Vocational Decision-Making Models: A Review

One major problem in integrating this literature is that various theorists have not employed either the framework or the language of their predecessors. Several questions can be raised: Among the various theories, are there similarities in the basic concepts that are observed by the differences in language? Do the theories fit the same population of decision situations? Do certain theories better describe certain types of decisions? How do the theories vary in terms of assumptions about characteristics of decision-makers and their resources?

The authors believe that psychological decision theory provides a useful framework for clarifying the relationships among various vocational decision-making theories and between these theories and the population of decision situations with which people are faced. This paper outlines psychological decision theory; summarizes eight prominent vocational decision-making (VDM) models; compares and contrasts VDM models on basic assumptions and fundamental concepts; and suggests applications of theory to theoretical decision types. Implications for research, theory, and practice are discussed.

Psychological Decision Theory

Psychological decision theory seeks to "describe in an orderly way what variables influence choices". A set of concepts common to a wide-ranging literature were described in an early review by Edwards (1954), and more recently by Edwards (1961), Taylor (1963), Becker and Mcclintock (1967), and Lee (1971). Feather (1959) compared the central constructs used in "utility-expectancy theories" (that is, theories by Atkinson, 1957; Edwards, 1954; Lewin, 1951; Rotter, 1954; Tolman, 1959) and found that the given meanings were similar but the labels differed. (For example, what Edwards named as "subjective probability" serves the same function as the concept Atkinson called "expectancy.") Cellura (1969) extended the comparison and showed that, although constructs have similar meanings, their theoretical interrelationships differed in important ways (for example, relationship between expectancy and utility). Despite these differences, it is clear that decision theory stems from markedly different traditions and assumptions than do "behavior theories" (for example those of C. Hull and K. Spence), psychoanalytic theories, or developmental theories.

The form of theory construction reviewed in this paper is the model -a conceptual analogue chosen (or erected) for its heuristic value in organizing the ideas and/or observed phenomena it represents (Marx, 1963). Decision theory provides "an orderly way" to describe conceptualizations of vocational behavior in sequence and juxtaposition. Theoretical models serve as conceptual frameworks or "schematic maps" that often result from efforts to identify and to clarify the major concepts in an area of study. It is assumed that the decision-maker processes information relevant to his goals. Bross (1953) helped to clarify the conceptual framework by describing the functional categories into which the information is sorted. Edwards, Lind-man, and Phillips (1965) attempted to list all functions necessary for designing future decision-making systems. What follows is primarily a synthesis of the two.

A decision-making conceptual framework assumes the presence of a decision maker, a decision situation (social expectation), and relevant information both from within and outside the person. The information is arranged into decision-making concepts according to the functions it serves. Two or more alternative actions are considered, and several outcomes or consequences are anticipated from each action. Each outcome has two characteristics: probability, or likelihood of occurrence in the future, and value or relative importance to the decision maker. The information is arranged according to a strategy so that the decision maker can readily recognize an advantageous course of action and make a commitment to this action. Strategies, also called rules or criteria, guide the assembling of the above concepts into an array so that straightforward judgments can reveal the commitment. Strategies are not concepts but structures; that is, they are aspects of the personality acquired prior to initiating the decision process and, as such, function as properties of the organism (for example, the disposition called "risk taking").

Vocational Decision-Making (VDM) Models

The eight VDM models reviewed here were selected because each employs concepts that appear to be similar to concepts in psychological decision theory and because each attempts to provide a picture of the entire VDM process. Each model will be labeled by the authors' names, for example, the Tiedeman-O'Hara model.
Since this review is limited to models related to decision theory, several important vocational development theories are not discussed. For example, Super's treatment of career development (for example, Super, Starishevsky, Matlin and Jordaan, 1963) does not lend itself to analysis as a decision theory. The same can be said for Holland's work (1966). By making this distinction, we have focused on one of four major types of vocational choice theory according to Crites' (1969) descriptions. Osipow (1968), Crites (1969), and Zaccaria (1970) have reviewed the other types thoroughly.

Decision theory has been applied to human situations as both a prescriptive model to be emulated and a description of actual decision-making behavior (Becker and McClintock, 1967; Taylor, 1963). In order to facilitate comparisons, the eight VDM models are divided into two groups. Descriptive VDM models purport to represent the ways people generally make vocational decisions, that is, the "natural" phenomena. This classification includes models by Tiedeman and O'Hara (1963), Hilton (1962), Vroom (1964), Hsu (1970), and Fletcher (1966). Prescriptive models represent attempts to help people make better decisions—rules people should use to reduce decision errors. Models in this group were written by Katz (1963, 1966), Gelatt (1962), and Kaldor and Zytowski (1969).

The distinction between prescriptive and descriptive approaches is slippery and depends on the conditions of a decision situation. For example, as the "stakes" are increased, the decision maker tries harder to approximate the prescriptive model in order to maximize returns (Edwards et al., 1965).

### VDM Models and Decision Types

By utilizing an analytic model introduced by Braybrooke and Lindblom (1963), a clearer picture emerges of the purposes VDM models serve. Earlier it was proposed that VDM models differed on assumptions about (1) the amount of understanding-information and computational skill—assumed to be available to the decision maker, and (2) the distance in time from the present situation to the imagined futures under consideration (for example, the choice of an occupational role has long-range effects, but selection of a part-time job has short-range consequences). By imagining these two assumptions on continua and describing the extremes, four recognizable decision types appear:

1. Decisions that effect long-range changes and are guided by considerable information and understanding.
2. Decisions that effect long-range changes but are based on limited information.
3. Decisions that effect short-range changes and are based on minimal information.
4. Decisions that effect short-range changes and are based on considerable information and high understanding.

The four decision types generally refer to vocational behaviors described in the VDM models. Type 1 vocational decisions occur where decision makers have rich informational and computational resources and are ready to make long-range commitments. These decisions are rarely observed. Perhaps the closest approximations are those decisions faced by upper-class, bright males, such as the Harvard undergraduates studied by McArthur (1954), who were found to be highly predictable occupational decision makers. At least one VDM model, Kaldor-Zytowski, describes Type 1 decisions. In order to apply such a model, a considerable amount of computation is required which necessitates "intelligent" resources, such as brilliant thinkers, computers, or both. With the full operation of computer information systems, such as ISVB and SIGI referred to previously, the Tiedeman-O'Hara and Katz models can be applied to Type 1 decisions.

Type 2 decisions apply to long-range commitments rather than commitments to immediate action, but require lesser amounts of information and computational skill. There are several "unknowns," but situations often hold out the prospect of some highly-prized rewards.