

For example, Ende et al. (1989), in examining patient preferences regarding medical decision making and information seeking, found that although the majority very much want to be kept informed, they prefer that decisions be made principally by their physicians. Their findings also highlighted the importance of contextual and developmental factors: desire for control over decision making declined as illness became more severe, and older patients for the most part had less desire than younger patients for control over decision making as well as less desire to be informed. Their research also showed that there was no correlation between decision-making and information-seeking preferences. In other words, those who wished to be kept well informed regarding their medical condition and treatment did not necessarily desire control over the decisions made regarding their care. These findings show that greater control is not always desirable (i.e., is aversive to some people) and again point to the importance of appropriately matching control interventions to the control needs and desires of patients.

Although the research reviewed earlier suggested that having perceived or actual control over stressors lessened their negative effects on immune functioning and cardiovascular reactivity, the relationship between control and health may not be entirely linear. For example, in a study by Weisse et al. (1990), those subjects given greater control actually evidenced *poorer* immune function in response to a laboratory stressor. This finding is consistent with our own observations as well as those of other researchers (Burger, 1989) that there can be negative as well as positive consequences to having greater perceived control. Research examining the relationship between control and cardiovascular reactivity to stress also bears out this point, with some studies showing a relationship between greater perceived control and heightened rather than diminished stress reactivity (Seeman, 1991).

OPTIMAL CONTROL: EFFECTS ON PHYSICAL HEALTH AND FUNCTIONING

Optimal control as it relates to physical health and well-being involves effectively matching control strategy to person, balancing control strategies (assertive *and* yielding) as well as sources from which control is gained (self *and* other), developing disciplined self-control in order to implement preventive health and wellness programs, and exploring the farther reaches of humans' potential to control the body.

MATCHING STRATEGY TO PERSON

In Chapter 3 and in the previous section, we pointed out the importance of matching strategy to the person. In the following sections we provide an example taken from our research with breast cancer patients.

There are four important aspects of the control profile highlighted in Figure 6.1:

- Overall sense of control—The patient has a low overall sense of control score (Scale 1), as did 39% of the cohort.
- Mode of control—She has a high negative yielding score (Scale 8), as did 27% of the cohort.
- Desire for control—Score on the desire for control scale (Scale 9) is low, as it was in 19% of the cohort.
- Agency of control—Self as source of control (item 13) is quite low, a profile shown by 29% of the cohort.

As noted, most interventions have been directed toward helping individuals develop a fighting spirit and positive assertiveness to overcome feelings of helplessness and hopelessness. Such an approach represents an optimal matching of strategy to person in the case of the woman profiled in Figure 6.1.

However, not every person in our study fits this profile. For example, 12% of the patients reported a high score on the negative assertive scale (Quadrant 3, Scale 7). Thirteen percent reported a high desire for control that was in the at-risk direction. In terms of agency, 19% reported low scores on "other" as source of control (item 14). For patients with this profile, a markedly different intervention would be required (i.e., one that emphasized the development of acceptance, trust, and a willingness to rely on others for support).

FLEXIBLE COPING: BALANCING CONTROL STRATEGIES

As noted earlier, there is an implicit cultural bias in understanding control that assumes that if one does not have active control, he or she is either resigned or helpless. This bias can be seen in Feifel et al.'s (1987) medical coping questionnaire, which has only three categories: confrontation, avoidance, and acceptance/resignation. In this model, personal resignation and avoidance are seen as passive and unhealthy responses, and are contrasted with confrontation as the healthy, active mode of control and coping.

However, there are serious limitations to this model, particularly in its failure to recognize when confrontation can become maladaptive (Quadrant

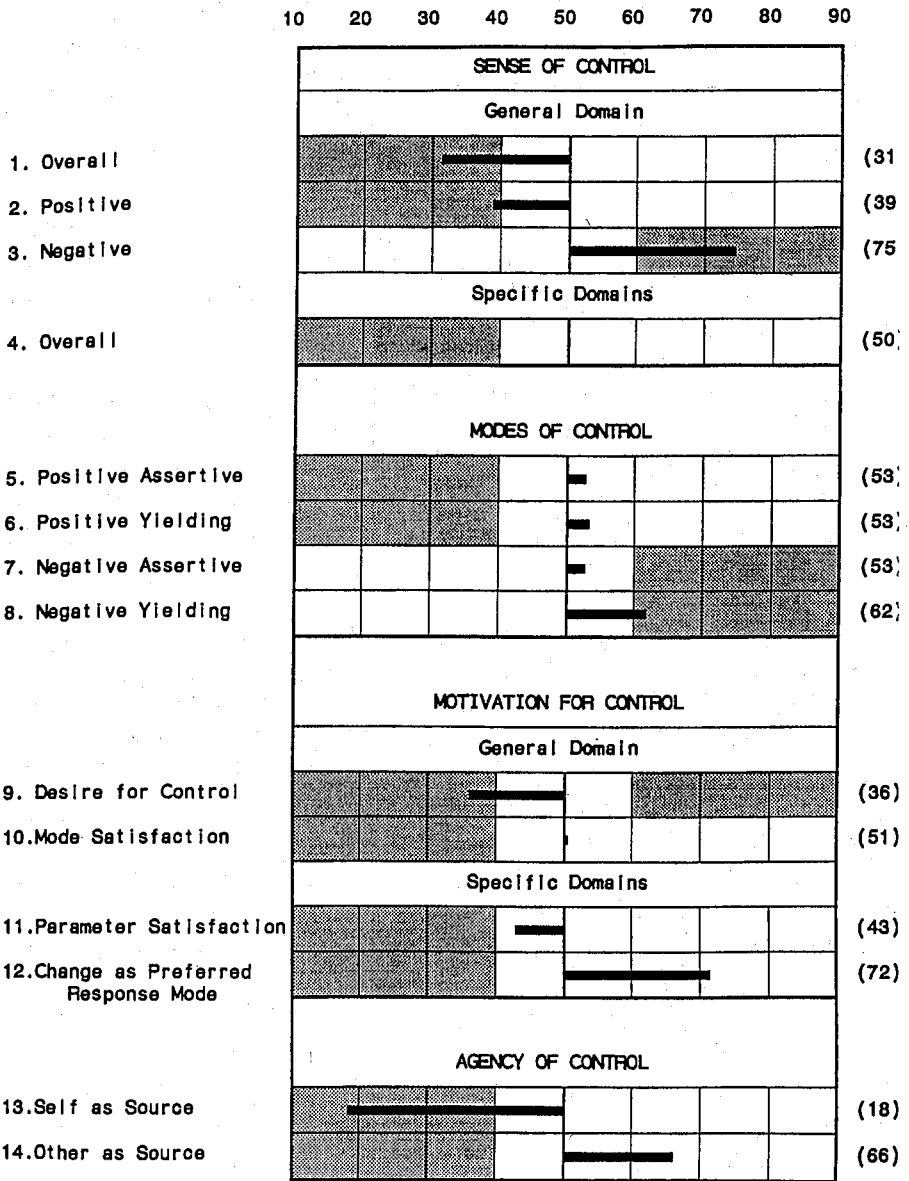


FIGURE 6.1
SCI CONTROL PROFILE: BREAST CANCER PATIENT

3, negative assertive) and when acceptance is healthy and adaptive (Quadrant 2, positive yielding).

For example, a colleague, Dr. James McQuade (personal communication; 1992), has noted the following regarding the psychotherapy groups for oncology patients he leads:

Sense of control is related as strongly to quadrant two positive yielding as it is to positive assertive, fighting spirit. In fact, many patients I see seem to have a more genuine sense of peace who cope with a quadrant two, positive yielding. This mode seems to reflect a greater sense of acceptance of a given reality and less of a sense of denial. It doesn't at all seem related to a negative fatalism or helplessness.

Along these lines, Gray and Doan (1990), in their work with cancer patients, stated that "we also try to help patients to balance their drive to heal themselves via personal transformation with an acceptance of their own limits. In this way, we hope to minimize the sense of failure that can occur on a daily basis, or when cancer recurs or progresses."

Gray and Doan's anecdotal therapeutic interventions are given some support by a qualitative study of cancer patients by Nowlis and Edgar (1987). Using data from interviews, they identified a factor or quality they called "quiet assertiveness," a person low on egotism, but high on ego strength and assertiveness. In many respects, this quality represents a blending and balancing between our two positive modes of control, assertive and yielding.

In the mid-1980s, Meyer Friedman (one of the originators of the Type A construct) and colleagues conducted the Recurrent Coronary Prevention Project (RCCP) study with Type A individuals who had each already had one heart attack. This study showed that a cognitive-behavioral intervention was successful in reducing Type A behavior, and that this reduction affected morbidity and mortality over the course of the 4½ years of the study (Friedman et al., 1986).

Our work on that project showed that the successful intervention was reflected in several changes in the control profiles of study participants. Initially, these Type A individuals tended to show lower scores on Quadrant 2, positive yielding control, and higher scores on Quadrant 3, negative assertive control. Following the intervention, we observed shifts in modes of control in all four quadrants in a psychologically healthy direction: increased Quadrant 1 (positive assertive) and Quadrant 2 (positive yielding), and decreased in Quadrants 3 and 4 (negative assertive and negative yielding control). Subjects also showed an increase in self-acceptance and congruence between real and ideal mode control profiles on all four quadrants, as well as increased feelings of perceived self-control. Following the intervention, these Type A individuals showed an increase both on communicating needs (positive assertive) and on trusting (positive yielding). The results of this study suggest that the expeditious use and balance of *both* positive modes of control may be helpful in ameliorating the morbidity and mortality associated with the Type A behavior pattern (Shapiro, Friedman & Piaget, 1991).

CONTROL FROM SELF AND OTHERS: EFFECTS ON HEALTH

As outlined earlier, although the dominant paradigm in Western thought and psychology stresses the importance of personal autonomy and gaining a sense of control from self, it is important that one be able to gain a sense of control from others as well. Similarly, the benefits of being able to gain a sense of control from others can also be seen in the domain of physical health and well-being. For example, research with cancer patients (Taylor, 1983) suggests that women who believe that the doctor is in control (control by a powerful benevolent other) maintain as much psychological health, adaptation, and well-being as those who believe that they are in control (self as agent of control; e.g., developing an exercise program, changing to a healthier diet, seeking information). In this study, two qualities of the doctor were important: that he or she was perceived as more powerful than the patient and that he or she was benevolent (i.e., on the side of the patient). Both these sets of patients did better than those who neither trusted that they were in control nor that the doctor was in control. What appears important is less who is in control but that there is *someone* in control.

Research also suggests that gaining a sense of control from a spiritual benevolent other may have a positive effect on health outcomes. For example, Jared Kass and colleagues (1991) examined the relationship between spiritual beliefs and experiences and physical health and well-being. They found that individuals who had some personal experiences of God (what Kass also calls the "Ground of Being") and experienced God as trusting and benevolent had significantly fewer health-related problems and complaints than those who did not.

Kass pointed out that on a personal level, daily stress that one cannot control can cause physical problems. Following the work of the theologian Paul Tillich, Kass hypothesized that those individuals who have had a personal experience of a powerful, benevolent God or spiritual presence are less likely to feel ontological stress—that is, stress about the nature of the cosmos (Tillich, 1967). Those who have not had such an experience—even if they have a belief in God—may be less likely to feel that the universe is basically a trustworthy place where things are in control.

Although these findings indicate that a belief that others (spiritual or otherwise) are in control may have important health implications, research also suggests that individuals may actually be able to provide some measure of control over the health outcomes of others. For example, Byrd (1988) examined the effects of intercessory prayer (e.g., praying to God to help another) on patients in a coronary care unit. Using a prospective, randomized double-blind design, he found that hospitalized patients who were prayed for required less ventilatory assistance, fewer antibiotics, and less diuretics than

the control subjects. In addition, the prayed-for group had a significantly lower severity score (as rated by medical personnel) based on the hospital course following entry into the coronary care unit (CCU). The intercessory prayer was done outside the hospital, with each patient having between three to seven intercessors (recruited from Christian churches and fellowships in the San Francisco Bay area). The double-blind methodology of this study, at least in theory, ruled out the possibility of a placebo effect accounting for the observed differences in medical outcomes.

The study therefore raises provocative unanswered questions regarding the explanatory mechanism for these health outcomes. If replicated, the study would raise questions about the role of community (and therapist/physician) support (and prayer) for patients. It would also raise questions on the type of "prayer." For example, it is interesting to note that research on the effects of prayer carried out by the Spindrift Organization (Dossey, 1993) suggested that prayer with a specific intention (directed, or what we might call "positive assertive prayer"), although effective, did not show as powerful an effect as a more nondirected, positive yielding approach (e.g., "Lord, Thy will be done" as opposed to "Make them healthy and well . . ."). At the very least, clinicians should be sensitive to client and their own views regarding the nature of the cosmos and the sense of control, coherence, and well-being they receive from those beliefs (Antonovsky, 1979; Shapiro, 1993; Wikan, 1989).

THE FURTHER REACHES OF CONTROL AND THE BODY

In this section, we review evidence which suggests that we may not fully understand or appreciate the extent to which humans can exercise control over their physical lives and health.

Research has shown, for example, that humans can control aspects of their bodies heretofore not thought possible. The classical medical literature of neurology claimed that voluntary control over the autonomic nervous system (heart rate, blood pressure, etc.) was impossible. The autonomic nervous system was just that—autonomic—and could not be voluntarily controlled by humans. However, both animal and human research has demonstrated that some involuntary responses *can* be voluntarily controlled, either through selective reinforcement or through biofeedback techniques.

Since the early 1960s, researchers have been examining individuals who appear to be evidencing extraordinary control over their physical bodies (DiCara, 1970; Kamiya et al., 1971; Miller, 1969; Pelletier & Pepper, 1977). For example, the work of Pelletier and Pepper (1977) suggested that humans have the ability to develop extraordinary control over how they experience

and respond to pain. In a series of studies with spiritual adepts (e.g., yoga masters), they found individuals who were able to do such things as chew glass, put needles in their cheeks, and insert into the fleshy part below their elbows needles attached to strings holding up buckets of cement. These researchers identified three cognitive strategies that were used to control these physical stressors and pain: (a) concentrative attention in which one focuses on a certain object or sensation to the exclusion of all other sensations; (b) mindful awareness in which one does not focus exclusively on any one object but stays open to whatever sensations, thoughts, and so on arise in the field of awareness; and (c) focus on the actual sensations themselves without being drawn into evaluations and interpretations of those sensations (e.g., "this hurts or is painful"). One might question the relevance (or desirability) of being able to chew glass or put needles in oneself, but the three attentional strategies used to accomplish such feats have in fact been shown to have significant clinical utility. For example, research by Kabat-Zinn and colleagues (1985) suggested that the second strategy (cultivating mindful awareness) can be used to help those suffering from chronic pain and disability cope more effectively.

In a series of studies on Tibetan monks, Benson (1982, 1984) documented a number of unusual feats of human control. For example, he found that by mentally raising their body temperatures as much as 14° nearly naked monks could comfortably meditate for hours when they were wrapped in soaking wet sheets in air temperatures of 40° Fahrenheit. He recorded another instance in which the lightly clad monks meditated outdoors for 8 hours at 19,000 feet amid snow and near-0° temperatures. They could do so, the monks said, by controlling an inner heat or life force they called *prana*.

Researchers have also found that when normal individuals are given feedback about their bodily states through various forms of biofeedback, facilitation of various forms of bodily control can occur. For example, individuals have been taught to control migraine headaches through thought and visualization, as well as raise their skin temperatures 10°–16° by willing it so (Benson, 1982, 1984).

Rider and Achterberg (1989) found that ordinary subjects, using music-assisted guided imagery could differentially alter functioning of neutrophils and lymphocytes (components of the immune system). When imagery was focused on neutrophils, these cells *but not others* were altered, and when focusing on lymphocytes, only the functioning of these cell types was significantly changed. Finally, the ability of conscious intention to alter physiological function was also demonstrated by G. R. Smith (1985), who in a case study report showed that an individual was able to influence the emergence and disappearance of a fever blister on his arm through the use of imagery.

TOWARD BALANCE: THE FURTHER REACHES AND LIMITS OF CONTROL

The findings summarized in this chapter suggest that humans have the capacity for considerably more control over their bodies and health than was once imagined. This research certainly raises questions concerning how much physical control is ultimately possible. How much, for example, *can* humans influence physiology, the functioning of the immune system, the course that illnesses take? How much *can* one control the experience of pain and physical suffering? A great Indian saint once said, "Imagination is the doorway through which both illness and health enter" (Yogananda, 1946). This quote suggests that if individuals could control their attention and imagination, they could, in turn, control and influence the course of their physical well-being in ways most people don't believe possible. Gandhi purportedly underwent an appendectomy without the aid of any anesthesia, simply by intense mental effort and concentration to rise above the sensations of pain and discomfort.

However, when one considers both the research on exceptional feats of control and our earlier discussion on the limits of humans' capacity to exercise control over the material world (e.g., no matter how great our control efforts, we will all ultimately die), it becomes apparent that control is in many respects paradoxical. On the one hand, human beings have tremendous capacities to alter their life experiences, to change health behaviors, and to concentrate and visualize in order to alter physiological functioning. Yet in many respects, they have limited actual control over their health: They get sick despite their best efforts to eat well and exercise and practice stress reduction; they may find in middle age that they have a congenital heart problem caused by some genetic defect in their cardiovascular system. One of the most well-known yoga masters from the East, Ramana Maharshi, died of colon cancer, and Suzuki Roshi the great Zen master died from a brain tumor. Further, as biologist Lewis Thomas noted (1974), there may be limits on which aspects of our bodies we can or should ultimately try to control. He commented that he does not wish to learn to control his liver functioning, believing that his body does a better job of this enormously complex task than he could ever imagine doing himself.

This paradox points to the importance in our model of balancing positive assertive control efforts with positive yielding/accepting strategies. In this way, one can strive to master his or her life and influence the course of health and well-being, while remembering that health, like life, is mysterious, oftentimes unpredictable and uncontrollable at a very deep and fundamental level. Therefore, as reflected in the following poem (Astin, 1994), a balanced use of flexible coping is essential for "optimal control" at the body level, just as it is in the domains of mental health and the area of relational health and well-being:

The Balance

Between the feeling and the thinking
And the being and the doing,
There's a balance you will find
Between the heart and mind.
It's a mountain strength of will
And a patience so still
It's a time to surrender and let go
A time to hold fast to what you know
A time to accept what this life brings
And a time to change the course of things

CONTROL AND THE BODY: AREAS WHERE CLINICIANS CAN INTERVENE

There are a number of control-related areas with relevance to physical health where therapists can potentially intervene. These areas are summarized here and discussed further in Part Three of the book:

1. *Control of health behaviors*—Teaching clients strategies for changing/altering behaviors that increase their risk of illness (e.g., smoking, lack of exercise, overeating).
2. *Control of stress reactivity*—Teaching clients self-control strategies (such as mindfulness meditation, cognitive reappraisal) that can lessen their tendency to reflexively react to (be controlled by) stressful circumstances.
3. *Control over health care decisions*—Providing clients with information, referrals, and education regarding various medical treatment options as a way of enhancing feelings of control and efficacy with respect to their physical health and well-being.
4. *Control and its potential health consequences*—Educating clients about the possible health effects (both positive and negative) of having and gaining a sense of control. This could include an assessment of the degree to which clients are relying on negative assertive or negative yielding modes of control and the potential health consequences of such efforts (e.g., the possibility that an excessive desire for control can lead to heightened stress reactivity and potentially contribute to hypertension and cardiovascular disease).
5. *Control in response to illness*—Being sensitive to the ways in which physical illness and disability contributes to clients feeling a loss of control. This would also include teaching them coping strategies for regaining a sense of control in the face of health-related stressors (e.g., identifying which aspects of their lives they can still exert some degree of control over despite the illness, pain, or disability they may be facing) and helping them understand when letting go of control (in response to certain illnesses) may be appropriate and adaptive.