The human quest for control and its relevance for medicine

John A. Astin, PhD
University of Maryland School of Medicine

Johanna P. Shapiro, PhD
University of California, Irvine
College of Medicine

Brian M. Berman, M.D.
University of Maryland School of Medicine

Deane H. Shapiro, PhD
University of California, Irvine
College of Medicine

Word count: 4,419
Correspondence: John A. Astin, Complementary Medicine Program, 2200 Kernan Drive, Baltimore, MD 21207, email: jastin@compmed.ummc.umd.edu
The desire to feel a sense of control is a fundamental human experience. Across domains and stages of life, the behavior and cognitions of individuals can be explained by and are often an expression of their need to gain, maintain, and/or reestablish a sense of control.\textsuperscript{1, 2} The human quest for control is a central thread that ties together much of the experience of being human.\textsuperscript{3} For example, early developmental tasks directly involve efforts to gain greater control such as learning to regulate one’s involuntary muscle movements and mastering language. Developmentally, control is also evident in the toddler’s attempts to have the world conform to his or her wishes and desires. Later, a central task of cognitive-emotional development for young children is the development of greater self-control over their urges and impulses, the ability to “delay gratification.” And as children grow into young adults, the desire to be autonomous and competent presupposes and to a great extent reflects the human desire to exercise greater personal control and mastery. Adult life tasks often focus on exerting control of one’s physical, personal, and interpersonal environments to satisfy basic survival and emotional needs.

However, throughout the lifespan, human beings are also confronted with the stark reality that much if not the majority of what is encountered in life is outside of our active instrumental control -- the weather, the families we were born into, human morbidity and mortality, the actions, reactions, attitudes and opinions of other people. In fact, the degree to which things are \textit{not} in our active control is staggering. Thus, the human quest for control involves not only the centrally important task of finding healthy and life affirming ways to exercise greater control and personal mastery in those areas where one can and should, but also finding constructive ways to respond to the lack of control that pervades the human condition.\textsuperscript{1, 2}
In this paper, we suggest that examining issues of human control, lack of control, and how we as humans attempt to gain and regain a sense of control, is of particular relevance for medicine. Specifically, we explore the following control-related issues as they relate to medical practice: 1) the psychological construct of control and its relationship to mental and physical health; 2) control issues in the doctor-patient relationship; 3) control and integration of the biopsychosocial model; and, 4) how physicians cope with the inevitable experiences of loss of control that are part and parcel of the practice of medicine.

**RELATIONSHIP OF CONTROL TO HEALTH**

*Control and mental health.* In previous work, we have defined the construct of control as “the ability to or perception that one can cause an effect in the intended direction,” and have written extensively about the relationship between control and psychological health.¹ Research suggests that mental health and well-being is associated with feeling a sense of control.¹,² As suggested by Frank, all schools of psychotherapy attempt to bolster patients’ sense of control, mastery, and self-efficacy by providing them with conceptual schemes that both label and explain symptoms and experiences of success.³ Beck,⁴ notes that “dominant schools of psychotherapy share one basic assumption: the emotionally disturbed person is victimized by concealed forces over which he has no control.” (p. 2) Similarly, the social psychologist Bandura⁶ has stated that “among the mechanisms of human agency, none is more central or pervasive than people’s beliefs about their capabilities to exercise control over events that affect their lives.” (p. 411) Our own research similarly suggests that issues of control underlie many clinical difficulties. Based upon content analyses of multiple therapy sessions, we have
found that clients frequently make statements related to loss of control or fears of losing control across a number of life domains including mind, emotions, interpersonal relationships, and work.\textsuperscript{7}

\underline{Illness as loss of control affecting mental health.} The relationship between control and physical health is very much a bi-directional one. On the one hand, illness frequently results in feelings of, as well as actual loss of, control such as impaired physical function, inability to work, and sense of personal loss and vulnerability. The oftentimes unknown and unpredictable nature and course of many illnesses can give rise to feelings of low perceived control, particularly in situations where there is a significant loss of functional ability or the threat of being unable to recover one’s health.\textsuperscript{8} In the case of more serious disease, people are often placed in situations such as surgery and anesthesia that can provoke strong feelings of helplessness, powerlessness, and dependence.\textsuperscript{9}

\underline{Loss of control affecting physical health.} But along with the experience of loss of control that frequently results from changes in health status, feelings of loss of control and low sense of control can themselves also influence physiological function and quite possibly disease states. Animal and human studies\textsuperscript{10, 11} have shown that when subjects can exert some measure of control over a psychosocial stressor, they evidence less immune suppression. Research also suggests that individuals experience less of the adverse physiological and psychological effects of environmental stress if they can predict when a negative event will occur; if they have (or perceive they have) some measure of control over the administration of a stressor; or if they know they have the capacity to stop the stressor.\textsuperscript{8, 12}
Among cancer patients, feelings of helplessness and low sense of control are related not only to increased anxiety and depression, but to poorer clinical prognosis. 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.

Issues of control have also been implicated in heart disease. Studies suggest that those with excessive belief in their ability to exercise personal control are at greater risk for cardiovascular disease as are those who exert social control and dominance over others. Houston et al. found that “controlling, socially dominant behavior” was an independent predictor of coronary heart disease. Hostility (which numerous studies suggest is a significant risk factor for cardiovascular disease as well as all-cause mortality) may also be understood as a reaction to being thwarted in one’s efforts to gain control, which leads to continued efforts to exert active control even in situations that are not within one’s personal control.

**The paradox of control: greater limits, greater capabilities.** The relationship of control to health is also a paradoxical one. On the one hand, it would appear that we have a significant degree of control over (i.e., ability to influence) health outcomes in so far as we can decide to exercise (or not exercise) behavioral self-control over such lifestyle choices as diet, exercise, smoking, alcohol use, and response to stress. Furthermore, we may only be beginning to realize the extent to which humans can exert some measure of control over physiological function and health. For example, decades of research in such areas as biofeedback have shown that humans have the capacity to alter various autonomic processes (e.g., blood pressure) heretofore thought impossible to control by human intention. Psychological factors such as whether we respond to provocative
situations with hostility\textsuperscript{28, 29} or mental equanimity appear to influence physiological function and health, again suggesting that we may have significantly greater control and influence over health outcomes than was previously thought. And certainly the extraordinary discoveries being made in genetics will undoubtedly continue to increase our capacity to prevent and control various diseases.

However, the paradox of control as it relates to health is that ultimately, in spite of our best efforts to practice self-care and exercise behavioral self-control (e.g., eat well, exercise), we get sick.\textsuperscript{30, 31} Genetic and environmental factors clearly play a role in health and these represent forces over which we frequently have very limited if any personal control.\textsuperscript{32} So, as individuals trying to optimize our own and others’ health and well being, we are constantly faced with the paradox that on the one hand, we have potentially extraordinary degrees of control and influence over health while at the same time we must live with the reality of significant personal limits on our capacity to ward off morbidity and mortality.

\textbf{THE FOUR MODES OF CONTROL: WAYS HUMANS SEEK TO GAIN CONTROL}

Our research suggests that people employ four general strategies or modes for gaining and re-gaining a sense of control. Figure 1 illustrates these as four quadrants. Historically, western psychology has tended to emphasize quadrants 1 and 4, arguing that our efforts to re-gain mastery and control exist on a continuum ranging from active, assertive efforts at change and mastery (quadrant 1, positive assertive control) to helpless, passivity (quadrant 4, negative yielding). For example, as reflected in the frequently used
Mental Adjustment to Cancer scale (MAC)\textsuperscript{33}, patients are typically classified as either reacting to their disease with an attitude of “fighting spirit” (taking active, assertive steps at re-gaining a sense of control) or responding with feelings of helplessness-hopelessness (our negative yielding mode).\textsuperscript{14, 15} However, we have pointed out in a series of publications\textsuperscript{1, 2, 13, 34} that this view of control is both culture-bound and limited. Our work suggests that in response to fear of or actual loss of control, people employ two additional modes or characteristic ways of regaining a sense of control. One of these we term “negative assertive” or overcontrol, which essentially involves inappropriate or excessive efforts at gaining active, instrumental control, particularly in situations that are outside of one’s personal control. Furthermore, our work also suggests that letting go of active control efforts – a “positive yielding” mode of control – is distinct from helplessness or passivity and is in fact a central component of positive mental and possibly even physical health.\textsuperscript{1, 13, 34}

==================================

Insert Figure 1 About Here

==================================

CONTROL AND THE DOCTOR-PATIENT RELATIONSHIP

Previously, we have suggested that in the course of dealing with health-related problems, patients, physicians (and family members) all struggle with issues of loss of control to some extent, and all (including physicians) employ psychological and behavioral strategies (i.e., the four modes) to gain and regain a sense of control.\textsuperscript{35} There
is also the implicit if not explicit expectation that physicians will restore some sense of control for patients, family members (and themselves). This frequently occurs through such strategies as providing a diagnosis, making clinical prognoses, and prescribing various treatments.  

Just as patients present varying “control profiles” that include their sense of control across multiple life domains, their desire or motivation for control, their agency (or source) of control, and their modes of control (i.e., characteristic ways of gaining or regaining a sense of control),¹ so do doctors and other health care providers manifest their own unique “control profiles.” Further, when human beings (including doctors and patients) are in relationship with one another, their control profiles inevitably interact.

Physicians will respond to patients’ control dynamics (and vice versa) differently depending upon their own particular control needs and dynamics. For example, in response to patients who are overly controlling or demanding (negative assertive control), a physician who also tends to utilize a negative assertive control style might react with excessive anger and attempt to overpower them. Conversely, a physician with a positive assertive control style might instead simply set appropriate boundaries with such patients. If a patient is excessively dependent or helpless (negative yielding control), a physician with a negative yielding control style might engage in avoidant behavior. A physician with a positive assertive and/or yielding style, on the other hand, might recognize the patient’s fear of abandonment and need for reassurance and schedule more frequent visits as well as help foster a greater sense of the patients’ own self-efficacy.

Physicians’ control dynamics (such as a high desire to be in control and be socially dominant) can also significantly influence their communication patterns and
dynamics. For example, those with a high need for control (and to feel a corresponding sense of power in one's relationships) may feel more threatened by patients who are as (or even more) knowledgeable than they are about the latest research suggesting that some innovative therapy may be effective for their particular medical condition. This threat to one's sense of control in the form of a knowledgeable, well-informed patient may then lead the physician to be less open to hearing what the patient has to say, thereby limiting the capacity to effectively partner with patients in developing appropriate treatment plans. In short, a high need for control (i.e., difficulty sharing or surrendering control) on the part of physicians may underlie poor listening skills and a lack of empathic response and contribute to their being less "patient-centered" in their care. Figure 2 illustrates different communication styles and their correlation with the four modes of control.

Insert Figure 2 About Here

As discussed by Novack et al.,\textsuperscript{36} it is of vital and ethical importance that physicians "calibrate" themselves by developing greater self-awareness of their values, beliefs, biases, mood states, emotional reactions, and so forth since all of these internal factors can significantly influence and shape the quality and course of one's interactions with patients. We agree wholeheartedly with these points and would add that the development of greater self-awareness about one's control dynamics (e.g., desire for control, how one copes with loss of control) as well as views regarding the extent of
control humans can exert over health outcomes are also of paramount importance for physicians.

CONTROL AND INTEGRATION OF THE BIOPSYCHOSOCIAL MODEL
IN MEDICAL PRACTICE

Despite decades of research that have lent strong support to Engel's notions regarding the fundamental importance of non-physical factors in health,\textsuperscript{37-39} evidence suggests that medicine has in many respects not wholly embraced the biopsychosocial model, either in research, clinical practice, or in how physicians are trained.\textsuperscript{40, 41} For example, studies\textsuperscript{42-46} demonstrate that psychosocial issues (including emotional problems identified by patients as significantly impacting their physical health)\textsuperscript{47} remain a frequently neglected aspect of communication within the medical encounter.

While the reasons underlying medicine's failure to move beyond the biomedical model are no doubt complex (e.g., curriculum that is already overloaded, funding limitations, continued dominance of a materialistic world-view in science and medicine), control-related issues may be of particular relevance as far as understanding barriers to integrating the biopsychosocial perspective. For example, Suchman\textsuperscript{48, 49} has suggested that medical culture in many ways prizes control over most other values. In making this claim, he notes its emphasis on making accurate predictions and achieving desired outcomes, the hierarchical structure of relationships, and the importance of "cure" as the overriding criterion for clinical as well as personal success. Suchman states:

This emphasis placed on control is a way of coping with an underlying fear: a view of the world as lacking any intrinsic order, save that which we create, with
danger lurking in the chaos. Medical education typically exacerbates this fear with its ever-present risk of personal humiliation and its focus on personal mastery and self-sufficiency. We emerge from the process with the belief that we alone are responsible for (that is expected to be in control of) patients' outcomes. We are unable to look at a problem without feeling responsible for solving it. We try our best to live up to this responsibility, but are frequently confronted by things that we cannot control. This threatens us with feelings of impotence and shame and fears that our inadequacy will be found out.\textsuperscript{49}

Suchman\textsuperscript{49} further argues that given such unrealistic personal and institutional expectations of control, it is understandable that physicians would be motivated to limit the "territory" for which they are responsible (e.g., "the body") and correspondingly reluctant to address other matters (e.g., emotions, thoughts) that they experience as less concrete, harder to observe and quantify, and more importantly less amenable or subject to control and prediction. In other words, to address the psychosocial (i.e., interior) aspects of patients' lives may require that physicians be willing to relinquish some degree of control. This raises the more general question to which we now turn, namely how physicians deal with the frequent experiences of loss of control that inevitably occur in the practice of medicine.

**PHYSICIANS' COPING WITH LOSS OF CONTROL**

It is often the unknown and unpredictable in life -- both of which are very evident in dealing with health-related matters and the care of patients -- that engender feelings of lack of control. In fact, in many respects, health, perhaps as much as any area of life, brings us face to face with the stark reality of just how much in life is outside of our direct personal control. As a result, physicians are frequently confronted with feelings of loss or lack of control in the course of their medical practice. Below we briefly consider five areas that are likely to stimulate significant feelings of loss or lack of control for
physicians. These are 1) dealing with patient non-adherence to medical regimen, 2) confronting difficult to answer existential questions, 3) issues surrounding end of life care, 4) treating illnesses of unclear etiology and outcome, and 5) coping in general with uncertainty.

**Adherence.** Patients frequently do not follow the therapeutic advice of their providers, in many cases being either unable or unwilling to change lifestyle/behavioral habits or adhere to treatment regimens.\(^{50}\) And while physicians are in many respects in an obvious position of social power and influence (e.g., patients do often willingly comply with physician' suggestions), ultimately they are not in control of the behavior and choices of patients. For example, individuals with cardiovascular disease may continue to smoke. Patients with diabetes may not follow dietary suggestions. Hypertensive patients may fail to take their medications regularly, and so on. Such lack of behavioral change or adherence on the part of patients can lead to pronounced feelings of powerlessness, helplessness, and frustration for physicians. In fact, particular emotional responses to patient non-adherence such as becoming impatient, frustrated, or angry (negative assertive control responses that both erode the quality of doctor-patient communication and diminish physicians’ quality of life) may often stem from physicians’ deep need to feel a sense of control and self-efficacy.

**Confronting Difficult to Answer Life Questions.** In the practice of medicine, one is frequently faced with some of life’s most challenging spiritual-existential questions: “What is the nature of life?” “What is health?” “What meaning or sense is one to make of the death of a young child?” “What is at the root of pain and suffering?” “How can I be of most help to this patient in need right now?” “How best do I convey to my patient that
In conclusion, we believe that an important part of physicians' “calibrating”

themselves\textsuperscript{36} and becoming more self-aware “instruments of healing” would include

attention in medical training and clinical practice to issues of control. This would involve

physicians and physicians-in-training becoming more self-aware of their own control
dynamics (and the ways in which such factors impact their relationships with others),

self-examining how they respond to feelings of loss of control that occur, and developing
greater flexibility in terms of being able to utilize both assertive and yielding control
strategies in their efforts to gain and regain a sense of control.\textsuperscript{35}

References

1. Shapiro DH, Jr., Astin JA. Control therapy: An integrated approach to


2. Shapiro DH, Jr., Schwartz CE, Astin JA. Controlling ourselves, controlling our

world: Psychology's role in understanding positive and negative consequences of seeking


4. Frank JD. Therapeutic components shared by all psychotherapies. In: John H.

Harvey MMPE, ed. \textit{Psychotherapy research and behavior change. Master lecture series,


5. Beck AT. Cognitive therapy and the emotional disorders. . New York:


6. Bandura A. Perceived self-efficacy in the exercise of personal agency. \textit{British


7. Shapiro DH, Bates DE. The measurement of control and self-control:

Background, rationale, and description of a control content analysis scale. \textit{Psychologia:


medicine: Implications for health care. \textit{Alternative therapies in health and medicine}.

1999;5:42-47.

9. Steinberg J, Simons RC. The role of psychological factors in the development and


10. Laudenslager ML, Ryan SM, Drugan RC, Hyson RL, Maier SF. Coping and

immunosuppression: inescapable but not escapable shock suppresses lymphocyte

46. Suchman AL, Markakis K, Beckman HB, Frankel R. A model of empathic communication in the medical interview. *JAMA*. 1997;277:678-82.
Figure 2: The Four Modes of Control in Communication

Positive Assertive
Directing, guiding, facilitating

Positive Yielding
Listening, receiving, simply being present with another

Negative Assertive
Demanding, controlling, manipulating, overpowering

Negative Yielding
Not paying attention, acting bored or appearing disinterested, withdrawing