# I

# THE ESSENTIAL BACKGROUND

"The thing that most alarms me," wrote Freud when his interests in clinical neurology began to bring him patients whose problems were neurotic rather than neurological, "is the amount of psychology I shall have to learn." Economists approaching economic psychology are likely to sympathize, and psychologists are likely to feel the same about economics. It would be relatively easy to write about economic behavior for psychologists or about the psychological foundations of economics for economists. It is not our intention to do either. This book presents economic psychology as an interdisciplinary enterprise, of interest to economists, to psychologists, and to many others, such as marketing specialists and consumer scientists, who would not readily accept either label.

Part I establishes a background that will enable readers, no matter what direction they start from, to follow the information and argument of the remainder of the book. This background material falls into two divisions.

First, we have to cope with the obvious fact that both economics and psychology are mature academic disciplines that have well-established methods of enquiry and distinct modes of thought. This book would become impossibly congested if we were unable to refer to their results without explaining them at every step. The first three chapters introduce psychology to readers with a more economics-based education (Chapter 1), and economics to those with a more psychological education (Chapters 2 and 3). Economics receives two chapters to psychology's one because, in order to reflect the structure of the rest of the book, we have accepted the conventional economic distinction between microeconomic and macroeconomic issues – questions about the behavior of individual economic agents and about the economy as a whole.

These three introductory chapters do not attempt the ridiculous task of condensing whole text books into single chapters. What we want to do is to give the reader a feeling for the way psychologists and economists go about their business. Although we do introduce some specific ideas that will be used extensively later in the book, each discussion stands by itself, without constant reference back to the introduction. If those of our

readers who are economists feel, after reading Chapter 1, that psychology is no longer an unknown and incomprehensible language but one they can pick up as they go along, our introduction will have done its work.

Psychologists may well prefer to pass over Chapter 1, and economists may choose to pass over Chapters 2 and 3. Alternatively, experts in either field may wish to see what positions we are taking up on the many controversial questions they pose. They will find that, so far as possible, we take an eclectic line. We cannot know in advance what kind of psychology will be fruitful when applied to economic behavior. Like any new field, in fact, economic psychology is a potential test case for ideas in both economics and psychology.

Chapter 4 is an introduction of a different sort, concentrating on the methods available for use in economic psychology. The chief evidence that a method is available is the fact that someone has used it. In effect, this chapter is an introductory survey of economic psychology, reviewing the limited range of work done by people who already think of themselves as economic psychologists.

Chapter 5 is yet a different type of introduction, explaining the shape given to the rest of the book. To date, discussion of psychology by economists and of economics by psychologists has generally centered around the key "assumption of rationality" in economic theory. The fundamental axioms of economic theory are statements about the behavior of individuals when confronted with a choice, and it seems obvious to many psychologists that they are inaccurate. In Chapter 5 we attempt to lay this rationality question to rest, if not once and for all, at least for the rest of this book. We give it a fair airing and discuss how it might be resolved. We also show that it cannot be resolved at present and argue that its dominance represents a major obstacle to the progress of economic psychology. This clears the way for the approach we take in the rest of the book, which is to examine how individuals affect the economy and how the economy affects individuals.

# 1

# INTRODUCTION TO PSYCHOLOGY

## THE SCOPE OF PSYCHOLOGY

Economic psychology is a new field of study, which is emerging at the junction of two well-established academic disciplines. The task of reading about such a topic poses certain problems. For one thing, it would appear that the reader must possess a thorough knowledge of both fields – economics and psychology – before starting. After all, how could a "synthesis" of the two fields be appreciated if knowledge of either is lacking? Fortunately, this is an unrealistic and unnecessary claim. Although some knowledge is essential, the range of relevant concepts from each field is relatively limited. The initial task for the reader is to review those major themes and developments that have been used in the field of economic psychology so that the interplay between the disciplines can be appreciated.

Accordingly, this chapter on psychology and Chapters 2 and 3 on economics are not surveys of their representative fields; they are not introductory textbooks condensed into twenty or thirty pages. Rather, these first three chapters attempt to review a few selected areas of research that bear most directly on the study of economic psychology. Before discussing these topics in detail, however, let us first consider the broader picture, that is, the overall scope of psychological research. This exercise will help us "locate" more easily the special topics that are most relevant to this book.

Most psychologists primarily study behavior, either for its own sake or as a means of inferring the nature of underlying psychological states. But the specific types of behavior studied can vary greatly. Consider these topics: memory for prose, the effects on hunger of drugs injected directly into a rat's brain, the feeding strategies of a spider, the reaction of schizophrenic patients to inkblot pictures, the discrimination between two slightly different tones, the aggression of children after seeing cartoons on television, the behavior of commuters on urban subway trains, the imagery of writers and artists who have undergone a traumatic experience, the size of a food pellet and how it influences the rate at which a laboratory rat will press a lever, the measurement of social moods during na-

tional elections, the relationship between expressed attitude and overt behavior, and the effect of experimentally altered areas of a cat's brain on its sexual drive. These examples illustrate the astonishing diversity within the field of psychology. The discipline uses techniques and draws ideas from both microbiology and genetics on the one hand and from sociology and philosophy. Topics range in scale from the reaction of nerve cells to chemical stimulation, to the reaction of whole societies to international conflict, to the meaning of the term *consciousness*.

It is remarkable that scientists whose interests are as diverse as those expressed above should all consider themselves to be in the same discipline. But what unifies much of psychology is generally a shared interest in the study of behavior. There is a strong belief by psychologists at every level that the laws governing behavior are orderly and knowable. That different systems may share in a common set of laws is also an enticing possibility.

Let us be somewhat more specific about the various areas of interest in psychology. If you were to look in the table of contents of most introductory textbooks you would probably discover certain common topics. On one side of psychology are the "biological" areas: physiological psychology, animal learning, and animal behavior. Closer to the "middle" of the discipline would be chapters on human experimental psychology: perception, sensation, human learning, cognitive and attentional processes, and language. A third distinct area would encompass developmental and social psychology. A fourth general area of psychology would be personality and abnormal psychology, including the more practical areas of clinical and community psychology.

Two things should be emphasized. First, the boundaries between these general areas of psychology are not rigid. For example, it is as appropriate for a physiological psychologist to study memory in infants as it would be for a child or developmental psychologist. The techniques, of course, and the type of subject would differ considerably between the two. Second, within a given area of psychology, considerable diversity of techniques are used. For instance, a social psychologist might employ a large-scale survey questionnaire or simply observe the interaction between two individuals on closed-circuit television. Similarly, a cognitive psychologist might use a computer to investigate short-term memory or count the number of adjectives that a person recalls from a passage of prose. In summary, psychology not only covers a broad range of topics, all dealing in some fashion with behavior, but it also has a broad range of methodological approaches within each topic.

What areas in psychology bear most directly on the new topic of economic psychology? All are important to some degree: our personality may be crucial to our economic behavior, our motivation or previous learning may affect how we spend or save, our social context may deter-

mine the extent to which we gamble or give, our cognitions and perceptions may influence our susceptibility to advertising, and our biological and genetic state may influence our spending priorities. But not all areas are equally important, and so we have chosen to highlight three in this brief introduction: social psychology, learning and cognition, and the theory of human motivation and personality. Even within those fields, we can only give a highly selective account.

Our selection of these areas reflects our belief about what economic psychology involves. First, we recognize that the economy is a social creation, and that economic behavior, no matter how impersonal it may seem, is always a form of social behavior. Second, we believe that much of economic behavior will be habitual rather than carefully planned, so that we shall need an understanding of how people acquire habits and what the consequences are when they do so. Finally, we agree with Maital (1982) that economic psychology must tackle the "why" questions about economic behavior: Why do people buy what they do, and work at the job they do work at, save, give, or gamble. Because these are questions about motivation, we must call on motivation theory to answer them.

## SOCIAL PSYCHOLOGY

Social psychological interpretations of economic behavior will be found throughout this book. For instance, in explaining gift giving, the concepts of norms and social conventions are useful; if we consider bandwagon effects, where people want to buy whatever is being widely bought, we can see that social comparison theories may provide a useful framework.

Clearly, we cannot deal with all the relevant social psychology in this text. Instead, we shall focus on three social psychological concepts that have a broad field of application: attitudes, people's explanations of their own behavior, and the comparisons they make between themselves and other people.

### *Attitudes and their measurement*

Like so many terms in psychology, attitude is a word commonly used in everyday speech, and we all think we have a sense of what it means. It has been surprisingly difficult, however, to devise an adequate formal definition of the term. Many have been proposed (D.T. Campbell 1963), but none is universally approved. A consistent notion running through most of these definitions is that an attitude is a persistent disposition to regard certain objects either favorably or unfavorably. Presumably, if attitudes cause expressive behavior in any direct way (the evidence suggests that they do but only in a limited sense), the implication of this

definition is that the "disposition to regard" an object will lead either to a behavioral approach toward or to withdrawal from the object. If this is true, attitudes must lie at the heart of human social and economic behavior. That is, overt behavior involving economic consequences, such as saving, giving, gambling, or buying, must ultimately depend on the person's "disposition to regard" those activities, or objects relevant to those activities, as favorable or unfavorable.

The above definition of attitude is limited to affective or emotional dispositions toward objects. There are other dispositions, however. For instance, attitude is often contrasted with belief. The former is an emotional disposition (to regard an object favorably or unfavorably), while the latter is a cognitive disposition (a thought or association that relates an object to its characteristics). A person might hold the belief that universities are seats of culture and, as a result, have a favorable attitude toward them (assuming that the person values culture). Attitude, then, is a global judgment about the object that normally corresponds to the collective beliefs, the sum of positive and negative bits of information, about the object (see N.H. Anderson 1980).

One of the first, and certainly most important, contributions to the study of attitudes was made by Thurstone (1928), who boldly claimed that "attitudes can be measured" (see Dawes 1972, for a review of attitude measurement). Thurstone's (1931a) method involved devising statements pertaining to an attitude object and then having them rated by a panel of judges on a scale of 1 to 11 (from most unfavorable to most favorable). In the second phase, the twenty-five or so items about which there was most agreement among the judges were selected; the experimenter gave these items to subjects who were asked to indicate which statements they endorsed. The attitude score of the person was based on which items were endorsed. For example, if a person was very favorably disposed toward the attitude object, the mean score, that is, the average scale number, would be high. By contrast, if a person was unfavorably disposed, that person would generally endorse only those statements that had been judged to represent an unfavorable attitude and therefore had been assigned a low scale number.

Thurstone's contribution was a substantial breakthrough in the study of attitudes, but other useful contributions were quick to follow. Likert (1932), for example, suggested a refinement that has proved more popular right up to the present time. Likert scales are used extensively in consumer research and are therefore of great interest to the economic psychologist.

In this procedure, subjects are given a large number of statements regarding an attitude object and are asked to express their agreement with each statement on a 5-point scale: strongly disagree (−2), disagree (−1), undecided (0), agree (+1), and strongly agree (+2). Correlation coefficients between items are then computed. Only those items that correlate strongly with each other are later selected for presentation to a

second group of subjects. Attitude measurement using Likert scales is more precise because the items endorsed by the subjects are scaled in terms of how much they deviate from the "undecided" category. The higher the positive score, the more agreement with, or approval of, the attitude object; the lower the negative number, the more disagreement.

Another very popular way of assessing attitudes is the semantic differential technique suggested by Osgood, Suci, and Tannenbaum (1957). Attitude objects are presented and the subject is asked to rate them on a 1 to 9 scale according to a number of bipolar dimensions: warm–cold, good–bad, strong–weak, and so forth. From these ratings it is possible to assess how favorably disposed the subject is toward the object.

One of the problems with all these techniques is that they may influence how a subject responds. For example, the experimental situation may encourage subjects to answer in a socially desirable way that is inconsistent with their true attitudes. To counteract this problem, indirect methods for attitude assessment have been devised. For instance, Wrightsman (1969) measured attitudes about law and order by observing whether an automobile displayed a sticker endorsing one of the three major U.S. presidential candidates in the 1968 election, each of whom had taken up a different position on the need for tougher law-and-order measures. (It is interesting to note that the cars showing endorsement of the most adamant law-and-order candidate, George Wallace, were those least likely to be displaying the new tax sticker required by state law.) In another study, Milgram, Mann, and Horter (1965) used the technique of "dropping" stamped addressed envelopes in the community. Envelopes with fictitious organizations printed on them, such as "Citizens against gun control," if returned through the mail, were presumed to be from citizens who held a favorable attitude toward the apparent aims of the organization. Unsympathetic citizens would be more likely to ignore the letter, rather than take the time to put it into a mailbox. On the average, then, the more favorable the attitude toward the addressee, the more likely the envelopes would be mailed by their finders.

Other indirect techniques use physiological measurements to assess the attitude toward an object. For example, the pupils of the eye tend to dilate when an observer is looking at something of interest (Atwood & Howell 1971; E.H. Hess, Seltzer, & Shlien 1965; but see Woodmansec 1970). Similarly, Cooper and Pollock (1959) showed that changes in the electrical resistance of the skin – the galvanic skin response (GSR) – vary systematically with the subject's reaction to an attitude object.

### *Attitudes and behavior*

Perhaps the most important issue of all is whether there really is a relationship between a person's attitudes and expressive behavior. The basic assumption has always been that we act in accordance with our attitudes;

our choices at the voting booth, the products we buy, our proclivity to spend or save, indeed all our behaviors are presumed to be determined by some larger internalized disposition labeled attitude. Unless this assumption is true, it is not clear that attitudes (or, perhaps, any other kind of psychological data) have much to contribute to our understanding of economic behavior.

Surprisingly, attitudes and behavior are not always clearly related (see Wicker 1969). The first demonstration of this was by LaPiere (1934), who traveled with two Chinese companions across the United States over a period of two years, staying at 66 hotels and eating in 184 restaurants. Six months later, these same establishments were sent a questionnaire asking whether they would accept Chinese customers. Although LaPiere and his companions had been refused service only once during the actual trip, 92% of respondents claimed that they would not serve Chinese people; the remainder of the establishments said that it would "depend on the circumstances." A similar dissociation between attitudes and behavior has been found for other attitude objects such as prejudice toward blacks (Kutner, Wilkins, & Yarrow 1952) although results have not always been as extreme as in LaPiere's study (see DeFleur & Westie 1958). These and other reports led Wicker (1969) to conclude that behavior is seldom related to attitude, the average correlation coefficient being around .15 across studies.

Recent efforts to resolve this crucial issue have revealed a more positive picture. First, it has been shown that attitudes accurately predict behavior if the experimenter is careful to use multiple behavior measures (Fishbein & Ajzen 1972); there is far less chance of showing a relationship between attitudes and behavior if only a single behavioral index is used. Second, the attitudes and behavior must be at the same level of generality if a relationship is to be found (Ajzen & Fishbein 1977). Very general attitudes, such as "I do not favor nuclear energy," are usually poor predictors of very specific behavioral acts, such as signing a petition against the construction of a nuclear power station. It would be more appropriate, in terms of demonstrating a correspondence between attitude and action, to assess specific attitudes such as "I favor signing petitions against nuclear power" rather than the general ones. When attitudes and behavior are matched in terms of specificity, the relationship between them becomes more apparent: General attitudes can predict broad behavioral measures (e.g., Weigel & Newman 1976), and specific attitudes are highly correlated with specific behavioral acts (e.g., Ajzen & Fishbein 1973; Fishbein & Coombs 1974; Weigel, Vernon, & Tognacci 1974).

Our improved understanding of the theory behind attitude-behavior congruence has had important practical consequences in recent years. Modern political polling techniques have achieved an impressive level of accuracy. Part of the explanation is that most attitude questionnaires now

seek to measure specific dispositions that will predict specific behaviors, such as which candidate a person will vote for. In the economic environment, too, marketing specialists have also begun to assess specific attitudes in an effort to predict future purchasing behavior.

We should be somewhat cautious, however, in claiming that attitudes and behavior are highly consistent. Although positive, the correlation between them is nevertheless far from perfect. Obviously a great many other factors beside attitudes influence behavior (Wicker 1969). These include personal factors, such as competing motives or attitudes, verbal-intellectual skills, social abilities, or other personality factors (e.g., Norman 1975). In addition, there will be important situational factors, such as the presence of people, normative prescriptions for proper behavior, alternative behaviors available, or other extraneous events (see Jaspers 1978).

### *Attitude formation*

No one supposes that attitudes are innate. Attitudes must be formed, and having been formed they can be changed. Obviously attitude formation and attitude change are closely related processes, but they have attracted rather different bodies of theory: Attitude formation is usually discussed in terms of learning models, while attitude change is most often considered a process of persuasion.

The first general category of theories suggests that all attitudes are learned according to simple and conventional learning paradigms. Three such paradigms are usually cited: classical conditioning, instrumental conditioning, and modeling. Although all three are discussed in greater detail later in this chapter, let us introduce them briefly here for the purpose of discussing attitude formation.

Classical conditioning deals with the acquisition of meaning by a stimulus. Normally innocuous signals associated with more powerful or meaningful stimuli acquire the ability to elicit a "conditioned reaction" similar in character to the reactions elicited originally by the powerful stimuli. Thus, according to a classical conditioning theory, attitudes are formed toward stimuli as a function of the pleasantness or unpleasantness of the environment in which the attitude objects are experienced. It is certainly easy to establish attitudes toward various innocuous stimuli in the laboratory by pairing them with pleasant or unpleasant consequences (e.g., Staats & Staats 1958); no doubt the process works in real life as well.

According to an instrumental conditioning paradigm, attitudes develop when their expression or rehearsal is followed by a rewarding state of affairs (see Hovland et al. 1953). For example, we may have learned our attitudes toward saving, money, giving, or work because expression of these attitudes was reinforced by the approval and affection of our parents, friends, or teachers.

Finally, attitude formation may be viewed as a social learning process (see Bandura 1972); that is, our attitudes are formed as a result or our imitating the behavior that is "modeled" by others. We may adopt particular attitudes because we have witnessed others expressing or behaving in accordance with those attitudes, especially if we perceive those others to obtain rewards as a result.

All three theories of attitude formation rely on fairly simple, basic learning processes. As we shall see, however, the movement in the modern psychology of learning has been toward more elaborate views of learning and cognition, based on ideas about information-processing systems. This approach has also given rise to a theory of attitude formation (see N.H. Anderson 1971, 1980; Fishbein & Ajzen 1975; W.J. McGuire 1972; Wyer 1974). Like the earlier learning theories, the information-processing approach suggests that discrete experiences of a pleasant or unpleasant nature with an attitude object are fundamental to attitude formation. The information-processing approach differs, however, in emphasizing that many such experiences are integrated or combined to produce a single attitude; that is, a person develops an overall impression or reaction to an attitude object by averaging over, or processing, a number of separate experiences with that object.

The averaging process can be quite complex, necessitating relatively sophisticated explanatory models. One formulation was proposed by Fishbein and Ajzen (1975). The investigators claim that attitudes reflect two sorts of judgments. First, there is an expectancy that the attitude object in fact possesses the attributes it is claimed to have. Second, they assert that an affective value is attached by the person to the object–attribute relationship. The ultimate or overall attitude, then, is a weighted sum of the expectancy times the affective value judgments (E × V).

Let us illustrate this EV model by applying it to gambling behavior. Assume that gambling has three potential attributes. It could (1) be expensive, (2) be a source of income, or (3) bring you into contact with "undesirable" people. First, how strongly do you expect that these outcomes or attributes are true? What probability of occurrence would you attach to them? Such a decision establishes the expectancy portion of the overall judgment. For instance, you might consider *a* highly probable (.7), *b* highly improbable (.2), and *c* only moderately probable (.5).

Second, consider how strongly you feel about these outcomes. What value would you attach to them? This sort of decision establishes the value portion of the judgment. For example, you might not value *a* (−3), assign a high value to *b* (+3), and be only mildly negative to *c* (−1). According to Fishbein and Ajzen, your overall attitude about gambling would be a weighted sum of the E × V judgments:

$$.7 \times -3 \text{ (for } a\text{)} + .2 \times 3 \text{ (for } b\text{)} + .5 \times -1 \text{ (for } c\text{)} = -2.0$$