Psychological Stress

psychoanalytic and behavioral studies of surgical patients

IRVING L. JANIS

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To the memory
of
Dr. Alfred Gross

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Preface

A philosopher once said that every man suffers throughout his entire life from a fatal disease—mortality. No cure for this disease is ever likely to be discovered, but hundreds of prescriptions have been offered, which hold forth the promise of easing people of the accompanying psychological pains. The writing of such prescriptions, together with speculations about the emotional consequences of man's physical vulnerability, has long been a preoccupation of religious leaders, moral philosophers, dramatists, and novelists. Only within the past twenty years or so have research workers in the human sciences begun to make systematic observations for the purpose of finding out how people feel, think, and behave at times when they are facing the threat of pain, serious injury, or death.

It is hardly surprising, therefore, to discover that various attempts to produce a "propositional inventory" of warranted scientific generalizations about stress behavior yield only a very meager list. About ten years ago, when I first began surveying the literature in this field, I

became acutely aware of the lack of cogent, dependable evidence. There were, of course, many controlled laboratory experiments purporting to deal with stress behavior, but almost all of them dealt with extremely brief exposures to threat stimuli or measured only peripheral aspects of emotional excitement. The main source of difficulty, in my opinion, was that these carefully executed experiments had been carried out prematurely, before the significant variables in human stress behavior were adequately identified. Such experiments provide behavorial data which are generally quite reliable but of dubious value for extrapolating to the conditions of actual life stress.

In contrast to the tangential laboratory investigations were a large number of field studies of major disasters, focusing on the effects of prolonged exposure to powerful stress stimuli. But most of these studies proved to be extremely weak in precisely those respects where the laboratory studies were strong: They consisted mainly of impressionistic accounts interpreted by observers who had failed to make use of any systematic procedures for minimizing the biasing influence of their own *a priori* expectations, attitudes, or emotional blindspots.

The two types of shortcomings, posing the danger of being left with inconsequential or undependable findings, were very salient at the time when I decided to study surgical patients. The surgical ward of a large general hospital was selected as a good site for investigating stress behavior, partly because I surmised that both types of shortcomings could be averted. Since major surgery involves a profound threat to body integrity as well as a variety of severe deprivations, it seemed likely that a great deal could be learned about the processes of normal adjustment to life stresses. From the standpoint of collecting dependable evidence, a major consideration was that, during the period when surgical patients are confined to a hospital ward, it is feasible to conduct systematic interviews and to secure behavioral records made by a number of independent observers. Once I began the actual research, however, it soon became apparent that there are many methodological difficulties in working with surgical patients which prevent the evidence from being as unambiguous as I had originally hoped. From the findings presented in this book, the reader will be able to judge for himself the values and limitations of carrying out research with surgical patients.

With the cooperation of the surgery staff in a general hospital, I was able to obtain pertinent data for a series of intensive case studies. In this initial study, which included 30 surgical cases, several regularities were noted concerning the sequence of stress responses, the

most important of which involved a striking relationship between the degree of fear manifested *before* the operation and the degree of stress tolerance manifested *after* the operation. In order to test the apparent relationship and to obtain further correlational data bearing on the influence of preoperative information about the impending stressful events, a second study was conducted with a much larger group of subjects. In the follow-up study, questionnaire survey data were obtained from several hundred young men who had undergone fairly recent surgical procedures. Finally, after the series of case studies and the questionnaire survey study had been carried out, another source of intensive case study data unexpectedly became available. After having completed the formal course of training as a postdoctoral research student in the New York Psychoanalytic Institute, I participated in a psychoanalytic research project at Yale University, under which auspices I conducted the psychoanalytic treatment of a psychoneurotic woman. Shortly after her second year of the treatment, the patient developed an organic disorder in her leg, which, on advice of several physicians, required surgery. Detailed observational records were kept concerning this patient's emotional reactions, fantasies, and free associations during all psychoanalytic sessions. The records from the sessions immediately preceding and following the surgical operation proved to be an extraordinarily rich source of clues concerning unconscious psychological processes that may underlie some of the widely observed phenomena in stress behavior. The depth-interview material was particularly helpful in suggesting explanatory concepts to account for a number of puzzling findings from the series of case studies and from the questionnaire survey.

In this book, all three sources of evidence are used to present as complete a picture as possible of the psychological aspects of surgery. The primary purpose is to highlight the *theoretical implications* by conveying what has been learned concerning the dynamics of human adjustment to stressful life events. Secondarily, an attempt has also been made to draw attention to some of the main practical implications with respect to three important types of problems:

(a) The formulation of policies of medical management which take account of the psychological needs of sick people;

(b) the improvement of diagnostic procedures relevant for predicting high or low stress tolerance; and

(c) the development of effective methods of psychological preparation which could be widely applied as part of a mental health program designed to reduce the disruptive emotional impact of many different types of potential disasters.

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I wish to express my appreciation to Dr. Mark May who, as director of the Institute of Human Relations at Yale University, encouraged me to begin the study of surgical patients and provided research funds to facilitate the early phases of the research. It was through the helpful cooperation of Dr. Gustaf E. Lindskog, Professor of Surgery in the Yale Medical School, that it became possible for me to conduct interviews in the surgical wards of the Grace–New Haven Hospital and to have access to the behavioral records made by the hospital staff.

For invaluable help in connection with the psychoanalytic case research reported in the first part of this book, I am particularly indebted to the late Dr. Alfred Gross of the Yale Department of Psychiatry, who, as supervisory analyst, continually gave me the benefit of his insight and criticism over a period of four years. My participation in the psychoanalytic research project at Yale University was greatly facilitated by the excellent administrative arrangements worked out by Professor Fredrick C. Redlich, Chairman of the Yale Department of Psychiatry. I am also grateful to my former instructors at the New York Psychoanalytic Institute, and especially to Drs. Edith Jacobson, Rudolph Loewenstein, and the late Ernst Kris, with whom I have had the opportunity to discuss informally some of the main methodological problems that beset any research worker who attempts to make use of psychoanalytic interview data.

I have profited greatly from numerous discussions with Drs. William Kessen, Margaret Sommers, and the late Katherine Wolf, each of whom read the first draft of the entire book and gave extremely valuable criticisms which were extensively used in redrafting. Constructive criticisms concerning one or more chapters were also gratefully received from Drs. John Benjamin, Lawrence Z. Freedman, Ralph Greenson, Robert N. Hamburger, and Martha Wolfenstein.

I am grateful to Daniel Bell for his helpful advice on many problems concerning the presentation of the case material. Special thanks are due to Marjorie G. Janis for her valuable aid in editing the manuscript. I also wish to thank John Enright for assistance in compiling the bibliography and Cathy Janis for checking the bibliographic references in the galley proofs.

Chapter 2 of this book draws heavily upon a lecture on "The Psychoanalytic Interview as an Observational Method," presented at Syracuse University in April 1957 and shortly to be published by Rinehart and Company as a chapter in a book on *Assessment of Human Motives,* edited by Gardner Lindzey. I wish to thank Professor

Lindzey and the publisher for permission to use portions of the material in the present book. I also wish to acknowledge my thanks to the publishers of the following books for permission to use quotations:

Basowitz, H., H. Persky, S. Korchin, and R. Grinker, 1955. *Anxiety and Stress.* N. Y.: McGraw-Hill.

Deutsch, M., 1954, Field theory in social psychology. *Handbook of Social Psychology,* G. Lindzey (Ed.). Cambridge: Addison-Wesley.

Grinker, R. and J. Spiegel, 1945. *Men Under Stress.* Philadelphia: Blakeston.

Janis, I., 1951. *Air War and Emotional Stress.* N. Y.: McGraw-Hill.

Kardiner, A. and H. Spiegel, 1947, *War Stress and Neurotic Illness.* N. Y.: P. B. Hoeber.

Permission to use quotations has also been gratefully received from the publishers of the following journal articles:

Bernstein, S. and S. Small, 1951, Psychodynamic factors in surgery. *J. Mt. Sinai Hospital,* **17,** 938–958.

Ferraro, A., 1948. Somato-psychic factors in anxiety neurosis. *J.nerv. ment. Dis,* **107,** 228–242.

Kubie, L., 1947. Problems in clinical research (Round Table 1946). *Amer. J. Orthopsychiat.,* **17,** 196–203.

IRVING L. JANIS

July, 1958

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Contents

Part One Psychoanalytic Observations and Theory

Part one

Psychoanalytic Observations and Theory

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1.

Introduction

How do people react upon discovering that they will soon be exposed to serious dangers? What factors determine whether or not a person will act effectively when a crisis or catastrophe actually materializes? Why do some persons become panic-stricken, demoralized, or irrationally enraged during an episode of extreme environmental stress, whereas others, exposed to essentially the same disruptive stimuli, are able to control their emotional impulses? After a harrowing crisis is over, what factors determine whether the surviving victims will regain their normal level of emotional equilibrium rapidly or slowly, completely or incompletely? Systematic studies in the human sciences have not yet arrived at sufficient evidence to give anything more than rather sketchy, incomplete answers to these questions; nor is there any established body of theory that can be relied upon for dependable predictions as to how people will react under specified conditions of environmental stress.

Most behavioral scientists acknowledge that this constitutes a very serious lack in our present psychological knowledge, one which is being increasingly felt because of a growing practical need for dependable

methods of building up stress tolerance. Government planners, civil defense authorities, and local community leaders want to know how to prevent maladaptive behavior in present day peacetime disasters and in any future wartime catastrophes resulting from nuclear weapons. Psychiatrists, social workers, and other social welfare personnel are seeking for information about ways and means of promoting mental health among people who are undergoing personal adversity. One psychoanalyst recently estimated that the average physician's ability to take account of his patient's psychological reactions to illness and surgery ". . . may be a greater factor in mental hygiene than the efforts of all analysts together, because the physicians meet a much broader sector of human beings and have thereby a much greater opportunity." (Braatoy, 1954.)

In addition to these urgent practical needs, there is a growing theoretical interest in the behavioral sciences oriented toward understanding how people react to unfavorable environmental situations. Here the main need is for facts and explanatory hypotheses that will help to elucidate the basic mechanisms of adjustment to stress, the determinants of disorganized emotional behavior, and the changes in affects, cognitions, and attitudes resulting from extreme changes in environmental conditions.

The Problem of "Objective" Anxiety

Theoretical problems concerning the causes and consequences of psychological stress have been formulated in somewhat different ways by scientists in three allied fields of research—psychoanalysis, psychosomatic medicine, and experimental social psychology. Freud, after having made most of his major psychoanalytic contributions, pointed out that, for psychoanalysts interested in understanding normal personality functioning, ". . . the investigation of the mental reaction to external danger is precisely a subject which may produce new material and raise fresh questions." (S. Freud, 1920, p. 8.) In his theoretical writings on personality development, Freud frequently referred to children's reactions to frightening surgical operations and medical examinations, calling attention to the way in which they "work through" unpleasant experiences in their repetitive activities, which involves transforming the passivity of the distressing experience into the activity of an aggressive game. Freud also took account of the repetitive nightmares of adults following traumatic danger experiences; he concluded

that these observations made it necessary to add a new category of dreams motivated by a "belated attempt at mastery," thus modifying his original theory which held that all adult dreams can be explained as symbolic fulfillments of forbidden infantile wishes. (S. Freud, 1920, pp. 35–45 and 1923, p. 146.) However, it has been pointed out by Szekely (1954) and others that, although Freud's writings on the problem of anxiety supply some valuable hints about the dynamics of "objective anxiety" or "fear," his own empirical and theoretical investigations as well as those of almost all of his followers have been centered largely upon "neurotic" anxiety stemming from unconscious inner dangers. Most psychoanalysts continue to restrict their attention to only a very limited class of objective danger situations, notably those childhood events which involve threats of castration or object loss and which are regarded as generating neurotic anxiety in adult life.

Freud once said that objective anxiety ". . . seems to us an intelligible reaction to danger—that is, to anticipated injury from without," whereas neurotic anxiety is "altogether puzzling and, as it were, purposeless" (S. Freud, 1933, p. 114). But investigators who have observed the reactions of normal adults in circumstances of external danger often encounter phenomena that are by no means readily intelligible, some of which seem to be even more puzzling than the most extreme forms of chronic anxiety symptoms. In fact, the latter symptoms are now reasonably well understood, precisely because of the intensive concentration of psychoanalytic and psychiatric research on the problems of neurosis. It is quite amazing to notice how often the scientific writers who discuss human behavior in extreme situations attempt to explain the "normal" emotional impact of frightening external dangers solely on the basis of more or less dubious extrapolations from what is apparently well known about how neurotic personalities cope with the inner dangers that generate neurotic anxiety. Thus, at the present time, the problem of objective anxiety seems to be much more of a puzzle than the problem of neurotic anxiety.

Consider, for example, the emotional reactions of cancer patients who have found out about their condition and have been informed that they must undergo surgery in order to prolong their lives. Many of these people turn out to be more concerned about surgical injuries and about the disruption of their daily patterns of living than about dying from cancer, even though they know about their poor prognosis (Sutherland and Orbach, 1953). Similar paradoxical phenomena have been noted among noncancer patients. For instance, patients awaiting perilous abdominal operations sometimes show a disproportionately small degree

of conscious fear, whereas those facing a relatively safe form of minor surgery display much more apprehensiveness (H. Deutsch, 1942). In many such instances the disproportion between the magnitude of the danger and the intensity of the emotional reaction does not appear to be a symptom of a psychoneurotic disorder but, rather, seems to be a nonpathological defense that characterizes the adjustive tendencies of clinically normal personalities under fear-provoking circumstances.

Related phenomena, including a variety of displaced fears, are encountered in many cases of so-called psychosomatic disorders. As some specialists in psychosomatic research have pointed out, the causal sequence may sometimes be the reverse of that commonly assumed by those physicians who have been trained to look into personality disturbances as possible causes, but not as possible consequences, of somatic illness.

> With all the recent advances of psychosomatic medicine one cannot fail, however, to recognize its unilaterality, i.e., the emphasis on the value of psychogenic mechanisms in the determination of somatic pathology, with neglect somehow, of the reverse process, i.e., the process of soma influencing the psyche, the process of somatic stimuli determining psychologic reactions. . . . efforts must be made to investigate with the same eagerness every mechanism of a somatic origin which may result directly or indirectly in bringing into action psychologic reactions, thus giving origin to clinical pictures in which the somatic dysfunction is the primary causative factor, followed by a complicating secondary, psychologic dysfunction. (Ferraro, 1948, p. 228.)

Finally, it should be noted that some recent experimental studies in social psychology have highlighted the need for more refined theoretical constructs to account for attitude change and social conformity under conditions of exposure to fear-arousing stimuli. For instance, there is now some evidence that leads us to reject the common assumption of a one-to-one correspondence between level of fear and acceptance of authoritative antidanger recommendations (Hovland, Janis, and Kelley, 1954). Although the arousal of a low level of fear may produce a marked increase in conformity, the arousal of a high level of fear may have a disruptive effect and give rise to a decrease in conformity. The emotional learning processes underlying the complex relationships between fear stimulation and attitude change remain to be explored in relation to the theory of fear as a learnable drive (Dollard and Miller, 1950) and in relation to various alternative theories, especially those which emphasize cognitive aspects of personality functioning (Bruner, 1951; Bruner and Postman, 1949; Scheerer, 1954).

Scope of the Inquiry

The present volume is devoted to psychological studies which were intended to fill in some of the main gaps in our current knowledge about psychological stress. It deals with one major class of stressful events—episodes of severe physical danger which are capable of arousing emotional tension in every normal human being to an extraordinarily high degree, disrupting habitual patterns of daily behavior, drastically impairing mental efficiency, and producing distressing subjective states of painfully unpleasant affect. The category "physical danger" is a very broad one, which includes all occurrences of psychological stress attributable to those external events or signs that produce anticipations of pain, body injury, or death.* In most such instances, portending signs are unambiguously perceptible long before the actual impact occurs. Everyone receives continual training from parents, educators, community leaders, peers, and the society at large which helps him to identify and appraise signs of physical danger and to act in such a way as to minimize the potential loss of life, limb, and physical functions. Thus, much of the present investigation is focused on anticipatory reactions occurring before the onset of a crisis. We shall see that such reactions often play a major role in determining how a person subsequently is able to cope with conditions of actual danger.

The set of scientific problems toward which the present inquiry is directed encompasses all three major phases of psychological stress that typically occur when a person is exposed to a situation of objective danger (Janis, 1954):

1. The *threat* phase, during which the person perceives signs of oncoming danger and/or receives communications of warning which are likely to arouse anticipatory fear.
2. The *danger impact* phase, during which a person perceives that physical danger is actually at hand and realizes that his chances of escaping intact depend partly upon the protective actions executed by himself or by other people who are in a position to help him.

* Note 1 at the end of this chapter contains additional discussion of the term "psychological stress" as it is used in the present volume. At various points throughout the book it is necessary to discuss technical questions or to elaborate on theoretical issues. These supplementary discussions are presented in the notes at the end of each chapter to avoid interrupting the main presentation. The notes are numbered consecutively and designated by the superscripts which appear in the text.

3. The *postimpact victimization* phase, during which the person perceives the losses he has sustained and, at the same time, undergoes some severe deprivations which continue for a varying length of time after the acute danger has subsided.

To obtain observational data pertinent for understanding the factors influencing behavior during each of the three successive phases, the author has conducted systematic studies of hospitalized patients who were required to have surgical operations. These studies constitute the empirical core for two main types of propositions which will be presented in this book: (*a*) descriptive generalizations concerning the observable determinants of various emotional reactions and patterns of overt stress behavior which occur when people are exposed to external dangers; and (*b*) theoretical formulations specifying psychodynamic processes which help to explain the descriptive generalizations.

A major goal of the research was to arrive at propositions that are likely to be broadly applicable to most people in contemporary society and that will pertain to behavior in a wide variety of danger situations. Accordingly, the main variables investigated in the surgery studies were selected on the basis of *uniformities* noted in the extensive observational reports currently available on how people in many different national and cultural subgroups tend to react to severe physical dangers—tornadoes, floods, industrial accidents, air raids, criminal assaults, concentration camp tortures, epidemics, acute illness, etc. Having selected the variables with an eye to generalizability, the author sought to discover why certain regularities occur in the reactions of people exposed to physical dangers. The general hypotheses formulated on the basis of the surgery studies are those which, in the judgment of the author, seem to have a reasonably good chance of proving to be valid; they specify how normal people in our society will react before, during, and after exposure to any crisis involving the actual or potential danger of body damage, whether it be a wartime bombing attack, a peacetime disaster, an incapaciting illness, or a catastrophic accident.

In searching for general laws of stress behavior, we obviously should not overlook the fact that there are wide individual differences in reactions to the same external danger stimuli and that we may find some significant differences in the emotional reactions displayed by different types of personalities. For example, Fenichel (1945, pp. 454–456) asserts that compulsive personalities frequently develop acute anxiety symptoms when they encounter severe environmental hardships, whereas persons burdened by chronically latent guilt may react to "real misery" by becoming less worried than usual.